Illinois Valley Fire Plan

Public Draft, November 15, 2004

Comments Due January 15, 2005

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INSTRUCTIONS FOR REVIEWERS

Thank you for taking the time to review this Public Draft of the Illinois Valley Fire Plan. Your comments on this draft must be received by January 15, 2005. The final plan will be produced March 1st, 2005. You can focus your comments on those areas with which you are most familiar, such as the community where you live, the agency where you work, etc.

Please pay attention to following when reviewing this document:

- Fact Checking – Please let me know if any facts or figures are incorrect and therefore need changing. If you have a source other than your personal knowledge, let me know that too.
- Proper spellings of names and places.

Several maps have not yet been inserted into this document. You will be able to download or view the completed draft maps at http://cwch.uoregon.edu/CCWP/JCIFP/Fire_Districts/illinois_valley.htm.

Please send your comments in any of the following ways:

1. Send an email with your suggested changes to forevergreenforestry@cox.net [1], identifying them by Chapter, Section (the subhead for the paragraph[s]), and the page number printed at the bottom of the page.
2. Mail the pages with your changes to: Tracy Katelman, ForEverGreen Forestry, POB 9068, Eureka, CA 95502. Please allow 2-3 days for mail delivery for your edits to arrive by January 15, 2005.
3. Fax the pages with your changes to 707-443-5597.

Thank you so much for taking the time to review this document. I look forward to seeing your comments.

~ Tracy Katelman, ForEverGreen Forestry

[1] If you are trying to send me a large document, and having trouble, please try sending it to me at fire@mattole.org.

EXECUTIVE SUMMARY

This Illinois Valley Fire Plan project involves developing community awareness, planning, and action on fire safety and fuels reduction in the Illinois Valley. The Illinois Valley Fire District's objective for this project is to engage people of all viewpoints on the issue of fire safety and fuels reduction through project activities, and to develop the Illinois Valley Fire Plan through a community-input process.

Plan Adoption

For this plan to qualify as a Community Wildfire Protection Plan (CWPP) under the Healthy Forest Restoration Act, it must be approved by the local fire agency, governing body, and agency responsible for forest management. In the case of the Illinois Valley, this is the Illinois Valley Fire Protection District, City of Cave Junction and Josephine County Board of Commissioners, and Oregon Department of Forestry. These entities should approve this plan in order to improve the ability for projects in this plan to be implemented. Adoption of a CWPP allows the participating entities to more competitively apply to several federal funding programs for priority project implementation. This is not a regulatory document

Sustaining Fire Plan Efforts

The Illinois Valley Fire Safe Council was established through this planning process. It is a non-regulatory, volunteer community association made up of residents and supported by agency and organizational representatives. A purpose of the Illinois Valley Fire Safe Council is to implement this plan and encourage further fire safe planning and organizing at both the neighborhood and community level. *For more information on the Illinois Valley Fire Safe Council see Chapter 3: Planning Process .*

Josephine County Integrated Fire Plan

> "Recent fires in Oregon and across the western United States have increased public awareness over the potential losses to life, property, and natural and cultural resources that fire can pose. For instance, the Biscuit Fire which burned nearly 500,000 acres in Josephine and neighboring counties, threatened 3,400 homes and cost taxpayers over $150 million. In response to such fires, the Josephine County Commissioners directed County agencies to work with other public agencies, fire districts, and community organizations throughout the County to develop an integrated fire plan."[2]

The Josephine County Integrated Fire Plan (JCIFP) was approved by the Josephine County Board of Commissioners on November 8, 2004. This Illinois Valley Fire Plan is intended to fit within the broader county context and guidelines established by the JCIFP. The JCIFP is available online at www.co.josephine.or.us/wildfire/index.htm.

Illinois Valley Fire Plan Background

While the Josephine County Plan was being developed, community leaders in the Illinois Valley began discussing how to create a plan to be better prepared locally for the next wildfire. The County Community Development Department participated in the discussion. In late 2003, County Planning staff invited the Illinois Valley Fire District (IVFD) to apply for HR2389 Title III funding from the County for the development of the Illinois Valley Fire Plan. IVFD was awarded a grant and hired a subcontractor—ForEverGreen Forestry—to undertake the project of developing the Illinois Valley Fire Plan and establishing the Illinois Valley Fire Safe Council.

Planning Area Boundaries

The Illinois Valley Fire Plan addresses wildfire mitigation issues around the Illinois Valley in southwest Oregon. The planning area generally stretches from the California border through the valley which Highway 199 traverses to Hayes Hill, and along the Illinois River to the Siskiyou National Forest. The following areas, starting from north to south, are the community planning areas used in this document:

- Selma
- Kerby

[2] Josephine County Integrated Fire Plan (JCIFP), p. ii.

- Cave Junction
- O'Brien
- Holland
- Takilma
- Sun Star

See Map 2. Illinois Valley Fire Planning Areas.

Planning Process

The heart of this planning process was a series of seven of community meetings held throughout the Illinois Valley. The purpose of these meetings was to educate and be educated. Staff educated the community about the IV Fire Plan, JCIFP, and defensible space and fire safety. Residents educated project staff regarding their issues and concerns regarding fire in their communities.

At each community meeting, a mapping exercise was undertaken to identify values, risks, hazards, existing projects, safe zones, evacuation routes, and proposed and priority projects. The exercise was generally done around a large table, with base maps supplied by Josephine County GIS staff, using the local expertise of Cody Zook there to appropriately define the boundaries of each community. Residents then identified values, risks, hazards, fuel reduction projects, safe zones, evacuation routes, water sources, and priority projects using highlighter markers on the maps, with a corresponding list of item descriptions.

The community mapping exercise allowed us to "ground-truth" the results of the Josephine County Integrated Fire Plan risk assessment. We were able to compare the community-identified risk and hazard areas with those identified by the JCIFP.

A Planning Committee was developed to oversee the planning process. That committee was integrated into the Illinois Valley Fire Safe Council.

For more information, see Chapter 3: Planning Process

Illinois Valley Profile

Located less than fifty miles from the Pacific Ocean, the Illinois Valley is located in Josephine County in the southwest corner of Oregon. Elevation ranges from 1,236 feet just north of Cave Junction, to 3,600 feet in the west at the top of Woodcock Mountain to 7,055 feet on Grayback to the east.[3] The following table identifies land ownership in the greater Illinois Valley. For more information, see

[3] Cave Junction, Oregon Area Information, http://www.cavejunction.com/cavejunction/areainfo.shtml.

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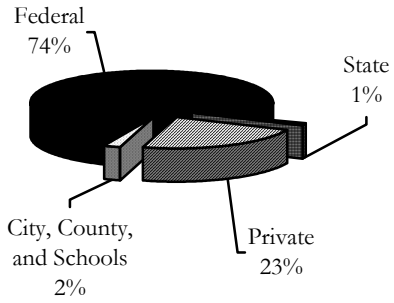
Figure 1. Illinois Valley Land Ownership, by percentage

Illinois Valley Land Ownership



Fire Safety Introduction

When residents in the wildland-urban interface understand why fire safety is important, and what steps they can take to implement it at their homes and properties, they generally will do it. Chapter **Error! Reference source not found.** begins with a broad description of what is necessary for fire to begin and how communities can defend themselves when faced with a wild fire. As a reminder, fire requires fuel, oxygen, and heat. Minus one of these elements, fire cannot start. In a wildland situation these factors translate into fuels, weather, and topography. Clearly, fuel is the one factor that communities have some capacity to control. The Plan focuses on how fuels can be mitigated to enhance community safety. It outlines the steps necessary for ensuring that local fire suppression efforts are successful (e.g., residence addressing, adequate roads, proper turnarounds, secondary egress, water supply, etc.).

One of the most important concepts introduced in the Plan is that of defensible space. In short, this means creating a space around your residence/structure enhancing the chances of structural and human survivability. Thus, one of the priority goals of the Plan is to document the various elements that make up defensible space and to do so in clear action-oriented terms. The Plan also lists various additional ways that a community can enhance their chances of surviving a fire including through the use of fire ignition resistant building materials and construction, water availability, escape plans, and landscaping, and fuel hazard reduction (recent evidence indicates that a structure has a 95% chance of surviving a wildfire if it has adequate brush clearance and is made of ignition resistant materials). The Plan also includes references to existing regulations related to fire safety, Article 76 and SB 360.

It outlines various actions that community members should take when a wildfire threatens. These include: evacuation; keeping friends and family members informed of those plans and whereabouts; gas/propane shut off; furniture protection; water preparation and use; closing of all interior and exterior doors; and emergency communication.

For more information, see Chapter 2: Fire Safety Introduction.

Wildfire Risk Assessment

The Illinois Valley Fire Plan relied on the wildfire risk assessment methodology developed by the Josephine County Integrated Fire Plan. "The Josephine County Integrated Fire Plan wildfire risk assessment is the analysis of the potential losses to life, property and natural resources. The analysis takes into consideration a combination of factors defined below:

- ***Risk***: the potential and frequency for wildfire ignitions (based on past occurrences)
- ***Hazard***: the conditions that may contribute to wildfire (fuels, slope, aspect, elevation and weather)
- ***Values***: the people, property, natural resources and other resources that could suffer losses in a wildfire event.
- ***Protection Capability***: the ability to mitigate losses, prepare for, respond to and suppress wildland and structural fires.

- ***Structural Vulnerability***: the elements that affect the level of exposure of the hazard to the structure (roof type and building materials, access to the structure, and whether or not there is defensible space or fuels reduction around the structure.)" [4]

In addition to the JCIFP risk assessment, community identified risks and hazards were evaluated as identified in community meetings and surveys and compared to the JCIFP assessment.

Fire Suppression Resources

There are four fire suppression organizations in the Illinois Valley. The Illinois Valley Fire District (or IV Rural Fire Protection District) operates six stations and one administration building in the Valley. IVFD provides first response structural fire suppression and emergency medical services to most Illinois Valley residents. Wildland fire suppression is also provided by the Oregon Department of Forestry, the US Forest Service, and US Bureau of Land Management.

For more information, see Chapter 6: Fire Suppression Resources

Interface Community Planning Areas

The seven community planning areas were identified as the principle population centers in the Illinois Valley. These communities are all "interface" communities as they are pockets of residential inhabitance within a wildland landscape. A community meeting was held in each of these communities to identify values, risks, hazards, safe zones, evacuation routes, and priority fire safety projects. For each community, the following attributes are summarized:

- Planning Area Introduction
- Emergency Response
- Safe Zones
- Evacuation
- Community Identified Values, Hazards, Risks, and Projects
- Mitigation Strategy

For more information see Chapter 7: Interface Community Planning Areas

Public Lands and Fire Management

A significant percentage of the lands surrounding the communities of the Illinois Valley are public lands managed by federal agencies. The following agencies are found in the Illinois Valley:

- Josephine County
- Oregon Department of Forestry, State Lands
- US Bureau of Land Management, Medford District
- US Forest Service, Rogue-Siskiyou National Forest
- US National Park Service, Oregon Caves National Monument.

These organizations are all coordinating their fire management activities through the Southwest Oregon Fire Management Plan. Fire management strategies and policies for these agencies are outlined in Chapter 8: Public Lands and Fire Management

and in Appendix F: Public Lands and Fire Management.

Mitigation Strategy

As per the Community Wildfire Protection Plan guidelines, a mitigation strategy was developed to reduce risks of wildfire in the Illinois Valley. The following table summarizes the Illinois Valley Fire Plan mitigation strategy.

TOPIC	SUB-TOPIC	PROPOSED MITIGATION STRATEGY
DEFENSIBLE		➢ Continue and enhance existing defensible space assessments

[4] JCIFP, p. 45-46.

SPACE		and education. IVFSC, IVFD, and ODF work with JCIFP and IV Family Coalition to provide these services to low income households, especially in areas of high hazard as identified by JCIFP Risk Assessment. ➢ Residents in areas with dense forest and/or brush, and narrow roads around the Illinois Valley must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet. ➢ New developments must adhere to Josephine County Article 76.
FUELS REDUCTION	Top Priority Fuel Reduction Projects	➢ Identify priority fuel reduction treatment areas in Cave Junction, along roads with high density neighborhoods or especially dangerous evacuation routes, including: • South Barlow Street from Hamilton to Sherwood Hills side • West River from 199 to North Junction • Manzanita Lane area through Oak Drive to Dogwood • Kenrose Lane. This has been identified as a priority FY 2005 project by the JCIFP Fuels Reduction Committee for National Fire Plan funding. ➢ Create shaded fuel breaks or brush roads depending on forest cover along the dense areas of the following roads in the Holland area: • Dick George • Greenview • Browntown • Beebe Drive ➢ Create shaded fuel breaks or brush clearance depending on forest cover in O'Brien along: • Lone Mountain Road • Naue Way and Spur Roads • Arrowhead Street ➢ Create a shaded fuel break and/or brush clearance along Takilma Road from approximately Four Corners and downtown Takilma to approximately #9710 (where the road drops). ➢ Fuels reduction in north Selma adjacent to Highway 199. This project was identified by JCIFP Fuels Reduction Committee for FY 2005 National Fire Plan funding and is already in process of being developed. ➢ Implement future phases of Thompson Creek collaborative fuel reduction project. The current project is progressing very well, with many participating landowners. It is important to maintain the momentum in this very high hazard neighborhood by exploring and continuing future phases. ➢ Implement fuel hazard reduction at two large buck brush areas. One is between Takilma Road and Illinois River across from intersection with Meadows Road. The other is from approximately 8650 to 8900 Takilma Road.
	Second Priority Fuel Reduction	➢ Explore development of strategic shaded fuel breaks between Kerby and BLM or USFS lands. ➢ South Deer Project between BLM and Deer Creek Natural Resources Conservation Association is a model local project

	Projects	for community involvement in public lands management, including fire hazard reduction. This project should be supported and fully implemented by all participating entities. ➢ FS implement fuels reduction around camping areas at Hogues Meadow. ➢ FS implement fuels reduction at Mars Swimming Hole and Seats Dam. Work with local schools to develop education signs about fire safety to place at this popular spots. ➢ ODF work with landowners to implement fuel hazard reduction around Hope Mountain Road logging slash. ➢ IVFSC work with The Nature Conservancy and FS to create a shaded fuel break and/or brush clearance along the boundary with private properties. ➢ IVFSC, IVFD, and FS identify the most strategic location for one or more shaded fuel breaks south of Takilma and north of Sun Star. ➢ IVFSC work with USFS, Siskiyou Project, and Forestry Action Committee to identify location on west side of town for a shaded fuel break to protect Cave Junction in the event of a reburn of any areas of the Biscuit Fire. This needs to be a location and prescription that can be agreed upon by all members of the community. ➢ IVFSC and O'Brien residents explore fuel reduction with riparian enhancement along West Fork Illinois east and west of 199, through private properties. ➢ Clear brush in Section 12 near Dick George, the old-growth forest south of llama ranch, and in the fallow fields. Include mowing areas of high grass.
REDUCING STRUCTURAL IGNITABILITY	Roofing	➢ IVFSC, IVFD, ODF, and others educate residents, realtors, and developers on the importance of replacing wood shake roofs.
	Vent Openings	➢ IVFSC, IVFD, ODF, and others educate residents, realtors, and developers on importance of Steel Vent Screening. ➢ IVFSC, IVFD, ODF, and others explore incentives for homeowners to encourage steel screening of vent openings.
	Decks	➢ IVFSC, IVFD, ODF, and others educate residents on importance of Fire Safe Decking
	Outbuildings	➢ IVFSC, IVFD, ODF, and others educate residents on need for separation of heat loads from their residence.
	Wood Piles	➢ IVFSC, IVFD, ODF, and others educate residents on need to have separation of firewood piles from their residence.
	Propane Tanks	➢ IVFSC, IVFD, ODF, and others educate residents on need to have vegetative and flammable material clearance around propane tanks near their residence.
FIRE PROTECTION		➢ IVFD and County work to upgrade both Holland bridges to allow safe fire engine passage. ➢ Josephine County, City of Cave Junction, and IVFD work together to fix the address numbering system on Westside Road, and number the powerline roads. There are problems of residents here having addresses tied to the main roads, not the actual roads where they live. This makes it difficult for efficient emergency response.
	Evacuation	➢ Develop signage for the emergency evacuation routes out of Selma, including the Deer Creek and Crooks Creek roads to

		Williams, and Deer Creek to Caves Highway. This should be done in conjunction with community education events sponsored by ODF, BLM, and IVFD. A Saturday afternoon could be spent taking local residents and media on tours of the various evacuation routes, to familiarize the community with these alternative routes. ➢ Explore development of strategic shaded fuel breaks in Selma, beginning with Deer Creek Road as it heads towards Williams. This could serve both as a break from fires coming from the east, as well as improving this road as an evacuation route. ➢ IVFSC, IVFD, and others work with law enforcement to educate residents on safe evacuation.
	Volunteer Firefighters	➢ Residents in the Takilma area need to volunteer and train with IVFD if they want to maintain IVFD Station #6. Given the distance from Takilma to primary medical care or other emergency services, maintenance of this station is a priority here. Without more volunteers, it is likely this station will be closed to more efficiently use the resources. ➢ Residents in the Holland area need to volunteer and train with IVFD to staff Station #4. Without adequate volunteers, IVFD could be forced to close this station, which provides emergency fire and medical response to this community.
	Water	➢ IVFSC and IVFD work with City of Cave Junction to return water to the Kerby ditch. ➢ IVFD, ODF, BLM, and FS identify priority locations for water tanks and develop, install, and maintain them in and around: • Non-hydrant areas of Cave Junction • O'Brien • Takilma • Upper Holton Creek and Kerby Mainline roads • Upper Thompson Creek Road and upper Draper in Selma ➢ Water storage for fire is critical for Sun Star. The Del Norte Fire Safe Council is working with Sun Star residents to identify locations for a series of community water tanks for fire fighting. A proposal is being developed to purchase tanks to submit to the Del Norte Resource Advisory Council (RAC).
EDUCATION		➢ IVFSC work with IVFD, ODF, Josephine County, FS, BLM, local insurance industry and others to implement an area-wide community fire safety education program, including PSAs in all local media. ➢ IVFSC work with IVFD, ODF, FAC, Siskiyou Project, FS, BLM, and law enforcement to coordinate community-wide education effort regarding defensible space, fire safety, and safe evacuation. ➢ IVFSC and IVFD work with Dome School to develop an education program there to create signs for fire safety on nearby public lands targeted for recreational users and hunters, as well as residents. ➢ IVFSC and IVFD explore instituting a "Big Red Truck Program" for defensible space education and assessments. Explore state and federal funding options for the program.

ILLINOIS VALLEY FIRE SAFE COUNCIL		➢ IVFD provide ongoing administrative support to IVFSC. ➢ IVFSC members participate in all committees of the Josephine County Integrated Fire Plan. There are already several IV residents participating in one or more of these committees. This participation should be in conjunction with the IVFSC, to ensure this group is actively involved with implementation of the JCIFP in the Illinois Valley. ➢ IVFSC and IVFD support efforts of Holland/Dick George neighborhood organizing regarding phone tree, mapping, etc. ➢ IVFSC work with residents to identify risks, hazards, and potential projects further out toward Grayback. This is in accordance with the IVFSC purpose to continue fire planning efforts at the local level in the Illinois Valley. ➢ Public and private sector organizations and individual work with IVFSC to develop ongoing financial and in-kind support for FSC activities and development. ➢ All local, state, and federal public and private land management agencies appoint a representative to actively and regularly participate in the Fire Safe Council. ➢ IVFSC and partners review the Illinois Valley Fire Plan every five years and update it as needed, using a collaborative, public process.

For more information, see Chapter 9: Mitigation Strategy

ACKNOWLEDGEMENTS

It takes many people to produce a document that reflects the concerns and needs of a community. The people listed below played an important role in seeing this document to completion. I'd like to offer special thanks to the following people for their help and dedication, often going beyond the call of duty:

- Praline McCormack
- Jerry Schaeffer
- De Spellman
- Lance Morton
- Kathy Lynn
- Cody Zook

Core Planning Team

- Tracy Katelman, ForEverGreen Forestry
- Praline McCormack, ForEverGreen Forestry
- Jerry Schaeffer, Fire Marshal, Illinois Valley Fire District
- De Spellman, Fire Prevention Coordinator, Illinois Valley Fire District
- Cody Zook, GIS Coordinator, Josephine County

Illinois Valley Community Fire Planning Committee

- Bruce Bartow, Community Development Director, Josephine County
- Dick Boothe, Fire Management Officer Rogue Siskiyou Forest Service
- Gary Biggs, Public Works Director, City of Cave Junction
- Susan Chapp, Forestry Action Committee
- Curtis Clark, Forest Officer, Oregon Department of Forestry
- Tim Gonzales, Fire Mitigation and Education Specialist, Bureau of Land Management, Medford District
- Kathy Lynn, University of Oregon Program on Community and Watershed Health, Josephine County Integrated Fire Plan
- Ron Phillips, Illinois Valley Community Response Team
- Paul Showalter, Illinois Valley Community Response Team
- Jerry Schaeffer, Fire Marshal, Illinois Valley Fire District
- De Spellman, Fire Prevention Officer, Illinois Valley Fire District
- Don Smith, Executive Director, Siskiyou Project

Other Partners

- Don Belville, Rogue River-Siskiyou National Forest
- Neil Benson, JCIFP
- Pat Butler, Fuels Technician, Bureau of Land Management, Medford District
- Harry Rich, Chief Illinois Valley Fire District
- Bob Schumacher, Illinois Valley Community Response Team
- Delaine Sherman, Administrative Clerk, IVFD
- Many Smiles, IVFD
- Robin Wilson, Forestry Action Committee
- Residents of Cave Junction, Holland, Kerby, O'Brien, Selma, and Takilma

Table of Contents

List of Figures, Maps, and Tables

CHAPTER 1: INTRODUCTION

The Illinois Valley Fire Plan is a project of the Illinois Valley Fire District (IVFD). IVFD's objective for this project is to engage people of all viewpoints on the issue of fire safety and fuels reduction through project activities, and to develop the Illinois Valley Fire Plan through a community-input process. They intend for this to be a document that can be used by all residents to reduce fire risks in the Illinois Valley.

This plan is intended to meet the requirements of Community Wildfire Protection Plans as part of the Healthy Forest Restoration Act. As well the National Fire Plan encourages funding of projects prioritized in a community fire plan. The projects identified in this plan are thence prioritized.

It provides educational information on defensible space and fire safety in addition to the wildfire mitigation strategy for the Illinois Valley. It is written primarily for the residents of the Illinois Valley, as well as agencies and organizations who work in the Valley.

The Illinois Valley Fire Plan is written in conjunction with the Josephine County Integrated Fire Plan (JCIFP). Some sections of this document are taken directly from JCIFP, most notably the risk assessment methodology. It is the intention that this Plan be a local component of the JCIFP. Therefore, there are no policy recommendations herein, as those are addressed within the JCIFP.

The Illinois Valley Fire District hired the services of Tracy Katelman, ForEverGreen Forestry, to write this plan. Assistance was provided by Praline McCormack (ForEverGreen Forestry) and De Spellman (Illinois Valley Fire District).

Plan Organization

This plan is loosely organized around the format of the Josephine County Integrated Fire Plan, with some changes to meet the specific purposes of this document.

Chapter 1, Introduction introduces the document and the Illinois Valley, the latter primarily for non-residents.

Chapter 2, Fire Safety Introduction is an introduction to fire safety. It provides a basic introduction to concepts of defensible space and fire safety, including information on how to create defensible space and hazardous fuels reduction on your property, including shaded fuel breaks. It also includes information on water supply, building materials/fire-safe construction, and emergency preparedness for Illinois Valley residents.

Chapter 3, Planning Process describes the planning process used to develop the Illinois Valley Fire Plan and Illinois Valley Fire Safe Council.

Chapter 4, Forest Conditions and Wildfire in the Illinois Valley describes forest conditions and wildfire. This chapter was taken primarily from the JCIFP, and provides a backdrop to the history of the forests and fire within Josephine County's boundaries and in the State of Oregon. This is intended to provide cultural, environmental, and historical perspectives on how the County's (and the Illinois Valley's) risk to wildfire has increased over the past century. Local descriptions of ecosystem types and indigenous use of fire in the Illinois Valley are incorporated here.

Chapter 5, Wildfire Risk Assessment is the Wildfire Risk Assessment chapter from the Josephine County Integrated Fire Plan, illustrating the methodology used to conduct the risk assessment.

Chapter 6, Fire Suppression Resources is a summary of agencies involved in fire suppression in the Illinois Valley.

Chapter 7, Interface Community Planning Areas summarizes the community meetings and proposes mitigation strategies for each of the seven communities in the Illinois Valley.

Chapter 9, Public Lands and Fire Management describes the actions of public agencies in regards to fire on the lands they manage within the Illinois Valley.

Chapter 10, Mitigation Strategy identifies priority projects to reduce risks from wildfire in the Illinois Valley.

Appendices. There are ten resource documents that provide background information, acronyms, a list of local contractors, bibliography, funding source,s and fire prevention educational materials.

Illinois Valley, Oregon

Located less than fifty miles from the Pacific Ocean, the Illinois Valley is located in Josephine County in the southwest corner of Oregon. On the westside of the Illinois Valley is the Siskiyou National Forest including the Kalmiopsis Wilderness and coastal Curry County, Oregon. To the east lies more of Siskiyou National Forest, the Oregon Caves National Monument, and the Applegate Valley. To the north of Illinois Valley is Grants Pass (the Josephine County seat), and the California border is south.

The total area of Illinois Valley is approximately 427,376 acres, of which approximately 99,596 acres are privately owned and 327,780 acres are publicly owned. Of the federal lands in Illinois Valley, the U.S. Forest Service manages 245,555 acres, the Bureau of Land Management manages 56,036 acres, and the National Park Service manages 459 acres. Approximately 3,035 acres are managed by the State of Oregon. Table 1. Top ten landowners in Illinois Valley below illustrates land ownership in the greater Illinois Valley as defined by Josephine County.

The area is dominated by forest resources and is defined by the Illinois River and its tributaries bounded by mountains. It lies at the western edge of the Siskiyou Mountains where they abut the Coastal Range. Elevation ranges from 1,236 feet just north of Cave Junction, to 3,600 feet in the west at the top of Woodcock Mountain to 7,055 feet on Grayback to the east.[5]

Given its proximity to the Pacific Ocean, the area enjoys a relatively moderate climate with cooler summers and warmer winters than areas located further inland. Annual rainfall is thirty to forty inches and begins in November and ends in May. Snow occasionally occurs in the winter and is seldom more than six inches. Winter temperatures rarely fall below twenty degrees. During the summer there is low humidity and temperatures can sometimes top the century mark.[6]

For more information on the Illinois Valley, please see

[5] Cave Junction, Oregon Area Information, http://www.cavejunction.com/cavejunction/areainfo.shtml.

[6] Rogue Web, Cave Junction – Illinois Valley Oregon Profile, http://www.rogueweb.com/cjunct/

Table 1. Top ten landowners in Illinois Valley[7]

	Acres	% Ownership
USDA Forest Service	245,554.74	57.5%
BLM (O&C, PD & Other)	71,565.38	16.8%
Indian Hill LLC	19,691.11	4.6%
Perpetua Forests Company	8,147.46	1.9%
Josephine County Forestry	6,585.09	1.5%
State of Oregon	3,035.41	0.7%
Q Bar X Ranch	1,612.89	0.4%
Schiffiler Enterprises LP	1,532.54	0.4%
Fountainhead Global Trust	1,004.48	0.2%
Spalding, Epsi L Trust	921.57	0.2%

Map 1. Illinois Valley Location[8]

[7] Josephine County PUMA data, 2003. This area does not correspond to the Illinois Valley Planning Area used in this document.

[8] Maps will be available at http://cwch.uoregon.edu/CCWP/JCIFP/Fire_Districts/illinois_valley.htm.

CHAPTER 2: FIRE SAFETY INTRODUCTION

This document is intended to provide basic information on fire safety to Illinois Valley residents. It is our intention that this will enable you to create defensible space around your home and reduce fuels around your property. This chapter is divided into sections for what you can do before, during, and after a fire.

What is Fire Safe?

The general principle behind fire safing an area (making it as safe as possible for when a fire might pass through) is to reduce the amount of fuel, and modify the arrangement of fuel that a fire consumes. Three factors dictate the extent and severity of fire: fuel, oxygen, and heat. If any one of these elements is missing, a fire won't start or, should it start it won't spread. In a wildland situation, these three factors translate to fuels, weather, and topography. Fuel is the one element of the three that we can significantly modify. When there is a lot of fuel, a fire can burn very hot, and move very quickly. When there is little fuel present, fires tend to slow down and burn cooler. Cooler fires are much easier to control. Fires that stay on the forest floor—surface fires—tend to be cooler, and hence easier to put out. Ladder fuels (understory trees and brush) connect the surface fuels to the canopy, and once ignited, can support a crown fire. Crown fires can move very quickly, burn very hot, and are much harder to put out. One of the main objectives of being fire safe and creating defensible space is to minimize the chance of a fire becoming a crown fire. Clearly, it is in your best interest to reduce the amount, type, and arrangement of fuels near your home to reduce the risk of a wildfire consuming it. That's what it means to fire safe your home—reduce the amount of fuels a fire can consume, as well as to reduce other hazards that increase the risk of fire, such as ignition sources.

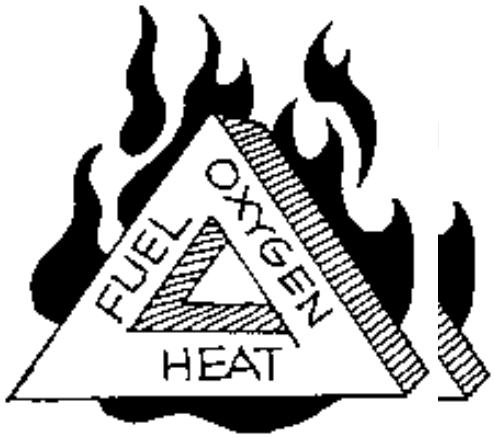


Figure 2. Fire Triangle

Before the Fire

Defensible Space and Home Survivability

Defensible space means creating a space around your structure so it can be defended from a wildfire. The US Forest Service defines defensible space as "an area either natural or manmade where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildland fire and the loss of life, property, or resources. In practice, defensible space is defined as an area a minimum of 30[9] feet around a structure that is cleared of flammable brush or vegetation."[10] Firefighters sometimes use the terms "winners" and "losers" to distinguish between those houses with defensible space versus those that do not have it. In a larger emergency situation (where several homes are threatened), homes without defensible space may get passed over in favor of protecting one with defensible space, which has a greater chance of survival. If it is too dangerous for firefighters to get in and out of an area, they are instructed not to risk their lives and equipment to save a homestead that is not defensible.

The Plumas Fire Safe Council[11] has formulated the concept of home "survivability." It's not just about "defending" your space or home, but being fire safe in such a way as to ensure its **survivability** from fire.

There has been a lot written on fire safety and defensible space issues. Several documents and/or references such as the Homeowners Checklist are contained in Appendix G: Illinois Valley Educational Materials

and Appendix J. Josephine County Integrated Fire Plan - Educational Materials

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[9] This figure can be up to two-hundred feet depending on local conditions.

[10] www.fs.fed.us/r2/fio/dict.htm

[11] www.plumasfiresafe.org

Home Ignition Zone

The "Home Ignition Zone"[12] is a concept introduced by Jack Cohen, of the US Forest Service Rocky Mountain Research Station. Jack's research of fires from the 1960's to now has revealed that over eighty-percent of homes with at least thirty feet of defensible space, and a fire-resistant roof have survived wildfires.[13] His research indicates that:

> "the potential for home ignitions during wildfires including those of high intensity principally depends on a home's fuel characteristics and the heat sources within 100-200 feet adjacent to a home…. This relatively limited area that determines home ignition potential can be called the **home ignition zone**.
>
> During a wildland-urban fire a home ignites from two possible sources: directly from flames (radiation and convection heating) and/or from firebrands[14] accumulating directly on the home. Even the large flames of high intensity crown fires do not directly ignite homes at distances beyond 200 feet. Given that fires adjacent to a home do not ignite it, firebrands can only ignite a home through contact. Thus, the home ignition zone becomes the focus for activities to reduce potential wildland-urban fire destruction. This has implications for reducing home ignition potential before a wildfire as well as implications for emergency wildland-urban fire response strategy and tactics. …
>
> Because of time constraints, most preparation has to come before a wildfire occurs. Major changes to the home ignition zone (the home and its immediate surroundings) such as replacing a flammable roof and removal of vegetation such as forest thinning cannot occur during the approach of a wildfire. Removal of firewood piles, dead leaves, conifer needles, dead grass, etc. from on and next to the home should also occur seasonally before severe fire conditions. The ignition potential of the home ignition zone largely influences the effectiveness of protection during a wildfire. Given low ignition potential and enough time, homeowners and/or wildland-urban suppression resources can make significant reductions in the little things that influence ignition potential before wildfire encroachment. Then, if possible, homeowners and/or wildland-urban firefighting resources can suppress small fires that threaten the structure during and after the wildfire approach. "[15]

Spend a few hours reviewing your home and property with the Homeowner's Checklist (Appendix G: Illinois Valley Educational Materials

). Identify where you are safe and what other steps you need to take to protect your home and family. You can get free help with identifying fire safety and defensible space issues around your home. If you would like more help with identifying fire safety and defensible space issues around your home, you can contact De Spellman at IVFD at 592-2225, to schedule a free fire safety assessment. The Oregon Department of Forestry can also provide assessments and can be reached at 474-3152

Landscaping and Defensible Space Basics

There are many simple steps you can take to create your defensible space. The basics include:

- Providing a minimum of thirty to one-hundred feet of clearance of flammable materials around your home. If you live on a hill, you should extend this to two-hundred feet, depending upon the steepness of the slope and the surrounding fuels.
- Landscape your defensible space zone with fire safe plants. While no plant is immune to fire, certain plants do exhibit traits that can slow or reduce the spread of fire. "Fire-Resistant Plants for Oregon Home Landscapes" is available in Appendix G: Illinois Valley Educational Materials
- for more information. Fire-resistant plants generally look green (not brown), healthy, and vibrant. Most deciduous trees and shrubs are fire resistant. In addition, they have:

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[12] Jack Cohen, "Wildland-Urban Fire, A Different Approach," http://www.nps.gov/fire/download/pub_pub_wildlandurbanfire.pdf, 2000.

[13] Firewise, "Wildfire: Preventing Home Ignitions" video, 2001, 19 minutes, http://www.firewise.org

[14] Firebrands are "flaming or glowing fuel particles that can be carried naturally by wind, convection currents, or by gravity into unburned fuels. Examples include: leaves, pine cones, glowing charcoal, and sparks." From: "Blueprint for Safety: Glossary," http://www.blueprintforsafety.org/bluepages/glossary.html.

[15] Cohen, 2000.

  - leaves that are moist and supple,
  - little dead wood and tend not to accumulate dry, dead material within the plant
  - sap that is water-like and does not have a strong odor.
- Keep your gutters and roofs clean of any vegetation, live or dead.
- Move all flammable materials—especially firewood, propane tanks, etc.—a minimum of thirty feet away from your home and any structures.
- Think about your home in terms of flammability. When you start a fire in a woodstove, small pieces of wood and paper are required to ignite the logs. The same is true for your home. Anything around your home that will ignite easily will threaten your home. It can serve as kindling for your house in the event of a fire. Look at your home and surrounding land with this perspective. Shortly after removing dead vegetation and other flammable materials from your Home Ignition Zone, you will begin to view the area with a different perspective. Objects that you didn't notice before as being a fuel threat to your home will jump out at you.

Appendix G: Illinois Valley Educational Materials

and Appendix J. Josephine County Integrated Fire Plan - Educational Materials

contains more detailed information on defensible space and fire safety, including resources for further reading.

Legal Requirements Relating to Fire Safety

Senate Bill 360: Oregon Forestland-Urban Fire Protection Act

"The Oregon Forestland-Urban Fire Protection Act of 1997 (SB360) is intended to facilitate development of and effective WUI protection system in Oregon by 1) establishing policies regarding WUI protection, 2) defining the WUI in Oregon and establishing a process and system for classifying the interface, 3) establishing standards for WUI property owners so they can manage or minimize fire hazards and risks, and 4) providing the means for establishing adequate, integrated fire protections systems in WUI areas, including education and prevention efforts."[16]

Each county determines the wildland-urban interface (WUI) lands in their jurisdiction by means of a county forestland-urban interface classification committee. The committee establishes preliminary WUI areas and then public hearings are held to discuss them. These public hearings give the public the opportunity to object, complain or submit suggestions. Thereafter, the committee may revise the preliminary classifications, hold additional hearings, and make final determinations. Any owner who disagrees with a determination may file an appeal with the county's circuit court. This process was done during preparation of the Josephine County Integrated Fire Plan, see Map X.

An owner of land within a WUI must make efforts to minimize or mitigate a fire hazard or risk on their property. The State Board of Forestry has established rules regarding the actions owners are required to take. These rules will be made available to all owners located within the WUI once those final determinations have been made. A property is certified as having met the requirements of SB360 when the rules have been met. Certification is subject to periodic renewal. If an owner fails to comply with this law and a fire occurs (fire originates on owner's property, ignition or spread of fire is directly related to the owners failure to comply with the law, or the fire requires action by the forester and the forester incurs costs in the suppressing the fire) the owner will be liable for the actual costs incurred by the forester up to a maximum of $100,000 not including the ordinary costs of regular personnel and equipment of the forest protection district where the WUI is located. Any special or additional costs of fire protection within the WUI shall be paid by those owners of property within the WUI.

Article 76: Josephine County Wildfire Safety Standards

Article 76 of the Josephine County Rural Land Development Code, Wildfire Safety Standards establishes minimum wildfire and safety mitigation standards for the development, replacement, substantial improvement or relocation of structures. Any one of these actions will require an owner to adhere to Article 76 standards regarding: structure construction, access, signage, fire protection service or on-site fire protection plans, on site water for fire protection, and vegetation mitigation among others. These standards are intended to reduce threats to human life and safety, to structures and to wildlands, and to improve access in emergencies.

[16] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 9.

Article 76 will be useful in implementing recommendations set forth in the Josephine County Integrated Fire Plan. Article 76 "is one of the most important tools that the County has in facilitating public engagement with fire protection."[17]

For example, as a condition for a permit to develop, an owner is required to provide proof of fire protection service or fire protection measures. They are also required to have a water source that contains at least 4,000 gallons of water year round or stream/spring with a continuous year round flow of at least one cubic foot per second.

As part of the vegetation mitigation standards, fire safety zones are required that will create defensible space and act as fuel breaks thereby slowing the speed and intensity of fire to or from structures. The primary safety zone is the area fifty feet in all directions from structures. The secondary zone is an additional fifty foot area in all directions around the primary safety zone. Ground cover and vegetation standards are given for these zones.

Article 76 is currently under review by the Josephine County Planning Commission. The planning commission has held a series of public hearings and workshops to gain input on the proposed amendment. The Planning Commission adopted the amendments to the ordinance at a November 1, 2004 public hearing. The changes as adopted by the Planning Commission are at http://www.co.josephine.or.us/planning/wildfire/. The next step will be to take the proposed changes to the Josephine County Board of Commissioners.

Fire Safe Building Materials

How your house is constructed is often just as important as creating defensible space. For instance if you have a shake roof, your house is more likely to burn down from sparks, embers, or firebrands even if it has "fire-resistant shakes." If you have a shake roof one of your first actions should be to replace it. " The roof is the most vulnerable part of your home to wildfires. During a wildfire, firebrands can fall on your roof, landing in your roof's nooks and crannies where a fire can easily start. Once your roof covering ignites, chances are very good that the rest of your home will follow."[18] Here are some things to think over:

- The best roofing material is metal or tile.
- Second best is a composite roof.
- Shake siding on your house is much more prone to ignite than stucco siding or ferrous cement.
- Decks sticking out from your house act as kindling for fires. If you have a deck, make sure that you enclose the underside of it and your house if it's a post and pier foundation. Do this either with solid building materials or with lattice and tight screen with green, fleshy plants. This will give you much more storage space as well, since it is unsafe to store anything (especially firewood or cardboard boxes) under your house if it's open to the outside.
- If you have vents in your attic, make sure they are screened. Enclose eaves, fascia, and soffits with vents. Embers can get into these places if they are not screened, and burn your house down from the inside out.
- Make sure you have a screen on all chimneys.
- Use double-pane or safety glass on all large windows.
- For more information on making your home safe from wildfire, check out "Is Your Home Protected From Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit," at http://www.firewise.org/pubs/is_your_home/WILDFR2.PDF.

Reducing Structural Ignitability

The following information is taken directly from: "Wildland-Urban Interface Ignition Resistant Building Construction Recommendations from the 2004 Community Wildfire Protection Plan Workshops, the California Fire Alliance and the California Fire Safe Council" by Ethan Foote, CDF/CNR Santa Rosa, August 19, 2004, ethan.foote@fire.ca.gov. It was written for a California audience, but is directly relevant to homes in the Illinois Valley.

> "One of the major objectives of wildfire control in general, and pre-fire management hazard reduction in particular, is to reduce the loss of life and property. The historical pattern of building loss during Interface fires indicates that vegetation fuel management must go hand-in-glove with ignition resistant building construction to maximize the effectiveness of fire loss mitigation measures."

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[17] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 193.

[18] Firewise, "Is Your Home Protected From Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit," 2001, page 9, http://www.firewise.org/pubs/is_your_home/WILDFR2.PDF.

"Building loss and survival on the 1961 Bel Air fire, which destroyed 505 houses, was well documented. The report **"***Decision Analysis of Fire Protection Strategy for the Santa Monica Mountains***"**[19] found that 71% of the buildings with 26-50 feet of brush clearance survived the fire. However, the survival rate of buildings exposed to the fire increased to 95% for houses that had both brush clearance and ignition resistant building construction (in this case non-wood roof covering)." A similar pattern was seen on the 1990 Santa Barbara Paint fire, shown graphically below (Source: **"***California's I-Zone: Urban/Wildland Fire Prevention & Mitigation***"** p.120).

"On the Paint fire, which destroyed 479 houses and major buildings, the survival rate (above) was 86% for houses with both non-flammable roofing and 30 feet of brush clearance. Only 4% of the 438 houses surveyed in the Paint fire survived where non-flammable roofing and 30 feet of brush clearance were absent. The modeling of structure loss and survival on the Paint fire revealed that brush clearance alone only "explained" or accounted for 11% of the variation seen in the structure survival patterns. When brush clearance was combined with roof type in the model, and the effect of defensive actions was accounted for, the model explained 59% of the variability in structure loss."

"This is strong evidence that vegetation management *alone* will not be able to fully explain, nor mitigate, building loss on wildfires. Hence, the need for the comprehensive approach in this plan, using a combination of vegetation management and addressing recommendations for ignition resistant building construction. There is also strong evidence that this comprehensive approach will work to significantly reduce Interfaces losses. The *Los Angeles Times* (April 1, 2004) reporting on the Southern California conflagrations of October 2003 clearly revealed the need for, and effectiveness of, combining vegetation management and ignition resistant building construction for reducing building loss in wildfires:

> 'Amid the ashes of the most costly wildfires in California's history lies evidence of a crucial lesson: Fire-resistant construction and vigilant removal of flammable vegetation significantly improved the odds of a home's survival, according to a Times analysis of fire records from more than 2,300 destroyed structures.
>
> 'The impression left by an out-of-control fire racing through communities can be one of random destruction, with one house, or a whole block, burned to the ground and the next one spared for no apparent reason.
>
> 'In fact, according to the Times analysis – which covered homes destroyed by the deadliest of the blazes, San Diego County's Cedar fire – houses built since 1990 were far less likely to burn than those constructed in any previous decade. Houses built during the 1990s were damaged or destroyed at less than half the rate of houses built earlier.'

… An outcome of the 1961 Bel Air fire was publication of the "Fire Safety Guides for California Watersheds" by the County Supervisors Association of California in 1965. These recommendations have been updated through the years. The current version of these "Fire Safe Guides" is "Structural Fire Prevention Field Guide for Mitigation of Wildfires" and can be found at http://osfm.fire.ca.gov/structural.html.

These recommendations for ignition resistant building construction include:

- Roofing
- Eaves & Balconies
- Exterior Walls
- Rafters
- Windows
- Doors
- Attic ventilation openings
- Underfloor Areas

[19] Available at http://www.ucfpl.ucop.edu/UWI%20Documents/167.pdf

In response to the persistent loss of life and property in wildfires the most important of the recommendations is now a requirement…"[20]

Signage

Chances are fire fighters are not going to know where you live, especially in the case of a large fire where out-of-town firefighters are present. If your house has a visible address sign at the street, emergency service personnel (fire, ambulance, police) will find it. If not, they may not. Make sure you have a visible road/address sign. Work with the Illinois Valley Fire District (IVFD) if you have specific questions regarding how to do this most effectively. Your sign should be of reflective material so that it is visible at night, and non-flammable (metal on metal post) so that it doesn't burn. IVFD provides address signs to Illinois Valley residents for free or a donation.

If you want emergency personnel to be able to find you, do your part. In a medical emergency a few minutes may be the difference between life and death.

Water

The amount of water you have stored to fight a fire will have a significant impact on the ability to fight a fire at your home. 4,000 gallons of water storage, or a continuous flow of one cubic foot per minute is the minimum required for new development. Storing water in the winter for use in the summer and fall is critical in this Mediterranean climate. There are many options available in terms of water tanks. Ideally, you should have a dedicated firefighting water tank, and a separate tank for domestic use. If you cannot do this, put your domestic water line out of your water tank in the middle of the tank, so you don't accidentally drain your tank into the garden or elsewhere, keeping the bottom half for emergency use. Put a dedicated fire water line out of the bottom of the tank. Your fire water line should be a two or three inch line, buried twelve inches below ground. An aboveground plastic water line will likely burn in a fire but a full plastic water tank will likely not. Put a metal standpipe at the end of the waterline with a fire-hose threaded adapter so firefighters can quickly attach to your water source. Fire hose thread is known as national thread, national standard, NST, NSFH, NH, or FHT. In the Illinois Valley, IVFD prefers a 2 ½ inch national thread adapter. ODF prefers 1 ½ inch. If you have any questions before purchasing this adapter, call IVFD at 592-2225. Make sure that your stand pipe is somewhere a fire truck can access it and turn around to leave. If it's not accessible, it's not going to be very useful. Finally, make sure your local fire fighters know where your tank is.

In an emergency, swimming pools and ponds provide a great source of water. Fire fighters can draft directly from these sources if they can get close to them. If you are going to depend on this water as your first response to a fire, you will need a pump and a generator for back up. Often when there is a large fire the power will go out. Therefore, the generator will be needed to pump water from your pool or pond.

While ponds are ideal for storing large amounts of water for firefighting, they must be properly sited to avoid erosion. Ponds built on unstable ground can give way, leading to large washouts and gullying, choking streams with sedimentation, in turn harming fish habitat. Ponds should be built on stable ground, have adequate overflow protection, and should not be built across seasonal or perennial creeks. Also, please remember that ponds can breed nuisance species such as bullfrogs, mosquitoes, and non-native fish that can harm native salmon and steelhead.

Roads

Roads are critical components in the fire equation. They are a great place for a fuel break.[21] They are critical for evacuation. They are also needed for fire fighters to reach your home when fire strikes. Minimum clearance requirements along your roads for a fire engine to safely pass are twelve feet wide by fourteen feet high. In addition, you need plenty of places on the road where vehicles can pass each other. If a wildfire is threatening and a fire truck is trying to get to your place and you're trying to evacuate at the same time, there need to be areas in the road wide enough to accommodate traffic from both directions. Remember, when a wildfire is threatening, chances are it will be very dark and smoky, thus very disorienting. Take the time now to make it easier on yourself should that time come.

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[20]Ethan Foote, "*Wildland-Urban Interface Ignition Resistant Building Construction Recommendations from the 2004 Community Wildfire Protection Plan Workshops, the California Fire Alliance and the California Fire Safe Council*" , August 2004.

[21] A fuel break is a break in continuous vegetation (such as forest or brush lands), where a fire will slow down and fire fighters can fight the fire.

A fire truck needs to be able to turn around to be able to leave. If firefighters cannot safely get their engine in and out of your property, that makes your home not defensible. Most fire fighters will not unnecessarily risk their equipment or lives to protect your property. Give them at least fifty feet to be able to safely turn around. Firefighters will almost always turn around when they arrive to a fire for safer and quicker retreat. This is good advice for you too. Get in the habit of parking your vehicle(s) facing out at home so you can leave quickly if necessary. If you have locked gates, they will very likely be cut by fire fighters. If you don't want that to happen, make sure you leave your gates unlocked. Additionally, bridges need to be evaluated for safe fire truck passage. Generally, if a propane or other fuel or water truck can make it across a fire truck can. If you have a bridge that will not safely carry a fire engine, contact your local fire department and let them know. Don't make their job any more dangerous than it already is.

Fuel Hazard Reduction

Much of what you need to do to reduce fuels around your property comes down to common sense and an awareness of your physical surroundings. An important thing to know about fire in forested rural areas is the concept of *fuel ladders*. A fuel ladder is simply a ladder of vegetation from the forest floor into a canopy of trees. There is also the concept of *fuel continuity* both vertical and horizontal. Vertical continuity is similar to the fuel ladder concept; it means a continuous vertical layer of fuel. Horizontal fuel continuity then means the same thing horizontally. That's when the fuels extend from something—like your house—continuously out into the forest. A good example of this is with decks on steep slopes where the edge of the deck is next to the crowns of the trees (forest canopy). If a fire started either at the house or in the forest, it would have a continuous line of fuel to spread from one to the other via the deck.

An example of a fuel ladder (and vertical continuity) is brush on the ground climbing up or leading into smaller trees, especially via the dead limbs, which reach up into the canopy of the taller, or dominant trees. With this continuous ladder of fuel into the forest canopy, it is easier for a fire to climb into the trees and spread quickly. What is recommended to avoid this—primarily near buildings and along roads—is to reduce the fuel ladder. Go into the forest surrounding your home and along your roads and remove brush on the forest floor (but don't scrape it clean or you could have erosion problems when it rains). *Limb up* or prune young trees (remove the lower limbs to create open space between the tree canopy and the forest floor) to a minimum of fifteen to thirty feet above ground if you can safely reach that, or at least six to ten feet above the nearest vegetation. Young, short trees should be pruned higher incrementally. A rule of thumb when *limbing* trees is to leave at least one-half of the tree's height in live canopy so you don't harm the trees' ability to grow. If you leave clumps of shrubs, create at least three times the shrub height in space before the bottom branches of the trees. For example, if you have a three-foot high bush, leave nine feet of open, clear space (no vegetation), before the bottom branches. You don't have to clearcut your property to be fire safe. The most clearance is needed closest to your structures. For these places, the following table explains the horizontal spacing of trees and shrubs you leave.

Figure 3. Tree Crown and Brush and Shrub Clump Spacing[22]

% Slope	Spacing between Tree Crowns	Spacing between Brush and Shrub Clumps
0 – 10%	10'	2 ½ x shrub height
11 – 20%	15'	3 x shrub height
21 – 40%	20'	4 x shrub height
>40%	30'	6 x shrub height

In some places it is adequate to only *brush* or clear or clean up an area. Basically, *brushing* entails removing brush alongside a road or structure to keep the forest floor relatively open. Removal of all dead materials—shrubbery, branches, etc.—is especially important. The idea is to remove anything that is particularly flammable from being anywhere near an ignition source, such as you, your kids, your car, or your house. When brushing or removing fuel ladders, focus on the fine or flashy fuels—such as small sticks that will burn quickly. Think in terms of building a campfire or a fire in your woodstove. For large pieces of wood to burn, kindling—or small pieces of wood or fuel—are needed. If you remove the kindling around your larger fuel sources, chances are much greater they will not ignite. When

[22] Harris, F.C., Colorado State Forest Service

you are in your forest, make sure there are no concentrations of small sticks or brush right up against the trunks of trees to protect those trees.

Think of your home and property in terms of zones. In the zone closest to your home, within the first thirty feet at least, remove anything flammable, especially firewood and propane tanks. You don't have to clear this area of all vegetation, rather, keep in "lean and green," meaning using the plants listed in the appendix and keeping space between trees and shrubs.

In the next zone for up to 100 or 200 feet from you home, clear ladder fuels and large quantities of dead branches and other flammable materials from the forest floor. Beyond this, focus your fuel reduction efforts around roads, ignition sources, and other structures.

Shaded Fuel Breaks

When you remove the fuel ladders around your property and leave the tree canopy in place, you are basically creating a *shaded fuel break*. A shaded fuel break is a break in fuel continuity—treating both surface and ladder fuels—to give fire fighters a chance to fight the fire and perhaps even slow it down. This occurs because of a lack of fuels and the modification of the types of fuels and their arrangement. It is called *shaded* because you leave most of the forest canopy intact. Some of the canopy may need to be removed however, if conditions are ripe for a crown fire. A shaded fuel break is different than a firebreak where something like a bulldozer is used to create a bare-ground break with no vegetation. These firebreaks tend to regenerate quickly with flashy fuels and require a lot of maintenance. The shade created by the forest canopy helps to reduce the regeneration of plants on the forest floor, thus keeping the amount of fuels low in these breaks and requiring less maintenance. Shaded fuel breaks also improve your evacuation routes, as they provide a place where a fire might slow down or decrease in intensity, making it safer for you to get out. Fuel breaks are important places for fire fighters to fight a wildfire.

The exact prescription for a shaded fuel break depends on your objectives and existing, local conditions. Some landowners want to create as much cleared space—and hence fire safety—as possible. Others want to maintain as much privacy as possible, sometimes compromising, but almost always still improving fire safety.

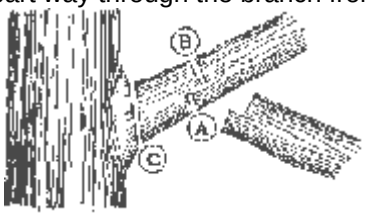
Pruning Individual Trees

Prune as high as you can safely given your available time and financial resources. The more you prune, the more slash you have to remove. Costs for this will vary widely depending on the size of pruned limbs. Reach as high as you safely can with a chainsaw or a pole saw. Leave one-half of the tree height in live crown. Only remove one-third of the total foliage at one time. Don't bother pruning anything that is shorter than you (unless it's right next to your house). Make sure to follow proper pruning techniques or you will create health problems in your landscape. Pruning is one of the most difficult skills to master but it is also one of the most important. See the following figure for more information.

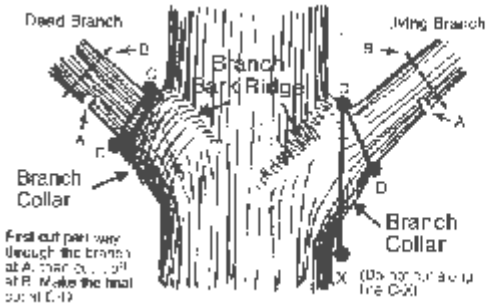
Figure 4.Proper Pruning Techniques

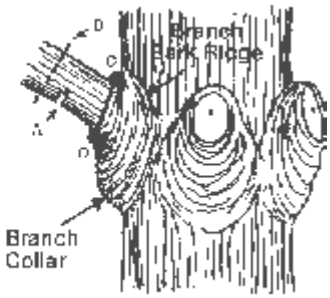
Prune correctly (see illustrations below). The object of the operation is to remove the branches as close to the tree stem as possible without leaving any stubs.

A. Cut part way through the branch from beneath at a point one or two feet from the trunk.



B. Make a second cut on the top of the branch, at a distance of 1/3 to 1/2 the diameter of the limb from the first cut. This should allow the length of the limb to fall from its own weight and be safely removed.
C. Complete the job by making a final cut next to the trunk, just outside the branch collar; with the lower edge farther away from the trunk than at the top.





Using the illustrations above, final cuts should be made from points C to D. Do not cut along C–X, which is an imaginary vertical line to help you locate C–D. First cut part-way through the branch at A, then cut it off at B. Make the final cut at C-D.

-Source: California Forest Stewardship Program, *Forestland Steward Newsletter*, Winter 2002, http://ceres.ca.gov/foreststeward/html/prune2.html.

Lomakatsi Restoration Project

The Lomakatsi Restoration Project based in Ashland conducts ecologically sound fuel reduction treatments in the area. The following information describes there work. You can find out more at www.lomakatsi.org or by calling 541-488-0208.

Figure 5. Lomakatsi Restoration Project Draft Ecological Principles for Fuel Load Reduction and Tree Planting[23]

Working with Nature: Lomakatsi's Forest Restoration Philosophy

Ecological Principles for Fuel Load Reduction and Restoration

Nature does the real restoration work. We are working to assist in the recovery of impacted ecosystems without causing additional problems. Here are some of the things we have learned:

Act conservatively. Don't change things too much at once.

Respect what is already on site.

- Retain old and large trees - the most fire resistant component of the forest.
- Reduce ladder fuels and brush from beneath drip lines (the furthest edge of outreaching branches) of retained trees.

[23] Oshana Catranides, personal communication 11/12/04.

- Maintain over-story canopy cover and shaded areas in mixed conifer forests. (Adjust canopy opening for differences in regional biodiversity, as in pine-oak savanna)
- Leave a diverse representation of native tree and plant species on site.
- Maintain areas of uneven-aged stands with representatives of all age classes to enhance forest structure and resilience.
- Plan thinning treatments over time; follow up the initial treatment using multiple entries in intervals over a several year period. This allows the forest time to adjust to the alteration in vegetation.
- Consider broader landscape level conditions when planning site-specific restoration activities.
- Plant only native species when revegetating a site.
- Follow-up treatments with noxious weed removal if necessary. This is what separates fuels reduction from restoration.
- Include indigenous land use practices and traditional ecological knowledge as an historic guideline and reference point in ecosystem restoration.
- Refrain from using herbicides.

Remember the wildlife.

- Leave some areas untreated, for the birds and wildlife using the area.
  Thin in a mosaic pattern - leaving thickets for wildlife, maintaining natural openings and meadows, and enhancing older forest stands by thinning under the 'drip line'.
- Leave some small piles of cut material un-burned, as habitat for wildlife
- Leave buffers of undisturbed vegetation in streamside riparian areas.
- Modify treatments around bird nesting season. As a goal, complete fuels reduction treatments prior to bird nesting and animal and plant reproductive cycles.
- Identify and retain snags for wildlife habitat. Chart their locations for monitoring, and fire safety precautions.

Remember the soil.

- Develop thinning treatments in relationship to slope, aspect and soil types.
- On steeper slopes, leave some thinned logs on the ground, perpendicular to the slope, to catch upslope erosion and contribute to future soil.

Remember the people.

- Listen to residents and neighbors. They know the ways in which each site is unique.
- Educate communities about forest and fire ecology, and ecological fuels reduction
- Train and educate forest workers about ecological principles, watershed and riparian function, botany, and how to see the special characteristics of each place.
- Match site diversity with worker diversity. Different cultures each have their own ways of understanding the complex diversity of nature.
- Involve the workforce in the design, planning, and monitoring of restoration projects.
- Pay workers well, according to their training, experience, and quality of work. Listen to them - Happy, respected people do the best work
- Look for useable material to carry from the site for poles, furniture, spoons, fuels, etc.

Learn

- Keep complete records of prior conditions, work accomplished, and the time, money, and people that it took. Watch & document what happens over time
- Review information about similar sites before deciding how to treat new ones.

Lomakatsi is the Hopi word for 'Life in Balance

Figure 6. Lomakatsi Restoration Project Examples of Fuel Reduction Treatments[24]

Examples of Fuel Load Reduction Treatments

These treatments have been applied to several sites, including areas in the Illinois Valley, Williams Creek Watershed, Colestin Valley, Rogue Valley and Prospect areas of Southwestern Oregon.

[24] http://www.lomakatsi.org/Page.asp?PID=35

Each site presents varying conditions, from south-facing, dry forests with lots of brush to clear, to north facing areas filled with overstory trees.

Treatments are prescribed on the basis of site-specific conditions, which can vary considerably from acre to acre.

Cutting brush and small trees

- Thinning is done more intensively near 'ignition points' such as roads, and houses, and gradually less intensively further away from human habitation areas.
- High-limbing of low branches removes dry 'ladder fuels', which are like ladder steps that can carry flames into the tops or 'crowns' of trees.
- Vines climbing up into the trees are removed.
- Conifers are sometimes high-limbed to 8 to 12 ft.
- Brush can also be a ladder fuel, it is removed from underneath the 'drip line' of special trees, including older oaks and large conifers (which have been high-limbed).
- Wildlife habitat is searched for (such as trees with bird nests), and preserved, with thinning done to allow the habitat to be maintained.
- When thinning, attention is paid to leaving sufficient representatives of all species on site, especially those rare on site.
- Dead limbs and leaning dead small trees and brush are dropped to the ground.
- 70 – 80 % of the overstory canopy is retained.
- Clumps of brush and trees are left unthinned as habitat. Manzanita and buck brush is thinned by leaving small patches separated by irregular, cleared gaps.

Fuel disposal

- Cut material is spread out on the ground to the extent possible, perpendicular to the slope.
- Some brush is piled and left unburned as habitat, especially near burrows. Nurse-logs are mulched with brush.
- After ecologically based thinning, 'restoration by-product' material is selected for human use, such as conifer poles, straight madrone for flooring, mahogany for special use, and hardwoods suitable for firewood. Workers carry out this material.
- Some material is hauled off site and chipped.
- Some material is burned in small piles.
- Some material is available for creating small-diameter wood products.

What to Do with Thinned Materials

As a result of your fire safety work around you property, you will soon accumulate a lot of branches and other materials that you have removed. There are a few principal options for dealing with thinned materials: burning, chipping, lop and scatter, some combination of these, small diameter wood products, and biomass. Burning is the cheapest and usually the easiest method. The following is a list of suggestions for safe burning:

"● Arrange the material to be burned so that it will burn with a minimum of smoke. Place material of various sizes in the pile for adequate air flow.

● Except for large trees (diameter of six or more inches), ignite only the amount that can reasonably be expected to completely burn within the following 24 hours.

● Ignite outdoor fires only with ignition devices approved by the local air quality district and IVFD.

● Ignite material to be burned as rapidly as practical within applicable fire control restrictions.

● Curtail, mitigate, or extinguish burning when smoke is drifting into a nearby populated area or creating a public nuisance.

● Don't burn material unless it is free of tires, rubbish, tar paper and construction debris; is reasonably free of dirt, soil, and moisture; and is loosely stacked in such a manner as to promote drying and ensure combustion with a minimum of smoke.

- Some air districts and/or counties may limit the amount of needles and leaves within a pile, as well as burning hours throughout the day."[25]

In Illinois Valley you can burn out of fire season, not during fire season. To burn, you need to obtain a free permit from IVFD. See Appendix D: Illinois Valley Fire District for a copy of the Burn Permit.

Chipping is another method for treating thinned materials. If you will be using a chipper, remember to stack all your branches in the same direction, so you can easily feed the chipper. Chippers can be rented locally. Most local fuel hazard reduction contractors have them. Chipping is best near your home or roads where it is easy to get the materials to the chipper, and where you don't want excessive fuels on the ground.

Lop and scatter is a method where the thinned materials are scattered about the forest—taking care not to form large piles (jackpots) of slash—in order to rot there. Lop and scatter can be very cost effective, but is a very site-specific treatment.[26] This is the best method for improving the soil fertility of your forest and hence the forest's long-term productivity. By removing the ladder fuels and scattering them low to the ground, you are improving the chances of your forest surviving a wildfire. However, because of increased short-term risk this is not a method to do near structures. Rather, it is more appropriate in the forested landscape, beyond your shaded fuel breaks.

The material should be cut down to an ideal height of one foot above the ground. However, lopping to less than or equal to twelve inches of the surface is likely beyond the skills of most, eighteen-inches is better to strive towards. Remove all large pieces of wood, which, by the way, makes for great firewood. But dedicate some larger, heavier pieces to sit on top of the slash and weigh it down. Conifer slash "lies down" much easier with much less lopping than most hardwood slash due to its growth habit. Green slash of all species lays down easier than dry slash (if you're thinking of coming back later to lop). Make sure none of your material on the ground is touching the base of any trees or shrubs you have left standing.

The risk with this method is that fire may occur within your treated area before the fine fuels fall to the ground and decompose. Even so lop and scatter does reduce your fuel hazard because the fuels are no longer part of the fuel ladder, and there is vertical clearance between the surface fuels and the bottom branches of the trees (ideally a minimum of eight feet of space). However, your surface fuel hazard will increase from three to ten years depending upon the length of time it takes for these fuels to decompose.

Small Diameter Wood Products

Kauffman Wood, at 24200 Redwood Highway in Kerby uses small-diameter wood products from forest thinnings for their log furniture. You can contact them for more information at 592-2568.

No other users of small diameter wood products are currently known in the Illinois Valley.

Biomass

The concept of biomass is to take the slash from fuel reduction projects and burn it to create energy. In its simplest form, it is used to create heat. This technology is increasingly being used in schools in rural areas *(see www.fuelsforschools.org for more information).* Josephine County has already been investigating biomass marketing and utilization.

The following section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004.

In order to sustain fire protection in Josephine County, there must be a way to pay for it. To date, grant funding through the National Fire Plan and County Title III funds have paid for most of the fuels reduction work that has occurred on private lands. With National Fire Plan funding declining annually, and County payments in jeopardy of not being reauthorized after 2006, the County must identify a strategy to pay for hazardous fuels treatment in the future.

Local investment and incentives may well be the best strategy there is. Whether it be local businesses or local citizens, paying to reduce fuels around personal property is a big step towards being accountable and responsible for personal safety. An incentive, however, can go a long ways towards motivating people and businesses to take action. If there are markets that will ensure payment for raw materials (and a way to transfer the raw materials), a local landowner may be much more inclined to reduce hazardous fuels.

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[25] California Forestland Steward Newsletter, How to Burn Piles Properly, http://ceres.ca.gov/foreststeward/html/burnpiles.html.

[26] Tim Jones, Arcata BLM Fire Management Officer, personal communication, 7/12/04.

Even Federal policies recognize the value of biomass marketing and utilization. Since its inception, the National Fire Plan has funded small diameter marketing and utilization through the Forest Service Economic Action Programs. In 2003, President Bush signed into law the Healthy Forests Restoration Act, which included provisions for biomass marketing and utilization. However, meaningful funding and technical assistance must be provided to ensure that communities have the opportunity to identify feasible and economically beneficial ways to use raw materials from fuels reduction projects.

Josephine County, through a number of grants and programs, is beginning to create a foundation for understanding potential markets and utilizing small diameter wood products. A 2003 report developed by Sustainable Northwest for the Sunny Wolf Community Response Team examined timber supply in Josephine County. The same National Fire Plan grant funded a product feasibility study in the region. The Southwestern Oregon Resource and Conservation Development (RC&D) Council is developing a small diameter marketing and utilization clearinghouse through a grant from the National Fire Plan. In addition, the Jefferson Sustainable Development Initiative is currently coordinating the Boaz Forest Health and Small Diameter Utilization Project.

During the Fire

Fire can be extremely frightening. However, taking steps now to prepare you and your family and your home for fire will make it easier to survive it, and it will likely reduce panic and help you to effectively deal with the situation.

Conserve your water. Save it for when the fire is at your house, or the fire has passed. This is when you may need it to put out any embers or sparks.

Another very important thing you can do to protect your property in the case of a fire is to be fully prepared for the eventuality of fighting a fire at your home. If you have any experience or training fighting fire, create a fire fighting tool area that is easily accessible. Keep this in a non-flammable structure, such as a metal shed or your garage. Your collection should include tools such as shovels, hoes, Pulaskis, McLeods, etc. Keep a set of fire fighting clothes there as well, such as heavy cotton, and boots, and gloves. Put fire hose at your water source and mark it well so you, your neighbors, and/or fire fighters can easily find and use it.

The following document from Living with Wildfire, Pacific Northwest Wildfire Consulting Group [27] is a great summary of what to do when fire strikes. Make a copy of it and post it in a prominent place so you will see it if a wildfire is near.

[27] Living with Wildfire, Pacific Northwest Wildfire Consulting Group, http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf.

WHEN WILDFIRE APPROACHES

Should homes be threatened by wildfire, occupants may be advised to evacuate to protect them from life-threatening situations. Homeowners, however, do have the right to stay on their properties if they so desire and so long as their activities do not hinder fire fighting efforts. If occupants are not contacted in time to evacuate or if owners decide to stay with their homes, these suggestions will help them protect their properties and families.

- Evacuate, if possible, all family members not essential to protecting the house. Evacuate pets as well.
- Contact a friend or relative and relay your plans.
- Make sure family members are aware of a prearranged meeting place.
- Tune into a local radio station and listen for instructions.
- Place vehicles in the garage, have them pointing out, and roll up windows.
- Place valuable papers and momentos in the car.
- Close the garage door, but leave it unlocked. If applicable, disconnect the electric garage door opener so that the door can be opened manually.
- Place combustible patio furniture in the house or garage.
- Shut off propane at the tank or natural gas at the meter.
- Wear only cotton or wool clothes. Proper attire includes long pants, long sleeved shirt or jacket, and boots. Carry gloves, a handkerchief to cover face, water to drink, and goggles.
- Close all exterior vents.
- Prop a ladder near[28] the house so firefighters have easy access to the roof.
- Make sure that all garden hoses are connected to faucets and attach a nozzle set on "spray."
- Soak rags, towels, or small rugs with water to use in beating out embers or small fires.
- Inside, fill bathtubs, sinks, and other containers with water. Outside, do the same with garbage cans and buckets. Remember that the water heater and toilet tank are available sources of water.
- Close all exterior doors and windows.
- Close all interior doors.
- Open the fireplace damper, but place the screen over the hearth to prevent sparks and embers from entering the house.
- Leave a light on in each room.
- Remove lightweight and/or non-fire resistant curtains and other combustible materials from around windows.
- If available, close fire resistant drapes, shutters, or venetian blinds. Attach pre-cut plywood panels to the exterior of windows and glass doors.
- Turn off all pilot lights.
- Move overstuffed furniture (e.g. couches, easy chairs, etc.) to the center of the room.
- Keep wood shake or shingle roofs moist by spraying water. Do not waste water. Consider placing a lawn sprinkler on the roof if water pressure is adequate. Do not turn on until burning embers begin to fall on the roof.
- Continually check the roof and attic for embers, smoke, or fire.
- If a fire should occur within the house, contact the fire department immediately. Continue to inspect your house and property for embers and smoke.

Most importantly, STAY CALM!"

[28] Not a wooden ladder. Put it on the ground near the house so it does not act as a ladder for the fire to climb up your house.

Emergency Communication

Communication and preparedness are the key to successfully surviving an emergency situation. Create a map of your property that shows where the most valuable structures and other resources are. Mark on your map the location of your water sources, where your gas/propane/diesel tanks and shut-offs are located and any other highly flammable or explosive materials. Include where any locked gates are and the combinations to those gates. Also include locations of any pets or livestock. Put your name, phone number and/or CB handle, street address, and parcel number or GPS[29] coordinates on this map. Put a copy on the wall by a phone (or CB radio) so you can use it in case of an emergency. If you are comfortable, put it up somewhere near the entrance to your property where fire fighters can see it, perhaps with your visible fire fighting tools. Or better yet, invite them out to your property (not during fire season) to show them where everything is. This will help them effectively protect your property in case of fire. If you are concerned about security issues, you can talk to your local fire department to work out a compromise that will meet your confidentiality needs while making their job easier to defend your property if and when the day comes.

Remember to call 911. Should the time come that you do have to call 911, give your address (which must be visibly marked on the road so firefighters can find your home), or GPS coordinates if you have them. After you call 911, go to the bottom of your road, and either have someone stand there, or put up a flag or some sign to let fire fighters know where the emergency is and the way to your house. The easier you can make it for the firefighters, the higher your chance is of surviving a fire.

Evacuation

Be ready if you need to evacuate. Have everything you need packed beforehand. Familiarize yourself with alternate evacuation routes now so you know them well. (Do this in the dark too so you will be comfortable during a large fire, where visibility can be very low.) Know at least two ways out. Make sure you are comfortable with both routes. However, several alternate evacuation routes in the Illinois Valley are on long, windy roads through public lands. Make sure you know your way on these roads before attempting to navigate them. During an emergency situation, routes such as these will be identified in someway if you need to use them. Have keys or combinations to locked gates in your vehicle. Turn on your headlights, drive SLOW and careful. There could be many people trying to leave and/or fire fighters and other emergency service personnel trying to enter to protect you and your house. Sometimes your safest or quickest evacuation may be on foot. *For more information on evacuation, see JCIFP's Evacuation information in Appendix J. Josephine County Integrated Fire Plan - Educational Materials*

Safe Zones and Shelter in Place

The safest place to be in a fire may be in your house. In Australia and New Zealand, people are recommended to stay at home. Their motto is "Prepare, Stay, Defend." Many people die trying to evacuate, more than die from the fire itself. As well, if you are at your home, you can put out any small fires that start around your property from embers and sparks, which can travel over a mile from a large fire. This is the concept of "Shelter in Place." You should only shelter in place at your home if you have good defensible space there and are prepared to stay as long as necessary.

If you are unable to evacuate by road, know where your nearest "safe or safety zones" are. A safe zone is where you can go (other than your house) to shelter in place. These are places where you and your family can go to survive a fire without any special equipment or clothing, if your home is not safe, although it is often the safest place for you. Safe zones are also used as staging areas, but usually do not provide any services. Steep creek channels are not a good place to seek refuge as fire travels faster in steep canyons. The fire will consume the oxygen there before the flames arrive, and you could suffocate before the fire arrives. Instead, look for big open fields, large river bars, wide-open graveled or paved roads, or an open area that has already burned. This area should be four times wider than the fire's flame lengths. Talk to your local fire department about potential safe zones, and see the section for each community in Chapter 7: Interface Community Planning Areas

so that you are familiar with the area now.

Safe zones for residents are different than those for fire fighters. Do not attempt to shelter in a fire fighter safety zone if you are not actively fighting the fire.

[29] Global Positioning System

If an evacuation is ordered or you are sent to a safe zone, you will be notified of where to go by local law enforcement. Some safe zones may be used as the Emergency Operations Center, and hence should be avoided so as not to interfere with the success of fire suppression efforts.

Often an area is designated for evacuation days before the fire actually gets there due to the potential for a rapid fire advance. If you decide to shelter in place and then for example leave for provisions two days into the evacuation order (because the fire is still not there), you may not be able to return. Law enforcement often closes an area for entry once an evacuation has been ordered. Therefore, to shelter in place you must also consider logistical issues such as water, sewer, electricity, etc. for the duration of your stay.

After the Fire

Assess Your Success and Plan for How to be Better Prepared Next Time

Just because you live through a fire does not mean it couldn't happen again. Learn from the experience to be better prepared next time. The following article from *Forestland Steward* was published following the 2003 Southern California fire storms. Although the ecosystem there is different, the lessons learned there are still applicable to everyone who faces wildfire.

"Post-fire response: assess your situation

Although we all know that the … landscape is adapted to burn, we are seldom prepared for the reality of a large wildfire. The effects of a fire will have consequences for years. Approach the post-fire period thoughtfully. After a fire, there are important decisions to be made. What should you be concerned about and what needs to be done? The wrong choices could lead to problems down the road so take some time to assess your situation before taking any action.

Areas of concern:

The home site

- Damage to the home or other structures
- Loss of landscaping
- Hazardous trees or vegetation
- Danger of flooding, on-site sedimentation
- Drinking water quality and other environmental impacts

The landscape

- Safety hazards—trees, powerlines, etc.
- Regeneration and recovery
- Wildlife habitat
- Watershed functions
- Erosion concerns
- Condition of remaining vegetation

Streams

- Proximity to home, roads, other facilities
- Hydrologic connectivity of existing drainage facilities
- Potential of increased woody debris load, streamflow, flooding, debris flow
- Need for treatments to upper watershed to minimize downstream impacts, impacts to property

Roads

- Existing problems that may be exacerbated by wildfire effects
- Damage to stream crossings, culverts
- Gullies, potholes, fillslope failure, cutslope failure, sediment deposits, wet spots
- Potential for culvert obstruction & diversion

Discussion

Identify the type of habitat burned. Was it forest, oak woodland, chaparral, coastal scrub, or grassland? … One of the most immediate concerns after fire is erosion. Vegetation provides protection for the soil; it anchors the soil and slows water runoff which aids absorption. Fire can change the soil

chemistry, creating hydrophobic, or water repellent, soil. This can exacerbate the already accelerated runoff from vegetation loss.

However, reseeding is generally not a good answer to erosion and, in fact, can be detrimental to recovery. Although reseeding with ryegrass has long been recommended after fire, studies are now finding that ryegrass provides little erosion control and actually inhibits regrowth of native vegetation that can provide long-term protection to the soil. In addition, ryegrass can increase future fire risk and facilitate a change from a native plant community to a non-native grassland. There are many erosion control techniques available to stabilize soil until revegetation occurs. Mulching, fiber rolls, silt fences, straw matting, wood chips, logs, and other materials can help hold the soil in place and slow runoff. Be sure that the material you use is free from weeds.

Evaluate the condition of streams and roads on or near your property. The increased runoff due to fire can cause sedimentation which can be detrimental to aquatic life. Large wood and other debris from the fire can affect streamflow. Culverts and waterbars are commonly used to channel drainage. Make sure culverts are maintained and properly sized to accommodate the runoff.

Flooding and debris flows can be serious problems after a fire. Control flows with sandbags, gravel bags, check dams, fiber rolls, and other temporary or permanent materials. In some cases, you may need to consult an engineer or other expert for advice."[30]

As well, if you are in the unfortunate situation of losing your home to fire, learn from the fire in terms of what areas burned around your property versus those that didn't. Design your new fire-safe landscaping with this in mind. Perhaps most importantly, build or rebuild your home with fire resistant materials, as described in the Fire Safe Building Materials section.

[30] Forestland Steward, Spring 2004, page 1.

CHAPTER 3: PLANNING PROCESS

The Illinois Valley Fire District (IVFD) received a Secure Rural Schools Act Title III grant from Josephine County to develop a community-wide fire plan for the Illinois Valley. IVFD is coordinating the development of the IV Fire Plan in conjunction with and in the context of the Josephine County Integrated Fire Plan. The purpose of the Plan is to identify community priorities for reducing the risks of wildfire in the Illinois Valley. The IVFD hired Tracy Katelman, a consulting forester from ForEverGreen Forestry in Eureka, CA, to coordinate the Fire Plan. IVFD also hired De Spellman to be its first Fire Prevention Coordinator, a new position within the District. De provided assistance in developing the plan, primarily in the extensive outreach effort necessary to ensure community involvement. She continues to provide fire safety education to many people in the valley.

Illinois Valley Fire Plan Purpose and Goals

This Illinois Valley Fire Plan project involves developing community awareness, planning, and action on fire safety and fuels reduction in the Illinois Valley. The Illinois Valley Fire District's objective for this project is to engage people of all viewpoints on the issue of fire safety and fuels reduction through project activities, and to develop the Illinois Valley Fire Plan through a community-input process.

Planning Area Boundaries

This Plan addresses wildfire mitigation issues in the incorporated city of Cave Junction, and the surrounding communities of Selma, Kerby, O'Brien, Takilma, and neighboring areas. The planning area generally stretches from the California border along the valley through which Highway 199 traverses until Hayes Hill, and along the Illinois River into the Siskiyou National Forest.

Map 2. Illinois Valley Fire Planning Areas

Illinois Valley Fire Plan Process

The IV Fire Plan process involved a series of community meetings throughout the Illinois Valley. A "kick-off" meeting was held in Cave Junction on May 19, 2004 to introduce the project to the community. Following this meeting, a series of seven community meetings were held throughout the Illinois Valley. The following timeline indicates the date and location of those meetings, as well as the overall schedule for production of the Illinois Valley Fire Plan. A detailed description of the planning process can be found in Appendix C: .

Table 2. IV Fire Plan Timeline, March 2004 – March 2005

Description	Location	Date
Begin Project, Hire Staff, Consultants		March 2004
Initial Planning Committee Meeting	Cave Junction City Hall	May 12, 2004
Cave Junction Introductory Public Meeting	County Building	May 19, 2004
Selma Community Meeting	Selma Community Center	June 9 , 2004
O'Brien Community Meeting	IVFD Fire Station #3	June 16, 2004
Takilma Community Meeting	Takilma Community	July 7, 2004
Kerby Community Meeting	Kerby Belt Building	July 28, 2004
Holland Community Meeting	IVFD Fire Station #4	Aug. 11, 2004
Sun Star Community Meeting	Sun Star Meadow	Aug. 17, 2004
Cave Junction Community Meeting	County Building	Aug. 18, 2004
Planning Committee Meeting	Cave Junction City Hall	September 3, 2004
Initial Meeting of IV Fire Safe Council	Cave Junction	October 4, 2004
Draft IV Fire Plan	Available online	November 15, 2004
Community meeting to review Draft Plan	Cave Junction	January 4, 2005
Public Comments due on Draft Plan	Via email, fax, mail	January 15, 2005
Final IV Fire Plan	Available online	March 1, 2005

Illinois Valley Community Fire Planning Committee

In accordance with the Community Wildfire Protection Plan guidelines, a planning committee was established to oversee this process and approve the plan.

Committee Purpose:

The Illinois Valley Fire Plan Community Planning Committee was created to:

- provide oversight to the Illinois Valley Fire Plan process,
- meet the requirements of Community Wildfire Protection Plans of the National Fire Plan, and
- ensure the Plan meets the needs of all sectors of the Illinois Valley community in terms of fire safety and prevention.

Committee Responsibilities:

The Planning Committee was responsible for:

- reviewing documents and providing feedback as necessary,
- attending public community fire plan meetings as available,
- attending initial meeting of the IV Fire Safe Council, and
- identifying key community members to target for participation in public planning process.

Committee Members

- Bruce Bartow, Community Development Director, Josephine County
- Dick Boothe, Fire Management Officer, Rogue Siskiyou Forest Service
- Gary Biggs, Public Works Director, City of Cave Junction
- Susan Chapp, Forestry Action Committee
- Curtis Clark, Forest Officer, Oregon Department of Forestry
- Tim Gonzales, Fire Mitigation and Education Specialist, Bureau of Land Management, Medford District
- Kathy Lynn, University of Oregon, JCIFP
- Ron Phillips, Illinois Valley Community Response Team
- Paul Shoalwalter, Illinois Valley Community Response Team
- Jerry Schaeffer, Fire Marshal, Illinois Valley Fire District
- De Spellman, Fire Prevention Coordinator, Illinois Valley Fire District
- Don Smith, Executive Director, Siskiyou Project

Committee Meetings:

Two meetings were held of the IV Community Fire Planning Committee. The purpose and outcomes of those meetings is listed here. At the September 3rd meeting, it was decided to disband this Committee and integrate it into the new IV Fire Safe Council.

May 12th Meeting

Purpose**:** To convene and launch the Illinois Valley Community Fire Planning Committee.

Outcomes:

- Introduction to fellow committee members.
- Understanding of purpose and responsibilities of committee members.
- Understanding of the Illinois Valley Fire Plan in relation to the Josephine County Integrated Fire Plan.
- Understanding of overall project process and timeline.

September 3rd Meeting

Purpose: To further the progress of the IV Fire Plan and IV fuel reduction projects.

Outcomes:

- Understanding of current status of plans and related projects.
- Agreement on purpose and implementation of IV Fire Safe Council.
- Agreement regarding use of FAC resident surveys.
- Agreement regarding implementation of outreach mailing.

Community Meetings

The heart of the IV Fire Plan process was a series of community meetings held throughout the Illinois Valley. The purpose of these meetings was to educate and be educated. Staff educated the community about the IV Fire Plan, JCIFP, and defensible space and fire safety. Residents educated project staff regarding their issues and concerns regarding fire in their communities. As well, the community mapping exercise allowed us to "ground-truth" the results of the Josephine County Integrated Fire Plan risk assessment. We were able to compare the community-identified risk and hazard areas with those identified by the JCIFP.

An extensive outreach effort was made to get local residents to these meetings. Meeting announcements were placed in the local paper, the *Illinois Valley News*, and on radio and TV. Extensive phone calling, postering, and even door knocking was done the week prior to each meeting. A sample press release and meeting poster is in Appendix C: .

The meetings began with an introduction to the Plan and process in Cave Junction on May 19, 2004. The following information describes that meeting:

Introductory Meeting, Cave Junction, May 19, 2004

Purpose: To introduce members of the Illinois Valley community to the Illinois Valley Fire Plan
Outcomes:

- Understanding of the Illinois Valley Fire Plan in the context of the Josephine County Integrated Fire Plan.
- Understanding of the process for community input into development of priorities for fire hazard reduction in the Illinois Valley.
- Understanding of the timeline for IV Fire Plan.
- Basic understanding of introductory aspects of fire safety and defensible space.

Agenda

1. Welcome and Introduction, Jerry Schaeffer (IVFD)
2. Introduction to the Josephine County Integrated Fire Plan, Bruce Bartow (JCIFP)
3. Introduction to IV Fire Plan Process & Timeline, Tracy Katelman (IV Fire Plan Coordinator)
4. BREAK – 10 minutes (set up video, move chairs if necessary)
5. Fire Wise Video - 20 minutes
6. Defensible Space and Fire Safety – De Spellman (IVFD)
7. Question and Answer Period – Tracy Katelman facilitate
8. Close and Thank You. See you at Community Meetings – Tracy Katelman

Neighborhood/Community Meetings

Following the Cave Junction introductory meeting, a series of meetings were held in six communities throughout the Illinois Valley between March and August, 2004.

- **Selma**, June 9th, Selma Community Center, 18255 Highway 199
- **O'Brien**, June 16th, IVFD Fire Station #3, 33054 Lone Mountain Road
- **Takilma**, July 7th, Takilma Community Center, 9367 Takilma Road
- **Kerby**, July 28th, Kerby Belt Building, 24254 Highway 199
- **Holland**, August 11th, IVFD Fire Station #4, 5465 Holland Loop Road
- **Cave Junction**, August 18th, County Bldg., 102 S. Redwood Highway

An additional meeting was held in the community of **Sun Star** on August 17th. This meeting was held in conjunction with the Del Norte Fire Safe Plan and Del Norte Fire Safe Council.

Each meeting was held from 6:30 – 9:00 p.m. The following purpose, outcomes, and agenda were used at each meeting.

Purpose:

- Educate residents regarding fire safety, defensible space, and the Illinois Valley Fire Plan.
- Elicit information and participation from residents for the Illinois Valley Fire Plan.

Outcomes**:**

- Basic understanding of fire safety and defensible space to allow residents to implement these on their property and throughout their community.
- Broad-based participation in the Illinois Valley Fire Plan process.
- Opportunity to provide direct input into priorities for Illinois Valley community fire safety.

- Identification of local concerns and priorities on maps to prioritize projects for future National Fire Plan funding.

Community Fire Planning Meeting Agenda

1. Introduction (15 Minutes)
    - Welcome and Introductions
    - Illinois Valley Fire Plan and Josephine County Integrated Fire Plan
2. Video — Wildfire: Preventing Home Ignitions (20 Minutes)
3. Are you prepared: Defensible Space and Fire Safety (20 Minutes)
    - Clearance around homes and roads
    - Fire-safe landscaping
    - Water storage
    - Building Materials
    - Forest fuel hazard reduction, What to do with thinned materials
    - What to do during a wildfire, safe zones
4. Introduction to Identification of Community Priorities (10 Minutes)
5. BREAK Move into Small Groups by Neighborhood (if needed)
6. Small Group Breakouts/Mapping Excercise (60 Minutes)
    - Identify values at risk, resources for wildfire protection, and fire-hazard reduction priorities.
    - Community Values
    - Wildfire Causes
    - Protection Capabilities
    - Priorities for Action
7. Report Back to Large Group (5 Minutes)
8. Wrap-up, Next Steps, and Evaluation (5 Minutes)

Resident Survey Mailing

In addition to the community meeting process to garner local input on risks, hazards, and priority projects in the Illinos Valley, a mailing was sent to approximately 800 residents in areas identified as higher hazard by JCIFP risk assessment. This included neighborhoods in O'Brien, Kerby, Upper Thompson, Deer Creek, and certain Cave Junction neighborhoods. De Spellman of the IVFD, the Illinois Valley Community Response Team, and Cody Zook of Josephine County GIS all contributed many hours getting this mailing to residents. See Appendix C: for sample letter, survey, educational info.

Stakeholders

In addition to the local residents who attended one or more of the eight community meetings and Fire Safe Council meeting, the following organizations actively participated in this project:

- City of Cave Junction
- Forestry Action Committee
- Illinois Valley Community Response Team
- Illinois Valley Fire District
- Josephine County
- Oregon Department of Forestry
- Siskiyou Project
- US Bureau of Land Management
- US Forest Service

IV Fire Safe Council

The founding meeting of the Illinois Valley Fire Safe Council (IVFSC) was held on October 4, 2004, at Cave Junction City Hall. The following people attended the meeting:

- Marilyn Arnold, resident
- Bruce Bartow, Josephine County
- Gary Biggs, City of Cave Junction, resident

- Dick Boothe, US Forest Service, resident
- Marcia Bradshaw, resident
- Roger Bradshaw, resident
- Susan Chapp, Forestry Action Committee, resident
- Celeste Clinton, resident
- Bob Clinton, resident
- Tom Crittenden, resident
- Jerry Dean, resident
- Tim Gonzales, BLM
- Bill Gray, resident
- Susan Gustafson, resident
- Robert Hirning, resident
- Tracy Katelman, ForEverGreen Forestry
- Dee Klinger, resident
- Bill Klinger, resident
- Lori Kofahl, resident
- Dale Sandberg, IVFD, resident
- Jerry Schaeffer, IVFD, resident
- Robert Schumacher, IVCRT, resident
- George Shook, resident
- Paul Showalter, IVCRT, resident
- De Spellman, IVFD, resident
- Jack Walker, resident

The following **IVFSC Purpose** was approved at this meeting:

- To bring together representatives from agencies, organizations, and local communities to implement long-term fire risk reduction in the Illinois Valley.
- To identify and promote fire safety projects in the Illinois Valley.
- To continue and implement the Illinois Valley Fire Plan.
- To promote neighborhood-level fire safety meetings and Councils throughout the Illinois Valley.
- To educate and support local citizens in fire suppression efforts in the Illinois Valley.

The October meeting participants decided that the IVFSC should be led by community members, and supported by agencies and organizations as resources. The following communities were initially identified to participate in the Council. These communities and neighborhoods represent most residents of the Valley. Participating residents want to ensure widespread geographical representation and participation in the IVFSC. The November meeting will finalize this list and voting structure.

Principle Communities/Neighborhoods:

- Cave Junction
- Holland
- Kerby
- O'Brien
- Selma
- Takilma

Sub-neighborhoods:

- Deer Creek
- Dick George
- Draper Valley
- Eight Dollar
- Grayback
- Holton Creek
- Indian Creek

- Rockydale
- Sun Star
- Thompson Creek
- White School House

Agencies and Organizations Already Participating:

- City of Cave Junction
- Forestry Action Committee
- Illinois Valley Community Response Team
- Illinois Valley Fire District
- Josephine County
- Oregon Department of Forestry
- Siskiyou Project
- US Bureau of Land Management
- US Forest Service

Agencies and Organizations to Invite:

- Ambulance
- Chamber of Commerce
- Forestry Contractors
- Illinois Valley Family Coalition
- Illinois Valley Senior Center
- Law Enforcement
- Non-profit/Service Organizations
- Other Community Organizations, such as Waldo Mining
- Rough & Ready Lumber
- Selma Community Center
- Service Clubs: Lions Club/Lionesses, American Legion

An initial decision-making structure was approved: strive for consensus, if not fall back to a majority vote of community representatives.

Meetings will generally be held on the third Monday of the month. The second meeting will be on November 15th, 2004 from 6:30 – 8:30 pm at IVFD Administration Building, 28195 Redwood Highway. Robert will facilitate and Lori will take minutes. The agenda for that meeting will include:

- Update on IV fire safety projects (including Thompson Creek, Dick George, Sun Star, others?)
- IV Fire Plan Public Draft – Available for public distribution 11/15. How to do this most effectively? Plan for January 4th, 2005 community meeting to explain the draft and encourage comments to be submitted by January 15th.
- Who constitutes a "community member" for voting purposes? Which communities have votes?
- Establishment of committees, possibly: Projects, Education, Fundraising, Organizational Structure (legal entity, association, by-laws, etc.), Others
- Schedule next meeting.

If community members are interested in getting involved with the IVFSC, please contact De Spellman at IVFD, 592-2225.

Methodology

As mentioned above, the heart of this process was the series of community meetings. Through the Planning Committee, the list of community meeting locations was finalized. Several Committee members attended many of the community meetings. At each community meeting, a mapping exercise was undertaken to identify values, risks, hazards, existing projects, safe zones, evacuation routes, and proposed and priority projects. The following is a detailed outline of that mapping exercise. The exercise was generally done around a large table, with base maps supplied by Josephine County GIS staff, using the local expertise of Cody Zook there to appropriately define the boundaries of each community. Residents then identified the following items using highlighter markers on the maps, with a corresponding list of item descriptions.

- Identify values at risk, resources for wildfire protection, and fire-hazard reduction priorities.
- Community Values at Risk (Green Highlighter)
- Where are the places and things you most value and want to see protected from wildfire? Examples include:
    - Hospitals and health care facilities
    - Businesses
    - Schools, Churches, and Stores
    - Community centers
    - Rare and endangered species, habitat, ecologically significant areas
    - Recreation areas
    - Culturally or historically significant areas
- What critical infrastructure needs to be protected from wildfire? Examples include:
    - Power substations & corridors
    - Communication sites and facilities
    - Landfills and treatment facilities
    - Transportation corridors
    - Major manufacturing and utilities facilities
-
- Wildfires Causes, Risk, and Hazards (Orange Highlighter, Red Marker, Black Marker, Pink Highlighter)
- What are the causes of wildfire in your community?
- Where do you think a wildfire would start in your community and why?
- What are other wildfire hazards in your community?
    - Dead trees (insect or disease)
    - Slash from logging or thinning
    - Fuel storage
    - Abandoned wooden structures
- Road systems – blocked, brushed over, or dead end roads
- What kind of road or structural conditions might increase fire risk?
    - Road maintenance needs (outages, slides, etc.) (Red marker)
    - Bridges and/or locked gates (Black marker)
- Power lines (Purple marker)
-
- Where have fuels reduction projects already occurred? Identify defensible space treatments (Pink highlighter)
-
- Protection Capabilities (Blue Highlighter and Marker, Brown Marker)Where are there resources for fighting fires?
- Municipal watersheds
- Water storage: tanks, ponds, pools (Blue marker dot w/# 1,000 gallons (e.g. 5 =5000)
- Equipment (Brown marker)
- Access route/evacuation
- Safe Zones
-
- Priorities for action (Yellow Highlighter) Where do you most want to see fuels treatment occur? What types of treatments?
- Shaded fuel breaks
- Road brushing
- What other wildfire protection activities would you like to see implemented?
    - Access route/evacuations
    - Education
    - Equipment
    - Ignition reduction
    - Water storage: tanks, ponds, pools (Blue dot w/yellow circle)
- Which projects are your highest priority and why?

Following this mapping exercise, De Spellman of IVFD identified existing fuel reduction projects to her knowledge to a separate set of maps. All maps were then given to Josephine County to digitize[31] for incorporation into the GIS. The community identified items were then compared to the risk assessment produced by the JCIFP.

Finally, project staff prioritized projects for each planning area, and the entire Illinois Valley based on:

- Community support. Which projects were prioritized by the local community?
- Population density and other values at risk affected by the project.
- Project readiness. How ready the proposed project was to begin. For some projects that were already funded, the project rank was lowered to encourage new projects in the area.
- First response and fire suppression needs were generally given a higher priority.
- Projects to be implemented by agencies were generally put ahead of resident projects. This was done to encourage the larger-type agency projects, with the understanding that resident implementation is a planned result of this entire process.

[31] Create electronic data from the paper maps so the data could be used in a GIS.

CHAPTER 4: FOREST CONDITIONS & WILDFIRE IN THE ILLINOIS VALLEY

History of Wildfire in Illinois Valley

Fire has been a major evolutionary force in the Illinois Valley of southwest Oregon for thousands of years. As more and more people are moving into areas such as the Illinois Valley, which is surrounded by heavily forested mountainous terrain, it is becoming increasingly important for agencies, communities, and individuals to understand the natural fire dynamics of these areas. Following is one illustration of a recent fire in Illinois Valley and its impacts on citizens, government and natural resources.

The Setting

The Klamath-Siskiyou region is extraordinarily rich in flora and fauna and contains the most diverse temperate forests on the planet. "For example, the region contains a continental maximum of temperate conifer species (30) with as many as 17 conifer tree species recorded living together within a single stand. More than 3,500 plants, including 220 endemics are known to occur in the Klamath-Siskiyou."[32] The area is recognized as a place of Global Botanical Significance by the World Conservation Union (IUCN). It is one of six global priorities in the United States for the World Wildlife Fund. It is also a global Centre of Plant Diversity. Environmental factors such as geology, topography, climate, time, and fire have shaped this landscape for thousands of years.

The greater Illinois Valley is largely in public ownership (74%) most of which is under the management of the USDA Forest Service (nearly 58%). The Bureau of Land Management manages nearly 17% of the area. A very small portion of the area (1%) is state land, 2% is city/county/school land. The remaining 23% of Illinois Valley is held in private ownership.

Ecosystem Types

The Illinois Valley is a heavily forested region. Large portions of the Rogue River-Siskiyou National Forest and Bureau of Land Management land fall within the area's borders. Although the area's economy has diversified over time, timber is still an important resource.

> "There are twenty-eight different coniferous species found in the county, twenty of which are used commercially. Of the approximately four hundred sensitive plants in the region, about one hundred are found in the Siskiyous. Additionally, part of the Kalmiopsis Wilderness area lies within county boundaries. This 180,000-acre Wilderness Area covers over 40,000 acres in western Josephine County with the remaining area in Curry County. The area is known for rare and endangered plants."[33]

The following section was taken in its entirety from Southwest Oregon State Forest Management Plan," Final Plan, January 2001.[34]

Plant communities in southwest Oregon combine elements of northern California, the coast, and eastern Oregon regions, and include a number of species indigenous only to the Klamath Mountains (Franklin and Dyrness 1988). In the western Siskiyou Mountains, forests consist of a mixture of evergreen conifers dominated by Douglas-fir (Pseudotsuga menziesii) mixed with drought-resistant hardwoods such as Pacific madrone (Arbutus menziesii) and golden chinquapin (Castanopsis chrysophylla). Soils are diverse and include serptentine outcrops, which have a distinctive array of trees and plants.

Douglas-fir and madrone are usually the dominant tree species, but ponderosa pine (Pinus ponderosa) may be more dominant on some drier, southern exposure aspects. Most Douglas-fir dominanted sites also contain significant conifer populations of ponderosa pine, sugar pine (Pinus lambertiana), incense cedar (Libocedrus decurrens), and grand fir (Abies grandis) as well as hardwood populations of madrone, chinquapin, tanoak (Lithocarpus densiflorus), and canyon

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[32] Conservation Biology Institute in collaboration with World Wildlife Fund and Wildwood Environmental Consulting, Inc., "Living in Fire Prone Natural Landscapes – Reducing the Risk to Rural Communities from Wildfire," June 2004, http://www.consbio.org/cbi/pubs/reports.htm, page 1.

[33] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 22.

[34] Southwest Oregon District of the Oregon Department of Forestry, "Southwest Oregon State Forest Management Plan," Final Plan, January 2001, http://www.odf.state.or.us/DIVISIONS/management/ state_forests/sfplan/swfmp01-final/swfmp.asp, page 2-11.

live-oak (Quercus chrysolepis). Jeffrey pine (Pinus jeffreyi) is found primarily on serpentine sites. In upper elevations, on sites with lower productivity, knobcone pine (Pinus attentuata) pioneers after fire. This tree is totally dependent on fire to open the cones and release seed.

A variety of other trees may also be present on Southwest Oregon state-owned forest land under special circumstances: on moister serpentine sites, Port-Orford cedar (Chamaecyparis lawsoniana) may be found; at higher elevations, white fir (Abies concolor) and Shasta red fir (Abies magnifica var. shastensis); on north slopes in the more northern tracts of southwestern Oregon, western hemlock (Tsuga heterophylla); in a very small, high elevation area south of Grants Pass, Brewer's weeping spruce (Picea Brewerana); along stream courses and wet areas, red alder (Alnus rubra), black cottonwood (Populus trichocarpa), Oregon ash (Fraxinus latifloia), willows (Salix sp.) and Pacific yew (Taxus brevifolia) are common; white alder (Alnus rhombifolia) is found in isolated more moist areas; and on the most western parcel, Oregon myrtle (Umbellularis californica) may be found.

Brush fields of evergreen chaparral are abundant in the mixed-evergreen zone. Typical shrubs are manzanita (Arctostaphylos spp.), canyon live oak, ceanothus (Ceanothus spp.) and poison oak (Rhus diversiloba). Many of the hardwood trees in this zone may also exist as shrubs, depending on site. Shrubs tend to dominate after fire and on dryer sites with shallow soils.

Mid to high elevation areas with shallow and/or rocky soils occasionally contain rock gardens or natural, open meadows with few, if any trees. These areas are unique and may contain threatened, endangered or rare plants. They are usually protected through the Land Management Classification System (LMCS) or County Comprehensive Land Use Planning (LUP) designations or both.

"All of these plant communities have been influenced by fire in the past. Much of this region has a fire frequency of between ten-to-twenty years, caused by lightning, and, before whites arrived, by Native Americans manipulating the environment. One of the most dominant features of all the plant communities is the presence of chaparral, which perishes without frequent fires. Oak and pine forests are also dependent upon fire, since Douglas-fir and white fir will tend to crowd out other species at medium elevations if not controlled by fire."[35]

The Biscuit Fire

As a result of major lightning strikes across the Klamath mountains on July 13, 2002, four separate fires were ignited in backcountry locations that then coalesced into one fire, the Biscuit Fire. Weather conditions were dry and windy and the fire burned at fairly high severity, although not uniformly across the landscape.

> "The fire burned in a mosaic pattern; approximately 20% of the area burned lightly, with less than 25% of the vegetation killed. Another 50% of the area burned very hot, with more than 75% of the vegetation killed. Many acres of critical wildlife habitat burned, and the late seral and old growth stands that remain hold high conservation value."[36]

The Biscuit Fire lasted 120 days from July 13th until November and burned a total of 499,965 acres in southern Oregon and northern California. Half of the Oregon portion of the Illinois Basin (the Illinois Valley) and most of the Kalmiopsis Wilderness was burned in the Biscuit Fire. Approximately 95% of the acres that burned in this fire occurred in Oregon, making it one of the largest fires in Oregon history. The boundary of the Biscuit Fire stretched from ten miles east of the coastal community of Brookings, Oregon; south into northern California; east to the Illinois Valley; and north to within a few miles of the Rogue River. Fortunately, there was no loss of human life as a result of the fire, but several structures were lost including four homes, nine outbuildings, one lookout and numerous recreation structures.

> "Twenty-three Regional and National Fire Management Teams and many thousands of firefighters and support personnel were assigned to the fire. At its peak, over 7,000 firefighters and support personnel were assigned and the total cost of the fire exceeded $153 million…Recovery costs are estimated to

[35] Pullen, Reg, Report for the USDA Forest Service, Grants Pass, OR, "Overview of the Environment of Native Inhabitants of Southwestern Oregon, Late Prehistoric Era," 30 September 1995, pg. III-4.

[36] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 38.

exceed $16 million (This is an estimated cost of the USFS's preferred alternative that does not take into account timber salvaged to defray costs."[37]

Post-Fire Assessment

A post-fire assessment by the USDA Forest Service reveals "buildup of fuels in some areas as a pre-fire condition, but the report concludes that the Biscuit fire behaved within its natural range of variability."[38]

A study was conducted by the Conservation Biology Institute in order to develop an approach to mapping fire hazard and used to identify and prioritize fire management activities in the Illinois River Basin. This study combined GIS-based data of terrain hazards and fuel hazards and combined these to generate a fire hazard map for the area. Terrain hazards were based on slope, aspect, relative slope position (top third, middle third, lower third, valley bottom) and elevation. Fuel hazards were based on data from four different databases: CBI Forest Age, GAP vegetation data, relative fuel hazard was modified according to the degree of change from the prefire condition, and the USGS National Land Cover Dataset.

The study defined the wildland-urban interface (WUI) following USDA guidelines using U.S. Bureau of the Census, 2000 population data. Census blocks with population densities of at least twenty-eight people per square mile were defined as WUI. The WUI was then buffered by two kilometers to form another fire management zone. Because roads are key in providing access as well as being possible ignition sources, roads were also buffered by 100 meters outside the WUI to generate another fire management zone. Wildland designation was assigned to the remaining areas that are mainly in public ownership and largely forested.

The resulting fire hazard map indicated that:

> "Just over 35% (210,508 acres) of Oregon's Illinois Basin was evaluated as having high and very high fire hazard. The majority of this area…was located in the wildlands of the public land base; especially in the area recently burned in the Biscuit fire. The WUI contained only 2,268 acres of high or very high fire hazard lands (approximately 1% of the total). The buffer area around the WUI contained much more area of high or very high fire hazard (26,749 acres and 5,096 acres respectively), especially on the eastern side of the valley and existing population centers."[39]

Oregon's Fire History

> "Summers are characterized by long drought periods, which are occasionally punctuated by electrical storms. Historically, the summer lightning, which occurs from May through October, has resulted in fires. These natural, along with aboriginal ignited fires, have caused vegetation to evolve with frequent low-intensity fires on some areas of the Southwestern Oregon Fire planning area and they are considered fire adapted. Some landscapes are affected by autumn east winds that occur when stable air pushes across a mountain range and then descends on the leeward side. The air becomes warmer and drier as it descends and can lead to increased, sometimes extreme fire behavior in lower lee side locations."[40]

Illinois Valley's wildfire history mirrors the risk facing communities throughout Oregon. Table 3 below illustrates the number of fires and acres burned from both human and lightning caused fires over the past century in the Siskiyou National Forest.

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[37] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 38-39.
[38] Conservation Biology Institute in collaboration with World Wildlife Fund and Wildwood Environmental Consulting, Inc., "Living in Fire Prone Natural Landscapes – Reducing the Risk to Rural Communities from Wildfire," June 2004, http://www.consbio.org/cbi/pubs/reports.htm, page 2.

[39] Conservation Biology Institute in collaboration with World Wildlife Fund and Wildwood Environmental Consulting, Inc., "Living in Fire Prone Natural Landscapes – Reducing the Risk to Rural Communities from Wildfire," June 2004, http://www.consbio.org/cbi/pubs/reports.htm, page 7.

[40] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 22.

Table 3. Fires Cause on the Siskiyou National Forest, 1910 – 2002[41]

Decade	Acres Burned	# of Fires	Human Caused Fires	Lightning-Caused Fires
1910 - 1919	410,369	849	45%	55%
1920 - 1929	60,813	573	76%	24%
1930 - 1939	153,812	737	85%	15%
1940 - 1949	4,157	270	36%	64%
1950 - 1959	5,805	279	41%	59%
1960 - 1969	4,601	266	53%	47%
1970 - 1979	2,984	518	72%	28%
1980 - 1989	113,621	318	43%	57%
1990 - 1999	12,886	254	44%	56%
2000 - 2002	500,351	95	29%	71%
Totals	1,269,399	4159	59% (average)	41% (average)

Source: Biscuit EIS, USFS 2002.

Popular thought follows that as a result of fire suppression and human activities large fires are occurring more frequently and are larger and more intense than they were in the past. In fact, this has not been found to be the case in the Illinois Valley.

> "Analysis of 20th century fire history suggests that forests of the Klamath-Siskiyou region have experienced a reduction in both the total amount of area burned and the average fire size since the middle of the 1900's, the beginning of modern fire suppression…we hypothesize that fire suppression has been somewhat effective at reducing area burned at low and moderate intensities – when fire sizes are likely to be smaller – but not at high intensities when extreme fire conditions typically exist and allow fires to grow to large size. While high-intensity fire may now comprise a larger proportion of total area burned than before 1950, this does not necessarily imply that the size or frequency of large fire events is outside the historic range. Large, intense fires are well-documented in the historic literature for this region…patterns of fire in the Klamath Mountains appear to have been much less altered since Euro-American settlement."[42]

Traditional Use of Fire and Native American Tribes

The Confederated Tribes of Siletz and the Confederated Tribes of Grand Ronde have ancestral lands in the Illinois Valley, and many members reside there as well.[43]

The following is from "Overview of the Environment of Native Inhabitants of Southwestern Oregon, Late Prehistoric Era" by Reg Pullen[44]*.*

The Applegate and Illinois Rivers are located in southwestern Oregon, with headwaters in the Siskiyou Mountains that separate Oregon and California. Both flow in a northwesterly direction to confluences with the Rogue River, and are part of one of the largest drainage basins in Oregon.

Much of the Applegate River was inhabited prehistorically by the Da-ku-be-te-de people and the upper Illinois River by the Gu-sla-dada. These groups spoke dialects of the same language, Athapascan, and shared many cultural attributes.

Both groups utilized large portions of their respective drainage basins in the quest for food and other resources. They also actively managed portions of the landscape, through the use of fire and manipulation of root and seed crops, in an effort to maintain a desirable environment in which to live.

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[41] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 39.

[42] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 36.

[43] Amy Sobiech, Archaelogist, BLM Medford District, personal communication, 11/8/04.

[44] Pullen, Reg, Report for the USDA Forest Service, Grants Pass, OR, "Overview of the Environment of Native Inhabitants of Southwestern Oregon, Late Prehistoric Era," 30 September 1995, pg. 1-4.

This landscape reflected their presence in the form of a greater diversity of habitats, a broader expanse of oak-pine woodlands, and higher populations of certain plant and animal species. The removal of Native Americans from southwestern Oregon in 1856 dramatically changed the environmental, as well as cultural, diversity of the region.

Biodiversity was extremely important as s survival factor for the Applegate and Illinois peoples, and they managed the landscape in certain areas to promote it. This biodiversity, as exemplified by a variety of ecotones[45] and vegetation communities, was maintained at lower elevations near semi-permanent villages, and at higher elevations near seasonal camps. It included a mix of forest types, stands of chaparral, and prairies or meadows.

Fires were set during the spring, summer, and fall to promote a variety of resources, both plant and animal. The Applegate and Illinois people were well aware of the varied impacts of burning by season. They developed the art of limited burning to achieve specific objectives to a well-defined science.

Fires were usually set by "specialists" who owned formulas that were prescriptions for successful burning. Temperature, wind direction, and impacts to specific plants were all carefully considered before fires were set. Fire was viewed as a valuable tool, but it had the potential to damage precious resources that were essential for survival.

Some fires may have been set for ceremonial as well as utilitarian purposes. On the lower Klamath River, for example, certain mountain slopes were set ablaze each year as part of rituals to ensure a bountiful harvest and to protect against the death of married people. This practice may have been employed by the Applegate and Illinois peoples as well.

Research also indicates that root gathering areas were carefully managed to ensure sustainability and were "cultivated" to some extent. Methods employed included burning to remove competing vegetation, tilling, weeding, thinning, replanting, and maintaining reserve areas. Grasses, tarweed, oaks, and deer browse may also have been spread by deliberate planting of seeds.

The oak-pine woodland was much more prevalent than today, especially at lower elevations. This was created by both natural and anthropogenic fire. Frequent burning resulted in open, parklike forests of older, more scattered trees than are typical of today's forests. Elk and deer populations were much higher than today because of this environment.

This type of forest was definitely preferred by the Applegate and Illinois peoples. The nuts and seeds of acorns and pines, respectively, formed a vital part of the diet. Grasses and lilies of several species flourished in this environment. Pines also provided cambium that could be eaten during times of privation, wood for house planks and canoes, roots for basket-making, and pine nut beads as a trade item. Oak wood was the preferred fuel for heating and cooking. In contrast, Douglas-fir forests provided few useful resources.

Riparian zones were densely vegetated with a combination of conifers, hardwoods, and shrubs. These areas probably burned infrequently because they were more moist, and may have been protected from fire to some extent by the people, who recognized the value of riparian zones as cover for both humans and animals.

Valley floors were covered with scattered ponderosa pine, interspersed with open prairies and groves of Oregon oak. Annual burning to obtain tarweed seeds and insects and to maintain root-gathering areas probably kept chaparral from creeping onto the valley floor to any great extent.

North-facing slopes of the Applegate and Illinois Valleys were covered with an open stand of ponderosa and sugar pines and occasional Douglas-fir. South-facing slopes were covered with grass, except along ravines where oaks, chaparral and scattered ponderosa pine occurred. Exposure to intense summer heat was largely responsible for this pattern, but annual burning of valley floors and slopes by the…Gu-sla-dada kept chaparral and Douglas-fir from becoming established.

A fairly uniform, mature coniferous forest with a brushy understory covered much of the mid-elevation zone in the Applegate and Illinois region. North-facing slopes were heavily timbered, while south-facing slopes were covered with chaparral and oak. Small prairies were present in scattered locations, but most of this zone was vegetated.

Upper elevation zones in the Applegate and Illinois drainages appear to have been covered with a mature forest of fir, pine and cedar. Much of it probably had an open understory, with brushfields located on south-facing slopes.

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[45] An ecotone is a "transitional zone between two communities containing the characteristics species of each." Source: Dictionary.com, http://dictionary.reference.com/search?q=ecotones&r=67.

Anthropogenic burning was concentrated at lower elevations near villages and higher elevations near camps. However, the mid-elevation zone, which comprises the greatest geographic area, was probably affected more by lightning-caused fires. Less frequent burning of this zone allowed for a considerable amount of downed, woody debris on the forest floor and a shrubby understory, as evidenced by early historic descriptions of the region.

Vegetation at all elevations was directly related to aspect, regardless of native burning practices. South-facing slopes tended to be covered with grasses, oaks, and chaparral along and in the moist ravines, and scattered pine species. North-facing slopes, on the other hand, contained a denser mix of conifers and chaparral species. Native Americans no doubt quickly recognized this pattern, and concentrated their burning efforts on south-facing slopes where it would have the greatest effect.

Fire Regimes

This section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004.

The following information on fire regime and condition class is from the Southwestern Oregon Fire Management Plan.

Natural disturbances are an intrinsic part of ecosystem development (Cooper 1913, Raup 1957, Oliver 1981, Pickett and White 1985) and fire has been an important natural process in the maintenance of historic ecosystem health and diversity in the forests of the western United States. In southwest Oregon, ecosystems developed in concert with, and are subject to, a variety of natural, introduced, and altered fire regimes. Most forests in southwestern Oregon were part of a low- to moderate-severity fire regime. There are many forest types in this area where fire played an important ecological role (Agee and Huff, 2000). Naturally occurring disturbances in southwest Oregon include fire, insects, pathogens, wind throw, weather, avalanches, and earthquakes. Introduced disturbances include livestock grazing, mining, timber harvesting, roads, insects, and pathogens.

A fire regime refers to an integration of disturbance attributes including type, frequency, duration, extent (Pickett and White 1985) and severity. Natural fire regimes have been altered by management activities including fire exclusion, livestock grazing, and timber harvesting to mention a few. Historic climate variability and potential global climate change have and may further impact fire regimes.

Ecosystem and landscape composition and structure result from, and in turn, influence fire regimes at different spatial and temporal scales. Disturbances and successional trajectories interact and create patterns of vegetation across landscapes (Bormann and Likens 1979, Pickett and White 1985, Lehmkuhl and others 1994). Landscape vegetation patterns can amplify (Turner and Bratton 1987, Franklin and Forman 1987) or impede (Knight 1987, Rykiel and others 1988) the spread of disturbances across landscapes.

Five fire regime classes, have been identified.to aid fire management analysis efforts, as discussed in "Mapping Historic Fire Regimes for the Western United States: Integrating Remote Sensing and Biophysical Data" (Hardy et al 1998). They reflect fire return intervals and severity.

The five fire regimes developed by Hardy, et al were modified and further stratified by a group of fire managers and ecologists on October 10, 2000 to reflect Pacific Northwest (Oregon & Washington) conditions. For southwestern Oregon, spatial data layers were developed to display these fire regimes using the Draft Plant Series data that was developed in 1995 for the Southwest Oregon LSR Assessment.

Note that there may be variation among the species listed under each Fire Regime:

- Fire Regime I; <35 years non-lethal, low-severity (mostly forested areas). (Ponderosa pine, Oregon white oak, pine-oak woodlands, Douglas-fir and dry site white fir plant associations)
- Fire Regime II; <35 years stand replacing (grassland and shrublands). (Shrub-steppe community)
- Fire Regime III; 35-100+ years, mixed severity. (Moist/high elevation white fir, tanoak, western hemlock series)
    - Fire Regime IIIa; < 50 years, mixed severity. (Dry site tanoak series)
    - Fire Regime IIIb; 50-100+ years, mixed severity. (Low elevation, wet site white fir, wet site tanoak, and low elevation western hemlock series)
    - Fire Regime IIIc; 100-200 years, mixed severity. (High elevation, white fir series)
- Fire Regime IV; 35-100+ years stand replacing. (Shasta red fir and Port-Orford cedar associations)

- Fire Regime IVa; 35-100+ years stand replacing.
- Fire Regime V; 200+ years stand replacement (Western hemlock, silver fir and mountain hemlock series)

A close approximation to the past frequency of fire occurrence, extent, and severity (Fire Regime) on particular sites is important in understanding the relative difference in vegetation and dead/down debris on these sites today. The change or departure on these sites in the amount of these materials has a direct relationship to the type of fire behavior and post fire effects these sites will support today, compared to the past. In an assessment of site-specific conditions, classifying the current condition of the site compared to a past reference will give some indication of the change to the type of fire severity or fire behavior characteristics. The ability to predict potential fire behavior characteristics is important for understanding the risk to people and key ecological resources.

More locally-specific information on fire regime and condition class can be found in the Southwest Oregon Fire Management Plan, available by contacting the BLM, Medford District and Rogue-River Siskiyou National Forest.

Condition Class

This section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004.

Condition Class is a relative description of the degree of departure from historical fire regimes and generally describes how 'missed' fires have affected key ecosystem vegetative components.

- *Condition Class 1* = Fire frequencies are within or near the historical range, and have departed from historical frequencies by no more than one return interval; vegetation attributes are intact and functioning within the historic range**.** The risk of losing key ecosystem components is low.
- *Condition Class 2* **=** Fire frequencies and vegetation attributes have been moderately altered from the historical range, and fire frequencies have departed from historical frequencies by more than one return interval. The risk of losing key ecosystem components is moderate.
- *Condition Class 3* = Fire frequencies and vegetation attributes have been significantly altered from the historical range, and fire frequencies have departed from historical frequencies by multiple return intervals. The risk of losing key ecosystem components is high.

The condition class scale was developed to exhibit the departure in severity, intensity, and frequency of fires burning in the ecosystem in its current condition as compared to fire's historic or reference condition. The departure being described in these assessments results in changes to one or more of the following key ecological components: vegetation characteristics (species composition, structural stages, stand ages, canopy closure and mosaic pattern); fuel composition; fire frequency; severity and pattern; other associated disturbances; and the introduction of invasives, grazing and insect and disease mortality. Reference conditions are very useful as indicators of ecosystem function and sustainability, but do not necessarily represent desired future conditions, i.e., they may not reflect sustainable conditions under current climate, land use, or managerial constraints, and they may not be compatible with social expectations.

Lightning-caused Fire

Lightning and humans are the two sources of fire ignitions, and lightning is quite prevalent in the Illinois Valley area. "Agee (1993) reported that the Siskiyou Mountains exhibit the highest patterns of lightning occurrence in the Pacific Northwest, as much as twice the number of lightning ignitions that occur in either the Cascades or Olympic Mountains. The higher number of lightning ignitions are due to both increased lightning frequency and decreasing summer precipitation patterns characteristic of the Klamath-Siskiyou region."[46]

Lightning strikes are frequent during the summer months and the numerous strikes have the potential to ignite numerous fires. "According to Atzet et al., essentially all of southwestern Oregon is sufficiently saturated with lightning to ensure that all sites will have the opportunity to burn if fuels are present and dry."[47]

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[46] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 5.

[47] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 5.

Human Interaction with Wildfire

This section discusses the influence of human activities on the history of wildfire.

> "It is well established that the substantial Native American populations that inhabited the Klamath Mountains region prior to the arrival of European settlers had well-developed traditions of intentional burning that undoubtedly had significant influence on vegetation patterns. Fire was commonly used by the Shasta, Takelma, Karuk, Tolowa and other tribes for a variety of reasons: to maintain open stands of oaks, aid in the collection of insects, fungi and acorns, clear areas for travel, and to improve habitat for favored plants and game animals. According to Leiberg, most Indian-set fires occurred in the fall and were 'small and circumscribed' but of frequent occurrence."[48]

Upon the arrival of European settlers, the influence of Indian burning decreased dramatically as native peoples were eradicated or relocated. The practice of intentional, strategic burning was replaced with accidental and land use fires ignited by white settlers "in order to remove vegetative obstacles for mineral prospecting or for easier travel, to drive game, enhance forage for livestock, and to clear land for agriculture."[49]

Settler fires that more often occurred during the hot, dry summer as opposed to spring or fall were larger in extent and burned at higher intensity than Indian fires. There were also more of them, "Leiberg states that the fires were 'more numerous and devastated much larger areas in the early days of settlement than they did before.' The Ashland Tidings complained in 1896 that 'every year forest fires become more and more of a nuisance'…Intentional fires set by whites continued to be a significant influence – particularly in the more heavily settled portions of the Klamath-Siskiyou region – up through the 1930's."[50]

Logging is another human activity that significantly influences fire regimes in the Klamath-Siskiyou region. Again, due to the remoteness and steep mountainous terrain, large-scale logging practices did not occur in this area until after World War II, well after other areas were already experiencing them.

> "Beginning around 1950, selective cutting was gradually replaced with clearcutting…broadcast burning and replanting…by the late 1960's, even-aged logging became standard practice on all Forest Service and BLM lands throughout the region. Accelerated rates of logging continued through the 1980's, until concern about the northern spotted owl and other wildlife species reduced harvest levels…even-aged logging and reforestation practices have converted many thousands of hectares[51] of late-successional forests in the Klamath-Siskiyou region into tree plantations. Considerable evidence exists that this change has increased susceptibility of the region's forests to the effects of fire and perhaps altered fire regimes, at both stand and landscape scales. Plantations have been known for decades to be more susceptible to fire effects than unmanaged older forests…in part due to their high tree stocking levels and uniformly dense canopies, structures which lead to hotter, more severe fires."[52]

History of Fire Management in the Forest

Fire suppression began with the creation of the federal forest system in 1906, but due to lack of manpower, resources and access, little suppression activities occurred until the 1940's. In the 1940's road systems were built and advances in fire-fighting technology aided the success of suppression efforts. However, the remoteness and steep mountainous terrain in the area present a challenge even to suppression efforts today.

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[48] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 27.

[49] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 27.

[50] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 27-28.

[51] A hectare is 2.5 acres.

[52] Frost, Evan J. and Rob Sweeney, World Wildlife Fund, Klamath-Siskiyou Ecoregion Program, "Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge," December 2000, pg. 29-30.

"By the 1930's the USFS had instituted the 10 a.m. rule, which demanded that fires be put out by 10 a.m. the morning after they started and kept to a minimum of 10 acres or less. A smoke jumper base was established in the 1940's. By the 1950's fire suppression methods for federal, state, and local agencies had improved to the point that very few large fires occurred. Suppression efforts throughout the West have resulted in an extreme buildup of fuel in the forest and the occurrence of larger, more devastating wildfires. As stated in the Biscuit Fire Recovery Environmental Impact Statement:"[53]

"Trees now grow closer together with intertwined canopies and the density of shrubs is much greater. This increase in vegetation, or fuel, makes it extremely difficult, and in some situations impossible, to control forest fires once they start. The intermingling of tree canopies provides a highway for fire to spread through the forest. Additionally, the consistent increase in population has led to more human started, although this number has decreased over time due in part to effective public education efforts."[54]

Fuel Reduction Projects in the Illinois Valley

The following map illustrates fuel reduction treatments undertaken in the Illinois Valley by the Bureau of Land Management, and on private properties approved by the Oregon Department of Forestry.

[53] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 44.

54 Draft Environmental Impact Statement: The Biscuit Fire Recovery Project : the Rogue River and Siskiyou National Forests, Josephine and Curry counties, OR. USDA, Forest Service, Pacific Northwest Region. 2003.

Map 3. Illinois Valley Fuel Reduction Projects

CHAPTER 5: WILDFIRE RISK ASSESSMENT

This chapter was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004. Any changes to the original text will be properly noted.

One of the core elements of a community fire plan is developing an understanding of the risk of potential losses to life, property and natural resources during a wildfire. The Healthy Forests Restoration Act, the National Fire Plan, FEMA's[55] Disaster Mitigation Act of 2000 and the National Association of State Foresters all provide guidance on conducting a hazard and risk assessment for wildfire.

The JCIFP Risk Assessment Committee approached the wildfire risk assessment with a comprehensive review of risk assessment methods and examples from communities throughout the United States. The committee also conducted an inventory of existing data for risk, hazard, values, structural vulnerability and protection capability. Jim Wolf, Oregon Department of Forestry Fire Policy Analyst, and an interagency team represented by Josephine County, the Forest Service, Bureau of Land Management and the Rogue Valley Fire Chief's Association, led the assessment. These efforts resulted in a standard methodology for wildfire risk assessment to be adopted by the Oregon Department of Forestry for use in a statewide assessment of communities at risk.

JCIFP Risk Assessment Committee Members

- Jim Wolf, Oregon Department of Forestry - Chair
- Bruce Bartow, Josephine County
- Don Belville, Rogue River - Siskiyou National Forest
- Neil Benson, Josephine County
- Dick Boothe, Rogue River – Siskiyou National Forest
- Gary Gnauck, Applegate Partnership
- Lang Johnson, Rural/Metro and RVFCA
- Kathy Lynn, Program for Watershed and Community Health
- Charley Martin, Bureau of Land Management, Medford District
- Annette Parsons, Bureau of Land Management, Medford District
- Charlie Phenix, Rogue River - Siskiyou National Forest
- Ed Reilly, Bureau of Land Management
- Cody Zook, Josephine County GIS

Risk Assessment Objectives

- Identify Communities-at-Risk and the Wildland-Urban Interface
- Develop and conduct a wildfire risk assessment of all land in Josephine County
- Identify and prioritize hazardous fuels treatment projects for all land in Josephine County

What is a Wildfire Risk Assessment?

The Josephine County Integrated Fire Plan wildfire risk assessment is the analysis of the potential losses to life, property and natural resources. The analysis takes into consideration a combination of factors defined below:

- ***Risk***: the potential and frequency for wildfire ignitions (based on past occurrences)
- ***Hazard***: the conditions that may contribute to wildfire (fuels, slope, aspect, elevation and weather)
- ***Values***: the people, property, natural resources and other resources that could suffer losses in a wildfire event.
- ***Protection Capability***: the ability to mitigate losses, prepare for, respond to and suppress wildland and structural fires.
- ***Structural Vulnerability***: the elements that affect the level of exposure of the hazard to the structure (roof type and building materials, access to the structure, and whether or not there is defensible space or fuels reduction around the structure.)

What is GIS and how is it used?

Geographic Information Systems, or GIS, is a computer mapping program that can visually illustrate information and the analysis of varying factors. The Risk Assessment committee uses GIS to illustrate the factors described above: fire hazard, risk, location of values, protection capabilities and the location of vulnerable structures. Presented as individual

[55] Federal Emergency Management Agency

layers and also in tandem with a combination of physical factors such as slope, aspect and vegetation, GIS is a tool that help us assess the relative level of risk based on what the data provides.

Communities at Risk

In order to determine Communities at Risk, the district first had to define "community." State and federal guidance included a range of alternatives, from "a group of people living in the same locality and under the same government" (National Association of State Foresters) to "a body of people living in one place or district...and considered as a whole" or "a group of people living together and having interests, work, etc. in common" (Firewise Communities/USA).

There are many ways to define community, particularly in Josephine County. There are cities, a towns, neighborhoods and groups of people drawn together by common threads – whether it be their post office, grocery store, or community center. This fire plan draws people together in another way – the ability to provide fire protection services and protect people, property and natural resources in the event of a structural or wildland fire. For the intent of this fire plan, the committee defines communities at risk to fire by looking at the common service boundaries for fire protection.

Specifically, our methods for identifying communities at risk are to assess:

1. Residential density: based on 1 structure per 40 acres with a minimum of 4 residences and ¼ mile buffer; and
2. Fire District or Municipal service boundaries. (In Josephine County, there are six fire service agencies that provide structural fire protection.)
3. In areas where there is no fire district or municipality (such as the unprotected areas serviced by Rural/Metro Fire Department), communities will be listed as "Josephine County Unprotected." In order to attribute place names to isolated communities not connected by the 1 per 40-acre density, the methodology uses the LCDC definition for rural communities.[56]

While a number of Josephine County's communities are listed as "unprotected," it is important to note that these communities are NOT without fire service. Rural/Metro Fire Department provides contract structural fire protection services throughout the Josephine County Unprotected area. What is important to note, is that these communities are not within a taxing fire district.

Note: JCIFP designated the entire Illinois Valley as a "Community at Risk." Therefore, all communities within the IV are so designated.

See

[56] Land Conservation and Development Commission Definition of rural communities: an unincorporated community which consists primarily of permanent residential dwellings but also has at least two other land uses that provide commercial, industrial, or public uses (including but not limited to schools, churches, grange halls, post offices) to the community, the surrounding rural area, or to persons traveling through the area.

Map 4. Illinois Valley Communities at Risk at the end of this chapter

Wildland Urban Interface

The Southwest Oregon Fire Management Plan identifies the wildland urban interface on the basis of proximity between private and federal lands, topography, and 6th field watersheds. The Josephine County Integrated Fire Plan adopts this methodology and the Federal FMP definition of the WUI for this plan. *For more information on how the Federal Fire Management Plan defines the WUI boundary, refer to Resource A: Acronyms, Definitions, and Resources.*

See Map 5. Illinois Valley Wildland-Urban Interface (WUI) at the end of this chapter.

Risk Assessment Methodology

This risk assessment is based on an extensive literature review of many different methods developed over the years to evaluate wildfire and other natural hazards. The assessment is intended as a tool to illustrate the relative level of risk to life, property, and natural resources within any area in the county. As fuels reduction, emergency management and fire prevention projects are implemented through the JCIFP, the maps and priorities developed through the assessment will change, but they will always point to areas identified as having the highest relative ranking for risk and hazard. The assessment considers five categories in determining the relative severity of fire risk illustrated in the table below. In consideration of how to prioritize treatement projects, another consideration includes identifying where there are planned fuels reduction projects on federal, state or county land.

Assessment Categories	Elements	Score
Hazard	Fuels (developed from vegetation information), Slope, Aspect, Elevation, Weather	0-80
Risk	Ignition Density (derived from an ODF database with 35 years of data on fire ignition locations.)	5-40
Values	Residential Density (derived from tax assessment information and aerial photography.) Community values identified in public meetings	0-40
Protection Capability	Fire Response Time – Modeled in Spatial Analyst, Fire District Boundaries, and Community classes (Evaluates how the community as a whole responds to and prepares for wildfire – community education and outreach campaigns, community fire plan, etc.)	0-90
Structural Vulnerability	Roof type (Tax Assessor's information), Defensible space (ODF database), and Access (proximity to county roads that are not dead ends - County GIS)	0-40

Hazard

The Hazard layer is based on vegetation, topography, and land use. The vegetation information comes from the "IVMP[57]" dataset supplied by the BLM. The topographic information (elevation, slope, aspect) is based on 10-meter USGS[58] digital elevation models. The land use characteristics come from UGB[59] boundaries and aerial photography interpretation. The combined elements of this layer have values ranging from 0 to 80.

> ***Vegetation*** information describes the percent vegetation cover broken into coniferous and broadleaf categories. The initial vegetation information is broken into classes at 30 and 70 percent cover, with the least vegetation being the least hazardous and the most vegetation being the most hazardous. Areas mapped as other than vegetation, for example "snow" or "shadow", are included in the lowest hazard class. These represent an extremely small area. This results in a layer with point values from 0 to 20.

[57] Integrated Vegetation Mapping

[58] US Geological Service

[59] Urban Growth Boundary

Vegetation: 0-20

Crown Fire potential is produced by first isolating areas with coniferous trees with trunk sizes over 5 inches in diameter at breast height (DBH). These areas are then split into three classes; conifer cover over 70 percent is the most hazardous, conifer cover over 30 percent has some hazard, and conifer cover less than 30 percent has no crown fire potential. This layer has a point range from 0 to 10.

Crown Fire: 0-10

Topographic characteristics are slope, aspect and elevation. Slopes are in three classes broken at 25 and 40 percent slope values (note: percent slope is quite different from degree slope and many GIS packages default to degree slope.). The slope layer has values ranging from 0 (least slope) to 3 (most slope). Aspect is broken into three classes also. These range from 0 (north) to 5 (south). This corresponds roughly to the amount of insolation or sun exposure expected on the site. Finally, elevation values are broken at 3000 and 5000 ft. Lower elevations are considered more hazardous. This layer ranges in value from 0 to 2.

Topographic Characteristics: 0 –10

Weather is the single most important factor in the hazard layer, accounting for 40 points. This factor does not change across the county. However, some areas are simply unlikely to burn regardless of the weather. Irrigated pastures, for example, are not going to burn. Two "Mask" layers were created to isolate areas where weather is not a significant factor. The agriculture mask was produced by using the overlap from the IVMP "agriculture" class and a layer digitized from aerial photography. The urban mask was created using the overlap of the IVMP "urban" class and the urban growth boundaries for the incorporated cities in Josephine County.

Weather: 0-40

See Map 6. Illinois Valley Hazard Layer Map at the end of this chapter.

Risk

Risk is modeled from the density of historic fire ignitions. The data is derived from an ODF database with 35 years of data on fire ignition locations. However, the methodology only uses the last 20 years in the database. This expands the areas of higher risk compared to using the 35-year database because it is focused on the more recent past. This better reflects present settlement and use patterns.

The density layer is multiplied by 1000 (acres converted to 1000 acres) and divided by 2 (20 years of fires to 10 yrs) to standardize it to units of fires per 1000 acres per 10 years. The break points are 0.5 and 10 ignitions/1000 ac./10 yr. This layer has values ranging from 5 to 40.

See Map 7. Illinois Valley Risk Layer Map at the end of this chapter.

Values

The values being considered for this assessment are residences. The Assessment and Taxation database was used in conjunction with tax lots and building footprints to create an address point layer. This layer has a point for each address located on the appropriate building footprint (where available). The density of residences is then used to create the values layer. The classes correspond to 2 acre and 10-acre average lot sizes (as used in S.B 360. See Chapter 2: Fire Safety Introduction for information on this law.) This layer has values ranging from 0 to 40.

Additional values are considered after the risk assessment has been completed and community input has been gathered on historic, environmental, cultural and other values. Community input can be factored in as an increase in score or included as an overlay to the initial assessment and used in making decisions about priorities for treatment. Other values may include:

- Businesses/Commercial
- Ecologically Sensitive Areas/ Ecosystem Health
- Wildlife/Habitat/Plants/Water and Watersheds
- Air Quality
- Natural Resource Management Areas: Range, Timber, Agriculture

- Tourism, recreation and cultural resources
- Access, transportation and infrastructure (Roads, Driveways, Bridges, Gates, Culverts)
- Water Availability, Supply Hydrants: Map of Locations, Flows, How Often Checked
- Critical facilities and infrastructure
- Cultural resources
- Environmental resources

See Map 8. Illinois Valley Values Layer Map at the end of this chapter.

Structural Vulnerability

The Structural Vulnerability layer is based on residences. There are three parts to structural vulnerability; access, roof type, and defensible space. Each residence is evaluated on these three factors and given a score. This layer is then created from the residence locations. Areas under a critical density threshold are excluded for the creation of the layer. Otherwise isolated homes exert too great of an influence on the assessment. This layer has values ranging from 0 to 90.

Roof type is determined by the County's Assessment and Taxation database. All shake shingle roofs are given a score of 30; others get a score of 0.

Roof: 0-30

Access is currently determined by proximity to a road that is not a dead end. Those residences located on dead-end roads or outside of a 300-foot buffer of other roads are given a score of 30; others receive a score of 0. Driveways are currently being processed for inclusion, and will increase the accuracy of this layer.

Access: 0-30

Defensible Space is tracked from an ODF database of homes that have received grants or evaluations from ODF. These homes are rated by ODF staff from an on-site visit. Those receiving a "green" rating from ODF get a score of 0; others receive 30 points.

Defensible Space: 0-30

See Map 9.Illinois Valley Structural Vulnerability Layer Map at the end of this chapter.

Protection Capability

The Protection Capability layer uses many factors to model the protection capability of a given site. Structural and wildland firefighter response times, community education programs, and whether or not a site is in a fire protection district are all considered.

Structural response times were modeled using the cost/allocation features of Spatial Analyst in Arc GIS. A grid of the transportation network was created using variable cell values based on estimated speeds. For example, Highway 199 was modeled for an average speed of 55 mph while minor roads were modeled for an average speed of 35 mph. 300 feet also buffered the transport network. This is the area a firefighter could lay-in hose off their truck. The buffer area was modeled for an average speed of 3 mph. Fire Stations were used as source points and the cost/allocation algorithms found the least cost path from each cell to the nearest (in terms of cost) fire station. This yielded the estimated structural response times.

The wildland response times were modeled from an ODF database of fire ignitions and the response time to each ignition. A layer was created from the response times, and then classed into response times under 20 minutes and over 20 minutes. Fire District boundaries are determined using historic assessment documents that created each taxing district and its subsequent annexations. The Assessment and Taxation database stores this information for each tax lot. The Community education programs layer is currently assumed to be the same for all of Josephine County. The scoring for this layer is as follows:

- All areas receive 2 points for the community education component (0-4 possible)
- Areas outside of a fire district with wildland response over 20 minutes receive 36 points
- Areas outside of a fire district with wildland response under 20 minutes receive 15 points
- Areas inside a fire district with structural response over 10 minutes receive 8 points
- Areas inside a fire district with structural response under 10 minutes receive 0 points

This layer has values ranging from 0 to 40.

See Map 10.Illinois Valley Protection Capabilities Layer Map at the end of this chapter.

Challenges

The risk assessment team faced many challenges in conducting the risk assessment. It can be tempting to rely on technology to provide answers, but it is important to recognize the limitations of the data and modeling, and to educate the users of these limits. This has been critical in gaining acceptance by the professionals dealing with fire.

Best Available Data

Best available data is a phrase that is commonly used in determining how an assessment should be done. If there are limited resources to conduct an assessment, then using *best available data* can be a way to use the resources effectively. Josephine County data included 30-meter resolution vegetation data derived from remote sensing sources. This data has no information about the under story, ground fuels, or stand structure. Extensive consultation with biologists and fire scientists did yield a way to use the data to characterize the hazard conditions in the landscape. It is not as precise or accurate as would be ideal. However, by augmenting the vegetation data with slopes, aspects, and elevation data the assessment captures the broad outlines of the hazards in the county.

Relative Ranking

The second strategy is to develop a relative ranking system. The committee modeled risk from the density of historic fire ignitions. On a statewide assessment, all of the populated areas of Josephine County would be in the highest risk class. However, for this information to be useful in Josephine County, the assessment illustrates the relative levels of risk throughout the county. We adjusted the class values to allow variation from the highest to lowest classes across the county. The important factor to remember is that the lowest class does not mean that these areas are at "low risk" to wildfire.

Landscape Level Assessment vs. Site-Specific Assessment

The assessment focused on fire as a landscape level event, while taking into account site-specific factors. Of five categories, three categories (Hazard, Risk, and Values) are landscape level layers, while two of the categories (Protection Capability and Structural Vulnerability), take into account site-specific conditions. The site-specific layers are generalized for small scale mapping and for identifying potential sites for prioritizing work. However, the large scale mapping of individual neighborhoods can incorporate the site-specific information. This allows experts to develop customized plans for reducing the hazard and risk of a neighborhood or an individual tax lot.

Identifying and Prioritizing Areas at Risk

The final Wildfire Risk Assessment yields values that are the end result of analyzing over 20 layers of GIS information. The Assessment condenses this information into one numeric value to fulfill the goal of identifying high-risk areas. Our initial approach was to assign values to individual tax lots from the Assessment and to focus on those with the highest values as priorities for mitigation projects. A different approach was needed to characterize small, precisely defined areas (tax lots) with landscape level data.

Using the extensive experience and knowledge of the fire professionals to augment the values from the assessment is the best method for recognizing and analyzing the complex patterns of assessment values. The committee developed maps to show the hazard and risk assessment values along with topography, ownership, transportation routes, planned and completed fuels reduction projects, and residence locations. This information allows experienced professionals to examine many variables that could not be effectively included in the Assessment. They can see high hazard and risk areas identified by the assessment and their relationship to the overall landscape management in the area. This also allows federal and state land managers the opportunity to develop landscape level strategies to reduce fire risk levels as they plan fuel hazard reduction projects.

Strategic Planning Units

Strategic Planning Units are developed by aggregating the highest risk values using 6th and 7th field watersheds to identify landscape areas at risk to wildfire. Note: The data in tables below resulted from a query of the highest risk strategic planning units in the County, across each of the fire districts. The tables below illustrate the highest rank strategic planning units in (the Illinois) fire district (another words, the highest risk units that show up as 'red' on the corresponding map of strategic planning units at the end of this section.)

Table 4. High Risk Strategic Planning Units in the Illinois Valley

NAME	ACRES	Houses	Land Ownership				
			BLM	PRIVATE	STATE	COUNTY	FS
Cave Junction	1058.2	690	20	758	47	3	0
Selma	500.4	75	0	475	0	0	0
East Fork Illinois River	1466.9	142	252	1038	131	2	0
Second Bridge	211.4	33	6	184	0	5	0
Draper Creek	618.3	38	7	595	0	2	0
Deer Creek Too	575.9	43	161	410	0	0	0
Page Creek	40.8	2	0	36	0	4	0
Anderson Creek	798.5	31	56	706	0	1	26
Lakeshore North	445.3	28	174	149	0	104	0
Lower Thompson Crk	247.7	12	30	204	0	5	0
Arrowhead	713.9	40	0	694	0	1	2
Mill Creek	1218.1	99	270	877	0	0	0
Illinois Divide	1466.4	87	241	1194	0	1	0
Rough and Ready Mill	1873.8	116	438	1202	26	173	0
Gilligan Butte	913.5	6	455	330	0	12	0
Little Grayback Creek	547.4	5	294	65	0	0	187
Elk Creek	336.9	15	0	304	0	28	0
Thompson Creek W.	1177.4	14	952	214	0	6	0
Sailor Jack Creek	1312.0	70	561	646	0	2	89
Hope Spring	121.5	13	0	118	0	0	0
Cedar Guard Station	1178.8	9	520	213	0	86	343
Caves HWY	58.2	2	20	38	0	0	0
Holton Creek	2002.3	94	466	1346	0	168	0
Upper Crooks Creek	914.8	5	566	346	0	0	0
Deer Creek	1663.7	105	238	1361	0	0	0
Mooney Mountain	1876.8	2	1020	598	0	256	0
Thompson Creek East	2518.7	42	1243	944	292	12	0
Wood Creek	30.3	4	0	28	0	0	0
Elder Creek	276.0	10	153	120	0	0	0
Sucker Creek	1572.6	114	107	1421	0	14	0
Squaw Mountain	861.6	4	1	68	0	0	660
Draper Trib	369.5	2	13	354	0	1	0
Tarter Gulch	870.9	1	427	323	0	121	0
Blue Creek	605.3	14	54	536	7	0	0
East Fork Chapman	2543.9	46	1053	1475	0	0	0
Takilma	1714.8	71	287	1118	0	2	276
Skag Creek	521.5	17	18	322	0	0	176
Rattlesnake Creek	2391.2	40	645	1704	16	1	0
Crooks Creek	2490.0	62	929	1504	0	22	0
Grosh Creek	907.0	1	498	409	0	0	0
Gilligan Creek	635.4	16	14	545	0	72	0
Lower Elk creek	623.4	3	104	333	0	186	0
George Creek	4689.3	277	1667	2779	112	2	0
Transmission Line	1170.8	14	673	492	0	6	0
Upper Althouse Creek	584.5	2	288	293	0	0	0

Little Grayback Road	1290.0	11	244	914	0	119	0
Harmon Creek	1000.5	2	496	503	0	0	0

See Map 13. Illinois Valley Risk Assessment, Strategic Planning Units at the end of this chapter.

CHAPTER 6: FIRE SUPPRESSION RESOURCES

There are several agencies providing fire suppression service in the Illinois Valley, the Illinois Valley Fire District, Oregon Department of Forestry, US Forest Service, and US Bureau of Land Management. A brief description of each agency and what they provide Illinois Valley residents in terms of fire protection follows.

Map 14. Illinois Valley Fire Suppression Resources

Illinois Valley Rural Fire Protection District[60]

The Illinois Valley Rural Fire Protection District—also known as the Illinois Valley Fire District (IVFD)—provides first response fire and medical service to approximately 18,000 residents in their 145-square mile District in the Illinois Valley.

Fifty-three local residents currently volunteer with IVFD, approximately half of whom are "active" firefighters, and the other half providing support functions. There are five paid staff members: Fire Chief, Deputy Fire Chief, Fire Marshal, Maintenance Chief, and Administrator. The Department is funded primarily through a parcel tax assessment collected and distributed by Josephine County, totaling approximately $700,000 annually. In 2004, this assessment was $1.82 per $1,000 of taxed property value.[61] Additional funding is received through grant writing for specific equipment purchases, as well as some fundraising and community donations. IVFD has a new Administration Office located at 28195 Redwood Highway in Cave Junction. There are six fire stations located throughout the Valley, as shown in the following table and map. Taxpayers approved a bond in 2001 that is funding the building new fire stations at Stations 1, 2, and 3. That work is expected to begin in late 2004.

Table 5. Illinois Valley Fire Protection District Stations

Station #	Address	Community	Approximate # of Volunteers
1	681 Caves Highway	Cave Junction	15
2	18505 Redwood Highway	Selma	18
3	33054 Redwood Highway	O'Brien	7
4	5465 Holland Loop Road	Holland	3
5	4240 Lakeshore Drive	Selma	9
6	8450 Takilma Road	Takilma	2

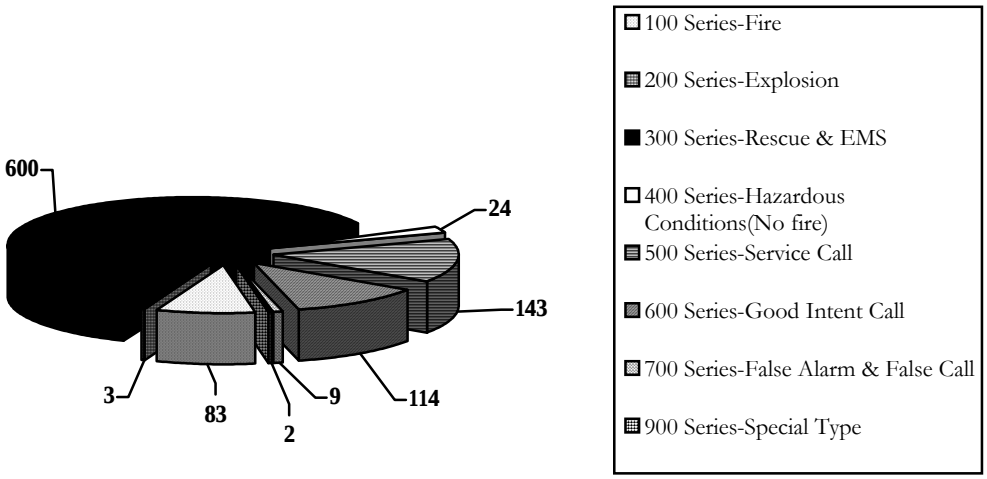
The amount of time it takes first responders to arrive to a scene usually has a big impact on their ability to save a structure from fire or a person with a medical emergency. Within the Illinois Valley, IVFD can respond to incidents in the entire District within twenty minutes. Ninety percent of the District can be reached within 10 minutes, sixty percent within 5 minutes, and approximately half of the District is within a three-minute response from one of the IVFD stations or engines. For those areas more than a few minutes away from emergency response—such as Takilma (while there are no volunteers staffing that station), areas of Holland Loop, Grayback, Upper Deer and Thompson Creeks, and Dryden—it is especially critical for residents to have an effective defensible space area around the home.

In 2003, IVFD responded to a total of 978 incidents within the District. The following table summarizes the type and frequency of incident.

[60] Most of the information in this section was provided by IV Fire Marshal Jerry Schaeffer.

[61] IVFD Chief Harry Rich, personal communication, October 17, 2004.

Figure 7. IVFD 2003 Incident Report by Type of Incident



For a more detailed description of IVFD incident response, please see Table 6. Illinois Valley Fire District 2003 Incident Reports By Type Of Situation Found[62].

In addition to providing service within the Illinois Valley, IVFD on rare occasions will respond outside of the District boundaries to incidents in California, Grants Pass, and Medford. IVFD has *mutual aid*[63] agreements with Rural Metro (Grants Pass area), Gasquet Fire Protection District (California), American Medical Response, US Forest Service (USFS), and the Oregon Department of Forestry (ODF), and therefore can request the services of these entities if deemed necessary, or respond to needs when requested. In addition, there are *auto aid*[64] agreements with these same entities except Gasquet FPD. All wildfire/brush incidents are automatic aid with the USFS and ODF, meaning that all three entities are notified of the incident simultaneously. American Medical Response (ambulance) and IVFD have mutual aid for serious medical incidents (Code 3), where both are dispatched.

The following table shows the extent of equipment resources currently available to IVFD and where those resources are located. Only two of the structural engines—those used for structure fires such as homes—are less than twenty years old, and not in need of replacement. All of the water tenders are over 17 years old. There are six wildland brush trucks—those engines capable of fighting a wildland fire—and all are currently assigned to officers. More quick-attack brush trucks have been identified as a priority need for IVFD.

Table 7. IVFD Equipment Resources

Station	Engine #	Year	Gallons of Water Capacity
Structural Fire Engines:			
1 – Cave Junction	8901	2001	1000
2 – Selma	8902	2001	1000
3 – O'Brien	8903	1975	1000
3 – O'Brien	8913	1981	500
4 – Holland	8904	1981	1000
5 – Selma	8905	1976	1000

[62] Incident Date in 1/01/2003 to 12/31/2003 and Incident Type in 100 to 911

[63] *Mutual aid* means a fire department can request the services of another department based upon predetermined agreements to provide such services.

[64] *Auto aid* means that the parties of an auto aid agreement will be dispatched at a request to respond to incidents outside their regular district or jurisdiction to assist with suppression or other emergencies.

6 – Takilma	8906	1966	1000
Brush Trucks (Wildland fire engines, assigned to officers):			
	8961	1996	200
	8962	1991	200
	8963	1979	200
	8967	1995	200
	8968	1992	200
	8969	1993	200
Water Tenders:			
1 – Cave Junction	8941	1986	3000
2 – Selma	8942	1981	4200
3 – O'Brien	8943	1986	3000
4 – Holland	Out of service and needs replacement.		
5 – Selma	8945	1970	4500
6 – Takilma	8946	1969	3000
Air Truck:			
1 – Cave Junction	8971	1979	

In addition to the equipment needs identified above, one of the greatest resources needed by IVFD is volunteers. Currently, Takilma Station #6 is not staffed because of a lack of volunteers in that area. Therefore, the equipment is sitting in the station and unable to be rapidly accessed to protect Takilma residents. Other IVFD volunteers will likely take ten to fifteen minutes to reach Takilma. If Takilma residents want fire protection, they must step up to the plate and volunteer to be trained to operate the equipment and fight fire. Residents in other Illinois Valley communities are also needed as volunteers, especially in the Holland Loop and O'Brien areas. The National Fire Protection Associations recommends 12-14 volunteers for a single structure fire. More community volunteers are needed so IVFD can meet this national standard on a more regular basis.

Water is another critical resource for effective fire protection. All residents without fire hydrants should have a minimum of 2,500 gallons of water available to fire fighters in case of a fire. As stated in Chapter 2, this needs to be visibly accessible to fire fighters, in a place where they can quickly and efficiently use it, either directly from an engine, or by a pump or helicopter. For residents on well systems, a generator/pump backup system is critical, as power is often loss during fires. IVFD engines can most rapidly access your water system if you have a 2 ½ inch National Fire Thread hose adapter on your water storage stand pipe.

In additional to residential water storage, a series of community water tanks for fire fighting have been identified through this Fire Plan process. Those locations are identified in Chapter 8. Wildland-Urban Interface Planning Areas. Priority locations are summarized in Chapter 10. Mitigation Strategy, Fire Protection. This additional water storage is sorely needed by IVFD volunteer fire fighters.

Finally, there are numerous roads in the Illinois Valley that are difficult to access with structural fire engines. Many of these are identified in Chapter 8 as well, with some prioritized in Chapter 10. Residents are encouraged to look at their roads and driveway access in terms of quick and efficient emergency response. IVFD engines need at least twelve feet wide by fourteen feet high of clearance to get a structural engine down a road. In addition they need approximately 50 feet or a "T" to safely turn an engine around. They generally will not take an engine into an emergency situation if they cannot safely (i.e. quickly) retreat.

IVFD provides free road address signs for all IV residences. Despite this, there are still many places where homes are not visibly addressed. Without this and visible road signs, fire fighters, ambulances, and other emergency responders are unable to quickly find a place with which they are not familiar.

Could a fire engine or ambulance easily get to you fast? If not, examine what you can do to improve your access so your odds of surviving a medical or fire emergency are on the side of survival. The best fire fighters can't save your home if they cannot get to it quickly.

You can contact IVFD at the Administration Building, during normal business hours at 592-2225, or 28195 Redwood Highway. Fire Prevention Coordinator De Spellman is available there to assist you in making your home and property defensible, so fire fighters can help you survive the next fire.

Oregon Department of Forestry

ODF provides wildland fire protection for private, industrial, county, state, BLM and municipal forest lands. Every year, ODF determines the beginning of the fire season based on the fire danger. The season is typically in June although it has been as early as April. It lasts until the fire danger diminishes to a point that burning no longer needs to be regulated outside of rural fire districts. The season typically ends in October but it has been ended in September or November. Fire season means that operators must have their fire equipment at their operation site and a fire watch is required. As fire danger increases, more restrictions are placed on the public and industry using the woods. Industrial Closures include persons operating on land protected by the Oregon Department of Forestry. Although this typically meant logging and other forestry operations, it does include anyone using machinery for commercial purposes. These operations must have a Permit to Operate Power Driven Machinery (no cost). In addition it requires certain fire prevention and suppression equipment at each site.

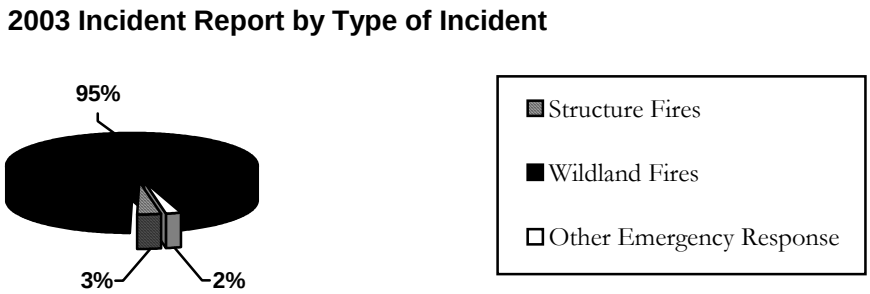
ODF provides wildland fire protection to approximately 18,000-20,000 residents in their 200-250-square mile service area in the Illinois Valley. The geographic area that ODF serves in Illinois Valley stretches from the Oregon border to Wonder and east and west to the Forest Service boundary. It includes the communities of Cave Junction, Holland, Kerby, O'Brien, Selma, Takilma and Wonder.

There are six paid staff members in Illinois Valley: two Forest Officers, one-to-two Laborers, and two Student Workers. There is one fire station located in the Valley at 27575 Redwood Highway in Cave Junction, as shown on Map 14.

Within the Illinois Valley, ODF can respond to incidents in the entire service area within fifteen minutes. Eighty percent of the area can be reached within ten minutes, thirty percent within five minutes, and approximately twenty percent of the area is within a three-minute response from the ODF station.

The following Figure 8 summarizes the type and frequency of ODF incident response in 2003.

Figure 8. Oregon Department of Forestry 2003 Incident Report by Type of Incident



In addition to providing service within Illinois Valley, ODF will respond outside of the service area boundaries to incidents throughout the State of Oregon. Approximately thirty percent of the incidents they respond to are outside of Illinois Valley. ODF has mutual aid agreements with the Illinois Valley Fire District (IVFD), and the US Forest Service (USFS), and therefore can request the services of these entities if deemed necessary, or respond to needs when requested. All wildfire/brush incidents are automatic aid with IVFD and USFS, meaning that all three entities are notified of the incident simultaneously.

The following Table shows the extent of equipment resources currently available to ODF in the Illinois Valley. One of the water tenders is ten years old, but not currently in need of replacement. There are two wildland brush trucks. ODF's equipment is replaced on a rotational basis based on age and mileage.

Table 8. ODF Equipment Resources in Illinois Valley

Type of Equipment	Engine #	Year	Gallons of Water Capacity
Brush Trucks (Wildland fire engines):			
	282	2001	300
	583	1994	500

You can contact ODF at the Cave Junction Station, during normal business hours at 592-2792 or at 27575 Redwood Highway.

United States Forest Service[65]

The United States Forest Service (USFS) Two Rivers Fire – provides wildland fire protection to 245,555 acres in the Galice and Illinois Valley Ranger Districts of the Rogue River and Siskiyou National Forests. It includes the communities of Cave Junction, Galice, Selma, Takilma and Wonder.

There are eight to twenty paid staff members plus agency militia at the Illinois Valley Ranger District: one Fire Management Officer, one Assistant Fire Management Officer, two Engine Module Leaders, two Assistant Engine Module Leaders, two Senior Firefighters, two to twelve Seasonal Firefighters, one Hand Crew Supervisor, and two seasonal Prevention Technicians. From June 21 to October 1 there is a helitack/rappel module available at Merlin. There is one ranger district located in the Valley at 26568 Redwood Highway in Cave Junction, as shown in the Map 14.

Within the Galice and Illinois Valley Ranger Districts, USFS can respond to twenty-five percent of the area within fifteen minutes, five percent within five to ten minutes, and approximately one percent of the area is within a three-minute response from the USFS Illinois Valley Ranger District.

All of the incidents responded to by USFS are wildland fires. The FS will respond to structure fires during fire season, but they can only fight the wildland fire. In other words, they can not enter a structure on fire.

In addition to providing service within the Galice and Illinois Valley Districts, USFS will respond outside of the service area boundaries to incidents in Six Rivers National Forest, Rogue River National Forest, as well as the Medford area. Approximately five percent of the incidents they respond to are outside of their service boundary. USFS has mutual aid agreements with the IVFD, ODF, California Department of Forestry and Fire Protection (CDF), BLM, and the National Park Service (NPS). All wildfire/brush incidents are automatic aid with IVFD and ODF, meaning that all three entities are notified of the incident simultaneously.

USFS has two wildland brush trucks, and the equipment is upgraded to new equipment based on service life.

In terms of training, USFS firefighting personnel have wildland fire operations qualifications and expertise. There is a need for interagency drills, proficiency training, as well as the coordination of incident operations.

You can contact USFS at the Illinois Valley Ranger District, during normal business hours at 541-592-4000 or at 26568 Redwood Highway, Cave Junction.

United States Bureau of Land Management[66]

The United States Bureau of Land Management – also known as BLM – provides wildland fire protection to 56,036 acres in the Illinois Valley. The geographic area that BLM serves can be defined as the BLM lands within the Medford District. BLM's service area encompasses approximately 1,500 square miles of BLM lands and they serve approximately 200,000 residents. It includes the communities of: Applegate Valley, Ashland, Butte Falls, Eagle Point, Galice, Glendale, Gold Hill, Grants Pass, Illinois Valley, Jacksonville, Medford, Merlin, Murphy, Rogue River, Shady Cove, Williams, Wimer, and Wolf Creek.

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[65] Most of the information in this section was provided by US Forest Service, Two Rivers Fire Zone. Fire Management Officer Dick Boothe.

[66] Most of the information in this section was provided by AFMO, Chris Johnson and FMO, Tom Murphy.

There are 346 paid staff members serving the Medford District, 220 red carded personnel, and 126 arduous wildland firefighters. BLM contracts with ODF for wildfire ignitions on BLM lands. BLM provides project inspectors to administer the fire suppression contract when fires occur on BLM lands. BLM also provides resource advisors to ensure unnecessary resource damage does not occur due to fire suppression efforts. BLM employees are required to assist with wildfire emergencies to the limit of their qualifications and physical fitness capabilities. BLM provides numerous overhead personnel from single resource boss to operations section chief in the operations branch. BLM also has employees qualified as information officers, safety officers, wildland fire cause and determination investigators, water handling specialists, fire behavior analysts, as well as people in logistics, planning, finance, and law enforcement. There are two fire stations located in the Medford District, none are in the Illinois Valley, as shown in the following Table and Map 14.

Table 9. Bureau of Land Management Fire Stations

Station #	Address	Community
1	3040 Biddle Road	Medford
2	200 NW Greenfield	Grants Pass

In addition to providing service within the Medford District, BLM will respond outside of the service area boundaries to incidents nationwide, and even occasionally to other countries. Approximately fifty percent of the incidents they respond to are outside of the Medford District. BLM has mutual aid agreements with the Oregon Department of Forestry (ODF), and USFS.

The following table shows the extent of equipment resources currently available to BLM in the Medford District.

Table 10. BLM Equipment Resources for the Medford District

Type of Equipment	Engine #	Year	Gallons of Water Capacity
Brush Trucks (Wildland fire engines):			
	591	2002	400
	592	2002	400
	593	2002	400
	594	2002	400
	595	2002	400
	596	2002	400
Other Equipment:			
Numerous portable pumps, fire hose and appliances, fold-a-tanks, chain saws, firing equipment, government vehicles, and hand tools.			

You can contact BLM at the Medford District, during normal business hours at 541-618-2200.

CHAPTER 7: INTERFACE COMMUNITY PLANNING AREAS

The following seven community planning areas were identified as the principle population centers in the Illinois Valley. These communities are all "interface" communities as they are pockets of residential inhabitance within a wildland landscape. A community meeting was held in each of these communities to identify values, risks, hazards, safe zones, evacuation routes, and priority fire safety projects. The following is a summary of the issues in each community.

Selma

Selma Community Planning Area

The community of Selma straddles Highway 199 and the Deer Creek watershed of the main stem of the Illinois River. Deer Creek is a large stream with many tributaries in the Selma area (from south to north): McMullen, Thompson, Crooks, Drape, and Indian Creeks being predominant. The community is primarily situated in a valley, surrounded by a ring a peaks, including (from south to north): Little Grayback Peak, Kerby Peak, Murphy Mountain, Roundtop (lookout), and Mooney Mountain. Land ownership in the Selma area is checkerboard private with BLM. USFS lands are west of here begin near Eight Dollar Mountain. The 2000 population of Selma was 1,934[67].

Agriculture and ranching are predominant in the Deer Creek valley bottom. Approximately two miles up the Deer Creek road this area transitions from agriculture to woodland. Some forestry and logging occurs on the forested private lands throughout Selma. Lake Selmac, a 160-acre lake and associated recreational facilities, is managed by Josephine County Parks for recreation. The lake and nearby federally managed public lands and the Illinois River bring some tourism revenue to Selma.

Fuel reduction and defensible space treatments have occurred on private parcels along Gold Canyon Drive, Wild Park Lane, Draper Valley Road, Indian Creek Road, Lakeshore Drive, Forest Creek Road and other scattered areas.

The Illinois Valley Community Response Team is coordinating a fuel reduction project in the upper Thompson Creek watershed, in conjunction with IVFD, and BLM. The project currently includes 75 acres of private landowner participation. Funding was secured in FY2004 by IVCRT from the National Fire Plan. This area was chosen for fuel reduction because it is a high hazard area as identified by JCIFP. Currently, future phases of the project are being explored, including nearby private industrial forestlands and BLM lands as part of South Deer Project (see below).

A description of that program is in

[67] http://explanation-guide.info/meaning/Selma,-Oregon.html

The JCIFP will be releasing a summary of the project in January, which will be available on their website: http://www.co.josephine.or.us/wildfire/index.htm.

BLM and Deer Creek Valley Natural Resources Conservation Association (DCVNRCA, founded in 1979) have signed a Memorandum of Understanding to cooperatively develop a Natural Selection Alternative for the South Deer Landscape Management Project. It is one of three Action Alternatives being considered by BLM for this project, located in the Selma Deer Creek watershed. The following describes the project and BLM information on the area.

> "The DCVNRCA Alternative would restore high fire hazard early successional forests to low fire hazard late successional conditions. This program would yield products and retain or restore biological, ecological, social, and environmental health. Recreation and nature-based tourism values would be retained and/or developed.
>
> The DCVNRCA Alternative calls for establishing long-term jobs and local stability. Contracts would be developed with individuals to carry out the program. Fire hazard reduction would be coupled with product yields to achieve long-term objectives. The goal is to make the program self sufficient while retaining and improving forest ecosystem and community health." [68]

According to the BLM:

> "Ninety-five percent of the South Deer project area lies in Wildland Urban Interface, designated by the National Fire Plan. Eighty five percent of the project area classifies into fire condition class 3… Vegetation attributes, fuel loading, and fire behavior have been significantly altered. Condition class 3 represents a greater risk for increased fire size, intensity, and severity…
>
> "High stand densities throughout the project area are resulting in declining vigor of conifers and shade intolerant species (i.e., ponderosa pine, sugar pine, black oak, Pacific madrone). Fire exclusion has contributed to growth stagnation in some stands as well as to slow seral stage progression/succession. There is recent mortality from drought stress and subsequent Mountain pine beetle infestation within the project area.
>
> "Fire exclusion has led to a departure from natural fuel conditions resulting in high fuel hazard conditions across the majority of the planning area.
>
> "Vegetation conditions combined with increasing rural residential development in the project area are continuing to increase the fire hazard and risk. The majority of the project area is within the designated Wildland Urban Interface (WUI)." [69]

Selma Community Meeting

- The Selma Community meeting was held on June 9th at the Selma Community Center, 18255 Highway 199. The following people attended the meeting:

Residents

- Rosanne Badgett
- Bill Baker
- Wayne Bergman
- Mary Camp
- Orville Camp
- Susan Cofoed
- Tom Crittenden
- Barbara Day
- Michael Day
- Joanna Granville
- Chris Granville

[68] DCNRCA, personal communication, October 18, 2004.

[69] South Deer Chapter 1, BLM, from DCVNRCA.

- Daniel Green
- Ron Green
- Scott Heller
- Bill Hunt
- Lynn Kaufman
- Gerald Kaufman
- William Mondale
- Audrey & Joel Moore
- Keni Moore
- Delaine Sherman
- Kris Sherman
- Jim Tehan
- Melanie Tehan
- Fred Tokash
- Jan & Jack Walker
- Larry Weatherwax
- Shane Welsh, IV News
- Elaine Wood

Agency and Project Participants

- Gary Biggs, City of Cave Junction
- Dick Boothe, USFS
- Susan Chapp, FAC
- Curtis Clark, ODF
- Tim Gonzales, BLM
- Tracy Katelman, ForEverGreen Forestry
- Kathy Lynn, JCIFP
- Harry Rich, IVFD
- Dale Sandberg, IVFD
- Jerry Schaeffer, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

Selma Emergency Response, Evacuation, and Safe Zones

IVFD Stations #2 (18505 Redwood Highway) and #5 (4240 Lakeshore Drive) are in Selma, with a structural engine and water tender at each station. Eighteen of IVFD's volunteers operate out of these stations. This community has the highest staffing of fire fighters in the Valley. Three officers with brush trucks are Selma residents, adding to the resources available to this community.

The principle evacuation route for this community is US Highway 199 which leads to Grants Pass and Interstate 5 to the northeast, and California and US Highway 101 to the southwest. If Highway 199 is closed for whatever reason, there are a few alternate routes out of Selma. Most of these are on back roads and not recommended unless in an emergency, as they offer an easy way to get lost for those unfamiliar with them, especially during a wildfire when visibility can be severely limited.

- Crooks Creek Road to BLM #37-7-34.1 to Mooney Mountain Road to Cheney Creek Road to Fish Hatchery Road (OR 238) to either 199 or to Williams to Highway 5. This is not a good escape route without a pilot car and official orders.
- Thompson Creek Road to Bear Creek Road (BLM #38-7-27) and then BLM 39-7-21 to Caves Highway (OR 46). This is doable but steep.
- Deer Creek Road to BLM road #38-7-13 to BLM #39-5-6 which turns into Cedar Flat Road to Williams. These road conditions could be bad or blocked early in the fire season. This road is a great for providing emergency evacuation signage.
- Southshore Drive to Reeves Creek to Highway 199 two miles north of Kerby.

Several roads in the Selma area do not have alternate access roads, many of them dead-end at BLM lands. These include: Davis Creek Road, White Creek Road (with a bridge that may be too narrow for fire engine access), Ceder Creek, and Briar Lane (the bridge is out to Forest Creek at the end).

Safe zones identified in this area are:

- several pastures along Thompson Creek Road
- the Boy Scout Camp near Lake Selmac.

Selma Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Selma Community Meeting:

- Bar
- Darlingtonia and Cobra Lily population centers
- Deer Creek Grange
- Deer Creek Ranch
- Doctor's office and restaurant
- Eight Dollar Mountain and Gold Canyon – endangered species habitat
- Gas station
- Lake Selmac Resort
- Local businesses – principally along Highway 199
- New IVFD fire station
- Old-growth forests, especially on Squaw Mountain which is a sacred burial site and South Deer which is a wildlife corridor
- Old Mill
- Pacific Power and Light Substation
- Post office
- Selma Resort
- Selma School and Community Center
- Thompson Creek which supports Coho salmon
- Wood Carver Business

The following were identified as causes of wildfire in Selma, or high risk or hazard activities or areas for fire:

- Abandoned cars along Crooks Creek, Upper Thompson, and elsewhere.
- Areas of high brush
- Brush along lower Deer Creek
- Clearcuts
- County logging activity
- Dead manzanita
- Escaped burns
- Highway 199 - California to Grants Pass
- Indian Creek Road
- Indian Creek and Draper Valley roads – abandoned cars
- Lightning
- Meth labs
- Not having enough money for work around homes, holding meetings, education, etc.
- Oil tanks outside home
- Power lines – high voltage
- Rough & Ready recent logging around Draper Valley and Indian Creek Roads, Squaw Mountain, Lower and Upper Thompson and Davis Creeks
- Valley Heights Road (lots of brush)
- Vehicle fires
- Warren Road – properties at end
- West of Highway 199, between Squaw Mountain Road and Illinois River Road
- Wrecking yard
- Terrance Heights, Forest Creek, Indian Creek, Valley Heights, Borica, end of Gold Canyon, and Warren Road are all high hazard areas

The following projects were identified as priorities for fuel reduction and fire safety in Selma, those in CAPS as highest priority for immediate action:

- Community chipper
- Education (most important because leads to getting things done)
- Evacuation Routes
- Fuels reduction:
    - Areas along Highway 199
    - Draper Valley – Rough and Ready clearcut
    - Indian Creek
    - Lower Deer Creek Road
    - Lower Thompson Creek Road – Brush Rough & Ready area
    - Upper Draper Valley Road
    - Upper Thompson, Forrest, Brian, Borica – clearance along all these roads
    - Valley Heights
- Matching funds for water storage
- More firefighters (paid)
- More information about the fire plan process
- More money for education
- Redwood Highway #129 (possibly Lakeshore Drive, not Redwood Highway)
- Redwood Highway #18222, 18247
- Water storage on BLM hill north of Draper
- Water tanks
- Water Supply on Thompson Creek Road north of Briar Lane – develop

Selma Mitigation Strategy

- Future phases of Thompson Creek collaborative fuel reduction project. The current project is progressing very well, with many participating landowners. It is important to maintain the momentum in this very high hazard neighborhood by exploring and continuing future phases.
- Develop signage for the emergency evacuation routes out of Selma, including the Deer Creek and Crooks Creek roads to Williams, and Deer Creek to Caves Highway. This should be done in conjunction with community education events sponsored by ODF, BLM, and IVFD. A Saturday afternoon could be spent taking local residents and media on tours of the various evacuation routes, to familiarize the community with these alternative routes.
- IVFD, ODF, and BLM can identify priority locations for water tanks around Selma for fire suppression, and funding sources to purchase and install them. Two areas are Upper Thompson Creek Road and upper Draper. Siskiyou Resource Advisory Committee (RAC) is a possibility for funding locations near federal public lands. The RAC has been very supportive for water tank projects in neighboring Del Norte County. Programs to supply matching funds for private water storage should be explored within this project.
- Residents in the forested areas in and around Selma must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet. To this end, funding sources to purchase a community chipper to be housed at the Selma Community Center or one of the IVFD fire stations here should be explored and obtained. Once received, community chipper days can be organized in conjunction with defensible space education.
- South Deer Project between BLM and Deer Creek Natural Resources Conservation Association is a model local project for community involvement in public lands management, including fire hazard reduction. This project should be supported and fully implemented by all participating entities.
- Explore development of strategic shaded fuel breaks, beginning with Deer Creek Road as it heads towards Williams. This could serve both as a break from fires coming from the east, as well as improving this road as an evacuation route.
- Fuels reduction in north Selma adjacent to Highway 199. This project was identified by JCIFP Fuels Reduction Committee for FY 2005 National Fire Plan funding and is already in process of being developed.

Map 15. Selma Community Identified Risks, Hazards, and Projects

Kerby

Kerby Community Planning Area

The community of Kerby is situated between Selma and Cave Junction on Highway 199. It is a small community near the Illinois Rive and its tributary Holton Creek watershed. Kerby shares a zip code with part of Cave Junction—97531—according to the 2000 census there were only 400 people with this zip code. Therefore, we can assume there are less than 400 people in Kerby. Fuel reduction has occurred on several homes on Hathaway Drive, at southern end of this community and along Holton Creek and Glendon Roads.

Kerby Community Meeting

The Kerby Community meeting was held on July 28th at the Kerby Belt Building, 24254 Highway 199. The following people attended the meeting:

Residents

- Jerry Dean
- Caryn Gumaer
- Rob Moor

Agency and Project Participants

- Bruce Bartow, Josephine County
- Dick Boothe, USFS
- Susan Chapp, FAC
- Curtis Clark, ODF
- Tim Gonzales, BLM
- Tracy Katelman, ForEverGreen Forestry
- Jerry Schaeffer, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

Kerby Emergency Response, Evacuation, and Safe Zones

Kerby has no resident fire station. The closet stations are Station #1 in Cave Junction and Station #2 in Selma.

Highway 199 is the principal evacuation route for Kerby. There are three other routes out of this community:

- Westside Road, along the west side of the Illinois River connects to O'Brien. Finch Road is also a connector road from 199 in Kerby, to Westside road which connects back to 199 south of Cave Junction. It also goes to Tennessee lookout road and the Qbar X ranch.
- The other is two miles north of Kerby on 199 to Reeves Creek to Southshore Drive in Selma.

Safe zones in the Kerby area were identified as:

- old mill site
- Kerby museum
- Kerbyville farm
- IV golf course

Kerby Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Kerby Community Meeting:

- Kerby Belt Building
- Kerbyville Museum
- Old Masonic Temple

The following were identified as causes of wildfire in Kerby, or high risk or hazard activities or areas for fire:

- Dead trees along Holton Creek Road.
- River bar party spot.
- East 6th Street
- It's a Burl, lots of fuel there.

- Josephine Street, history of structure fires here
- Finch Road to Tennessee Lookout.
- Power Line easements from bikers, unauthorized parties, transients, etc.
- Dead trees falling on power lines.
- Glendon road is a dead end.

The following projects were identified as priorities for fuel reduction and fire safety in Kerby:

- Fuel hazard reduction on Holton Creek Road
- Get our water district up and running so we will have hydrants.

Kerby Mitigation Strategy

- IVFSC and IVFD work with City of Cave Junction to return water to the Kerby ditch.
- Josephine County, City of Cave Junction, and IVFD work together to fix numbering system on Westside Road, and number the powerline roads. There are problems of residents here having addresses tied to the main roads, but not physically living there. This makes it difficult for efficient emergency response.
- Residents in the forested areas and narrow roads around Kerby must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet. Several residences in the Holton Creek and Glendon Roads have already created defensible space and undertaken additional fuel hazard reduction on their properties.
- IVFD, ODF, and BLM can identify priority locations for water tanks around Kerby for fire suppression, and funding sources to purchase and install them. Possible areas are upper Holton Creek and Kerby Mainline roads. Siskiyou Resource Advisory Committee (RAC) is a possibility for funding locations near federal public lands. The RAC has been very supportive for water tank projects in neighboring Del Norte County, California.
- Explore development of strategic shaded fuel breaks between Kerby and BLM or USFS lands.

Map 16. Kerby Community Identified Risks, Hazards, and Projects

Cave Junction

Cave Junction Community Planning Area

> "Cave Junction is a scenic, small town just north of California located on Hwy. 199. It is approximately 30 miles southwest of Grants Pass, and is home to some 1,225 residents. Cave Junction is considered the "Home of the Oregon Caves", which are located about 20 miles east of town, off Hwy. 46. It serves as a home base for visitors from around the world, many of whom travel to the Illinois Valley to see the unique geologic wonder."[70]

Cave Junction is the commercial center of the Illinois Valley. It is the only incorporated town in the Valley. The County and City maintain offices here, as well as law enforcement, and the IVFD administrative offices. This is also the location of health care facilities and the area high school. According to the 2000 Census, 1,363 people reside in Cave Junction. However, over 6,000 Illinois Valley residents use a Cave Junction address or zip code. The Illinois River encircles the town from the south, west, and northwest.

Cave Junction Community Meeting

The Cave Junction Community meeting was held on August 18th at the County Building, 102 S. Redwood Highway. The following people attended the meeting:

Residents

- Sarah Clipp
- Joshua Clipp
- Noah Clipp
- Richard Clipp
- Derwyn & Sharrell Cugley
- Teresa Florence
- Carol Fox
- Karen Gomez
- Chris Granville
- Alice Hestad
- Gregg Jennings
- Lori Kofahl
- Ron Margascu
- Fred Mittleman
- Ron Pante
- Todd Schaffer

Agency and Project Participants

- Bruce Bartow, Josephine County
- Gary Biggs, City of Cave Junction
- Dick Boothe, USFS
- Pat Butler, BLM
- Susan Chapp, FAC
- Curtis Clark, ODF
- Tracy Katelman, ForEverGreen Forestry
- Jerry Schaeffer, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

[70] http://www.rogueweb.com/cjunct/

Cave Junction Emergency Response, Evacuation, and Safe Zones

IVFD Stations #1 (681 Caves Highway) and the new Administration Building (28195 Redwood Highway) are in Cave Junction. Station #1 has a structural engine and water tender. Fifteen of IVFD's volunteers operate out of this station, as well as several officers who operate out of the other stations but are often at either Station #11 or the Administration Building. These same officers have brush trucks, adding to the resources available to this community.

Rogue River-Siskiyou National Forest also has wildland fire fighting engines stationed at the Illinois Valley Ranger District office at 26568 Redwood Highway in Cave Junction. ODF has two additional wildland engines located at their station at 27575 Redwood Highway here.

Safe zones identified in this area are:

- 1090 Laurel Road
- Behind the High School
- Illinois Valley Golf Course

The principle evacuation route for this community is US Highway 199 which leads to Grants Pass and Interstate 5 to the northeast, and California and US Highway 101 to the southwest. If Highway 199 is closed for whatever reason, there are a few alternate routes out of Cave Junction. Most of these are on back roads and not recommended unless in an emergency, as they offer an easy way to get lost. Several roads in the Cave Junction area do not have alternate access roads, many of them dead-end. The principle alternate evacuation route is:

- Caves Highway (OR 46) to Caves Highway (OR 46) to Holland to Takilma Road to Happy Camp (FS Rd. #, seasonal)

Cave Junction Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Cave Junction Community Meeting:

- Animal Hospital
- Churches or any other large structure that can be used for emergency stations.
- City Hall
- City well on Noland Road off Rockydale
- Clinic
- County building
- Fire Stations, Administration Building
- Forest area around town
- Fueling stations
- High school
- Historical sites
- Lamb's Body Shop on Rockydale
- Lorna Byrne Middle School
- Medical facilities
- Pine Ridge est. 5hp pump at pond
- Police Dept.
- Power companies
- Senior center
- Taylor's Sausage Plant
- Telephone stations
- Water Dept. and water tanks

The following were identified as causes of wildfire in Cave Junction, or high risk or hazard activities or areas for fire:

- Access road from Westside Road.
- Along west fork of Illinois River either south of us or across river near Hwy. 199.
- Between Pinewood Way and the logging road.
- Between Rockydale Road and Pinewood Way – heavy brush from past logging.
- BLM land south of Fernwood Drive, they recently thinned out the trees and left a lot of trash and broken limbs everywhere which is a fire hazard. There is unauthorized public useof the land there, and no water on the property.
- Brushy areas next to High School and Lorna Byrne track
- Brushy dead end roads

- Burch Drive in the chaparral bushes.
- County property p the hill from the city well.
- Discarded cigarettes
- Driveways which are difficult for fire engines to access.
- Evergreen behind Bus Barn
- Heavy brush along both sides of river.
- Heavy brush.
- High grass in fields
- Hunters and others in BLM area between Fernwood Drive and the river. Access is very limited.
- Junction Avenue at Lorna Byrrne Middle School to Old Stage
- Kenrose Lane which includes the following streets: Cascade, Mesa Verde, White Oak, Ivy Drive, Fernwood Drive, Simmons Cut, Logan Cut. There is only one way in or out of the area and many of the property have/will not clean up the brush, etc., along the roadways. Cigarettes are thrown out along all the roads. The area between Fernwood Drive and the Illinois River is BLM. There is a powerline road thru this area which is used by hikers, hunters, bikers, etc. Access for fire trucks is limited to one or two private properties. One is at 566 Fernwood Drive.
- Kerby Ditch from River Bridge all the way to Daisy Hill. Blackberry
- Lamb's Body Shop – lots of paint and chemicals – good neighbor
- Logan Cut - many cigarette butts in the street.
- Main road, most traffic, vehicles and pedestrians
- Mesa Verde Drive – many have no way on to property.
- North behind Old Joes
- Not maintaining burns and storages of burnables
- Only one way out of area.
- Possibly Lamb's Body Shop due to paint thinners, etc., but there is no fire history there.
- Power line east and west of 199
- Property on Nolan Rd. by city wells
- South Barlow Street from Hamilton to Sherwood Hills side
- Stevenson Road north side
- The dry brush on the corner of Old Stage Road and River.
- The rearmost parts of the residences, as most are overgrown and inaccessible.
- Uncleared forest land
- West River from 199 to North Junction
- Yard fires

<u>The following projects were identified as priorities for fuel reduction in Cave Junction, those in CAPS as highest priority for immediate action:</u>

- BLM needs to clean up their areas from campers, clearcut, wood cutting, and dumped slash along the Cuts Road enter at end of Fernwood Drive.
- Careful monitoring of any vagrants or passerbys.
- Education
    - Burning education, be careful.
    - Community awareness of carelessness by others.
    - Continue to remind and inform, especially of when fire season begins and what the restrictions are.
    - Education and strict enforcement o fire laws, burn permits, etc.
    - Education, especially help with teaching children what to do – the trailer works great, our kids came home and pointed out everything that we had wrong!
    - Maybe a few signs along roadway cautioning dangers of tossing out cigarette butts from vehicles.
- Establish proper fire lines around neighborhoods and all homes and private properties.
- Evacuation—advise everyone about possible evacuation routes as a large fire in this area could easily get out of control.
    - Improve access trails into possibly roads to reach river with small fire trucks.
    - Kenrose Lane area has a dirt road that is a continuation of Fernwood that leads to Rockydale as an alternative evacuation route. This should be cleared and passable.
- Fire hydrants here and there

- Fire inspection of our neighborhood and each property – to give us owners ideas/suggestions of things we can do to improve fire safety in our neighborhood and own properties. Do this annually if possible. Follow up with offenders.
- Fuel Reduction
    - Clean up dead trees on county property up from city well on Nolan Road
    - Clear out the mess at the end of Pinewood.
    - Clear road sides.
    - Clearing around city well
    - Evergreen
    - Fernwood
    - Hanby Lane
    - Keep brush cleared from homes.
    - Keep clearing brush and creating fire protection lines.
    - Kenrose Lane area
    - Kerby ditch
    - Manzanita Drive, Oak Lane
    - More clearing of brush on private property in the entire area.
    - Neighbors need to remove more brush and trim ladder fuels.
    - Northeast of Redwood Highway and East River Street
    - Ollis Road west of trailer court
    - Powerline west of Laurel, before Old Stage
    - Properties on Mesa Verde Drive need to be cleaned up. There is no defense on the 80 acres behind and 40 acres at end of Mesa Verde Drive.
    - Property owners clear all underbrush on their property.
    - Redwood Highway at north end of town, south of Laurel, and along power lines
    - Removal of brush and ladder fuels along frontages of roadway.
    - Slash disposal
    - South Barlow Street from Hamilton to Sherwood Hills side
    - South Kerby
    - Stevenson Road
    - There is a large parcel of property, maybe 300 acres, bordering White Oak Drive that has not been cleaned of underbrush and does not have passable roads for vehicles, especially fire trucks.
    - Thinning dense close together trees that are thin and scrawny should be done.
    - Vacant lots need to be kept free of overgrowth, excess bushes and trees and keep all trees trimmed, not allowing trees to grow over a neighbors home and/or property.
    - West of Old Stage in area east of Terrace, around school to north and south
    - WEST RIVER FROM 199 TO NORTH JUNCTION. This is a heavily wooded area in the middle of town.
- Gates on Cascade Drive and Logan Cut are locked.
- Make known the Dept. of Forestry website. www.odf.state.or.us/ www.or.blm.gov/nwfire/?id=3070101
- Make neighbors clean up trash and old vehicles.
- More fire breaks
- More fire lines – with Cat creating property and fire line access.
- Personal preparedness – clearing dead brush, having good water access, etc.
- Put a gate across the end of Fernwood Drive – going into the BLM land – too many motorcycles and off-road vehicles going in there.
- Responsive attack trucks with high water capacity.
- Vigilance
- Water tanks on Rockydale

Cave Junction Mitigation Strategy

- Identify priority fuel reduction treatment areas, along roads with high density neighborhoods or especially dangerous evacuation routes, including:
    - South Barlow Street from Hamilton to Sherwood Hills side
    - West River from 199 to North Junction
    - Manzanita Lane area through Oak Drive to Dogwood

- Kenrose Lane. This has been identified as a priority FY 2005 project by the JCIFP Fuels Reduction Committee for National Fire Plan funding.

- IVFSC work with IVFD, ODF, FAC, Siskiyou Project, FS, BLM, and law enforcement to coordinate community-wide education effort regarding defensible space, fire safety, and safe evacuation.
- IVFD, City of Cave Junction, ODF, FS, and BLM can identify priority locations for water tanks around the non-hydrant areas of Cave Junction for fire suppression, and funding sources to purchase and install them. Siskiyou Resource Advisory Committee (RAC) is a possibility for funding locations near federal public lands.
- IVFSC work with USFS, Siskiyou Project, and Forestry Action Committee to identify location on west side of town for a shaded fuel break to protect Cave Junction in the event of a reburn of any areas of the Biscuit Fire. This needs to be a location and prescription that can be agreed upon by all members of the community.
- Continue defensible space assessments, education. IVFSC, IVFD, and ODF work with JCIFP and IV Family Coalition to provide these to low income households, especially in areas of high hazard as identified by JCIFP Risk Assessment.
- Residents in the forested areas and narrow roads around Cave Junction must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet. These areas include the neighborhoods around Kenrose Lane, Barlow, Rockydale, River, Manzanita Lane, Hanby, South Kerby, Sawyer, Tracy, Idylewild, Mesa Verde, Stevenson, and others areas with dense brush near residences.

Map 17. Cave Junction Community Identified Risks, Hazards, and Projects

O'Brien

O'Brien Community Planning Area

O'Brien is a community situated along Highway 199 south of Cave Junction. The population was 546 people in the 2000 census. The Rough and Ready mill is located south of this community.

Fuels reduction has taken place on several properties on Naue Way, Rubin Drive, Rough and Ready Creek Road, Kinnikinnick Drive, Elwood Lane, Krauss Lane and other assorted parcels.

O'Brien Community Meeting

The O'Brien Community meeting was held on June 16th at IVFD Fire Station #3, 33054 Lone Mountain Road. The following people attended the meeting:

Residents

- Phil Aria
- Marilyn Arnold
- Maureen Johana
- Clifford Johana
- Kathy Lombardo
- Gorden Lyford
- Dave Nichol
- Mel Wann
- Bill Woodburg

Agency and Project Participants

- Bruce Bartow, Josephine County
- Gary Biggs, City of Cave Junction
- Susan Chapp, FAC
- Curtis Clark, ODF
- Tim Gonzales, BLM
- Tracy Katelman, ForEverGreen Forestry
- Jerry Schaeffer, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

O'Brien Emergency Response, Evacuation, and Safe Zones

IVFD Stations #3 (33054 Redwood Highway) is in O'Brien, with two structural engines and a water. There are seven IVFD's volunteers who operate out of this station. Two officers with brush trucks are O'Brien residents, adding to the resources available to this community.

The principle evacuation route for this community is US Highway 199. If it is closed for whatever reason, there are several alternate routes out of O'Brien.

- Waldo Road to Happy Camp Rd. # 48 up to the California line (county maintained) and then turns to FS maintenance as Road 40507. This is an all paved, two-lane road open approximately May 1 through Thanksgiving.
- Wimer Road. Road 4402 to Road 316.This goes out of O'Brien, over Oregon Mountain and down Shelly Creek to Patrick's Creek in California. It is a single-lane gravel road, open almost all year. People get lost on these roads every winter trying to get around the road closures in the 199 canyon.
- Woods Creek Road (Road 9938) to Bearcamp Ridge (Road 4803) is a single-lane gravel road open almost all year.
- Westside Road (approximately four miles north of O'Brien) to Kerby

Safe zones were identified in this area as several fields along Lone Mountain Road, at #545, 765, and 1111 Lone Mountain Road.

O'Brien Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the O'Brien Community Meeting and Mailing:

- Businesses
- IVFD Fire Station #3
- Post Office/Store

- McGrew's Bar and Restaurant

The following were identified as causes of wildfire in O'Brien, or high risk or hazard activities or areas for fire:

- Area between Lone Mountain Road and West Fork Illinois at 1434 Lone Mountain Road
- Arrowhead Drive, last half of road after 90 degree right turn, thick and brushy, very narrow, nowhere to pass before 1200, no IVFD address signs after 1450, dead end
- Cobalt Drive
- Flat west of 199 because of excess trees and brush.
- FS Land along Powerline Road, and end of Naue Way at Rough and Ready Creek Road
- Highway 199 – south of Illinois River bridge at O'Brien West fork.
- Highway 199 south of Arrowhead Street is thick, needs roadside clearance
- Highway 199 through entire area as place for fires to start
- Jerry Lane off of Lone Mountain is one-lane, gravel
- Kinnikinnick Drive
- Lone Mountain Road to open area on County property at end
- Mars swimming hole – smoking and campfires
- Mountains west of O'Brien
- Nature Conservancy's 100 acres at end of Naue Way/Rough and Ready Creek Road
- Naue Way
- O'Brien Street –gravel, hazards
- Power lines
- Powerline Road -- kids playing with matches
- Recreation sites on federal land with swimming holes
- Ron Way
- Samarkand – narrow, wooden bridge, difficult for fire engine? Dead cars
- Seats Dam
- Udee Road – no turnaround on right side
- West Fork Illinois west of Highway 199
- West of Marie Way
- Wood Creek Road – small wooden bridge with "no heavy equipment" sign, so not good for fire engine? Narrows with thick brush.

The following projects were identified as priorities for fuel reduction in O'Brien, those in CAPS as highest priority for immediate action:

- Burn barn at 820 Naue Way as IVFD training exercise
- Mailing of fire safety information to all Post Office Boxes in O'Brien, also include information with Pacific Power and Light bills
- Thin and brush property everywhere.
- Fire break along Highway 199 south of O'Brien and the West Fork bridge.
- Handout to be developed by Gordon and Marilyn identifying a fuel hazard reduction year-round system
- Remove small trees and brush around some homes on Naue Way and Rough and Ready Road.
- Thin and brush between 199 and Forest Service.
- Water tanks. Install additional community water storage at:
    - Corner between 822 and 848 Naue Way and FS
    - Corner of Naue Way and Mahin Way
    - Near 1650/1700 Lone Mountain Road

O'Brien Mitigation Strategy

- IVFD, ODF, and FS can identify priority locations for water tanks around O'Brien for fire suppression, and funding sources to purchase and install them. Siskiyou Resource Advisory Committee (RAC) is a possibility for funding locations near federal public lands. The RAC has been very supportive for water tank projects in neighboring Del Norte County, California.
- Create shaded fuel breaks or brush clearance depending on forest cover along:
    - Lone Mountain Road
    - Naue Way and Spur Roads
    - Arrowhead Street

- The Forest Service implement fuels reduction at Mars Swimming Hole and Seats Dam. Work with local schools to develop education signs about fire safety to place at this popular spots.
- IVFSC work with The Nature Conservancy and FS to create a shaded fuel break and/or brush clearance along the boundary with private properties.
- Residents in the forested areas and narrow roads around O'Brien must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet.
- IVFSC and O'Brien residents explore fuel reduction with riparian enhancement along West Fork Illinois east and west of 199, through private properties.
-

Map 18. O'Brien Community Identified Risks, Hazards, and Projects

Holland

Holland Community Planning Area

The community of Holland is an area generally located around the Holland Loop Road off of the Caves Highway. Dick George is a significant loop road off of Holland Loop with many residences. This is the closest community to the Oregon Caves National Monument. The Grayback area is east of here between Holland and the Caves. There are scattered fuel reduction projects on private properties in this area, including a 15-acres parcel and several 5-acre areas off of Dick George.

Holland Community Meeting

The Holland Community meeting was held on August 11th at the IVFD Fire Station #4, 5465 Holland Loop Road. The following people attended the meeting:

Residents

- Harry E. Aframs
- Joyce C. Afram
- Michelle Binker
- K. Binker
- Roger-Marcie Bradhem
- Ron/Karen Braten
- Gail Cleve
- C. D. Clinton
- R. B. Clinton
- Gray Conway
- Billie L. Coakley
- M. Morton
- J. Niles
- Todd and Tim Schaeffer
- Will Sowell

Agency and Project Participants

- Susan Chapp, FAC
- Curtis Clark, ODF
- Tim Gonzales, BLM
- Tracy Katelman, ForEverGreen Forestry
- Jerry Schaeffer, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

Holland Emergency Response, Evacuation, and Safe Zones

IVFD Station #4 (5465 Holland Loop Road) is in Holland, with a structural engine. The water tender for this station is out of service and needs replacing. Three of IVFD's volunteers operate out of this station. This is a minimal number of staff for the engines. There is a definite need for more trained IVFD volunteers here.

The principle evacuation route for this community is Caves Highway 46 to US Highway 199. There are several alternate routes out of this community:

- Takilma Road to Four Corners, left at Happy Camp Road # 48 up to the California line (county maintained) and then to FS Road 40507. This is open approximately May 1 through Thanksgiving.
- Grayback Creek Road 4611 to BLM Road 39-6-36 to Williams. This is paved part way up Grayback Creek and Williams Creeks. It is a high-standard one-lane gravel road the rest of the route. It is also only open May1 to mid November.
- Little Grayback Creek Road 4609 to BLM Road 39-6-3. This ties into the road between Selma and Williams. It is a single-lane gravel road with turn outs, and also only open from the end of May until November.
- There is one escape route of the the Oregon Caves from the Chateau at the end of the road. The FS maintains an escape route (not open otherwise) out to Grayback Creek and the valley or over to Williams. There are many road numbers along this route. It is a gravel, single-lane road with turnouts, including some steep pitches on Road 960 that could be a problem for some vehicles. This is only open for emergency evacuation, and is generally open from the end of May through early November. In an emergency situation, the route would be well identified by emergency personnel.

Safe zones were identified in the Holland area as:

- The meadows around Holland Corner

- The meadow at corner of Kendall and Althouse if mowed or irrigated.

Holland Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Selma Community Meeting:

- Llama ranch on Takilma Road
- Old-growth forest just south of Llama ranch.
- Church at Dick George & Holland (historical).

The following were identified as causes of wildfire in Selma, or high risk or hazard activities or areas for fire:

- Absentee landowners
- Althouse Creek Road at Democrat Gulch
- Area of highly flammable vegetation in Section 12. High priority for fuels work. 160 acres of thick, young forest
- Browntown Road absentee owner
- Buck brush
- Dick George Road – (private?) road at #1775
- Dick George Road from #1200 - #3300
- Dry grass areas west of Takilma Road a problem. Note: Areas of dry grass present a problem annually. Also, there are areas of dry grass throughout the entire neighborhood.
- Fallow fields northwest Section 1, priority for fuels work
- Greenview Drive from #460 to top
- Large area at end of Ridge Vista in Section 12
- Meadows
- Mulvaney Gulch – bottom near Kendall
- Robinson Corner slash
- Takilma Road - #4601 - #5001 (east side of road)
- Takilma Road – dry grass behind #5262 - #6000 (west side of road)
- Undeveloped properties

The following projects were identified as priorities for fuel reduction in Holland, those in CAPS as highest priority for immediate action:

- Area of highly flammable vegetation in Section 12. High priority for fuels work. 160 acres of thick, young forest
- Fix 5 ton 5 mph bridge on Holland Loop over Sucker Creek. 9 ton bridge east end Holland.
- Fallow fields northwest Section 1
- Improve on-the-ground communication (e.g., Dick George fire)
- Old growth just south of Llama ranch is very valuable, but need understory thinned and ground fuels reduced

Holland Mitigation Strategy

- IVFD and County work to upgrade both Holland bridges to allow safe fire engine passage.
- Residents in this area need to volunteer with IVFD to staff Station #4. Without adequate volunteers, IVFD could be forced to close this station, which provides emergency fire and medical response to this community.
- Create shaded fuel breaks or brush roads depending on forest cover along the dense areas of the following roads:
    - Dick George
    - Greenview
    - Browntown
    - Beebe Drive
- Residents in the forested areas and narrow roads around Holland and Dick George must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet.
- IVFSC and IVFD support efforts of local neighborhood organizing regarding phone tree, mapping, etc.
- Clear brush in Section 12, the old-growth forest south of llama ranch, and in the fallow fields. Include mowing areas of high grass.
- IVFSC work with residents to identify risks, hazards, and potential projects further out toward Grayback.

Map 19. Holland Community Identified Risks, Hazards, and Projects

Takilma

Takilma Community Planning Area

The community of Takilma is situated just north of the California border in a valley amongst mountains managed by the BLM or FS. There is a school and community center here. This is the most isolated community in the Illinois Valley planning area in Oregon. There are no local services here including groceries and gas. Residents go to Cave Junction for shopping and other services.

Fuel Reduction has taken place on several private parcels as well as in the following areas:

- Cedar Gulch
- Magic Forest Farm
- Many parcels along Takilma Road, Meadows Road
- The Meadows

Takilma Community Meeting

The Takilma Community meeting was held on July 7th at the Takilma Community Center, 9367 Takilma Road. The following people attended the meeting:

Residents

- Susan Gustafson
- Robert Hirning
- Frances Killan
- Gordon Killan
- Kate Lenstet
- Lynette Owley
- Laurie Prouty
- George Shock
- Pat Speelman
- Jim Terrill

Agency and Project Participants

- Dick Boothe, USFS
- Pat Butler, BLM
- Tracy Katelman, ForEverGreen Forestry
- Harry Rich, IVFD
- Jerry Schaeffer, IVFD
- Don Smith, Siskiyou Project
- De Spellman, IVFD
- Robin Wilson, FAC

George Shook, a participant in the Takilma meeting added this to the conversation:

> "There's a lot to do with psychology here. I started about five years ago clearing around my place. I had pretty dense groves of brush around, as the area had been logged years before. Its' like when you have a big lawn and it seems like a daunting task to go out and deal with that lawn. You get into the psychology of it. Now if you never went to start it, it would always seem like a daunting task. But the minute you take a chain saw and go out and just cut a little brush for an hour in the morning, and you take it and pile and burn it, and you look at that and it looks pretty good. Then the next week you do the same thing. Pretty soon you get in the same mindset as with gardening and the lawn. It just becomes another thing you do day to day. After a couple of years you look around and see how much you've done. It looks better because you get used to less brush. At first the brush was natural. So there's this psychological progression. Take that first step and get out and do it."[71]

Takilma Emergency Response, Evacuation, and Safe Zones

IVFD Station #6 (8450 Takilma Road) is in Takilma, with a structural engine and a water. However, there are only two IVFD's volunteers who operate out of this station, which is not enough to operate the equipment. Therefore, this equipment is rarely used, and emergency response must come from further away such as Cave Junction or Holland (if

[71] George Shook, Takilma Community Fire Meeting, July 7, 2004.

there are enough volunteers at that station). If this fire response resource is important to Takilma residents, more people must step up to the plate and volunteer as fire fighters to serve their community. Without that, it is likely the station will eventually be shut, as the resources are not being used efficiently.

Takilma is a relatively isolated community in the Illinois Valley. It is approximately four miles along Waldo Road from Highway 199, the principle evacuation route for the Valley, or Takilma Road to Holland Loop or Rockydale via Waldo to Highway 199.

- The principle evacuation route is the paved, two-lane road from Takilma Four Corners, right Happy Camp Rd. # 48 up to the California line (county maintained) and then to FS Road 40507. As described in Holland above, this road is open approximately May 1 through Thanksgiving.
- From Takilma, south along FS Road 4904, the upper East Fork through Sun Star to Road 4808 and from there to the Happy Camp Road 48. This route is single lane, gravel with turn outs, and generally not open in winter.

Safe zones were identified in this area as:

- the meadows at Page Creek Road
- meadows on Meadows Road
- property at 9049 Takilma Road.

Takilma Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Takilma Community Meeting:

- Black Smith
- Dome School/Takilma Community Building
- IVFD Fire Station #6
- Old-growth forests on BLM lands
- Out and About Tree Houses
- Phone company station near fire station
- Rancho Hopeful assisted living
- Siskiyou Project

The following were identified as causes of wildfire in Takilma, or high risk or hazard activities or areas for fire:

- Abbey Road off Waldo Road has no turn-around at end for fire engine
- Blacksmith shop on Meadows Road as potential source, but no history of fire here
- Buck brush areas, especially along Reverend Road
- Cedar Gulch Road – long and narrow with heavy fuels, did some brush clearing here already but needs more. Four to five homes here have defensible space.
- Cowboy Way, narrow one-lane road – too narrow for structure engine
- Dirt biking places and four-wheelers in fields and on roads
- FS Cat roads were put in during the fires, one between Cedar and Scotch gulch, probably very brushy though now
- Hogue's meadow - camping
- Hope Mountain Road area of untreated slash, about 50 acres, logged now and last year, threatens school
- Lightning on ridges
- Queen of Bronze has no turn-around at end for fire engine
- Slope on east side of Takilma Road and Cedar Gulch Road intersection, steep and brushy, with no structures
- Takilma Road
- Takilma Road when the County used to mow it
- The Meadows has no access for fire engines, but has own fire plan

The following projects were identified as priorities for fuel reduction in Takilma, those in CAPS as highest priority for immediate action:

- Fuel reduction behind Hogue's meadow
- Establish a trail maintenance crew
- Fuel reduction around buck brush at northeast corner of Rockydale and Waldo Roads intersection
- Fuel hazard reduction around Hope Mountain Road logging slash

- Fuel hazard reduction at two large buck brush areas, one between Takilma Road and Illinois River across from intersection with Meadows Road, other along Takilma Road from approximately 8650 to 8900
- Fuels Reduction near blacksmith shop brush on Meadows Road
- Longwood Fire: brushing along edge of fire towards town
- Page Creek to Cedar Gulch shaded fuel break along public road
- Rancho Hopeful needs defensible space around structures
- Ridge between Long and Cedar Gulches (shaded fuel break)
- Ridge between Page Creek and Packers Creek (shaded fuel break)
- Ridge north of Page Creek (shaded fuel break)
- Shaded fuel break along Sanger Peak Road on the ridgetop
- School – defensible space
- Shaded fuel break or brush and clear along Takilma Road from 4 corners to about the Barn where the road drops off there, near #9710
- Takilma Road mowing, get the county to do this again.
- Takilma Road to the river and FS lands (going away from Cave Junction)
- Thinning on properties east of Khoeery Creek and Magic Forest Farm

Takilma Mitigation Strategy

- Residents in the Takilma area need to volunteer and train with IVFD if they want to maintain IVFD Station #6 here. Given the distance from Takilma to primary medical care or other emergency services, maintenance of this station is a priority here.
- Create a shaded fuel break and/or brush clearance along Takilma Road from approximately Four Corners and downtown Takilma to approximately #9710 (where the road drops).
- Implement fuel hazard reduction at two large buck brush areas. One is between Takilma Road and Illinois River across from intersection with Meadows Road. The other is from approximately 8650 to 8900 Takilma Road.
- IVFSC, IVFD, and FS identify the most strategic location for one or more shaded fuel breaks south of Takilma and north of Sun Star.
- IVFD, ODF, and FS can identify priority locations for water tanks around Takilma for fire suppression, and funding sources to purchase and install them. Siskiyou Resource Advisory Committee (RAC) is a possibility for funding locations near federal public lands.
- ODF work with landowners to implement fuel hazard reduction around Hope Mountain Road logging slash.
- Education program with Dome School to create signs for fire safety on nearby public lands targeted to recreational users and hunters, as well as residents.
- Residents in the forested areas and narrow roads around Takilma must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet.
- FS implement fuels reduction around camping areas at Hogues Meadow.
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Map 20. Takilma Community Identified Risks, Hazards, and Projects

Sun Star

Sun Star Community Planning Area

Sun Star is a 160-acre ranch inholding in the Rogue River-Siskiyou National Forest in Del Norte County, California. However, most residents here have Oregon addresses in Cave Junction, and use that as their commercial center. Sun Star's acreage includes valley-bottom, on both sides of Dunn Creek, off the East Fork Illinois River, as well as areas rising up the east and west slopes. Access to this remote area is primarily via Takilma, Oregon and USFS roads 4904 and 4906.

This property contains approximately twenty homesteads, with fifteen of those usually being occupied throughout the year, with an increase in summer months. All homes are off the electrical grid, with private water sources. Some homes have water tanks, and all get their water from gravity-feed spring boxes or creek diversions. All the roads here are gravel, some maintained by the USFS. Some sections of these roads are steep, and may prove a challenge to fire fighting equipment. There are phones in most or all of the homesteads. However, some of these are not buried, and hence would likely not be available in a large wildfire. Two homes on opposite sides of Sun Star have CB base stations in case of phone failure.

Given that this area is surrounded on all sides by Rogue River-Siskiyou National Forest, it has had a dramatic fire history. The most recent large fire was the Longwood Fire in 1987. That fire burned approximately 12,000 acres, including a small portion of Sun Star. In 1987, the Chicago and Whiskey fires also occurred in the area. Lighting strikes are frequent here, with five strikes in one storm in 2003. Several small fires have burned in the last decade in the vicinity of Sun Star. Summer and fall fire weather is affected by late afternoon winds that go up the Illinois Valley canyon and then turn back down the canyon in the evening. Given the bowl-nature of this area, the winds can also swirl around Sun Star in many different directions.

Rogue River-Siskiyou National Forest has delineated a planning area around Sun Star for hazardous fuels reduction. Biological surveys may be completed this year, but are indefinite now due to funding constraints. Completion of these surveys would allow numerous projects to be implemented. As well, areas of the Longwood Fire may be treated immediately as they are considered a "managed stand" and all NEPA-compliance documentation is complete. Fuel reduction in the burned Longwood area is a place the FS would like to dedicate resources. In FY04, a 216-acre contract was awarded to complete density reduction and handpiling in the Longwood Fire approximately one mile northwest of Sun Star. In FY05, Siskiyou Resource Advisory Council (RAC) has funded 88 acres of projects in the Hogue Meadow and Longwood Fire areas in nearby Oregon.

Sun Star Emergency Response, Evacuation, and Safe Zones

Sun Star is technically served by the Gasquet Fire Protection District in California. However, it would take Gasquet engines a minimum of one hour to reach Sun Star. IVFD will also respond to fires in Sun Star, as their equipment and volunteers are available. If a large fire from the Cave Junction or Takilma area threatened Sun Star, IVFD resources would likely be prioritized in those places first. Rogue River-Siskiyou National Forest also has wildland fire fighting engines stationed at their Illinois Valley Ranger District office in Cave Junction, which would take approximately 45 minutes to reach here. These engines will respond to fires in Sun Star if resources are available, with the understanding that either a structural or wildland fire starting here would threaten the National Forest lands.

The Sun Star community has a private truck that has been equipped as a quick-attack fire truck for first response. It is housed on the property in the Fire Station near the meadow. That truck has a 300-gallon water tank with a pump, 1,500' of 1 ½-inch hose and 800 feet of 1-inch hose, and Wajax portable pump. Smith River Fire (California) recently donated Nomex protective wildland fire fighting clothing and Gasquet Fire donated hose fittings, nozzles, and fire hose adapters to this local crew. The truck has a radio and two homes on the property have CBs that are on at all times during emergencies.

Safe Zones for Sun Star were identified as:

- the meadow (which is mowed and could be kept irrigated from the North Fork Illinois to improve it's usefulness as a safe zone)
- the White Bridge
- the big culvert on the North Fork Illinois.

Sun Star's primary evacuation route is through FS Roads 4904 and 4906 to Takilma and 199 from there. There is one back way out of this area:

- From Sun Star to Road 4808 and from there to the Happy Camp Road 48. This route is single lane, gravel with turn outs. It is generally not open in winter.

Sun Star Community Meeting

The Sun Star Community meeting was held on August 17, 2004 at the Sun Star meadow. The following people attended the meeting:

Residents

- David R. Baker
- Brigid Baker
- Dudley Douglas
- Gray Eagle
- Kenny Houck
- Helen Matthews
- Jim and Jeanette Phillips
- Solomon Roncalio
- Don Shaw
- George Shook
- Kelpie Wilson

Agency and Project Participants

- Dick Boothe, USFS
- Tracy Katelman, ForEverGreen Forestry
- Jerry Schaeffer, IVFD
- Don Bellville, USFS
- Dan and Sharol Leavitt, Del Norte Fire Safe Council

Sun Star Community Identified Values, Hazards, Risks, and Projects

The following values at risk were identified at the Sun Star Community Meeting:

- Twenty-plus homesteads
- Illinois River
- Forests

The following were identified as causes of wildfire in Sun Star, or high risk or hazard activities or areas for fire:

- Hogue's Meadow and White Bridge – camping and fire starts here.
- Waldo Road between O'Brien and Takilma
- Down canyon areas, primarily Takilma
- Improve main evacuation road to Takilma by brushing and improving the road surface for easier evacuation.

The following projects were identified as priorities for fuel reduction in Sun Star, those in CAPS as highest priority for immediate action:

- Water tanks placed throughout property
- Assess old "Cat" fuel breaks from previous fires to prioritize for future fuel breaks
- Cement water tank in Hogue's Meadow
- Create a "real" campground at Hogue's Meadow with fire pits and such
- Fuel reduction projects in Longwood Fire area
- Fuel reduction in Hogue's Meadow
- Fuel reduction in 1978 clearcut on south border of Sun Star
- Water exploration for horizontal wells
- Shaded fuel break between Long Gulch and Cedar Gulch
- Shaded fuel break on FS Road 4904, between Sun Star and the White Bridge

Sun Star Mitigation Strategy

- Water storage for fire is critical here. The Del Norte Fire Safe Council is working with Sun Star residents to identify locations for a series of community water tanks for fire fighting. A proposal is being developed for this to submit to the Del Norte Resource Advisory Council (RAC). The following five tank locations were identified through this process. It is likely that at least four of these will be funded this fiscal year.
    - 1 is midslope, fairly dense young forest and brush on south side of Sun Star on the west side of the valley. The entire west side is dependent on two small tributaries which have very little flow during fire season. There is one dwelling at this location with conventional lawn about thirty feet out from house.
    - 2 is at the southwest corner of Sun Star, the highest point on the property. The proposed tank location is actually on USFS land on spur 017 of forest road 4906, just above house, next to domestic use water tank. Because of elevation and slope, any fire on the west side of Sun Star is likely to move up here. Immediately above this location is fifty-year old plantation.
    - 3 is at base of slope on west side between two residences about 75 yards apart. Base of slope is one hundred yards or more distant from Dunn Creek. There are other dwellings in the vicinity.
    - 4 is on the east side of Sun Star between firehouse and meadow-safety zone. It would be primarily to protect safety zone in the event of major fire.
    - 5 is located in a major population center on east side of Sun Star. This would afford protection should fire destroy water line from North Fork Dunn Creek, which supplies six residences in this vicinity.
- Fuels reduction and shaded fuel breaks are the other critical component to protect this community. As discussed above, USFS fuel reduction projects in the Hogue's Meadow and Longwood Fire areas are a priority here. Creating a shaded fuel break to protect the community from down-canyon fires also makes sense here. The ridge between Long and Cedar Gulches has been identified by this community, as well as the community of Takilma, Oregon in the Illinois Valley Fire Plan process this year. An assessment of other areas for potential shaded fuel breaks to protect this remote community is a necessary next step for these residents in cooperation with Siskiyou National Forest, to protect both the public and private resources.
- A top priority for this community is improving its ability to defend itself from wildfire. To that end, the Del Norte Fire Safe Council has facilitated donations of fire-fighting equipment from the Smith River and Gasquet Fire Protection Districts.

CHAPTER 8: PUBLIC LANDS AND FIRE MANAGEMENT

The following introductory section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004[72]

The Southwest Oregon (SWO) Fire Management Plan (FMP) is under development and will provide Southwest Oregon with an integrated concept in coordinated wildland fire planning and protection between Federal, State, local government entities and citizen initiatives. The start of the FMP planning process, has coincided with the development of the JCIFP and has provided an opportunity for strong coordination between local, state and federal agencies.

The FMP introduces fire management concepts and addresses fire management activities in relation to resource objectives stated in the Land and Resource Plans of the federal agencies, the laws and statutes that guide the state agencies and private protective associations, and [it will] serve as a vehicle for local agencies and cooperators to more fully coordinate their participation in relation to those activities. This FMP will guide an area called a Fire Planning Unit (FPU). The FMP satisfies the requirements of the Federal Wildland Fire Policy of 1995 and its Revision of 2001 to describe fire management activities for every burnable acre of federal land, while recognizing the ecological importance of fire on these landscapes.

The Southwest Oregon FPU includes all of Josephine County and consists of five individual primary administrative jurisdictions that provide much of the wildland fire protection response, fuels management, and other wildland fire management activity for the planning area. These primary jurisdictions include the Rogue River-Siskiyou National Forest, Medford BLM District, ODF Southwest Oregon District and the National Park Service's Oregon Caves National Monument.

The Rogue River-Siskiyou National Forest Plans divide their land jurisdictions into Management Areas with prescriptions for activities, including fire management. The public lands of Medford and Coos Bay BLM have similar Land Use Allocations analyzed in their Resource Management Plans. Those delineations, along with their direction for fire management activities, will be used to develop the management objectives and boundaries of the FMU's. The ODF…are bound by direction in State Law and Statute, which serve as the parent documents for these administrative units. ORS 477.005[73] provides the original framework for policy within these agencies by mandating the "Protection of the forest and the conservation of the forest resources through the prevention and suppression of forest fires." This statute also acknowledges the need for a complete and coordinated forest protection system to accomplish this purpose. This purpose is second only to the protection of life.

United States Department of Agriculture, Forest Service: Rogue River - Siskiyou National Forest

In the greater Illinois Valley, the United States Forest Service (USFS) manages 245,555 acres in the Rogue River - Siskiyou National Forest (RRSNF). USFS actions are guided by Land and Resource Management Plans (LRMP's) for each forest. The Siskiyou National Forest LRMP of 1989 (as amended by the Northwest Forest Plan in 1994) guides management of the Siskiyou National Forest. Management of the Rogue River National Forest is guided by the Rogue River National Forest LRMP of 1990 (also amended by the Northwest Forest Plan in 1994).

In regards to fire management in the RRSNF, USFS actions are guided by the January 2002 Fire Management Plan. The general goal for both forests is that "the forests will be managed with a primary emphasis on providing a balance of resource management activities that will maintain healthy, diversified, forest ecosystems with productive soils, clean air and water, and diverse and viable populations of existing plant and animal species."[74]

In terms of wildland fire management strategies, RRSNF's goal in terms of fire suppression is to suppress wildland fires in a cost-efficient, timely and safe manner. Any wildland fires that threaten life, private property, public safety, improvements or investments receive aggressive suppression action. RRSNF does allow the appropriate use of

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[72] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 10.

[73] ORS 477.005 stands for Oregon Revised Statute Section 477.005 – Fire Protection of Forests and Vegetation, Protection from Fire, General Provisions, Policy, http://www.leg.state.or.us/ors/477.html.

[74] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Section 2, Page 3.

prescribed fire[75][76]. For specific fire management direction by land use allocation, as well as policy direction, please see United States Department of Agriculture, Forest Service: Rogue River-Siskiyou National Forest in Appendix F: Public Lands and Fire Management.

Currently, there are no approved wildland fire use[77] prescriptions for any areas on federal lands within the Southwest Oregon FPU. These plans are forthcoming and will become part of the Southwest Oregon Fire Management Plan.

United States Department of Interior, Bureau of Land Management

In the Illinois Valley, the United States Bureau of Land Management (BLM) manages 56,036 acres of land that is predominantly forested with Douglas-fir and other conifer stands. Management activities on BLM lands are guided by the Medford District Resource Management Plan.

BLM manages the land and natural resources under its jurisdiction in western Oregon to help enhance and maintain the ecological health of the environment and the social well-being of human populations.

BLM has established a range of fire management strategy options. First, they conduct wildland fire suppression while providing for firefighter and public safety. BLM may consider allowing some natural fires to burn under prescribed conditions, except in Late Successional Reserves, where no wildland fire use is allowed. The use of prescribed fire to meet resource management objectives is allowed, again except in Late Successional Reserves. In Late Successional Reserves the following options are available: under-burning, pile, concentration and vegetation manipulation burning.[78] For specific fire management direction by land use allocation, as well as policy direction, please see United States Department of Interior, Bureau of Land Management in Appendix F: Public Lands and Fire Management.

United States Department of Interior, National Park Service: Oregon Caves National Monument

In the Illinois Valley, the United States National Park Service (NPS) manages the 459 acres that make up the Oregon Caves National Monument.

This section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004.

A Presidential Proclamation in 1909 established the Oregon Caves National Monument. Administration of the Monument by the National Park Service began in 1934 to protect about 7 small caves and a three-mile cave, which have endemic rare bats, significant fossil sites, and invertebrates. Both the Monument's surface and subsurface have high geologic and biologic complexity. Transferred to the National Park Service in 1934, the Monument also contains 484 acres of mostly old growth trees, and is part of one of the most diverse conifer forest in the world.

Enabling Legislation:

The authority for the conservation and management of the National Park Service is clearly stated in the Organic Act (August 25, 1916), which states the agency's purpose:

> "…to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

This authority was further clarified in the National Parks and Recreation Act of 1978:

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[75] Prescribed fires are intentionally ignited under predetermined weather and fuel-moisture conditions allowing managers to exert substantial influence over the spread and intensity of the fire. Managers ignite these fires to accomplish resource management objectives and subsequently reduce hazardous fuels as well. All prescription parameters, acceptable ranges, and objectives are clearly stated in a Prescribed Fire Plan for each prescribed fire conducted. Source: Southwest Oregon Fire Management Plan.

[76] Southwest Oregon Fire Management Plan, September 2004, pg. 33.

[77] Wildland fire use is a strategy for allowing naturally ignited wildland fires, to burn as long as the fire meets pre-stated resource management objectives in the maximum manageable area and prescriptive parameters are not exceeded. Source: Southwest Oregon Fire Management Plan.

[78] Southwest Oregon Fire Management Plan, September 2004, pg. 34.

> "Congress declares that…these areas, though distinct in character, are united…into one national park system… The authorization of activities shall be construed and the Protective, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

Management activities at Oregon Caves National Monument are guided by the Resource Management Plan and the General Management Plan of 1998. Fire management is guided by these plans as well as the park's enabling legislation.

> "Fire suppression during the last 100 years has affected the environment both inside and outside the cave. Studies were begun in 2001 to characterize initial water infiltration patterns and compare them with infiltration rates in areas of the cave under a planned prescribed burn."[79]

The National Park Service has a range of wildland fire management strategy options. First, all wildland fires are suppressed at Oregon Caves National Monument. Second, the use of wildland fire for resource benefits is not allowed here due to the relatively small area involved in the park and the surrounding values. Prescribed fire may be use for hazard fuel reduction as needed with a focus on ecosystem management. Other treatment options available include mechanical treatments.[80]

Relevant Fire Policies:

- NPS has taken a lead role in considering fire as a fundamental force in perpetuating natural ecosystems…All wildfires may be managed to accomplish resource management goals providing they do not compromise firefighter and public safety.[81]

Oregon Department of Forestry, State Lands

In the Illinois Valley, Oregon Department of Forestry (ODF) manages 3,035 acres. These lands are scattered parcels located throughout Illinois Valley that are owned by the Oregon State Land Board as Common School forest lands.

It is the mission of ODF to "lead Oregon in implementing policies and programs that promote environmentally, economically, and socially sustainable management of Oregon's 28 million acres of public and private forests."[82]

Management of the state lands in Illinois Valley are guided by the Southwest Oregon State Forest Management Plan, Final Plan, January 2001.

ODF has also established a range of fire management strategy options. First, they control all wildland fires in an efficient, cost effective, and timely manner, while also providing for public and firefighter safety. ODF strives to initially respond aggressively to fires in order to extinguish them at the smallest size possible, while also minimizing total cost plus loss. These initial responses can consist of aggressive and safe direct attack, as well as utilizing aggressive nighttime suppression (when burning conditions are less intense). The standard for initial response is to have 94% of fires controlled at ten acres or less. No wildfire use is allowed on ODF lands. ODF does, however, use prescribed fire to meet landowner resource land management objectives within the parameters of state law, and Board of Forestry policy, including burn permits and the Oregon Smoke Management Plan. A range of treatment options are available including mechanical and chemical treatments.[83]

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[79] National Park Service, Oregon Caves, Nature & Science – Environmental Factors, http://www.nps.gov/orca/pphtml/environmentalfactors.html

[80] Southwest Oregon Fire Management Plan, September 2004, pg. 38.

[81] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Section 2, Page 7.

[82] Oregon Department of Forestry, http://www.odf.state.or.us

[83] Southwest Oregon Fire Management Plan, September 2004, pg. 37.

Josephine County Lands

In the Illinois Valley, Josephine County manages 6,585 acres. The Josephine County Department of Forestry manages this land for timber production, minerals, watershed enhancement and protection, wildlife, and recreation. Activities involve reforestation, wetland reclamation, mine site reclamation, timber harvest, and other related activities.[84] For more details on management activities, and relevant policies, please see Josephine County Lands in Appendix F: Public Lands and Fire Management.

[84] Josephine County Government Departments and Services, http://www.co.josephine.or.us

CHAPTER 9: MITIGATION STRATEGY

According to Community Wildfire Protection Plan guidelines, communities are to identify a mitigation strategy of prioritized projects to reduce risks from wildfire. The following is a summary of the strategy outlined in this document. Unless otherwise stated, it is intended that the Illinois Valley Fire Safe Council—in collaboration with all participating agency and organizational partners—will implement this mitigation strategy.

Defensible Space

Defensible space regulations make sense. It is generally accepted in fire safety circles that over 75% of homes with at least thirty feet of defensible space and a non-flammable roof survive wildfires. The recommendations here are for implementing defensible space in the Illinois Valley.

- Continue and enhance existing defensible space assessments and education. IVFSC, IVFD, and ODF work with JCIFP and IV Family Coalition to provide these services to low income households, especially in areas of high hazard as identified by JCIFP Risk Assessment.
- Residents in areas with dense forest and/or brush, and narrow roads around the Illinois Valley must be diligent in creating and maintaining their defensible space. For those in interface areas with forest and brush close to their homes, this should be to a minimum of one-hundred feet.
- New developments must adhere to Josephine County Article 76.

Fuels Reduction

Reducing hazardous fuels is a challenge for most communities in the western United States. The amount of accumulated fuels is far greater than most communities can afford to handle. Hence the need to prioritize projects. The research is still unclear regarding the most effective and efficient way to reduce fuels without compromising ecosystem health. New research by Mark Finney at the Fire Science Lab[85] challenges current theories in landscape-level fuel treatments, and models strategic locations for fuel reduction treatments. However, it is generally agreed that such treatments should be focused first around communities in the wildland-urban interface. Many residential areas in the Illinois Valley qualify for such treatments, and thus were identified at the community meetings and are listed in this document.

Fuels reduction treatments need to begin within the Home Ignition Zone[86] with defensible space treatments as described in Chapter 2. Beyond this, strategic locations around communities should be identified and prioritized for creating fuel breaks. "Fuelbreaks are never designed to stop fires but to allow suppression forces a higher probability of successfully attacking a wildfire."[87] The combination of effective defensible space and shaded fuel breaks around communities is one of the best-known strategies to protect communities from wildfire.

Top Priority Fuel Reduction Projects:

- Identify priority fuel reduction treatment areas in Cave Junction, along roads with high density neighborhoods or especially dangerous evacuation routes, including:
    - South Barlow Street from Hamilton to Sherwood Hills side
    - West River from 199 to North Junction
    - Manzanita Lane area through Oak Drive to Dogwood
    - Kenrose Lane. This has been identified as a priority FY 2005 project by the JCIFP Fuels Reduction Committee for National Fire Plan funding.
- Create shaded fuel breaks or brush roads depending on forest cover along the dense areas of the following roads in the Holland area:

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[85] http://www.firelab.org/fbp/fbpstaff/mfinney.htm, http://outreach.cof.orst.edu/resilientfire/finney.htm

[86] Jack Cohen, Fire Science Lab, http://www.firelab.org/fbp/fbpstaff/jcohen.htm.

[87] Agee et al, "The use of shaded fuelbreaks in landscape fire management," Forest Ecology and Management 127 (2000) 55-66, p. 56.

  - Dick George
  - Greenview
  - Browntown
  - Beebe Drive
- Create shaded fuel breaks or brush clearance depending on forest cover in O'Brien along:
  - Lone Mountain Road
  - Naue Way and Spur Roads
  - Arrowhead Street
- Create a shaded fuel break and/or brush clearance along Takilma Road from approximately Four Corners and downtown Takilma to approximately #9710 (where the road drops).
- Fuels reduction in north Selma adjacent to Highway 199. This project was identified by JCIFP Fuels Reduction Committee for FY 2005 National Fire Plan funding and is already in process of being developed.
- Implement future phases of Thompson Creek collaborative fuel reduction project. The current project is progressing very well, with many participating landowners. It is important to maintain the momentum in this very high hazard neighborhood by exploring and continuing future phases.
- Implement fuel hazard reduction at two large buck brush areas. One is between Takilma Road and Illinois River across from intersection with Meadows Road. The other is from approximately 8650 to 8900 Takilma Road.

Second Priority Fuel Reduction Projects:

- Explore development of strategic shaded fuel breaks between Kerby and BLM or USFS lands.
- South Deer Project between BLM and Deer Creek Natural Resources Conservation Association is a model local project for community involvement in public lands management, including fire hazard reduction. This project should be supported and fully implemented by all participating entities.
- FS implement fuels reduction around camping areas at Hogues Meadow.
- FS implement fuels reduction at Mars Swimming Hole and Seats Dam. Work with local schools to develop education signs about fire safety to place at this popular spots.
- ODF work with landowners to implement fuel hazard reduction around Hope Mountain Road logging slash.
- IVFSC work with The Nature Conservancy and FS to create a shaded fuel break and/or brush clearance along the boundary with private properties.
- IVFSC, IVFD, and FS identify the most strategic location for one or more shaded fuel breaks south of Takilma and north of Sun Star.
- IVFSC work with USFS, Siskiyou Project, and Forestry Action Committee to identify location on west side of town for a shaded fuel break to protect Cave Junction in the event of a reburn of any areas of the Biscuit Fire. This needs to be a location and prescription that can be agreed upon by all members of the community.
- IVFSC and O'Brien residents explore fuel reduction with riparian enhancement along West Fork Illinois east and west of 199, through private properties.
- Clear brush in Section 12 near Dick George, the old-growth forest south of llama ranch, and in the fallow fields. Include mowing areas of high grass.

Reducing Structural Ignitability[88]

Roofing

Efforts should be made to eliminate all wood shake roofs. Shake roofs are a leading cause of home loss in wildfires. Research shows that homes with non-combustible roof and clearance of at least 30-60 feet have a 95% chance of survival in a wildfire.

- IVFSC, IVFD, ODF, and others educate residents, realtors, and developers on the importance of replacing wood shake roofs.

[88] Most of the information in this section comes from Jerry Hurley, personal communication, October 26, 2004.

Vent Openings

Provided adequate defensible space is maintained, screening of vent openings with steel screens will prevent embers (during the ember blizzard that comes with a wildfire) from entering into attics and crawl spaces.

- IVFSC, IVFD, ODF, and others educate residents, realtors, and developers on importance of Steel Vent Screening.
- IVFSC, IVFD, ODF, and others explore incentives for homeowners to encourage steel screening of vent openings.

Decks

Provided adequate defensible space is maintained, most solid wood decking is fire resistant enough to withstand the short-term heat load. The next greatest threat from decks is firefighter safety. Many new materials (synthetics) ignite more easily than wood and experience a rapid structural collapse when subjected to high heat loads, creating a situation where firefighters could fall through.

- IVFSC, IVFD, ODF, and others educate residents on importance of Fire Safe Decking

Outbuildings

Structures (e.g. storage, wood, and tool sheds) with less than thirty feet of separation from outbuildings place homes at a high risk of loss.

- IVFSC, IVFD, ODF, and others educate residents on need for separation of heat loads from their residence.

Wood piles

Wood piles with less than 30 foot separation from outbuildings often place homes at a high risk for loss.

- IVFSC, IVFD, ODF, and others educate residents on need to have separation of firewood piles from their residence.

Propane tanks

Tanks with less than 10 foot of clearance may place homes at a risk of loss.

- IVFSC, IVFD, ODF, and others educate residents on need to have vegetative and flammable material clearance around propane tanks near their residence.

Fire Protection

- IVFD and County work to upgrade both Holland bridges to allow safe fire engine passage.
- Josephine County, City of Cave Junction, and IVFD work together to fix the address numbering system on Westside Road, and number the powerline roads. There are problems of residents here having addresses tied to the main roads, not the actual roads where they live. This makes it difficult for efficient emergency response.

Evacuation

A preliminary description of evacuation routes is described in each community planning area.

- Develop signage for the emergency evacuation routes out of Selma, including the Deer Creek and Crooks Creek roads to Williams, and Deer Creek to Caves Highway. This should be done in conjunction with community education events sponsored by ODF, BLM, and IVFD. A Saturday afternoon could be spent taking local residents and media on tours of the various evacuation routes, to familiarize the community with these alternative routes.
- Explore development of strategic shaded fuel breaks in Selma, beginning with Deer Creek Road as it heads towards Williams. This could serve both as a break from fires coming from the east, as well as improving this road as an evacuation route.
- IVFSC, IVFD, and others work with law enforcement to educate residents on safe evacuation.

Volunteer Firefighters

- Residents in the Takilma area need to volunteer and train with IVFD if they want to maintain IVFD Station #6. Given the distance from Takilma to primary medical care or other emergency services, maintenance of this station

is a priority here. Without more volunteers, it is likely this station will be closed to more efficiently use the resources.

- Residents in the Holland area need to volunteer and train with IVFD to staff Station #4. Without adequate volunteers, IVFD could be forced to close this station, which provides emergency fire and medical response to this community.

Water

Article 76 will mandate 4,000-gallons of water storage or a water source with a continuous flow of one cubic foot per second for new construction. Existing homeowners should strive to have the same water storage at their properties. In addition, the following locations have been identified for community water storage for use in fire fighting. These tanks could be maintained by IVFD and ODF for mutual aid fire suppression use. Siskiyou Resource Advisory Committee (RAC) is a possible source for funding the location of tanks near federal public lands. The RAC has been very supportive for water tank projects in neighboring Del Norte County, California.

- IVFSC and IVFD work with City of Cave Junction to return water to the Kerby ditch.
- IVFD, ODF, BLM, and FS identify priority locations for water tanks and develop, install, and maintain them in and around:
    - Non-hydrant areas of Cave Junction
    - O'Brien
    - Takilma
    - Upper Holton Creek and Kerby Mainline roads
    - Upper Thompson Creek Road and upper Draper in Selma
- Water storage for fire is critical for Sun Star. The Del Norte Fire Safe Council is working with Sun Star residents to identify locations for a series of community water tanks for fire fighting. A proposal is being developed to purchase tanks to submit to the Del Norte Resource Advisory Council (RAC).

Education

Many people are motivated to create a fire safe home if they understand why it is to their advantage. As well, little is known by most residents regarding safe evacuation. To this end, educational programs targeted at local residents can be very successful.

- IVFSC work with IVFD, ODF, Josephine County, FS, BLM, local insurance industry and others to implement an area-wide community fire safety education program, including PSAs in all local media.
- IVFSC work with IVFD, ODF, FAC, Siskiyou Project, FS, BLM, and law enforcement to coordinate community-wide education effort regarding defensible space, fire safety, and safe evacuation.
- IVFSC and IVFD work with Dome School to develop an education program there to create signs for fire safety on nearby public lands targeted for recreational users and hunters, as well as residents.

The Trinity County Fire Safe Council has developed a "Big Red Truck Program." In this program they take a fire truck to homes as part of a defensible space assessment. This is a very graphic and effective way to show homeowners whether or not their home could be defended in a fire. This has also been a fundraiser for local fire departments, as they get paid for each assessment. A similar program in the Illinois Valley could be developed. It would be necessary to structure this with a set schedule to allow fire department volunteers to participate.

- IVFSC and IVFD explore instituting a "Big Red Truck Program" for defensible space education and assessments. Explore state and federal funding options for the program.

See Evacuation above for more recommendations related to evacuation education.

Illinois Valley Fire Safe Council

The Illinois Valley Fire Safe Council (IVFSC) was created in part to implement this fire plan, in cooperation with all participating agency and organizational partners.

- IVFD provide ongoing administrative support to IVFSC.
- IVFSC members participate in all committees of the Josephine County Integrated Fire Plan. There are already several IV residents participating in one or more of these committees. This participation should be in conjunction with the IVFSC, to ensure this group is actively involved with implementation of the JCIFP in the Illinois Valley.

- IVFSC and IVFD support efforts of Holland/Dick George neighborhood organizing regarding phone tree, mapping, etc.
- IVFSC work with residents to identify risks, hazards, and potential projects further out toward Grayback. This is in accordance with the IVFSC purpose to continue fire planning efforts at the local level in the Illinois Valley.
- Public and private sector organizations and individual work with IVFSC to develop ongoing financial and in-kind support for FSC activities and development.
- All local, state, and federal public and private land management agencies appoint a representative to actively and regularly participate in the Fire Safe Council.
- IVFSC and partners review the Illinois Valley Fire Plan every five years and update it as needed, using a collaborative, public process.

Policy, WUI, and Utilization

These issues are being addressed for the Illinois Valley in the Josephine County Integrated Fire Plan. Please review that Plan for relevant recommendations at http://www.co.josephine.or.us/wildfire/index.htm.

APPENDIX A: ACRONYM LIST

BLM	Bureau of Land Management
CJ	Cave Junction
CRT	Community Response Team
CWPP	Community Wildfire Protection Plan (Healthy Forests Restoration Act)
DEQ	Oregon Department of Environmental Quality
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FAC	Forestry Action Committee
FEMA	Federal Emergency Management Agency
FMP	Fire Management Plan
FMU	Fire Management Units
FPU	Fire Planning Unit
FSC	Fire Safe Council
FY	Fiscal Year (as used by the federal government – October 1st through September 30th)
GIS	Geographic Information System
GPS	Global Positioning System
HFRA	Healthy Forests Restoration Act
IV	Illinois Valley
IVCRT	Illinois Valley Community Response Team
IVFD	Illinois Valley Fire District
IVFP	Illinois Valley Fire Plan
IVRFPD	Illinois Valley Rural Fire Protection District (same as IVFD)
ICS	Incident Command System
ISO	Insurance Services Office (Fire Hazard Rating)
JCIFP	Josephine County Integrated Fire Plan
LMCC	Land Management Classification System
LUP	Land Use Planning
MOU	Memorandum of Understanding
NFP	National Fire Plan
NPS	National Park Service
NWS	National Weather Service
ODF	Oregon Department of Forestry
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
PPC	Public Protection Classification
RRSNF	Rogue River-Siskiyou National Forest
SB	Senate Bill
SWO	Southwest Oregon
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
USFS	United States Forest Service
USGS	United States Geological Survey
WUI	Wildland Urban Interface

APPENDIX B: ILLINOIS VALLEY PROFILE

Natural and Cultural Resources

The Illinois Valley is a narrow river valley surrounded by steep, rugged mountains. The Illinois River (a major tributary of the Rogue River) and its tributaries are the principal hydrologic features in the area. The 160-acre man-made Lake Selmac is located east of Selma.

The Illinois River is approximately 75 miles long. It rises in the Red Buttes Wilderness Area, near Whiskey Peak on the California state line, approximately 30 miles southwest of Medford, Oregon. It flows generally northwest in a winding course along the west side of the Klamath Mountains, past Cave Junction in the Illinois Valley and through the Rogue River-Siskiyou National Forest. It joins the Rogue River from the south on the Curry-Josephine county line, approximately fifteen miles from the Pacific Ocean.[89] The Illinois River supports six runs of anadromous fish, including winter steelhead and coho salmon – listed as threatened under the Endangered Species Act.[90] The portion of the river that runs through the Kalmiopsis Wilderness in Rogue River-Siskiyou National Forest as well as its path downstream to its confluence with the Rogue River (50.4 miles) was designated as a Wild and Scenic River on October 19, 1984.[91] In addition, the portion of the Illinois River from its confluence with Deer Creek downstream to its confluence with the Rogue River has been designated a State Scenic Waterway. Water diversions have caused the Illinois River to suffer from low flows and unnaturally high temperatures. Water quality problems have led to portions of the river being declared impaired under Section 303(d) of the Clean Water Act. The Oregon Department of Environmental Quality (DEQ) is responsible for listing impaired or threatened waters per the Clean Water Act. They are also required to establish a Total Maximum Daily Load (TMDL) for any waterbody designated as water quality limited. TMDL's are written plans and analyses established to ensure that waterbodies will attain and maintain water quality standards.

Lake Selmac is a shallow, man-made lake known for its warm water fishery. The 160-acre Lake is managed by Josephine County. It is not uncommon for Lake Selmac to be closed for a period of time during the summer due to toxic algae blooms caused by hot air and stagnant winds as happened this past summer.

Population[92]

According to the 2000 Census, there are a total of 8,900 people, 4,040 households, and 2,419 families that reside in the Illinois Valley. Of the 4,040 households in the Illinois Valley; 26.3% have children under the age of 18, 45.4% are married couples living together, 9.6% have a female householder with no husband present, 25.5% are individuals, and 28.9% have someone living alone who is 65 years of age or older. Figure 9. Illinois Valley Population by Ageillustrates Illinois Valley's population by age.

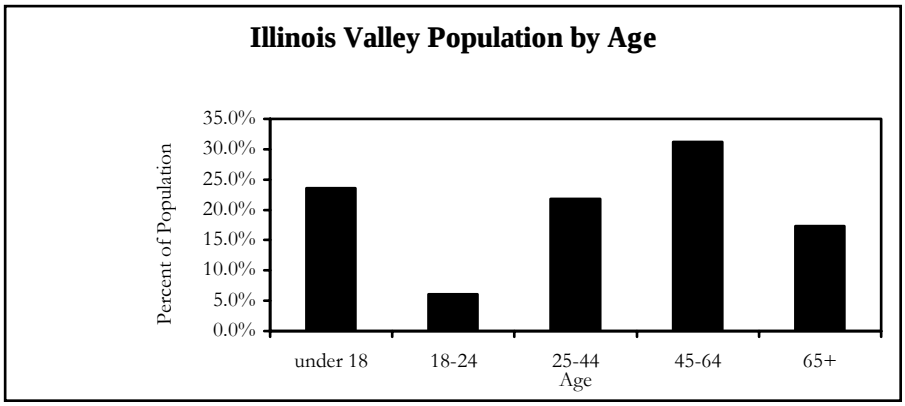
Figure 9. Illinois Valley Population by Age

[89] Wikipedia, Illinois River (Oregon), http://en.wikipedia.org/wiki/Illinois_River_(Oregon)

[90] WaterWatch, "Rivers Without Water: Oregon's Unnatural Disaster," http://www.tu.org/pdf/newsstand/library/oregonrivers.pdf

[91] National Park Service, National Wild and Scenic River System, Illinois River, Oregon, http://www.nps.gov/rivers/wsr-illinois.html

[92] Data presented in this section was obtained from: U.S. Census Bureau, Census 2000, Summary File 1-Matrices P13 and PCT12, http://www.census.gov. Data was compiled based on the four zip codes in the Illinois Valley (97523, 97531, 97534, and 97538).



In terms of racial composition, the Illinois Valley is 92.2% White, 4.2% Hispanic or Latino of any race, 3.6% from two or more races, 2.1% Native American, 1.01% from other races, 0.54% Asian, 0.33% Black or African American, and 0.19% Pacific Islander.

Income, Poverty and Special Needs[93]

The Illinois Valley's per capita income is $12,729 compared to Josephine County's per capita income of $17,234. The median income for a household in the Illinois Valley is $22,024, and the median income for a family is $25,179. Females have a median income of $26,983 versus $22,131 for males (median income was higher for females than males in the O'Brien and Selma areas – zip codes 97534 and 97538). 24.5% of the individuals in Illinois Valley and 43.3% of families are at or below the Federal poverty line. Out of the total people living in poverty, 7.6% are under the age of 18 and 2% are 65 or older.

Employment and Industry

The Illinois Valley's economy is based on a declining lumber industry; growing tourism, cottage industries and retirement payments, minimal agriculture, and employment by the government.[94]

The five largest employers in the Illinois Valley as of February 2002 include Rough-n-Ready Lumber Co., Wild River Brewing & Pizza, Shop Smart, Bridgeview Winery, and Taylor's Sausage Inc.[95]

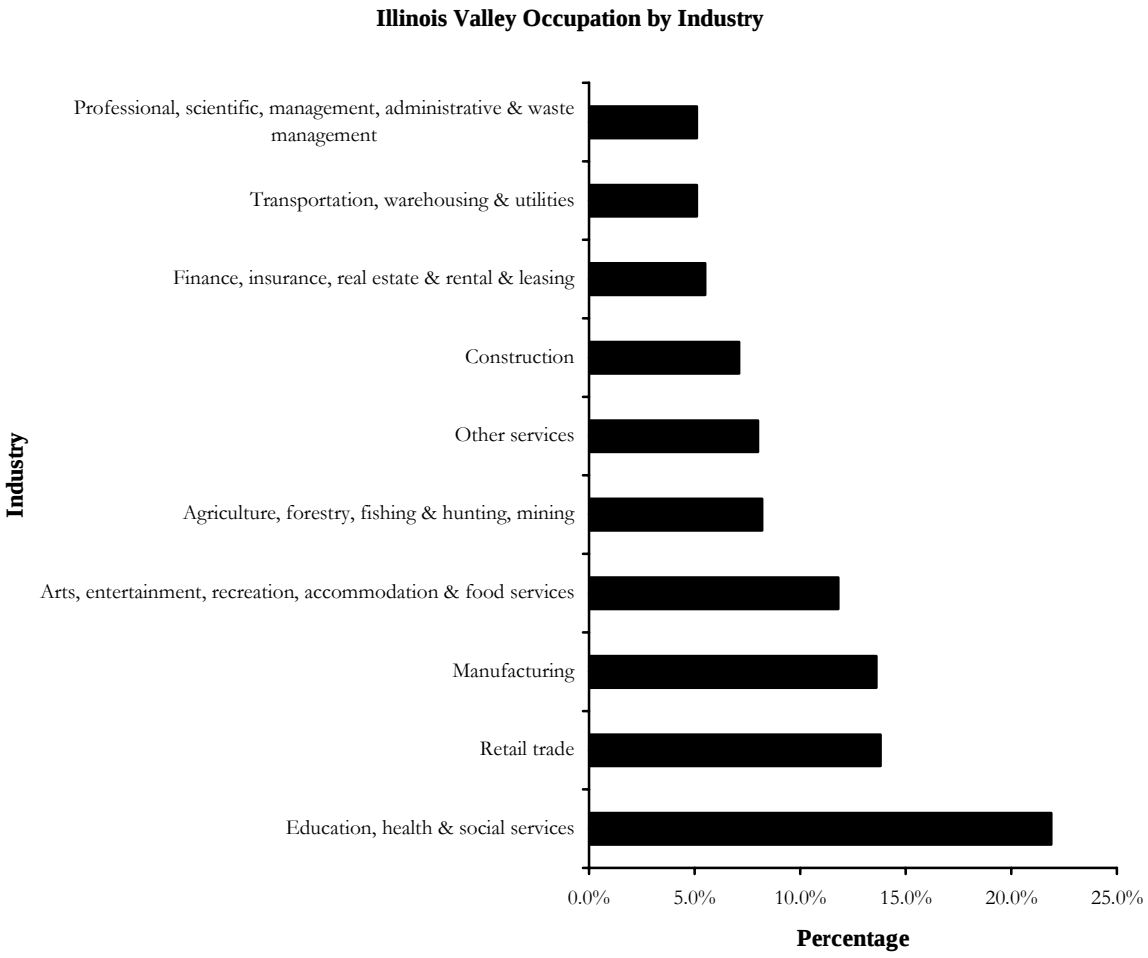
Figure 10. Illinois Valley Occupation by Industry, 2000[96]

[93] Data presented in this section was obtained from: U.S. Census Bureau, Census 2000, Summary File 1-Matrices P13 and PCT12, http://www.census.gov. Data was compiled based on the four zip codes in the Illinois Valley (97523, 97531, 97534, and 97538).

[94] Rogue Web, Cave Junction – Illinois Valley Oregon Profile, http://www.rogueweb.com/cjunct/

[95] Oregon Economic and Community Development Department, Cave Junction Community Profile, http://info.econ.state.or.us:591/profile.htm#2C.

[96] U.S. Census Bureau, Census 2000, Summary File 1-Matrices P13 and PCT12, http://www.census.gov. Data was compiled based on the four zip codes in the Illinois Valley (97523, 97531, 97534, and 97538).



Housing and Development Trends

Housing and development trends in the Illinois Valley are expected to be in line with what is occurring at the county level. The number of housing units in the county has increased at a faster rate than the state. In Josephine County the number of housing units has "increased by 42.5% from 1980 to 2000, compared to an increase of 34.1% in Oregon."[97] In 2000, homeowners occupied 70.8% of all housing units in the Illinois Valley, while renters occupied 29.2%, and 0.1% were vacant.[98]

"Continued population growth will drive the housing market in Josephine County with new residents creating demand for housing. The County is planning for as many as 4,700 additional housing units between 1995 and 2015, equaling an annual average of 266 new units. This growth highlights the need for continuing education on fire protection and prevention activities. These estimates are based on Portland State University (PSU) projections."[99]

[97] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 28.

[98] U.S. Census Bureau, Census 2000 Summary File 1, Matrices H3, H4, H5, H6, H7, and H16, http://www.census.gov. Data was compiled based on the four zip codes in the Illinois Valley (97523, 97531, 97534, and 97538).

[99] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 28.

Vacant Lands

"Identifying vacant lands assists in understanding the potential for future growth, as well as to identify vacant lots that may be at risk to wildfire or other hazards."[100]

Table 11. Illinois Valley Vacant Lands Report[101]

Zone	Total Acres	Total Existing Private Lots	Existing Unimproved Private Lots
RR1	79	15	15
RR5	8,728	702	656

Transportation and Wildfire Protection

> "Transportation systems are of critical importance in wildfire planning. Road systems provide access for fire suppression units and a means of escaping wildfire. Roads and railroads also increase potential for wildfire starts because of increased access to forests. Railroads can also contribute to the incidence of fire starts due to malfunctioning brakes and other equipment. Transportation systems may also drain fire district resources because of increased rate of fire starts due to road conditions and adjacent high fuel areas. Also, fire districts bordering state roads are often called upon to respond to accidents, which drain the resource base of small, rural, volunteer fire districts."[102]

U.S. Highway 199 bisects the Illinois Valley. It runs from Interstate 5 at Grant's Pass to U.S. Highway 101 on the coast at Crescent City, California. Therefore, the highway connects to both California and Oregon, making it an important route for tourism as well as transport of goods. The Oregon Department of Transportation in cooperation with the Josephine County Integrated Fire Plan Emergency Management Committee, Josephine County Public Works, the California Department of Transportation, and other agencies has recently developed an Emergency Transportation Plan for Highway 199. The Plan is currently in draft form and will be on the Josephine County website when it has been finalized. The plan will be adopted by Josephine County Emergency Management to become an appendix to their Emergency Operations Plan (EOP) and will be approved by the Josephine County Board of Commissioners.[103]

The Illinois Valley airport is located four miles south of Cave Junction and has a public runway that is 5,280 feet long, 75-feet wide, and at an elevation of 1,400 feet. Commercial airline service is available in Medford, Oregon, a one-hour drive from here, or in Crescent City. In addition, there is limited bus service in and out of the area.[104]

Critical Facilities and Infrastructure

This section was taken in nearly its entirety from the Josephine County Integrated Fire Plan, November 2004. Information regarding Grants Pass was omitted because it does not apply to the Illinois Valley.

Facilities critical to government response and recovery activities include 911 centers, emergency operations centers, police and fire stations, public works facilities, sewer and water facilities, hospitals, bridges and roads, and shelters. Other critical infrastructure in the County includes cell towers and repeater towers. The County has four cell towers that are all on Forest Service and BLM land. Critical and essential facilities are vital to the continued delivery of key government services that may significantly impact the public's ability to recover from an emergency. Table 12 illustrates the number of critical facilities in Cave Junction and the County. Map 21illustrates Cave Junction critical facilities.

Table 12. Cave Junction and Josephine County - Critical Facilities[105]

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[100] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 28.

[101] Josephine County PUMA data, 2003

[102] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 31.

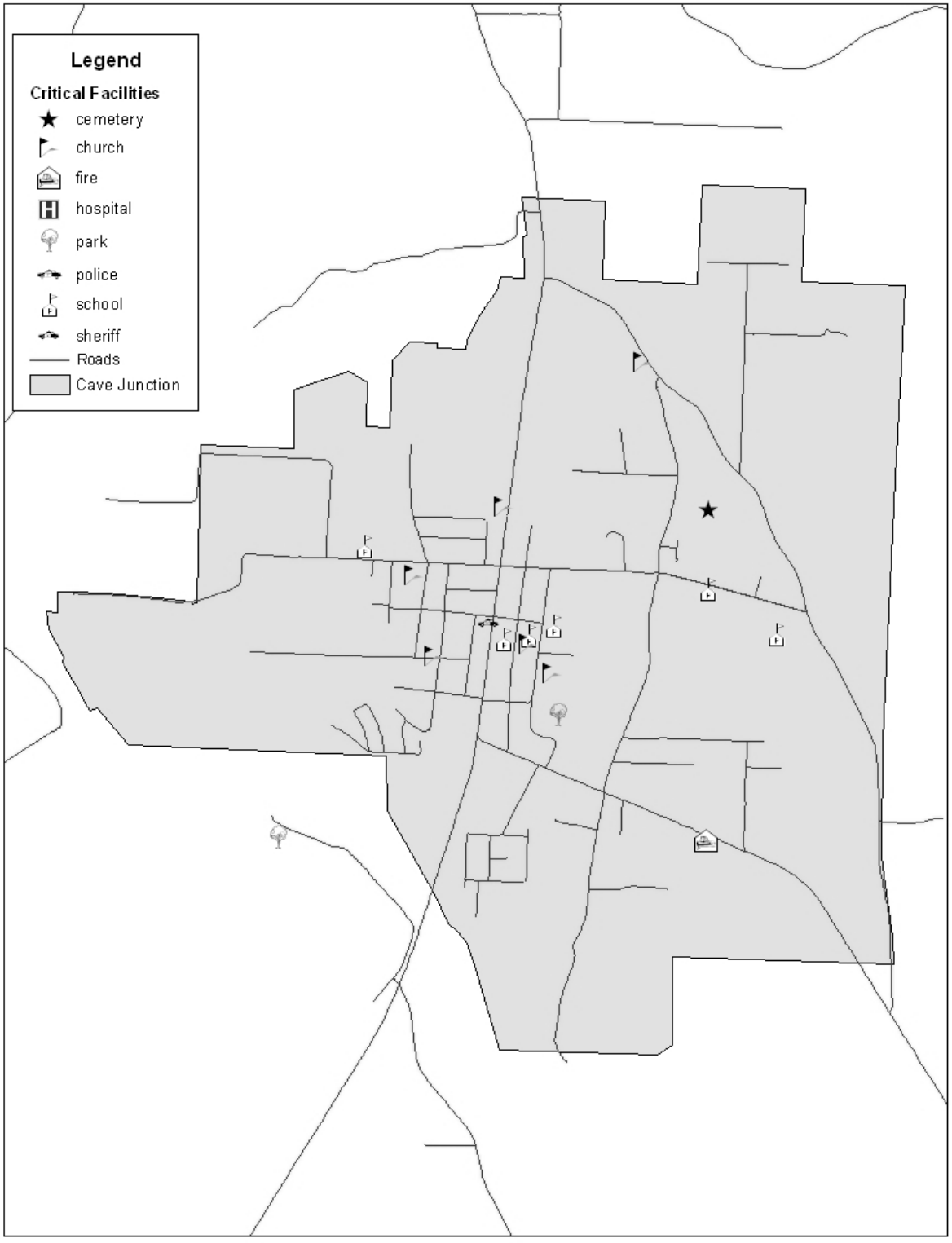
[103] Kathy Lynn, Program Manager, Josephine County Integrated Fire Plan, personal communication, 11/9/04.

[104] Rogue Web, Cave Junction – Illinois Valley Oregon Profile, http://www.rogueweb.com/cjunct/

[105] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 31.

	Cave Junction	County Total
Churches	6	75
Fire Stations	1	19
Hospitals	0	1
Parks	1	30
Preschools	1	8
Schools	5	44
Sheriff's Offices	1	2
Police Stations	0	1

Map 21. Cave Junction Critical Facilities[106]



[106] Josephine County Integrated Fire Plan, November 2004, http://www.co.josephine.or.us/wildfire/index.htm, pg. 32.

Insurance Services Office Ratings

This section was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004.

The Insurance Services Office (ISO) is an independent organization that serves insurance companies, fire departments, insurance regulators, and others by providing information about fire risk. ISO's expert staff collects information about municipal fire-protection efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a Public Protection Classification (PPC) — a number from 1 to 10. Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria.

A Community's PPC depends on fire alarm and communications systems, the fire department, and the water supply system. The classifications are developed with the following criteria:

- 10% fire alarm and communication systems, including telephone systems, telephone lines, staffing, and dispatching systems
- 50% the fire department, including equipment, staffing, training, and geographic distribution of fire companies
- 40% the water supply system, including the condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires

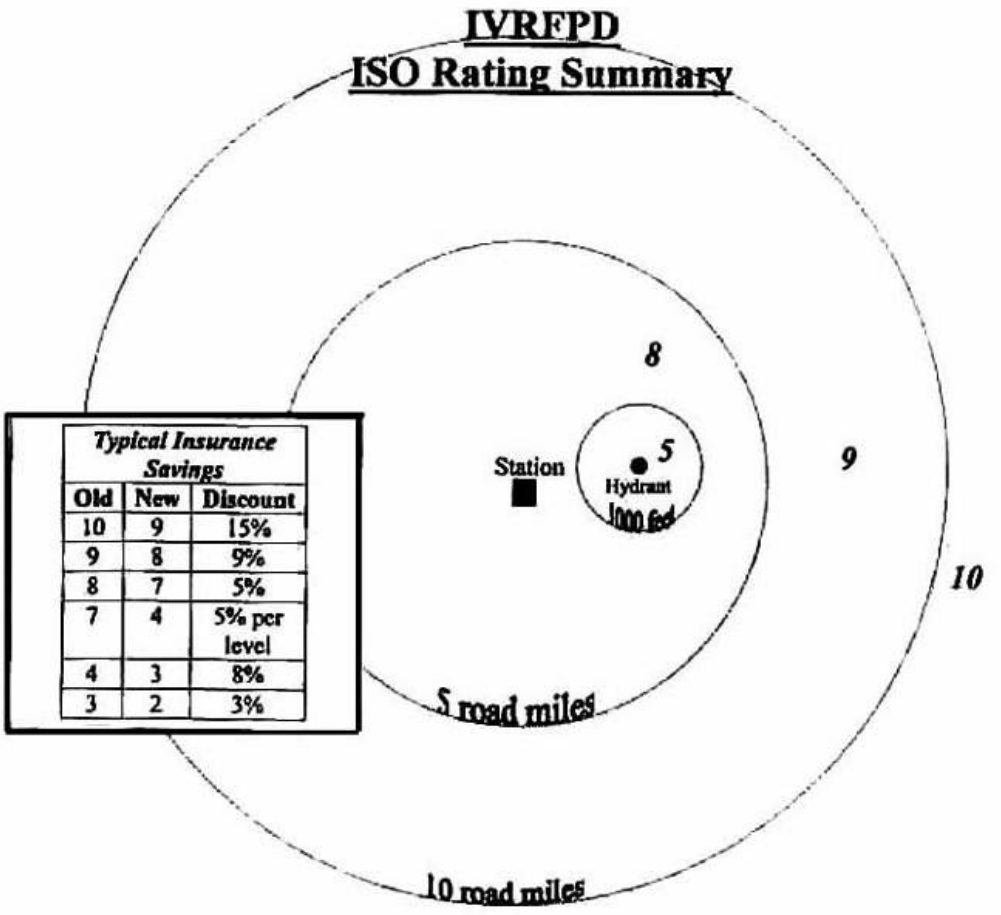
The Insurance Services Office's PPC program evaluates communities according to a uniform set of criteria, incorporating nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association. The PPC program provides a useful benchmark that helps fire departments and other public officials measure the effectiveness of their efforts — and plan for improvements.[107] The PPC program could serve as one indicator of a community's limited capacity to deal with wildfire protection.

For example, the Illinois Valley Fire District has been assigned PPC ratings. Communities within five miles of a fire station have been assigned a PPC rating of 8. Communities located within 1000 feet of a fire hydrant have been assigned a PPC rating of 5. Those communities ten miles or more from a fire station have been assigned a PPC rating of 9.[108] The following below illustrates Illinois Valley Fire District's Public Protection Classification ratings.

[107]Insurance Services Office, Public Protection Classification, http://www.isomitigation.com/fire1.html.

[108] Jerry Schaeffer, Fire Marshall, Illinois Valley Fire District, personal communication, 11/11/04.

Figure 11. Illinois Valley ISO Ratings



ISO Ratings: (10% Dispatch, 50% Department, 40% Water Supply)

1 thru 8	"Protected" (based on Dispatch, Department rating, and water supply)
9	"Semi-Protected"
10	"Unprotected"

- The "10 mile" radius is a special rule for Oregon
- The "8" is based on a previous water shuttle test that partially met the 250GPM for 2Hour test and could be changed to a "5" with a successful test.
- The "5" rating could be lowered with a better evaluation score.
- The "9" and "10" ratings cannot be lowered.

APPENDIX C: PLANNING PROCESS

First Phase – Development (March – May, 2004)

1. Develop/finalize scope of work, including project goals, planning area boundaries, budgets, timeline, tasks, responsible parties, deliverables, etc.
2. Hire IVFD Fire Prevention Coordinator.
3. Develop/finalize Community Fire Planning Committee personnel and responsibilities.
4. Develop Fire Plan Outline in conjunction with Josephine County Integrated Fire Plan (JCIFP).

Second Phase – Community Outreach (March – October, 2004)

4. Finalize list of neighborhoods/sub-neighborhoods.
5. Plan and schedule meetings.
6. Coordinate with County to develop maps and other background materials for meetings.
7. Initial community meeting in Cave Junction (May 19) to introduce project and process to larger Illinois Valley community.
8. "Neighborhood/Community" meetings, one each (six[109] total) in: Selma, Kerby, Cave Junction, O'Brien, Takilma, and Holland. This is the core of the planning process to ensure widespread, real community involvement in both the plan and its implementation.
9. These meetings are in the evening (6:30 – 9:30 pm), held either at a local center or someone's home. Representatives from local fire fighting organizations will be present as resource people.
   Meeting Topics:
   - Introduce IVFP in relation to JCIFP.
   - Introduction to fire safety and defensible space.
   - Discussion of fire history in the neighborhood.
   - Where do people think a fire would start in this neighborhood and why? What projects can be done to reduce the risks identified above?
   - Mark-up maps: roads (with local names), gates, water tanks, high-risk areas, possible project areas, etc.
   - Choose a neighborhood representative for the Fire Safe Council.
10. Write up notes/summary of neighborhood meetings; identify proposed projects as community priorities.
11. Initial Fire Safe Council meeting, of representatives from neighborhood meetings, local agencies, and relevant organizations. This body can then help to oversee the development of the draft plan, by providing community review.

Third Phase – Research/Background information (March – December, 2004) In conjunction with JCIFP.

1. Community description.
2. Current fire environment.
3. Risk Assessment.

Fourth Phase –Plan Writing & Review (October 2004 – March 2005)

4. Identify action plan: priority projects, timeline, possible funding sources.
5. Write Draft Illinois Valley Community Fire Plan.
6. Fire Safe Council Review of Draft Fire Plan.
7. Illinois Valley Community Review: public meeting, public comment period.
8. Write Final Plan.

Fifth Phase – Implementation – through Illinois Valley Fire Safe Council (October 2004 – ongoing)

9. Identify priority projects.
10. Identify funding sources.
11. Identify monitoring plan for both implemented projects and Fire Plan review.

[109] The Sun Star meeting was added later in the process, and did not follow the exact structure of the other meetings.

12. Ongoing neighborhood meetings for project implementation.

Press Release

For Immediate Release April 16, 2004

Contacts: Jerry Schaeffer, IVFD Fire Marshall – 541-592-6538
De Spellman, IVFD Fire Prevention Coordinator – 541-592-2225
Tracy Katelman, IV Fire Plan Consultant – 707-443-2400
Kathy Lynn, Josephine County Integrated Fire Plan – 541-346-0687

Illinois Valley Fire District to Begin Development of Illinois Valley Fire Plan
Kick-Off Community Meeting May 19th
IVFD Hires Fire Prevention Coordinator

Cave Junction, OR. The Illinois Valley Fire District (IVFD) yesterday hired De Spellman to be its first Fire Prevention Coordinator. This is a new position within the District. Ms. Spellman has been an active volunteer with IVFD for over three and ½ years. She was most recently a Fire Technician for the Forestry Action Committee, providing education and outreach to local residents on defensible space and fire safety. The position is part of the new Illinois Valley Fire Plan. She will be organizing community input into the fire planning process, as well as continuing to provide excellent fire prevention education, for which she is known.

IVFD is coordinating the development of the IV Fire Plan in conjunction with the Josephine County Integrated Fire Plan (www.josephinecounty.or.us/wildfire.index.htm). The purpose of the Plan is to identify community priorities for reducing the risks of wildfire in the Illinois Valley. A kick-off community meeting will be held on Wednesday, May 19th, from 7-9 p.m. at the County Building, 102 W. Redwood Hwy., Cave Junction. That meeting will serve to introduce residents to the IV Fire Plan and the process that will be undertaken to identify the community's priorities for wildfire hazard reduction. A series of community meetings will be held throughout the Valley in June, July, and August to elicit the community's participation in identifying areas of local fire concern, and projects to reduce fire risks.

The Fire Plan is being coordinated by Tracy Katelman, a consulting forester from ForEverGreen Forestry in Eureka, CA. Ms. Katelman wrote the Lower Mattole Fire Plan, (www.mattole.org/html/publications_publication_2.html), for an area in Humboldt County, California. That plan has been used as a national model in terms of the level of community participation in developing prioritized fire hazard reduction projects. She is also currently writing a Fire Safe Plan for Del Norte county in California.

-end-

Meeting Flyer

Are you prepared?

We want to hear from you.

►*Are you interested in learning more about what you and your neighbors can do to increase your chances of surviving a wildfire?*

►Would you like to take proactive steps to reduce your risks from wildfires?

►Do you have ideas about what can be done to make the Illinois Valley more fire safe?

Come find out how you can help determine our community's priorities for reducing our risks from wildfire, and the creation of the **Illinois Valley Fire Plan**.

PLEASE ATTEND THE HOLLAND COMMUNITY FIRE PLANNING MEETING ON AUGUST 11TH, FROM 6:30 – 9 PM.

IV Fire Station #4, 5465 Holland Loop Road

Childcare and Refreshments Provided

Questions about the Fire Plan?

Please contact IV Fire District Fire Prevention Coordinator De Spellman at 592-2225.

Mailing

September 30, 2004

Dear Neighbors,

We are writing to you today about the opportunity we have as Illinois Valley residents to improve our chances of surviving wildfires. Through a grant from Josephine County, the Fire District is developing a Fire Plan for the Illinois Valley. In that plan, we are identifying what we as community members want to do to reduce our risks from wildfire and in turn increase our fire safety here. A significant part of Josephine County faces a potentially high risk from wildfire. Therefore, we especially want to hear from you.

Our reason for writing you is two fold. First, we want to share with you information to help you prepare for and survive a wildfire. The "Homeowner's Checklist" is a great first step towards making your home fire safe and creating your "defensible space" — the space (usually 30 to 100 feet) around your home to allow firefighters to safely and effectively defend your home in case of wildfire. You can find that on the internet at: http://www.fire.ca.gov/php/education_content/downloads/checklist_en.pdf. .We have enclosed the Josephine County Integrated Fire Plan flyer - "Are You Prepared?" The handout as well as information on the backside of this letter identify steps you can take this fall and winter to be better prepared. Please spend a few hours this weekend reviewing your home and property with this literature. Identify where you are safe and what other steps you need to take to protect your home and family. If you would like more help with identifying fire safety and defensible space issues around your home, you can contact De Spellman at IVFD at 592-2225, to schedule a free fire safety assessment. As well, the Oregon Department of Forestry can provide assessments, call them at 474-3152..

Second, we want to hear from you what you think is most important to do here in our community to prepare us for eventual wildfires. The plan that we are developing will identify community priorities for wildfire protection. That means we want and need to hear from you! You know the area where you live better than most anyone else. **Please use the enclosed survey and map to let us know by October 10th your answers to questions such as: 1) What areas you think are most important to protect if there is a wildfire (e.g. schools, historical sites, etc.). 2) Where you think a fire might start in your neighborhood and why. 3) Where if a fire started in your neighborhood it would be difficult to control, and 4) Where you think any fuel reduction or other projects should be undertaken in your neighborhood to reduce fire risks and hazards there.** Examples of fuel reduction projects include putting in "shaded fuel breaks" (where the highest tree canopy is left intact, but most of the lower vegetation is removed to help slow down a fire), removing brush and dead vegetation along roads, and educational projects such as signs, school projects, etc. Please take about ½ hour to fill out the survey and map and return it to us by October 10th in the enclosed envelope. If you want another copy of the map to keep, contact De to pick up your copy.

If you have any questions regarding the Illinois Valley Fire Plan, please contact De at 592-2225. Thank you for taking the time to make your home and our community fire safe. We look forward to seeing your ideas by October 10th.

Sincerely,

De Spellman — *IVFD Fire Prevention Coordinator*

Jerry Schaeffer — *IVFD Fire Marshal*

Enclosures: Survey, Map, Are You Prepared Fall and Winter Cleanup, Return Envelope

Survey

Your Name: **Date you filled out this survey:**

Your Address:

Your Phone Number: **Your Email Address:**

1. **What do you consider the most important areas in your neighborhood (other than homes) to protect in the case of a wildfire?** (For example, schools, cultural or historical sites, ecologically significant areas, businesses, power stations, etc.) Please list those areas here. Please also mark these on the map with XXXX, and if possible, in green.

2. **Which places do you think a fire would start in your neighborhood? Why do you think it would start there?** Please describe those places here. Please also mark these on the map with /////////, and if possible, in red.

3. **Which places do you think in your neighborhood would be most difficult to control if a fire stared there? Why those places?** Please describe those places here. Please also mark these on the map with ^^^^^, and if possible, in orange.

4. **Where are there roads that would be difficult for a fire engine to access, or be hazardous for an emergency evacuation?** Please describe those roads here, with all local road names (if there is more than one name used for the same road). Please also mark these on the map with a thick line (————) and if possible, in purple.

5. **What steps do you think need to be taken to protect you and your neighbors from a wildfire?** Please describe those steps in as much detail is possible here.

6. **What projects would you like to see done in your neighborhood to improve fire safety?** Please describe those places here. Please also mark these on the map with \\\\\\\\, and if possible, in yellow. Which of these are your highest priority, and why?

7. **Where are there sources of water in your neighborhood that can be used for fire fighting (such as water tanks, pools, or ponds)?** Please list those here with the approximate capacity in 1,000 gallons (for example, 5,000 gallons would be listed at 5). Please identify those spots on the map with a dot •, (if possible in blue), and write the capacity next to the dots.

8. **Where have fuel reduction and/or defensible space projects already occurred in your neighborhood?** Please describe those here, with a detailed description of the place (parcel number, GPS point, address, etc.) and mark them on the map with a ********, and if possible, in pink.

ILLINOIS VALLEY RESIDENTS THIS FALL AND WINTER REMEMBER TO:

- Check smoke detectors once a month.

September

- Clean your chimney.
- Clean your gutters.

October

- Begin working on your home's defendable space after the rains come.
- Go to your fire station for burn permits.
- Move firewood away from your home.

November

- Make an escape plan for your home.
- Check your fire extinguisher for date last inspected.

December

- Make sure electric heat cleared at least six feet around heat source.
- Use a power strip for Christmas trees so you don't overload electrical outlets.
- Blow out candles before you leave a room.

January

- Kids: clean up your toys, you can trip and fall.
- Dispose of gift wrapping safely.
- Dispose of Christmas trees safely.

APPENDIX D: ILLINOIS VALLEY FIRE DISTRICT

Table 13. Illinois Valley Fire District 2003 Incident Reports By Type Of Situation Found[110]

Type Of Situation Found	Total Incidents
100 Series - Fire	**83**
100 Fire, other	1
111 Building fire	18
112 Fires in structures other than in a building	2
114 Chimney or flue fire, confined to chimney or flue	2
121 Fire in mobile home used as fixed residence	1
122 Fire in motor home, camper, recreational vehicle	3
130 Mobile property (vehicle) fire, other	1
131 Passenger vehicle fire	11
137 Camper or recreational vehicle (RV) fire	5
140 Natural vegetation fire, other	1
141 Forest, woods or wildland tire	11
142 Brush, or brush and grass mixture fire	8
143 Grass fire	12
150 Outside rubbish fire, other	1
151 Outside rubbish, trash or waste tire	4
154 Dumpster or other outside trash receptacle fire	1
160 Special outside fire, other	1
200 Series - Explosion	**3**
240 Explosion (no fire), other	2
243 Fireworks explosion (no fire)	1
300 Series – Rescue & EMS	**600**
300 Rescue, emergency medical call (EMS) call, other	5
311 Medical assist, assist EMS crew	467
321 EMS call, excluding vehicle accident with injury	4
322 Vehicle accident with injuries	64

[110] Incident Date in 1/01/2003 to 12/31/2003 and Incident Type in 100 to 911

323 Motor vehicle/pedestrian accident (MV Ped)	2
352 Extrication of victim(s) from vehicle (Major incidents)	9
381 Rescue or EMS standby	49
400 Series – Hazardous Conditions (No Fire)	**24**
400 Hazardous condition, other	1
411 Gasoline or other flammable liquid spill	2
412 Gas leak (natural gas or LPG)	2
413 Oil or other combustible liquid spill	5
440 Electrical wiring/equipment problem, other	1
442 Overheated motor	1
444 Power line down	6
445 Arcing, shorted electrical equipment	5
480 Attempted burning, illegal action, other	1
500 Series – Service Call	**143**
500 Service Call, other (Assist the public)	2
510 Person in distress, other	2
522 Water or steam leak	2
531 Smoke or odor removal	8
542 Animal rescue	3
550 Public service assistance, other	8
553 Public service	6
554 Assist invalid	21
561 Unauthorized burning	37
571 Cover assignment, standby, moveup (Mutual Aid)	54
600 Series – Good Intent Call	**114**
600 Good intent call, other	10
611 Dispatched & canceled en route	50
631 Authorized controlled burning	24
632 Prescnbed fire	4
651 Smoke scare, odor of smoke	15
652 Steam, vapor, fog or dust thought to be smoke	8
653 Barbecue, tar kettle	3

700 Series – False Alarm and False Call	**9**
700 False alarm or false call, other	4
721 Bomb scare-no bomb	1
743 Smoke detector activation, no fire – unintentional	3
745 Alarm system sounded, no fire – unintentional	1
900 Series – Special Type	**2**
900 Special type of incident, other	1
911 Citizen complaint	1
Total Number of Incidents	**978**
Total Number of Incident Types	59

Sample Burn Permit from Illinois Valley Fire District

Permits Permit.rpt

Illinois Valley Fire District

681 Caves Hwy.
Cave Junction, Or. 97523
541-592-2225

Print Date: 10/19/2004
Permit Issued To: Phone:

Type of Permit: Outdoor Burning Permit Allows outdoor burning of debris

This Permit Valid from: 11/06/2003 to 05/31/2004 and can be revoked at anytime by a fire officer.

Issue Date: 11/6/2003 **Issued By:** Administration Beth A. Beards

Important Permit Requirments

Before burning call 592- 2121
The Recorded Message will specify burning regulations for that day.
If you have further questions, please call 592-2225.

****

1. Burning must be conducted under the constant supervision of a person capable of taking active action. Charged garden hose or shovel and rake are required Permit must be available at burn site.

2. Burn piles greater in diameter than 4 feet and over 3 feet in height must have a permit.

3. The distance to the nearest structure or combustibles shall be greater than 50 feet and in a safe location.

4. Burning of any garbage, plastic, wire insulation, automobile parts, asphalt, petroleum products, petroleum treated material, rubber products, animal remains or animal or vegetable matter which normally emits dense smoke or noxious odors is prohibited by DEQ, and can result in fines by DEQ of up to $10000 per day.

5. This permit is valid for burning of debris, land clearing material, construction sites, or slash.

6. Burning is allowed during daylight hours only, the permittee shall insure that the fire is completely burned down or extinguished prior to dark.

7. Fire must be extinguished if conditions develop which would cause, fire spread (i.e. wind, brands or embers, etc.) or reasonable smoke complaints from neighbors.

8. No burning will be allowed during Fire Season.

Liability: This permit does not relieve the permittee from criminal or civil liability for damages arising from burning occurring under his/her control. Violations of the burning requirements may result in the issuance of a citations of civil penalty, and/or suppression costs.

I have read and understand the above and agree to these conditions.

Permittee or permittee's agent:_____

Permit Invalid without signature.

If you would like a free outdoor home fire safety assesment by the Oregon Department of Foresty please check here. O
Smoke Detectors Save Lives, Check Your Smoke Detectors

APPENDIX E: ILLINOIS VALLEY NEIGHBORHOOD FIRE PLAN PROGRAM[111]

There are two types of preventive actions that a neighborhood can take to prepare for wildfire:

1. Neighborhood Readiness Planning & Preparation
2. Fuels Reduction

Both are important; doing one without the other seriously compromises a neighborhood's capacity to withstand fire.

NEIGHBORHOOD READINESS PLANNING

The key elements in neighborhood readiness preparation are:

Inventory Risks and Resources

Identifying Risks:

- driveways and roads that would be inaccessible for fire department vehicles or unusable for evacuation because of bridge weight limits, steepness, lack of adequate turn around space or potential to be blocked by fire
- areas with high fuels loads
- neighbors who may require assistance during evacuation
- Identifying Resources
- accessible driveways & homes with defensible space
- water sources that could be used for fire suppression
- irrigated pastures or other safe areas where people and animals could gather if evacuation was not possible
- equipment that would be available in case of a community emergency, including transport for livestock in case of evacuation
- neighborhood resources that should be protected in case of wildfire

This information could be gathered through a combination of small neighborhood meetings, completing the Thompson Creek Fire Plan Community Information Sheet, and driveway/home defensible space assessments.

Communication

Neighborhood Phone Tree Relaying emergency information in a timely manner can be crucial to the safety of residents and to the effectiveness of fire fighting agencies. An emergency notification system organized as a telephone tree can be used to notify residents of:

- threatening emergencies such as wildfires or floods
- safe escape routes or safety zones to retreat to
- places to transport livestock
- phone numbers or websites to call or access for specific assistance related information

ILLINOIS VALLEY FUELS REDUCTION PROGRAM

What is Fuels Reduction? The Illinois Valley faces extreme risk from wildfire. As you may remember from the Biscuit Fire in 2002, fire threatens homes, lives and natural resources. Fuels reduction means reducing dry brush, shrubs, grasses and small trees around homes, driveways, roads and property in a way that reduces the impact of wildfire when it occurs. Fuels reduction does not mean clearing all trees and vegetation.

[111] IV CRT Thompson Creek Project Handout

DEVELOPING THE PRESCRIPTION

The first step in fuels reduction is to develop the prescription that will determine what work will be done. The prescription will be based on the draft Josephine County Ordinance 76, which defines the minimum requirements for a fuel break for new construction. A fuel break is designed to create a fire safety zone intended to slow the rate of spread & intensity of an advancing wild fire and to create an area in which fire suppression operations can more safely occur. There are four different areas where fuels reduction work can be performed:

- to create defensible space around the home
- along the individual driveway to ensure safe exit for the family and entry by fire apparatus during a fire
- along public roads for evacuation and entry of fire department apparatus
- in strategic areas away from the house

Each of the four has separate standards and will be treated differently. What is common to all four is that the property owner will approve the prescription and decide whether or not to have the work done; participation in the program is entirely voluntary except for County right of way along roads.

A. DEFENSIBLE SPACE AROUND THE HOME & PRIVATE DRIVEWAYS

1. **The Standards - Article 76 Josephine County**

TYPES OF ZONES. There shall be two types of fire safety zones, the primary safety zone and the secondary safety zone. In all cases the primary safety zone shall be developed for a distance of 50' in all directions from structures as measured along the ground from the farthest extension of the structure, to include attached carports, decks or eaves. A secondary safety zone shall be established around the primary safety zone for an additional 50' in all directions. On sites on which the slope abutting any structure exceeds 20%, the secondary safety zone shall extend an additional 50' in all directions. Fuel reduction within fire safety zones shall conform to all of the following requirements:

PRIMARY SAFETY ZONES.

1.1.1. Ground cover within the primary safety zone shall consist of one or more of the following conditions:

1.1.1.1 An area of asphalt, bare soil, concrete, rock or other nonflammable material; or

1.1.1.2 An area of dead grass cut to 4" or less, leaves, needles, twigs and other similar flammable materials, provided such materials do not create a continuous fuel bed and are at least 4' away from structures; or

1.1.1.3 An area of low growing vegetation species such as green grass, ivy, succulents and other similar species, provided that it is maintained in a green condition and substantially free of dead plant material.

1.1.2. Other vegetation within the primary safety zone shall consist of single specimens or isolated groupings of native trees and shrubs, and fire resistant ornamental trees, shrubs and other plants, provided that they are:

1.1.2.1 Maintained in a green condition and substantially free of dead plant material;

1.1.2.2 Pruned and maintained so that crowns are separated by a distance of 15' and limbs below 8' in height are removed; and

1.1.2.3 Pruned and maintained so that no limbs touch a structure, or overhang a roof or are within 15' of a chimney or stovepipe.

1.1.2.4 Live fruit trees shall not be required to meet the requirements of Subsections [3] and [4] above.

1.1.3. Open firewood storage shall not occur within 30' from structures.

SECONDARY SAFETY ZONES. Trees within the secondary safety zone shall be pruned and maintained so that trunks are separated by a distance of 15' and any branches below 8' in height are removed. Live fruit trees

shall not be required to meet these spacing and limbing requirements. Small trees, brush growing underneath the remaining trees and dead vegetation and other debris shall be removed.

A rural home owner cannot automatically assume that in case of even a structural fire, a Fire District apparatus will reach the home. The road may be impossible for the larger pumpers to pass or the risk to the IVFD personnel and equipment too great. Fire access road standards that make it possible to reach the home are:

- the maximum grade is 12%, which can be increased to 15% for distances not to exceed 200 feet if approved by the Fire Chief
- fire apparatus access roads shall be designed and maintained to support a minimum weight of 50,000 lbs and shall be provided with a surface to provide all-weather driving capabilities
- bridges or culverts shall be designed for a live load of 65,000 lbs
- fire apparatus access roads shall have an unobstructed vertical clearance on not less than 13 ft 6 inches for the entire width of the road
- there must be a minimum cleared width of 20 feet; if the road way is only 12 feet wide, then an additional 4 feet must be cleared on either side; occasional, non-touching trees may be left in the 4 foot zones but must be limbed to allow 13 ft 6 inch clearance
- an additional 30 ft from the edge of the 20 ft cleared area should be thinned to Secondary Safety Zone standards
- when any fire apparatus access road is longer than 400 feet, turnouts 10 feet wide and 30 feet long must be provided every 400 feet unless otherwise approved by the Chief
- dead end fire apparatus roads in excess of 150 feet shall be provided with approved provisions for turning around of fire apparatus (see attached drawings).

2. Developing the prescription

A representative from the Fuels Reduction Program will make an appointment with every property owner, who is interested in participating in the program. Together they will walk the property around the house and along the drive to interpret the standards and apply them to the uniqueness of the property. The end result will be a personalized prescription that defines the minimum work that would have to be done to qualify for payment. This is a very interactive process with the property owner able to express preferences as to what trees and shrubs they would like to keep. Once agreement is reached, vegetation that must be removed is flagged. A written agreement describing the work to be performed is prepared and signed by the property owner and the project staff with a copy being kept by both parties.

The Fuels Reduction staff will also determine the maximum that the project will pay for the prescribed work based on their determination of whether the work required is light, medium, or heavy. This amount will be included in the prescription. The amounts that the project will pay are:

3. Deciding who does the work

The Property owner will decide who does the work. It can be: the property owner, a contractor hired by the property owner from a list provided by the Fuels Reduction Program, or anyone selected by the property owner. What is important to remember is that the work must be satisfactorily completed meeting the requirements set by the mutually agreed upon prescription in order to receive payment from the Project. Also, because the property owner will be contracting directly with the person doing the work, all liability rests with the property owner.

It is recommended that property owners select qualified, experienced people. To assist in that selection, the Project will supply a list of local contractors, including a summary of experience, qualifications and references. There will also be included guidelines for selecting the person to do the work and a sample contract form.

Once you have selected the person t perform the work, they will be given a copy of the prescription. The property owner may negotiate with the contractor that more work than is included in the prescription be done; however, the amount to be paid by the project will not change.

4. Verifying the work

Once the work is completed, the property owner will contact the IVCRT. Within 5 working days, Project staff, who performed the original prescription, will visit the property and assess the work. If the work does not meet the requirements set in the prescription, whatever corrective action that needs to take place will be described and put in writing as an addendum to the original prescription. The property owner will again contact the IVCRT once the additional work has been performed. It should be note that no additional funds will be provided to pay for any additional work that will be required and that no payment will be made until the work is completed.

5. Paying for the work

Once the work is evaluated as satisfactory and meeting the requirements defined in the prescription, a check to the agreed upon amount will be issued to the property owner, who in turn will be responsible for paying whoever performed the work. In order to qualify for project funds for home/driveway fuels reduction, a property owner must agree to pay the road fuels reduction assessment, which will be deducted from their payment. (see below)

B. FUELS REDUCTION ON ROADS

1. The Standards

Each neighborhood should have at least two roads in and out in case of fire. Two passable escape routes represent a minimum safety factor in case of emergency evacuation. Also, properly thinned roadways are required before the fire department will be willing to risk sending its equipment and personnel into an area for fire suppression. The other important benefit from conducting fuels reduction along road ways is that they can serve as a fire break and a safety zone where fire fighters can operate to try to stop a fire spreading.

Assuming a 24 ft road, the County's right of way is likely to be 50', including road bed. The County will notify property owners before thinning the (up to) 26' that falls in the right o way to secondary safety zone

Standards. If the property owner agrees, an additional 30' (15' per side) will also be thinned to shade standards (crowns close enough to inhibit growth of brush). If there is no right of way, then 30' on each side would be thinned to secondary zone standards with property owners' permission.

2. Developing the prescription

In order to minimize the cost involved in developing prescriptions for roads in the neighborhood, the project

will develop sample prescriptions with volunteer property owners throughout the area. Once the work is performed on these samples, they should be able to provide a concrete example of what the results will look like all along the road. However, if a property owner has specific questions or is concerned about how their road frontage will look, the Project will accommodate them with an individual prescription visit. In any case, no work will be performed on private property (out side of right-of-way) unless the property owner agrees.

3. Deciding who does the work

In the interest of uniformity, quality, and minimizing cost, the IVCRT will use a bidding process that will assess both qualifications and cost to select an experienced contractor to perform the work.

4. Verifying the work

Project staff will periodically evaluate the work. Property owners may participate in that process.

5. Paying for the work

Once the work has been certified, contractors will be paid directly by the IVCRT.

Property owners who benefit from the defensible space/driveway payments and other s who voluntarily decide to participate will be assessed an equal amount to cover 25% of the cost. Based on at most 4 miles of roads in the neighborhood needing fuels reduction, the maximum projected share per property owner, assuming all property owners agree to have their road frontage thinned, is to be determined.

The actual amount will be calculated on the basis of the actual length of road thinning done.

C. FUELS REDUCTION IN STRATEGIC LANDSCAPE

Strategic Landscape fuels reduction is done away from the home with the purpose of:

- creating a fire break where the spread of the fire might be slowed or stopped by active suppression activities
- reducing fuel load in an area where because of prevailing winds or topography wild fire is likely to travel in order to reduce the intensity and/or spread of a fire.

1. Developing the prescription

A team of wild fire specialists are available to visit the area in order to make an assessment and identify any likely strategic landscape fuels reduction locations. This team will develop prescriptions based on best practices and the specific conditions identified in the area. These prescriptions will be presented to and discussed with affected property owners along with an explanation of the rationale for their selection and the possible benefits to be gained if the work is performed.

The property owner must authorize the work before it will be performed.

2. Deciding who does the work

Because the work must be performed exactly according to the prescription, contractors will be hired by the IVCRT to perform the work.

3. Verifying the work

Once completed, the woe contractor will contact the IVCRT, who will dispatch a Fire Plan staff person to verify the work. The property owner will be invited to participate in this inspection.

4. Paying for the work

Once the work has been certified as satisfactory, the IVCRT will pay the contractor. No cost sharing will be requested from the property owner.

APPENDIX F: PUBLIC LANDS AND FIRE MANAGEMENT

United States Department of Agriculture, Forest Service: Rogue River - Siskiyou National Forest

Siskiyou National Forest Management Areas:

There are fourteen management areas within the Siskiyou National Forest: wilderness, wild river, research natural areas, botanical, unique interest, backcountry recreation, supplemental resource, designated wildlife habitat, special wildlife site, scenic/recreation river, riparian, retention visual, partial retention visual and general forest.[112] Each one of these areas contains standards and guidelines for: administration, recreation, visual, cultural, wildlife and sensitive (rare) plants, fish, range, timber, water and soil, minerals, facilities, and fire management.

For the purposes of this plan, we will only discuss those management areas that fall within the Illinois Valley and their applicable fire management policies.

Wild River: The Illinois River has a Wild River section that begins at Briggs Creek and encompasses 28.7 miles down to Nancy Creek. Management activities for this section of the river are guided by the Illinois River Management Plan. In regards to fire management, the following policies apply to the Wild Illinois River:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. A high level of wildfire prevention activities with a low level of visibility should be maintained. Hazard reduction activities aimed at heavily-used sites may be used. Direct treatments should be used where visuals or management risks carry a high priority. Indirect treatment is encouraged outside visually-sensitive or high-risk areas. Direct treatment of natural fuels is encouraged.[113]

Backcountry Recreation: 1,611 acre motorized backcountry recreation area called Fall is located within the Illinois Valley. Fire management policies:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. A high level of wildfire prevention activities should be maintained. Direct treatment methods should be emphasized in the management of natural fuels and any activity fuels.[114]

Designated Wildlife Habitat: areas are located throughout the Illinois Valley. These areas protect habitat sites for three indicator species: spotted owls, pileated woodpeckers, and pine marten. Fire management policies:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Direct attack should be emphasized utilizing a modified-to-full range of suppression technology and equipment. A high level of prevention activities should be provided. Industrial and other operations should be carefully monitored. Intensive prevention efforts should be made during high fire danger and high-use periods. Direct treatment methods should be emphasized in the management of natural fuels and any activity fuels.[115]

Special Wildlife Site: areas are located throughout the Illinois Valley. These areas are important components of overall wildlife habitat diversity and botanical values. Fire management policies:

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[112] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, 1989, pg. IV-65.

[113] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-77-78.

[114] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-99.

[115] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-110.

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Indirect attack should be emphasized utilizing a modified range of suppression technology and equipment. A low level of prevention activities should be provided. Public contacts should be limited. Passive activities aimed at heavily-used sites should be encouraged. Direct treatment methods should be emphasized in the management of natural fuels and any activity fuels. The use of prescribed fire is appropriate for meadow restoration and enhancement.[116]

Scenic/Recreation River: The Illinois River has a Recreation River section that begins at Nancy Creek to the Rogue River. The River also has a Scenic River section that begins at the forest boundary near Kerby to Briggs Creek. Timber harvest operations are allowed here. In regards to fire management, the following policies apply to the Scenic Illinois River:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. A modified range of suppression technology and equipment emphasizing indirect attack shall be used. A high level of wildfire prevention activities shall be maintained. Extensive public contacts should be encouraged along the river. Hazard reduction activities around heavily-used camping and picnic areas is appropriate. Both direct and indirect treatments should be emphasized in the treatment of activity fuels. Direct treatments should be used where visual or management risks carry a high priority. Indirect treatment is encouraged outside visually-sensitive or high-risk areas. Direct treatment of natural fuels is encouraged. [117]

In regards to fire management, the following policies apply to the Recreation Illinois River:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Direct attack using a modified range of suppression technology and equipment should be emphasized. A moderate level of wildfire prevention activities shall be maintained. Public contacts should be encouraged along the river. Hazard reduction activities around heavily-used camping and picnic areas should be conducted. Both direct and indirect treatments should be emphasized in the treatment of activity fuels. Direct treatments should be used where visual or management risks carry a high priority. Indirect treatment is encouraged outside visually-sensitive or high-risk areas. Direct treatment of natural fuels is encouraged. [118]

Riparian areas: are located throughout the Illinois Valley. These areas include 100 feet measured horizontally from each side of all perennial streams. Timber harvest operations are allowed in these areas. Fire management policies:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Direct attack should be emphasized utilizing a modified range of suppression technology and equipment. A level of prevention activities should be provided that is consistent with the land areas surrounding the riparian areas. Industrial operations should have a high level of prevention activity. Direct treatment methods should be emphasized in the management of natural fuels and any activity fuels.[119]

Retention Visual: These are areas that are immediately adjacent and visible from major travel routes, rivers, and other high use recreation areas. This is the land most seen by the public. Timber harvest operations are allowed in these areas. The scenic quality of this land affects the recreational experience of those viewing it. Areas in Illinois Valley include: Highway 199, Upper Illinois. Fire management policy for this area states:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Direct attack using a modified range of suppression technology and equipment should be emphasized. A high level of wildfire prevention activities shall be maintained. Industrial closures shall be carried out as required by the contract in accordance with local fire weather conditions. Public contacts shall be used. The most intensive prevention efforts should be made during high or greater fire danger and during high-

[116] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-119

[117] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-122.

[118] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-123.

[119] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-128.

use periods. Both direct and indirect treatments should be emphasized in the treatment of activity fuels. Direct treatments should be used where visual or management risks carry a high priority. Indirect treatment is encouraged outside visually-sensitive or high-risk areas. Direct treatment of natural fuels is encouraged.[120]

Partial Retention Visual: These are areas that visible from major and secondary travel routes, rivers and other high use recreation areas. Timber harvest operations are allowed in this area. Areas in Illinois Valley include: Highway 199, Upper Illinois. Fire management policy for this area states:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. Direct attack using a modified range of suppression technology and equipment should be emphasized. A high level of wildfire prevention activities shall be maintained. Industrial closures shall be carried out as required by the contract in accordance with local fire weather conditions. Public contacts shall be used. The most intensive prevention efforts should be made during high or greater fire danger and during high-use periods. Both direct and indirect treatments should be emphasized in the treatment of activity fuels. Direct treatments should be used where visual or management risks carry a high priority. Indirect treatment is encouraged outside visually-sensitive or high-risk areas. Direct treatment of natural fuels is encouraged.[121]

General Forest: These areas occur throughout the Illinois Valley. This is forested land which is managed for multiple uses including timber production and maintenance of many wildlife habitats. It is the major timber producing portion of the Forest. Even-aged management is the primary silvicultural system used in the General Forest. Fire management policy for this area states:

- All wildfires in this area should be controlled at thirty acres or less ninety percent of the time. The full range of suppression technology and equipment is applicable. Direct attack should be emphasized. A high level of wildfire prevention activities should be maintained. Industrial closures shall be carried out as required by the contract in accordance with local fire weather conditions. Public contacts shall be used. The most intensive prevention efforts should be made during high or greater fire danger and during high-use periods. Direct treatment methods should be emphasized in the management of natural and activity fuels.[122]

Fire and Fuels

This section is taken in its entirety out of the Final Environmental Impact Statement for the Siskiyou National Forest Land and Resource Management Plan, 1989.

Considerations for fire and fuel management fall into two broad categories: ability to control or manage wildfires, and ability and efficiency of treating fuels to manage risk of large wildfires. A mosaic of stands managed under the even-aged systems contain breaks in the spatial fuel patterns that provide opportunities for management or control of wildfires. Uneven-aged systems produce contiguous areas with fairly high fuel loadings and continuous vertical fuel ladders. These fuel ladders created by multiple tree layers carry ground fires into the crowns of the large trees. Under these conditions, crown fires could be expected more frequently, and fires tend to be larger and burn at higher intensities. Control is more difficult and costly and resource damage will likely be increased.

Treatment of activity created residue fuel is easier and more cost efficient with the even-aged systems, particularly clearcutting. Treatments following final harvests can be prescribed without the added complication of protecting residual crop trees. This facilitates the creation of breaks in the fuels complex as described above. Effectively treating residue fuels in areas managed with the uneven-aged systems would be more difficult and expensive. Providing the necessary protection for the younger residual crop trees would

[120] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-133.

[121] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-137.

[122] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-143.

severely restrict treatment options. Because of the greater difficulty and higher cost, increased accumulation of fuels should be expected if significant acreages are managed with the uneven-aged systems.

Forest Plan Goals for Fire Management[123]**:**

- Provide a balance of resource management (activities) that will maintain a healthy Forest ecosystem, and help to supply local, regional and national social and economic needs.
- Protect and enhance resource values through cost-effective fire and fuels management programs, emphasizing fuel treatment through the utilization of prescribed fire.
- Provide well-planned and executed fire protection and fire management programs that are cost-efficient and responsive to land and resource management goals and objectives.

Relevant Fire Policies[124]**:**

- The objective of fire suppression is to suppress wildland fires at minimum cost consistent with land and resource management objectives and fire management direction as stated in fire management plans.
- Observe these fire management priorities on all fires: first, ENSURE FIREFIGHTER AND PUBLIC SAFETY; and second, protect property and natural and cultural resources based on the relative values to be protected.
- In making decisions about how to organize and conduct suppression operations (suppression strategies), line officers shall minimize both suppression cost and resource loss consistent with the resource management objectives for the values to be protected. Consider fire behavior, the availability of suppression resource, the values of natural resources and property at risk, direction in the land and resource management plan, and the potential cost of suppression. Use a Wildland Fire Situation Analysis to document suppression strategy decisions.
- Units are to conduct a cost-effective initial attack on any human caused ignition.
- All employees are expected to promptly report wildland fires to the nearest unit…
- Every Forest Service employee has a responsibility to support and participate in wildfire suppression activities as the situation demands…
- Fire suppression in wilderness areas will be conducted using Minimum Impact Suppression Tactics.

Land and Resource Management Plan Policies Regarding Fire Management in the Forests[125]**:**

- All wildfires shall receive an appropriate suppression response. The response shall be safe, timely, and cost efficient, and meet management objectives for the area including objectives for biological diversity.
- The fire hazard presented by natural, activity or prior activity fuels should be reduced to appropriate levels, considering the site specific risk, and utilizing economically efficient treatment methods. The selected treatment methods should meet fuel management objectives which integrate consideration for all resource values.

Fire Management Plan Policies Regarding Wildland Fire Management in the Forests[126]**:**

- Human-caused fires tend to occur near campgrounds or along forest roads or trails. "Most escapes require minimal suppression response and have been suppressed at less than 0.1 acres per incident." USFS strives to educate the public on safe fire use through personal contact, interpretive programs, interagency fire prevention cooperatives, the use of posters and sign, as well as radio and press releases.
- During high to extreme fire danger certain high risk areas are closed to fire use.

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[123] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Section 2, Page 3-4.

[124] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Fire Management Plan, Section 2, Page 6-7.

[125] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-59.

[126] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Fire Management Plan, Section 4, Page 1-2.

- Each year prior to the prescribed fire season in the spring, State and federal agencies coordinate the availability of resources that may be used to manage fire in each management unit. Discussions include qualifications of personnel, anticipated availability, funding opportunities, interagency support for fire and fuels management, and an evaluation of the previous year.
- In order to be efficient and cost effective, annual firefighter training is coordinated between the agencies.
- Any time there is an ignition coordination between agencies is required.
- Any time there is more than one fire occurring with a management unit, the agencies coordinate the appropriate management response. A Southwest Oregon Multi-Agency Command group may be set up. Priorities will be based on risks to life, property and natural resources.
- Siskiyou National Forest staffs no fire lookouts and the Rogue River National Forest staffs up to four lookouts. Most ignitions are reported by personnel, the visiting or residing public, private aircraft, or through agency detection flights.

Land and Resource Management Plan Policies Regarding Fuels Management in the Forests:

- Currently, the Forest plans to treat approximately 100 acres of natural fuels and approximately 5,000 additional acres of activity-generated fuels annually…natural fuel management activities are expected to increase to 400 acres per year, and treatment of activity-generated fuels is expected to drop slightly to approximately 3,500 to 4,000 acres per year for the duration of the planning period. [127]
- Charring of down material should be minimized in prescribed burning where practicable. The suitability of logs as vertebrate and invertebrate habitat is reduced by charring. Project planners should consider leaving live or dead standing trees as substitutes when Class I and II logs are not available on the ground.[128]
- Prescribed fire may be used in natural fuels: to reduce fire hazard by enhancing horizontal and vertical diversity in fuels; to enhance diversity in the structure and composition of plant communities; to enhance the production and protection of commercial timber yields; and to enhance other resource outputs such as wildlife habitat, forage, and browse. Prescribe fire may include both planned and unplanned ignitions. Prescribed fire from both planned and unplanned ignitions shall be used in wilderness areas only to reduce the risks and consequences of wildfire within or escaping from wilderness, and to permit lightning-caused fires to play their natural ecological role.[129]
- Proposed activity units (harvest, thinning, conversion, release, etc.) should be designed and coordinated on the ground so that size, shape, location, timing, spatial distribution, and management risk are considered for fire management and other resource requirements and help make the fuel treatment and fire protection of the units as practical and economical as possible.[130]

Fire Management Plan Policies Regarding Fuels Management in the Forests[131]**:**

- Funding for planning and implementation of hazardous fuels reduction projects on the RRSNF are prioritized based on the following:
- Reduce risks to people and communities from fire (utilizing the six step processes in identifying communities at risk as developed by the Oregon Department of Forestry for the Western Governors Association).
- Protect municipal watersheds and other "key watersheds."
- Protect threatened and endangered species habitat.
- Restore or maintain short interval fire-adapted ecosystems.

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[127] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-18.

[128] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-36.

[129] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-60.

[130] USDA Forest Service, Siskiyou National Forest Land and Resource Management Plan, pg. IV-60.

[131] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Fire Management Plan, Section 6, Page 1-3.

- The prescribed fire planning process includes: reconnaissance, evaluation, documentation, development of prescriptions, interagency coordination, smoke management, interdisciplinary team coordination, upward reporting, request for funding, fire effects monitoring, evaluation, personnel management and training, fiscal analysis, coordination with the public regarding fuel treatments and their timing, coordination of hazardous fuel treatments on non-federal land.
- Public notifications prior to fuels treatment are done through the local media and at any public meetings held for this purpose. A specific pre-burn notification list is required for each prescribed burn. This list will be included in each burn plan and will detail specific names, contact numbers, and specific needs such as timing or treatment concern.
- Each prescribed fire must have an approved burn plan.
- Prior to any prescribed fire, burn-day conditions will be monitored and documented.
- After a prescribed fire, the burn boss will prepare a post-burn cost summary, tactical summary, and operations summary including: an evaluation of operations, safety, communications, smoke impacts, prescribed fire behavior and burn lighting sequencing, contingency needs and overall achievement of burn objectives.
- All hazardous fuel treatments will be monitored and will include documentation of weather, vegetation, fuel models, fire behavior, smoke dispersal, forecasted weather conditions and fire effects.
- All personnel engaged in prescribed fire duties must meet or exceed the standards established by the National Wildfire Coordinating Group. Each person will be qualified for the position to which they are assigned. A burn boss will supervise all prescribed fires. This individual will be certified for the specific fuel model and prescribed fire complexity rating.

United States Department of Interior, Bureau of Land Management

Management Actions / Direction – Fire Management[132]

- Design fuel treatment, fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy and riparian reserve objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.
- Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside of riparian reserves. If the only suitable location for such activities is within the riparian reserve, an exemption may be granted following a review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Utilize an interdisciplinary team to predetermine suitable incident base and helibase locations.
- Minimize delivery of chemical retardant, foam, or other additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exists, or following a review and recommendation by a resource advisor when an escape would cause more long-term damage.
- Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy and riparian reserve objectives. Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy and riparian reserve objectives whenever riparian reserves are significantly damaged by a wildfire or a prescribed fire burning outside prescribed parameters.
- Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on watershed analysis and planning. Until watershed analysis is completed suppress wildfires to avoid loss of habitat and to maintain future management options.
- Consider rapidly extinguishing smoldering coarse woody debris and duff.

[132] Bureau of Land Management, Medford District Resource Management Plan, June 1995, pg. 29-30.

- Locate and manage water drafting sites (e.g.,sites where water is pumped to control or suppress fires) to minimize adverse effects on riparian habitat and water quality as consistent with Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction – Fire Suppression and Prevention[133]

- As part of watershed analysis or late-successional reserve assessments, plan fire management for each late-successional reserve.
- Emphasize maintaining late-successional habitat in wildfire suppression plans.
- Use minimum impact suppression methods for fuel management in accordance with guidelines for reducing risks of large-scale disturbances.
- During actual fire suppression activities, consult an interdisciplinary team or environmental specialist to assure that habitat damage is minimized.
- Until a fire management plan is completed for a late-successional reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options.
- Prepare a specific fire management plan prior to any habitat manipulation activities in late-successional reserves. Specify how hazard reduction and other prescribed fire applications meet the objectives of the late-successional reserve. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office. Apply prescribed fire in a manner that retains the amount of coarse woody debris determined through watershed analysis.
- Limit the size of all fires until assessment or activity plans are completed.
- Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.
- Consider rapidly extinguishing smoldering coarse woody debris and duff.

Rural Interface Areas[134] **- Objectives**

Consider the interests of adjacent and nearby rural residential land owners during analysis, planning and monitoring activities occurring within managed rural interface areas (RIAs). These interests include personal health and safety, improvements to property, and quality of life. Determine how land owners might be or are affected by activities on BLM-administered lands.

Management Actions/Direction

- Work with local governments to improve management of activities within RIA. As a part of watershed analysis and project planning, work with local individuals and groups including fire protection districts to identify and address concerns related to possible impacts of proposed management activities on rural interface areas.
- Use design features and mitigation measures to avoid/minimize impacts to health, life and property, and quality of life. Examples include different harvest regimes, hand application rather than aerial application of herbicides and pesticides, and hand piling slash for burning as opposed to broadcast burning. Monitor the effectiveness of design features and mitigation measures.
- Manage and design road systems to reduce public health and safety hazards, fire risks, and vandalism to public and private property. Of particular concern is unauthorized public use of nonthrough or "local " roads within rural interface areas and within one-quarter mile of existing dwellings. Gates and other types of traffic barriers such as guardrails, berms, ditches, and log barricades will be used as appropriate.
- Reduce natural fuel hazards on BLM-administered lands in rural interface areas.
- Protect resources on BLM-administered land from potential wildfires originating on adjacent private land by using prescribed fire to reduce fuel hazards. The use of low intensity underburning is the preferred technique.

Fire Management[135]

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[133] Bureau of Land Management, Medford District Resource Management Plan, June 1995, pg. 34.

[134] Bureau of Land Management, Medford District Resource Management Plan, June 1995, pg. 87.

Objectives

- Provide appropriate wildfire suppression responses that will help meet resource management objectives.
- Use prescribed fire to meet resource management objectives. This will include but not be limited to fuels management for wildfire hazard reduction, restoration of desired vegetation conditions, management of habitat, and silvicultural treatments.
- Adhere to smoke management and air quality standards of the Clean Air Act and State Implementation Plan for prescribed burning.

Management Actions/Direction-General

- Address fire/fuels management for all land use allocations as part of watershed analysis. This will include determinations of the role of fire and the risk of large-scale, high intensity wildfires at the landscape level.
- Coordinate fire management activities in rural interface areas with local governments, agencies, and landowners. During watershed analysis, identify additional factors that may effect hazard reduction goals. Minimize the impacts of wildfire suppression actions.

Management Actions/Direction – Riparian Reserves

- Determine the probable risk of large-scale, high intensity wildfires, which would prevent or delay the attainment of Aquatic Conservation Strategy and riparian reserve objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale, high intensity wildfires.
- Design fuel treatment and fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy and riparian reserve objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies will recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management activities could be damaging to long-term ecosystem function.
- Locate incident bases, camps, helibases, staging areas, helispots and other centers for incident activities outside of riparian reserves. If the only suitable location for such activities is within the riparian reserve, an exemption may be granted following a review and recommendation by a resource advisor. The Area Manager, through the resource advisor, will prescribe the location, use conditions, and rehabilitation requirements. Normally these activities will be included with the Wildfire Situation Analysis.
- Minimize delivery of chemical retardant, foam, or other additives to surface waters. An exception may be warranted in situations when immediate safety imperatives exist, or, following a review and recommendation by a resource advisor, increases in fire size would cause substantial long-term, unacceptable resource damage.
- Establish an emergency team to develop a rehabilitation treatment plan to attain Aquatic Conservation Strategy and riparian reserve objectives whenever the reserves are significantly damaged by a wildfire or a prescribed fire burning outside of prescribed parameters.
- Consider allowing some natural fires to burn when they are identified as being consistent with Aquatic Conservation Strategy and riparian reserve objectives, and upon completion and approval of a fire management plan. Until watershed analysis is completed suppress wildfires to avoid loss of habitat and to maintain future management options.
- Mop-up plans for both prescribed and wildfires should consider rapidly extinguishing smoldering coarse woody debris and duff.
- Locate and manage water drafting sites (sites where water is pumped to suppress fires) to minimize adverse effects on riparian habitat and water quality consistent with Aquatic Conservation Strategy and riparian reserve objectives.

Management Actions/Direction – Late-Successional Reserves

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[135] Bureau of Land Management, Medford District Resource Management Plan, June 1995, pg. 87-90.

- Determine the probable risk of large-scale, high intensity wildfires, which would prevent or delay the attainment of resource management objectives through the period established for retention. Describe the need to use prescribed fire to reduce fuel hazards and the risk of large-scale, high intensity wildfires.
- Emphasize maintaining late-successional habitat in wildfire suppression plans.
- Manage fuels in accordance with guidelines for reducing risks of large-scale disturbances. Use risk assessment as a tool to allow for interdisciplinary decision making such seeks to prioritize fuel treatment need based on potential loss of critical habitat.
- During fire suppression activities, ensure that unacceptable habitat damage from suppression activities is minimized.
- Until a fire management plan is completed for a reserve or group of reserves, suppress wildfire to avoid loss of habitat and to maintain future management options.Under an approved fire management plan, allow some natural fires to burn when they are identified as being consistent with resource management objectives.
- Prepare a fire management plan as a component of the late-successional reserve assessment, prior to any habitat manipulation activities. Specify fire suppression, fuels management and prescribed fire use to meet resource objectives.
- Apply prescribed fire based on the role of fire within each landscape in a manner consistent with ecosystem management objectives, including fuel hazard reduction and retention of coarse woody debris.
- Consider allowing some natural fires to burn under prescribed conditions. This decision will be based on additional analysis and planning.
- During wildfire suppression operations, consider rapidly extinguishing smoldering coarse woody debris, snags,and duff in areas that are deficient of crucial stand components.

Management Actions/Direction – Adaptive Management Areas

- Explore and support opportunities to research the role and effects of fire management on ecosystem functions. Test the concepts of using prescribed fire to mitigate long term risk of conflagration type wildfires.
- Emphasize fire/fuels management cooperation across agency and ownership boundaries.

Management Actions/Direction - Matrix

- Plan and implement prescribed fire treatments designed to minimize:
- intensive burning, unless appropriate for specific habitats, communities, or stand conditions;
- consumption of litter and coarse woody debris;
- disturbance to soil and litter that may occur as a result of heavy equipment operations; and
- the frequency of treatments.

Management Actions/Direction – Wildfire Suppression

- Minimize the direct negative impacts to wildfire suppression on ecosystem management objectives.
- Respond to all wildfires by taking appropriate suppression responses. In most cases, responses will consist of aggressive initial attack to extinguish fires at the smallest size possible.
- For wildfires that escape initial attack, perform a Wildfire Situation Analysis to develop a suppression strategy to evaluate the damage induced by suppression activities compared to expected wildfire damage.
- Rehabilitation plans should consider the use of available soil seed banks, the use of native species, and/or sterile aliens for both emergency and large scale wildfire rehabilitation work.

Management Actions/Direction – Fuels Management (including Hazard Reduction)

- Using prescribed fire throughout the planning area, identify the need for prescribed fire to restore and/or maintain crucial wildlife habitat, key plant associations, plant communities, and fire dependent/adapted species emphasizing special status plant and animal habitat need.
- Modify fuel profiles in order to lower the potential of fire ignition and rate of spread; protect and support land use allocation objectives by lowering the risk of high intensity, stand-replacing wildfires; and adhere to smoke management and air quality standards.

- Reduce both natural and activity based fuel hazards through methods such as prescribed burning, mechanical or manual manipulation of forest vegetation and debris, removal of forest vegetation and debris, and combinations of these methods.

Management Actions/Direction – Prescribed Fire Use for Ecosystem Maintenance and Restoration

- Base the use of prescribed fire on the risk of high intensity wildfire and the associated cost and environmental impacts of using prescribed underburning to meet protection, restoration, and maintenance of crucial stands that are current susceptible to large-scale catastrophic wildfire.
- Reintroduce underburning across large areas of the landscape over a period of time to create a mosaic of stand conditions. Treatments should be site-specific because some species with limited distributions are fire intolerant.
- Identify opportunities to use prescribed fire to make stands more resistent to wildfire.
- Revise, where appropriate, landscape objectives for coarse woody debris, down logs, green-tree retention, and snags, consistent with the natural role of fire and protection standards through the Watershed Analysis Process.

Department of Interior Relevant Fire Policies (applicable to both BLM and NPS):[136]

- Fire is a powerful phenomenon with the potential to drastically alter the vegetative cover of any park. The presence or absence of natural fires within a given ecosystem is recognized as a potent factor stimulating, retarding, or eliminating various components of the ecosystem. Most natural fires are lightning caused and are recognized as natural phenomenon which must be permitted to continue to influence the ecosystem if truly natural systems are to be perpetuated.
- Wildfires may result in loss of life; have detrimental impacts upon natural resources, and damage to or destruction of man-made developments. However, the use of fire under carefully defined conditions is to be a valuable tool in wildland management. Therefore, all wildfires within the Department will be classified either as wildfire or as prescribed fires. Wildfires, whether on lands administered by the Department or adjacent thereto, which threaten life, man-made structures, or are determined to be a threat to the natural resources or the facilities under the Department's jurisdiction, will be considered emergencies and their suppression given priority over normal Departmental programs.
- Bureaus will give the highest priority to preventing the disaster fire – the situation in which a wildland fire causes damage of such magnitude as to impact management objectives and/or socio-economic conditions of an area. However, no wildland fire situation, with the possible exception of threat to human survival, requires the exposure of firefighters to life threatening situations.
- Within the framework of management objective and plans, overall wildfire damage will be held to the minimum possible giving full consideration to (1) an aggressive fire prevention program; (2) the least expenditure of public funds for effective suppression; (3) the methods of suppression least damaging to resources and the environment; and (4) the integration of cooperative suppression actions by agencies of the Department among themselves or with other qualified suppression organizations.
- Prescribed fires…may be used to achieve agency land or resource management objectives as defined in the fire management plan. Prescribed fires will be conducted only when the following conditions are met:
- Conducted by qualified personnel under written prescriptions.
- Monitored to assure they remain within prescription.
- Prescribed fires that exceed the limits of an approved prescribed fire plan will be reclassified as a wildland fire. Once classified a wildland fire, the fire will be suppressed and will not be returned to prescribed fire status.

Resource Management Plans/General Management Plans Relevant Policies (complementary policies for both BLM and NPS):[137]

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[136] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Section 2, Page 7-8.

- Emphasizes the protection of unique natural features, biological processes and cultural resources.
- Highlights the importance of taking an ecosystem management approach to resource management and recognizes the need to evaluate, monitor and mitigate environmental impacts related to human activities.
- Protect employee and public safety, sensitive cultural and natural resources, developments and boundaries from wildland fire. This will be accomplished through prevention, preparedness, hazardous fuels reduction, and suppression actions.
- Expand interagency and ecosystem planning and management of wildland fires.
- Maintain the natural role of fire to the maximum extent possible (within management constraints) in designated zones, so that natural ecosystems can operate essentially unimpaired by human interference. This will be accomplished primarily through Wildland Fire Use…The fact that some natural fires will be suppressed or limited in size may, over the course of a long time period, alter fire cycles and vegetation.
- Suppression of unplanned, human-caused ignitions: Prescribed fire may also be used to support this program by reducing fuels near sensitive boundaries, thus reducing the chance of an escaped fire.
- Restore and maintain forest structure and forest composition in selected areas where natural ecosystems have been altered by fire suppression and other modern human activities. Restoration will be accomplished through prescribed fire and manual thinning treatments. In locations where it is not feasible to allow natural ignitions to run their course (for example, near a wildland-urban interface or sensitive boundaries), the role of fire as a process may be partially maintained through the use of prescribed fire.
- All wildland fires are currently suppressed.
- Although the present goal is to maintain the natural role of fire to the greatest extent possible, it is recognized that there are many constraints that preclude the unrestricted use of fire. Constraints include the need for firefighter and public safety, protection of adjacent land values, compliance with air quality laws or regulations, protection of physical facilities, protection of threatened and endangered species and cultural sites; availability of personnel and funds.

BLM has two more fuels treatment projects in addition to those listed in the table below: South Deer Creek for approximately 7,200 acres and the West Fork of the Illinois River for 3,200 acres. This brings the grand total to 17,570 acres.

Table 14. BLM Illinois River Subwatershed Fuels Treatment Acres by Subwatershed and Project Name.[138]

[137] USDA Forest Service, Fire Management Plan for the Rogue River & Siskiyou National Forests, January 2002, Section 2, Page 8-10.

[138] Larson, Jon, Fuels Technician, BLM, personal communication, 11/10/04.

Sum of ACRES		
HUC5_NAME	**PROJECT_NA**	**Total**
Althouse Ck	ALTHOUSE	738
	BLIND SAM	23
	E FK ILLINOIS	2
	LOGAN LOCAL B/O	2
	ROBMAN	35
Althouse Ck Total		801
Deer Ck	ANDERSON WEST	785
	BARE NELSON	32
	BLUE DRAPER	21
	CROOKED CEDAR	37
	CROOKS CREEK CLEANUP	55
	DEER MOM	487
	DEER SELMAC	18
	DRY CREEK MDW	7
	DRY WHITE	86
	LUCKY POT	46
	MCMULLIN	438
	MCMULLIN CREEK	16
	OLD LITTLE GRAYBACK	36
	QUARTER MOON	22
	SCOTTISH VERBAS	45
	TALL TIMBER	84
Deer Ck Total		2216
Illinois E Fk	E FK ILLINOIS	780
	FREE & EASY	466
	FRENCH FLAT ACEC	256
	LOGAN LOCAL B/O	15
	MITIGATION	8
	NOREAST	45
	ROBMAN	39
	TAKILMA	1
	WEST FORK ILLINOIS	1
Illinois E Fk Total		1611
Illinois River W Fk	3 PLUS 3	53
	E FK ILLINOIS	3
	FRENCH FLAT ACEC	75
	JUNCTION OVERLO	11
	THREE PLUS THREE	115
	WEST FORK ILLINOIS	1654
Illinois River W Fk Total		1911
Illinois-Josephine	3 PLUS 3	408
	ANDERSON WEST	5
	FREE & EASY	17
	LUCKY POT	2
	MCMULLIN	36
	THREE PLUS THREE	140
Illinois-Josephine Total		609
Sucker Ck	YEAGER CREEK	22
Sucker Ck Total		22
Grand Total		7170

Josephine County Lands

Management activities on county lands are guided by the Comprehensive Plan for Josephine County, April 2001. The goals of this plan include[139]:

- Preserving and maintaining agricultural lands and the rural character of Josephine County;
- Conserving and developing the forest lands of Josephine County;
- Providing land allocations to encourage a wide variety of safe and affordable housing;
- Planning and developing facilities and services that are needed, and can be afforded, by the residents of the County;
- Diversifying, expanding and stabilizing economic opportunities for the betterment of the County;
- Preventing loss of life and property due to natural and man-made hazards;
- Preserving valuable limited resources, unique natural areas and historic features;
- Pollution shall be controlled;
- Developing and preserving energy;
- Depicting a land use pattern to guide future uses, implementing the desires of the County and meeting the requirements of the State of Oregon;
- Maintaining, amending and updating the Comprehensive Plan as necessary;

Relevant Policies[140]:

- Managing County-owned forest lands for the purpose of providing a supply of commercial timber as well as the development of techniques for commercial and small woodlot management.
- Continuing cooperation with Federal and State forest management agencies to encourage more intensive forest management practices, which will increase the timber supply over time.
- Ensure that to the maximum extent as is practicable, Forest Commercial lands are managed for softwood forest production.
- Josephine County shall provide zoning classifications which will protect and conserve for forestry uses all rural commercial forest lands, non-commercial forest lands, and any other forest lands as defined in LCDC Goal 4. This policy is designed to encourage economic forest management by individual land owners as a beneficial use. Forest Uses shall be: (1) the production of trees and the processing of forest products; (2) open space, buffers from noise, and visual separation of conflicting uses; (3) watershed protection and wildlife and fisheries habitat; (4) soil protection from wind and water; (5) maintenance of clean air and water; (6) outdoor recreational activities and related support services and wilderness values compatible with these uses; and (7) grazing land for livestock.
- The Josephine County Board of Commissioners shall continue to support and encourage the inclusion of properties into existing fire protection districts.
- The Josephine County Board of Commissioners shall encourage reduction of fuel concentrations and the construction of fire breaks, i.e., the utilizing of fire resistant vegetation, construction of water sources, construction of roads suitable for use by emergency equipment, and design of loop road systems that allow for emergency evacuation of an area in rural developments.
- Local utilities and industries shall be encouraged to explore the practicability of utilizing wood waste for co-generation of electric power within the County, and to study low-head hydro-electric generating techniques. The Board of County Commissioners shall facilitate resolution of conflicts between hydropower sites and other uses.

There are various federal and state programs and policies related to fire planning and fire protection. Please see the Josephine County Integrated Fire Plan, Chapter 1, to read more about:

- Healthy Forests Restoration Act/Healthy Forest Initiative
- National Fire Plan and 10-Year Comprehensive Strategy

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[139] The Comprehensive Plan for Josephine County, April 2001, Goals and Policies.

[140] The Comprehensive Plan for Josephine County, April 2001, Goals and Policies

APPENDIX G: ILLINOIS VALLEY EDUCATIONAL MATERIALS

- Fire Resistant Plants for Oregon Home Landscapes
- Fire Safe Council Homeowners Checklist: How to Make Your Home Fire Safe
- Fire Safe Curriculum and Educational Resources
- Fire Safe Literature
- Fire Smart Landscaping
- Fire Ecology/Management

OREGON STATE UNIVERSITY
EXTENSION SERVICE

Fire-Resistant Plants for Oregon Home Landscapes

Stephen Fitzgerald and Amy Jo Waldo[1]

Forest Resource Note No. 6 April 2002

Introduction

When landscaping around a home, most homeowners are interested in creating a landscape that is aesthetically pleasing, complements their home, and has variations in color, texture, flowers, and foliage. If your home is located in or adjacent to forests or rangeland, you also should consider the flammability of plants within your home landscape.

Flammable plant material in your landscape can increase the fire-risk around your home. The 1991 Oakland Hills Fire in California is a prime example of how flammable plant material (Eucalyptus trees) can act as fuel and contribute to the intensity of a wildfire. Over 3,000 homes were destroyed in that devastating wildfire.

Therefore, homeowners should take active steps to minimize or reduce the fuel and fire-hazard around their homes, *including* planting fire-resistant plants. Good placement of fire-resistant trees, for example, can, in fact, help protect your home by blocking intense heat.

There is a wide array of trees and other plants to choose for your landscape that are both attractive (Figure 1) and fire-safe. This publication provides a diverse list of plant material divided into perennials, groundcovers, trees, and shrubs.

What are fire-resistant plants?

Fire resistant plants are plants that don't readily ignite from a flame or other ignition sources. Although fire-resistant plants can be damaged or even killed by fire, their foliage and stems don't contribute significantly to the fuel and, therefore, the fire's intensity.

Figure 1. Basket-of-Gold beneath Quaking Aspen; both are fire-resistant.

Plants that are fire-resistant have the following characteristics:

- Leaves are moist and supple.
- Plants that have little dead wood and tend not to accumulate dry, dead material within the plant.
- Sap is water-like and does not have a strong odor.

Most deciduous trees and shrubs are fire-resistant. However, it's important to remember that even fire-resistant plants can burn, particularly if they are not maintained in a healthy condition.

In contrast, plants that are highly flammable have these general characteristics:

- Contain fine, dry or dead material within the plant such as twigs, needles, and leaves.

-continued on page 4

Fire-Resistant Plant Materials for Oregon

Groundcovers 18" and lower

Scientific Name	Common Name	Scientific Name	Common Name
Ajuga reptans	Carpet bugleweed	*Echeveria species*	Hens and chicks
Arctostaphylos uva-ursi	Kinnikinnick	*Fragaria species*	Wild strawberry
Ceanothus prostratus	Squaw carpet (C,E,S)	*Pachysandra terminalis*	Japanese pachysandra (W,S)
Cerastium tomentosum	Snow -in-summer	*Phlox subulata*	Creeping phlox
Delosperma nubigenum	Yellow iceplant	*Sedum species*	Sedum or stonecrops
Delosperma cooperi	Purple/Pink iceplant	*Thymus praecox*	Creeping or woolly thyme
Duchesnea indica	Mock strawberry	*Vinca minor*	Periwinkle (C,E)

Perennials 18" or taller

Scientific Name	Common Name	Scientific Name	Common Name
Achillea species	Yarrow	*Hemorocallis hybrids*	Daylilies
Allium schoenoprasum	Chives	*Heuchera species*	Coral bells
Armeria maritima	Sea thrift	*Hosta species*	Hosta lilies
Aurinia saxatilis	Basket-of-Gold	*Iris species*	Iris
Bergenia cordifolia	Heartleaf bergenia	*Kniphofia uvuria*	Red-hot poker
Carex species	Sedges	*Linum perenne*	Blue flax
Coreopsis species	Coreopsis	*Lupinus species*	Lupine
Epilobium angustifolium	Fireweed	*Oenothera missouriensis*	Evening primrose
Geranium species	Cranesbill	*Penstemon species*	Penstemon
Helianthemum nummularium	Sun rose	*Stachys byzantina*	Lamb's ear

Shrubs—broadleaf evergreen

Scientific Name	Common Name	Scientific Name	Common Name
Cotoneaster species	Cotoneaster	*Mahonia repens*	Creeping holly
Daphne x burkwoodii var. *'Carol Mackie'*	Carol Mackie daphne	*Pachystima myrsinites*	Oregon boxwood
Gaultheria shallon	Salal (S,W)	*Rhododendron macrophyllum*	Pacific rhododendron (S,W)
Ligustrum species	Privet	*Rhododendron occidentale*	Western azalea (S,W)
Mahonia aquifolium	Oregon grapeholly	*Yucca species*	Yucca

C= Central Oregon E= Eastern Oregon S= Southern Oregon W= Western Oregon Page 2

Shrubs—deciduous

Scientific Name	Common Name	Scientific Name	Common Name
Acer circinatum	Vine maple	*Philadelphus species*	Mockorange
Acer glabrum	Rocky Mountain maple	*Rhus species*	Sumac
Amelanchier species	Serviceberry	*Ribes species*	Flowering currant
Buddleia davidii	Butterfly bush (C,E)	*Rosa woodsii*	Wood's rose
Caryopteris x clandonensis	Blue-mist spirea	*Spiraea x bumalda species*	Spirea
Cornus stolonifera	Redosier dogwood	*Spiraea douglasii*	Western spirea
Euonymus alatus	Burning bush	*Symphoricarpos albus*	Snowberry
Holodiscus discolor	Oceanspray	*Syringa species*	Lilac

Trees—evergreens

Scientific Name	Common Name	Scientific Name	Common Name
Larix occidentalis	Western larch (C,E)	*Pinus lambertiana*	Sugar pine (C,S)
Pinus contorta var. contorta and var. murrayana	Lodgepole pine	*Pinus ponderosa*	Ponderosa pine

Trees—deciduous

Scientific Name	Common Name	Scientific Name	Common Name
Acer macrophyllum	Bigleaf maple (S,W)	*Gleditsia triacanthos*	Honeylocust
Acer platanoides	Norway maple	*Gymnocladus dioicus*	Kentucky coffee tree
Acer rubrum var. *Sunset*	Sunset maple	*Juglans species*	Walnut
Aesculus hippocastanum	Horsechestnut	*Liquidambar styraciflua*	American sweetgum (S,W)
Alnus rubra	Red alder (S,W)	*Malus species*	Crabapple
Alnus tenuifolia	Mountain alder (C,E)	*Populus species*	Aspen/cottonwoods
Betula species	Birch	*Prunus virginiana*	Chokecherry
Catalpa speciosa	Western catalpa	*Quercus garryana*	Oregon white oak (S,W)
Celtis occidentalis	Common hackberry	*Quercus palustris*	Pin oak
Cercis canadensis	Eastern redbud	*Quercus rubra*	Red oak
Cornus florida	Flowering dogwood (S,W)	*Robinia pseudoacacia*	Black locust
Fagus species	Beech	*Salix species*	Willow
Fraxinus species	Ash	*Sorbus aucuparia*	European mountain ash

C= Central Oregon E= Eastern Oregon S= Southern Oregon W= Western Oregon Page 3

-continued from page 1

- Leaves, twigs, and stems contain volatile waxes, terpenes, or oils.
- Leaves are aromatic (strong smell when crushed)
- Sap is gummy, resinous and has a strong odor.
- May have loose or papery bark.

Both ornamental and native plants can be highly flammable. An example of a highly flammable ornamental shrub often planted in home landscapes is ornamental juniper. Examples of highly flammable native shrubs include bitterbrush, manzanita, sagebrush, and ceanothus. Avoid planting these plants around your home.

-Adapted from University of California Cooperative Extension Hortscript, 1996, No. 18.

How this list was developed

This list was developed by evaluating fire-resistant plant lists developed for other regions and screening the scientific literature on plant flammability. Included in this list are plants adapted to grow *in* Oregon in either irrigated or non-irrigated landscapes. However, most of the plants on this list require some level of irrigation to survive during the dry summer months, particularly in central and eastern Oregon.

All of these plants are adaptable in Oregon unless specified by a C, E, S, or W. Plants indicated by these letters are suitable only for the regions listed below:

C = Central Oregon	E = Eastern Oregon
S = Southern Oregon	W = Western Oregon

Plant descriptions and availability

For a detailed description of the plants on this list, consult local nurseries or refer to the Sunset Western Garden Book and the A-Z Encyclopedia of Garden Plants. These publications can be obtained at local bookstores or nurseries. If you are unable to find some of these plants locally, check out the Oregon Association of Nurserymen's website for plant availability at:

http://www.nurseryguide.com

Scroll down to "Search For…" and click on Plants by Name. Type in the name of the plant your interested in and the search will give you a list of nurseries that carry the plant.

Figure 2.

Purple Iceplant

Help us identify other fire-resistant plants

If you know of other fire-resistant plants suitable for Oregon, let us know. We will research your plant and, if it fits the criteria, we will add it to the list. Contact us at:

Stephen Fitzgerald
Phone: (541) 548-6088, x16
Email: Stephen.Fitzgerald@orst.edu

Amy Jo Waldo
Phone: (541) 548-6088, x12
Email: Amyjo.Waldo@orst.edu

To download this color publication off our website, go to http://extension.orst.edu/deschutes/FireResPlants02.pdf

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[1] *The authors are respectively, Area Extension Forester and Associate Professor and Area Extension Horticulture Agent and Assistant Professor for Central Oregon, OSU Extension Service, 1421 S. Hwy 97, Redmond, OR 97756*

OUTSIDE

1 Design/Construction

- __ Consider installing residential sprinklers
- __ Build your home away from ridge tops, canyons and areas between high points on a ridge
- __ Build your home at least 30-100 feet from your property line
- __ Use fire resistant materials
- __ Enclose the underside of eaves, balconies and above ground decks with fire resistant materials
- __ Try to limit the size and number of windows in your home that face large areas of vegetation
- __ Install only dual-paned or triple-paned windows
- __ Make sure that electric service lines, fuse boxes and circuit breaker panels are installed and maintained as prescribed by code
- __ Contact qualified individuals to perform electrical maintenance and repairs

2 Access

- __ Identify at least two exit routes from your neighborhood
- __ Construct roads that allow two-way traffic
- __ Design road width, grade and curves to allow access for large emergency vehicles
- __ Construct driveways to allow large emergency equipment to reach your house
- __ Design bridges to carry heavy emergency vehicles, including bulldozers carried on large trucks
- __ Post clear road signs to show traffic restrictions such as dead-end roads, and weight and height limitations
- __ Make sure dead-end roads, and long driveways have turn-around areas wide enough for emergency vehicles
- __ Construct turnouts along one-way roads
- __ Clear flammable vegetation at least 10 feet from roads and five feet from driveways
- __ Cut back overhanging tree branches above roads
- __ Construct fire barriers such as greenbelts
- __ Make sure that your street is named or numbered, and a sign is visibly posted at each street intersection
- __ Make sure that your street name and house number are not duplicated elsewhere in the county
- __ Post your house address at the beginning of your driveway, or on your house if it is easily visible from the road

3 Roof

- __ Remove branches within 10 feet of your chimney and dead branches overhanging your roof
- __ Remove dead leaves and needles from your roof and gutters
- __ Install a fire resistant roof. Contact your local fire department for current roofing requirements
- __ Cover your chimney outlet and stovepipe with a nonflammable screen of ½ inch or smaller mesh

4 Landscape

- __ Create a "defensible space" by removing all flammable vegetation at least 30 feet from all structures
- __ Never prune near power lines. Call your local utility company first
- __ Landscape with fire resistant plants
- __ On slopes or in high fire hazard areas remove flammable vegetation out to 100 feet or more
- __ Space native trees and shrubs at least 10 feet apart
- __ For trees taller than 18 feet, remove lower branches within six feet of the ground
- __ Maintain all plants by regularly watering, and by removing dead branches, leaves and needles
- __ Before planting trees close to any power line contact your local utility company to confirm the maximum tree height allowable for that location

5 Yard

- __ Stack woodpiles at least 30 feet from all structures and remove vegetation within 10 feet of woodpiles
- __ Locate LPG tanks (butane and propane) at least 30 feet from any structure and maintain 10 feet of clearance
- __ Remove all stacks of construction materials, pine needles, leaves and other debris from your yard
- __ Contact your local fire department to see if open burning is allowed in your area; if so, obtain a burning permit
- __ Where burn barrels are allowed, clear flammable materials at least 10 feet around the barrel; cover the open top with a non-flammable screen with mesh no larger than ¼ inch

6 Emergency Water Supply

- __ Maintain an emergency water supply that meets fire department standards through one of the following:
  - a community water/hydrant system
  - a cooperative emergency storage tank with neighbors
  - a minimum storage supply of 2,500 gallons on your property
- __ Clearly mark all emergency water sources
- __ 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

Fire Needs Power

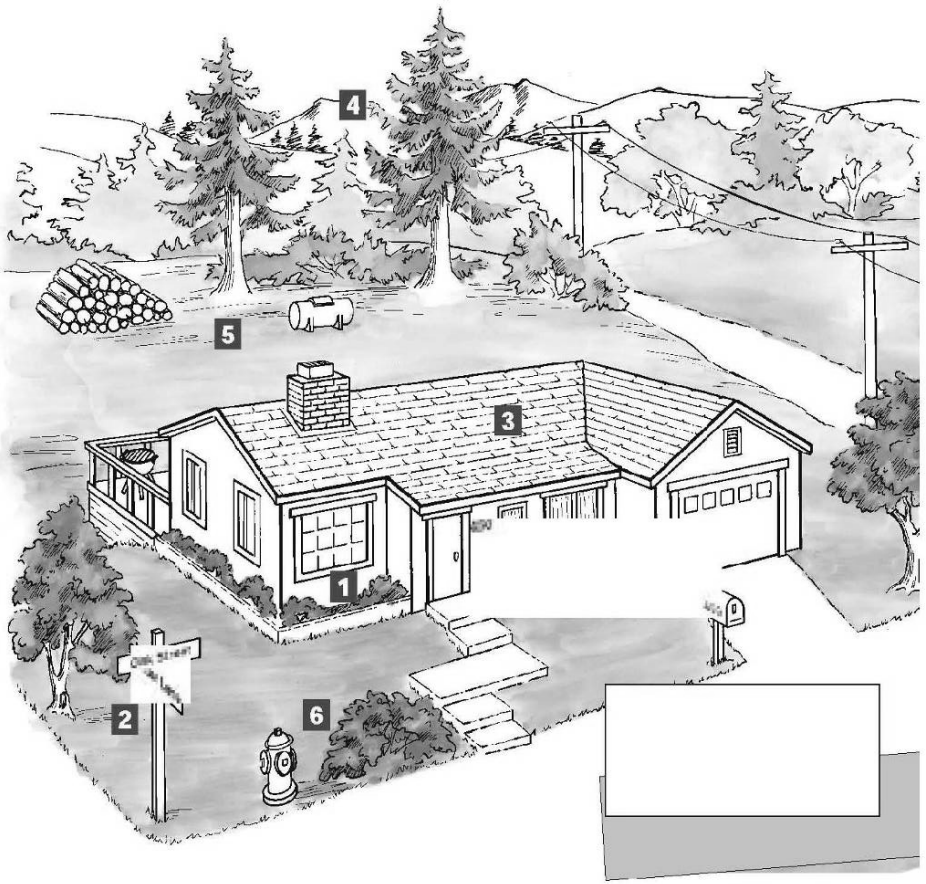
December 2001

Fire Safe Council

Homeowners Checklist

www.firesafecouncil.org

How To Make Your Home Fire Safe



INSIDE

1 Kitchen

- Keep a working fire extinguisher in the kitchen
- Maintain electric and gas stoves in good operating condition
- Keep baking soda on hand to extinguish stove-top grease fires
- Turn the handles of pots and pans containing hot liquids away from the front of the stove
- Install curtains and towel holders away from burners on the stove
- Store matches and lighters out of the reach of children
- Make sure that electrical outlets are designed to handle appliance loads

2 Living Room

- Install a screen in front of fireplace or wood stove
- Store the ashes from your fireplace (and barbecue) in a metal container and dispose of only when cold
- Clean fireplace chimneys and flues at least once a year

3 Hallway

- Install smoke detectors between living and sleeping areas
- Test smoke detectors monthly and replace batteries twice a year, when clocks are changed in the spring and fall
- Install child safety plugs (caps) on all electrical outlets
- Replace electrical cords that do not work properly, have loose connections, or are frayed

4 Bedroom

- If you sleep with the door closed, install a smoke detector in the bedroom
- Turn off electric blankets and other electrical appliances when not in use
- Do not smoke in bed
- If you have security bars on your windows or doors, be sure they have an approved quick-release mechanism so you and your family can get out in the event of a fire

5 Bathroom

- Disconnect appliances such as curling irons and hair dryers when done; store in a safe location until cool
- Keep items such as towels away from wall and floor heaters

6 Garage

- Mount a working fire extinguisher in the garage
- Have tools such as a shovel, hoe, rake and bucket available for use in a wildfire emergency
- Install a solid door with self-closing hinges between living areas and the garage
- Dispose of oily rags in [illegible] (Underwriters Laboratories) approved metal containers
- Store all combustibles away from ignition sources such as water heaters
- Disconnect electrical tools and appliances when not in use
- Allow hot tools such as glue guns and soldering irons to cool before storing
- Properly store flammable liquids in approved containers and away from ignition sources such as pilot lights

Disaster Preparedness

- Maintain at least a three-day supply of drinking water, and food that does not require refrigeration and generally does not need cooking
- Maintain a portable radio, flashlight, emergency cooking equipment, portable lanterns and batteries
- Maintain first aid supplies to treat the injured until help arrives
- Keep a list of valuables to take with you in an emergency, if possible, store these valuables together
- Make sure that all family members are ready to protect themselves with STOP, DROP AND ROLL
- For safety, securely attach all water heaters and furniture such as cabinets and bookshelves to walls
- Have a contingency plan to enable family members to contact each other. Establish a family/friend phone tree
- Designate an emergency meeting place outside your home
- Practice emergency exit drills in the house (EDITH) regularly
- Outdoor cooking appliances such as barbecues should never be taken indoors for use as heaters

Fire Safe Curriculum and Educational Resources

American Red Cross Fire Prevention & Safety:
http://www.redcross.org/disaster/masters/firesafety/

FEMA for Kids, Resources for Teachers: http://www.fema.gov/kids/firecurr_13.htm

Kent, WA Fire District #37 offers classes for K-12. Can look at their brochures detailing these classes, also has good handouts you can download. Offers a newsletter for school children called Fireflies:
www.ci.kent.wa.us/fireprevention/publiceducation/default.htm#educationalclasses

National Fire Protection Association Risk Watch:
http://www.nfpa.org/riskwatch/RWND/wildfire.html

Oregon Office of State Fire Marshal, Oregon Fire Safety Skills K-6 Curriculum:
http://159.121.82.250/Comm_Ed/FSSC/FSSC.htm

South Carolina Dept. of Labor, Licensing & Regulation K-5 Curriculum:
www.llr.state.sc.us/freddie.asp

Staying Alive - Teaching K-8 Curriculum: http://www.stayingalive.ca/educators.html

Texas Dept. of Insurance, State Fire Marshal's Office K-12 Curriculum:
www.tdi.state.tx.us/fire/fmcurric.html

Washington State Dept. of Natural Resources K-3 Curriculum:
www.dnr.wa.gov/htdocs/rp/prevention/k-3_curriculum.htm

Fire Safe Literature

The following literature is available from the Fire Safe Council, or on the internet.

Before, During and After Wildfire: a Checklist, California Department of Forestry and Fire Protection (CDF), go to: http://www.fire.ca.gov/php/education_homeowner.php and click on Before, During and After Wildfire.

Be Prepared for Wildfire, Larimer County, CO Office of Planning & Building Services, Wildfire Safety, http://www.co.larimer.co.us/wildfire/prepared_for_wildfire/sld001.htm.

Defensible Space and Healthy Forest Handbook: A Guide to Reducing the Wildfire Threat, Placer Hills Protection District, Placer County Resource Conservation District and NRCS, contact the Placer County RCD, 251 Auburn Ravine Rd., Suite 201, Auburn, CA 945603-3719 or call them at 916-885-3046,
http://ceres.ca.gov/foreststeward/html/firesafehandbook.html.

50 things you can do to protect your home, Firewise Minnesota, Minnesota Department of Natural Resources, http://www.dnr.state.mn.us/firewise/50things.html.

Fire Risk Rating for Homes, Washington State Dept. of Natural Resources, Resource Protection Division, 1111 Washington St. SE , MS: 47037, Olympia, WA 98504-7037, Phone (360) 902-1300 or online at: http://www.dnr.wa.gov/htdocs/rp/rp.html.

Fire Safe Landscaping, Fire Safe Council,
http://www.firesafecouncil.org/education/landscaping/index.html.

Home Protection Guide, 1990, Washington State Dept. of Natural Resources, Resource Protection Division, 1111 Washington ST SE , MS: 47037, Olympia, WA 98504-7037, Phone (360) 902-1300 or online at: http://www.dnr.wa.gov/htdocs/rp/rp.html.

Homeowners Checklist: How to Make Your Home Fire Safe, CDF, Fire Safe Council, http://www.firesafecouncil.org/educationindex.html.

Is your Home Protected from Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit, Firewise, http://www.firewise.org/pubs/is_your_home/WILDFR2.PDF.

Living with Fire, A Guide for the Homeowner, Pacific Northwest Wildfire Coordinating Group, Northwest Fire Prevention Education Program, www.or.blm.gov/nwfire/docs/Livingwithfire.pdf.

What to do when you are threatened by wildfire, includes Wildfire Survival Checklist, Fire Safe Council, http://www.firesafecouncil.org/education/insideout/firesafebig6.html.

When Wildfire Approaches, Applegate Valley Fire Plan, Section V. To obtain a copy, contact the Applegate Partnership, http://www.grayback.com/Applegate-Valley/fireplan/index.asp**.**

Wildfire and Home Pre-Fire Safety Tips, December 18, 2002, Washoe County Sheriff's Office, Reno, NV, http://www.washoesheriff.com/pages/safetytips/firesafetywildfire.html.

Wildfire! Preventing Home Ignitions, video, Firewise http://www.firewise.org, 2001, 19 minutes.

Wildland-Urban Fire – A Different Approach, Cohen, Jack D., Missoula Fire Sciences Laboratory, Rocky Mountain Research Station, USDA Forest Service, http://www.nps.gov/fire/download/pub_pub_wildlandurbanfire.pdf,

Will Your Home Survive? A Winner or Loser? A Guide to help you improve the odds against wildland fire! R.D. "Dick" Harrell and William C. Teie, Deer Valley Press, (www.deervalleypress.com), 2001, 56 pages.

Fire Smart Landscaping

The following literature is available from the Fire Safe Council, or on the internet.

A Do-It-Yourself Guide to Thinning a Young Forest, Dave Kahan, Institute for Sustainable Forestry, PO Box 1580, Redway, CA 95560, (707) 923-7004.

Getting a handle on broom, parts I and II, John LeBlanc, California Forest Stewardship Program (CFSP), *Forestland Steward* Newsletter, Summer 2001, http://ceres.ca.gov/foreststeward/html/broom.html and http://ceres.ca.gov/foreststeward/html/broom2.html.

Prune trees for better health and higher value, California Forest Stewardship Program (CFSP), *Forestland Steward* Newsletter, Winter 2002, http://ceres.ca.gov/foreststeward/html/prune2.html.

Reducing Fire Hazard: Balancing Costs and Outcomes, US Forest Service Pacific Northwest Research Station, Science Update #7, June 2004, http://www.fs.fed.us/pnw/pubs/science-update-7.pdf.

Fire Ecology/Management

The following literature is available from the Fire Safe Council, or on the internet.

Fire Ecology of Pacific Northwest Forests, James K. Agee, Island Press, (www.islandpress.org), 1993, 505 pages.

Fire in America: A Cultural History of Wildland and Rural Fire, Stephen J. Pyne and William Cronon, University of Washington Press, (http://www.washington.edu/uwpress), 1997, 680 pages.

Fire, Native Peoples, and the Natural Landscape, Thomas Vale, Island Press, (www.islandpress.org), 2002, 238 pages.

Flames in Our Forest: Disaster or Renewal?, Stephen F. Arno and Stephen Allison-Bunnell, Island Press, (www.islandpress.org), 2002, 245 pages.

Wildfire: A Reader. Edited by Alianor True, Island Press, (www.islandpress.org), 2001, 228 pages.

APPENDIX H: CONTRACTORS AND RELATED RESOURCES FROM JCIFP

Illinois Valley Contractors

July 29, 2004

Disclaimer: *The names listed are solely for the purpose of providing information and have been placed here at the request of the businesses listed. Josephine County and the Illinois Valley Community Response Team do not guarantee or warranty the contractors named, or imply that they comply with state or local licensing, bonding, and insurance requirements. References to them do not signify our approval to the exclusion of other contractors.*

David Baker
Harmony Forestry
PO Box 1069
Cave Junction, OR
596-2163 or 592-4233
Logging, thinning, defensible space, hauling

Wayne Fitzpatrick
Deep Roots
Cave Junction, OR
PO Box 1872 CJ
592-2286
Reforestation, fire prevention

Robert Webb
Robert Webb Enterprises
592-3143
Thinning, logging, house pads, roadwork, brushing, restoration, etc.

George Alcorn
659-9940
Thinning, logging, house pads, roadwork, brushing, restoration, etc etc.

Marty Hertler
Martys Tree Service
PO Box 67
Selma, Oregon
597-4610
Hazardous tree removal, pre-com. thining /logging, fuel thinning around homes

Chris Runisey
Tree service
P.O. 2455
Cave Junction, OR
592-3271
Tree removal power line

Dennis Page
592-3199
659-3471
Tree falling and brush clearing

Jim Dougherty
Siskiyou Logging
592-4982
659-0859
Tree removal; logging

Todd Schaeffer
Defensible Space Excavation
596-2007
Fire Prevention Maintenance, back hoe and brush clearing, dump truck

Southern Oregon Laborers for Restoration, Thinning, etc.

June 18, 2004

Disclaimer: *The names listed are solely for the purpose of providing information and have been placed here at the request of the businesses listed. Josephine County and the Oregon Dept. of Forestry/State of Oregon do not guarantee or warranty the contractors named, or imply that they comply with state or local licensing, bonding, and insurance requirements. References to them do not signify our approval to the exclusion of other contractors.*

RURAL/METRO
LAWLESS, Lloyd
807 NE 6th Street
Grants Pass, OR 97526
(541) 474-1218
(541) 660-3518
Fuels management

AAA FORESTRY
PHILLIPS, Stephen
ARNER, Del
PO Box 380
Enterprise, OR 97828
(541) 426-4027
(541) 377-4158 CELL
Pre-Fire Treatment, Pre-Commercial Thinning, Brush Removal

ABC TREE SERVICE
PECKHAM, Mark
3263 DeWoody Lane
Grants Pass, OR 97527
(541) 479-3151

ASHBROOKS FOREST MGMT
BROOKS, Tom
30000 Hwy 62
Trail, OR 97541
(541) 878-3540
(541) 878-9469
Fire Protection, Clearing, Reforestation, & Thinning

BUSY BEAVER TREE SERVICE & STUMP REMOVAL
MURRAY, Nancy
9650 W Evans Creek Rd
Rogue River, OR 97537
(541) 582-6278
1-888-677-9199

CAYTON, Tim
1030 NW Hillside Drive
Grants Pass, OR 97526
(541) 476-3044
General contractor, land improvement, park-like setting, decks, fencing, home repair, tree service, chipper

CLEAR-VIEW
PECKHAM, Matt
900 Mayfair Ln
Grants Pass, OR 97527
(541) 476-5029

COVERED BRIDGE CONSTRUCTION
JOCHEM, Matt
8881 E Evans Creek Rd
Rogue River, OR 97537
(541) 582-1882

CROFT, Norbert
PO Box 765
Cave Junction, OR 97523
(541) 592-4894

ERIC'S TREE SERVICE
WERNER, Eric
233 SE Rogue River Hwy
PMB 435
Grants Pass, OR 97527
(541) 479-4064

FOREST & RESOURCE CONSULTANT
GASOW, Bill
PO Box 1692
Grants Pass, OR 97528
(541) 471-3372
E-Mail:
fconsult@internetcds.com

FREEMAN, Robert
12111 Table Rock Rd
Central Point, OR 97502
(541) 840-8821

HAMANN, Don
PO Box 198
Butte Falls, OR 97522
(541) 865-3310

HARRIS, Mark
6396 Downing Rd.
Central Point, OR 97502
(541) 826-3658

HAUSER, Roy
PO Box 187
Wilderville, OR 97543
(541) 479-0231

HENRY BLANK EXCAVATION
2748 Anderson Creek Rd.
Talent, OR 97540
(541) 535-7295

HIGH COUNTRY REFORESTATION
HOLMES, Chris
532 Sykes Creek Rd.

Rogue River, OR 97537
(541) 582-0965

HONEY DEW HARDWOOD
DAVIS, Kelly
118 Hope Drive
PO Box 794
Selma, OR 97538
(541) 597-4855
(541) 659-4771

INTEGRATED RESOURCE MNG
BARNES, Marc
151 Schultz Rd
Central Point, OR 97502
(541) 665-3700
Marc@irmforestry.com

JACKSON CO COMMUNITY JUSTICE WORK CENTER
DONAGHY, Jeanine
5505 S Pacific Hwy
Phoenix, OR 97535
(541) 774-4965

JEFF DEAN'S TREE SERVICE
DEAN, Jeff
210 Lloyd Drive
Grants Pass, OR 97526
(541) 476-8109

KNIGHT FOREST MGMT & LGN
KNIGHT, John
1394 #A Dowell Rd.
Grants Pass, OR 97527
(541) 471-1266
#8585

LOMAKATSI RESTORATION PROJECT
BEY, Marko
PO Box 3084
Ashland, OR 97520
(541) 488-0208

MICHAEL MAAS ORGANIC FORESTRY SERVICES
102 Slate Creek Rd.
Wildervile, OR 97543
(541) 476-0737
EMAIL: hsapiens@budget.net

MIKE CREEK INC.
2052 Redwood Ave
Grants Pass, OR 97527
(541) 761-0343

NATIVE LANDSCAPE
GADE, Eric
5950 Riverbanks Rd.
Grants Pass, OR 97527
(541) 479-0834
Fuels Reduction/Salvage

NORTHWEST ARBOR CULTURE, INC.
NASH, Chris
SPALDING, Jillian
LARSON, Jay
31635 Wilsonville Rd NE
(503) 554-8948
CCB# 143287
Bond# LPM4030052
Tree removal, chipping, handwork, brush disposal, reforestation

OUT COLD FIRE SERVICE LLC
JORDAN, Matthew
9500 Lower River Rd
Grants Pass, OR 97526
(541) 660-7586
(541) 474-0597
Wildland fire fighting, fuel reduction, defensible space

OUT OF THE WOODS ECO-FORESTRY
SCHATTLER, Joe
4062 Yale Creek Rd
Jacksonville, OR 97530
(541) 899-7836

PACIFIC OASIS
DODDS, Stephen
1575 E Nevada St
Ashland, OR 97520
(541) 488-4287
(541) 552-9723 **Fax**
Reforestation specialist, Plantation Mgmt

PACIFIC SLOPE TREE CO
DAHL, Chuck
PO Box 353
Williams, OR 97544
(541) 846-9226

PAGE, Dennis
PO Box 1224
Cave Junction, OR 97523
(541) 592-3199
Insured, Fireline Clearing, Tree Thinning, Brush Clearing
#156955 F/F Lic. 8811

POINT OF VIEW THINNING & BRUSH
CLARK, Rodney
PO Box 482
Selma, OR 97538
(541) 659-3952

RAINFORTH LANDWORKS
RAINFORTH, Jerry
556 Glenlyn Drive
Williams, OR 97544
(541) 846-1383
(541) 660-5619
Email:
landworks@budget.net
Mowing, driveway repair, grading, misc. maintenance

RAINWATER FORESTRY & LOGGING
RAINWATER, James
9160 Monument Drive
Grants Pass, OR 97526
(541) 476-7282

ROGER'S TREE SERVICE
PREFONTAINE, Roger
PO Box 271
Williams, OR 97544
(541) 846-6706

S & K EXCAVATION
NACE, Kris

4847 Azalea Glen Rd.
Glendale, OR 97442
(541) 832-2258

SCHUBERT, Kevin
1801 Pacific Way
Gearhart, OR 97238
(503) 738-7808
treeplanterkevin@yahoo.com

SMALL WOODLAND SERVICES
Marty Main
2779 Camp Baker Rd.
Medford, OR 97501
(541) 552-1479

STOUT, Greg
3700 Hosmer Ln
Gold Hill, OR 97525
(541) 582-6516
Fire Break, Fuels Reduction

SUMMITT FORESTS, INC
PMB# 218
1257 Siskiyou Blvd.
Ashland, OR 97520
(541) 535-8920
Fuel Reduction

TED'S QUALITY TREE SERVICE
PECKHAM, Ted Jr.
1916 Carton Way
Grants Pass, OR 97526
(541) 472-1948
(541) 472-0105 FAX
Tree Work, Logging, Etc.

TED'S TREE SERVICE & LGN.
PECKHAM, Ted
P.O. Box 2103
Cave Junction, OR 97523
(541) 592-4789

3 RIVERS TREE SERVICE
PORTER, Scott
950 Jaynes Drive
Grants Pass, OR 97527
(541) 471-7894
(541) 772-7900
(541) 472-2818 PAGER

TRUMBLY, Wayne
777 Wildflower Drive
Merlin, OR 97532
(541) 956-1850
(541) 218-1099 CELL

WILDER, Aaron
600 Pickett Creek
Grants Pass, OR 97526
(541) 472-8435

WOLF CREEK WOODWORKS
STUBBLEFIELD, Jim
PO Box 381
160 Lower Wolf Creek Rd
Wolf Creek, OR 97497
(541) 866-2545
Custom milling, small logging jobs, chipping, unique yarder - low impact

RALPH WYTCHERLEY EXCAVATING
3404 Midway Ave
Grants Pass, OR 97527
(541) 476-1160

Southwest Oregon – Small Logging and Salvage Operators

June 18, 2004

Disclaimer: The names listed are solely for the purpose of providing information and have been placed here at the request of the businesses listed. Josephine County and the Oregon Dept. of Forestry/State of Oregon do not guarantee or warranty the contractors named, or imply that they comply with state or local licensing, bonding, and insurance requirements. References to them do not signify our approval to the exclusion of other contractors.

ABC TREE SERVICE
PECKHAM, Mark
3263 DeWoody Lane
Grants Pass, OR 97527
(541) 479-3151

ACTION HORSE LOGGING
JUDD, Don
233 Rogue River Hwy #273
Grants Pass, OR 97527
(541) 659-9293 PAGER
Horse Logging

APPLIED FOREST TECHNOLOGY & EXCAVATION
ULREY, Robert W
PO Box 850
Rogue River, OR 97537
(541) 821-6547

ATC LOGGING
HAUSE, Anthony
8444 Lower River Rd.
Grants Pass, OR 97526
(541) 479-5361

A TO Z STUMP REMOVAL
ZIEGLER, Bruce
310 Marion Lane
Grants Pass, OR 97527
(541) 474-6057

BARTLETT, Mike
704 Favill Rd.
Grants Pass, OR 97526
(541) 476-9313
Small Jobs

BILLINGS, Don
PO Box 334
2021 Leland Rd.
Sunny Valley, OR 97497
(541) 479-1938

J.W. BLUMENFELD LOGGING
BLUMENFELD, John
PO Box 3350
Applegate, OR 97530
(541) 846-7580
Oregon Professional Logger Cert.

COVERED BRIDGE CONSTRUCTION
JOCHEM, Matt
8881 E Evans Creek Rd
Rogue River, OR 97537
(541) 582-1882

ED PARIERA LOGGING
26261 Hwy 140 W
Klamath Falls, OR 97601
(541) 356-2237

ERIC'S TREE SERVICE
WERNER, Eric
233 SE Rogue River Hwy
PMB 435
Grants Pass, OR 97527
(541) 479-4064

FREEMAN, Robert
12111 Table Rock Rd
Central Point, OR 97502
(541) 840-8821

GRISSOM ENTERPRISE
GRISSOM, Scott
2855 S. Fk. Little Butte Cr. Rd., Eagle Point, OR 97524
(541) 830-8802
Low Impact Logging

HAMANN, Don
PO Box 198
Butte Falls, OR 97522
(541) 865-3310

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Wilderville, OR 97543
(541) 479-0231

HENRY BLANK EXCAVATION
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INTREGTATED RESOURCE MNG
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(541) 476-8109

KNIGHT FOREST MGMT & LGN
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1394 #A Dowell Rd.

Grants Pass, OR 97527
(541) 471-1266
#8585

LITTLEFIELD, Bill
PO Box 1125
Shady Cove, OR 97539
(541) 878-2860
(541) 821-0694 CELL
Logging, sewer systems, road building, & excavation

OUT OF THE WOODS ECO-FORESTRY
SCHATTLER, Joe
4062 Yale Creek Rd
Jacksonville, OR 97530
(541) 899-7836

PACIFIC SLOPE TREE CO
DAHL, Chuck
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Williams, OR 97544
(541) 846-9226

RAINWATER FORESTRY & LOGGING
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9160 Monument Drive
Grants Pass, OR 97526
(541) 476-7282

REBER, Michael
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Rogue River, OR 97537
(541) 582-0946
Low Impact Logging

RICK ROBERTSON LOGGING, INC.
1397 Dutcher Creek Rd
Grants Pass, OR 97527
(541) 476-3435

ROGER'S TREE SERVICE
PREFONTAINE, Roger
PO Box 271
Williams, OR 97544
(541) 846-6706

SEVEN EAGLES TIMBER
CARTER, Francis Lee
C/O 2200 Knowles Rd.
Medford, OR 97501
(541) 770-6784
(541) 821-4007
Independent logger, contractor

STOUT, Greg
3700 Hosmer Ln
Gold Hill, OR 97525
(541) 582-6516
Fire Break, Fuels Reduction

TED'S QUALITY TREE SERVICE
PECKHAM, Ted Jr.
1916 Carton Way
Grants Pass, OR 97526
(541) 472-1948
(541) 472-0105 FAX
Tree Work, Logging, Etc.

TED'S TREE SERVICE & LGN.
PECKHAM, Ted
PO Box 2103
Cave Junction, OR 97523
(541) 592-4789

TERRY NEUENSCHWANDER LOGGING
455 Tolman Creek Rd.
Ashland, OR 97520
(541) 482-2606
Cable or Cat, Small Scale

3 RIVERS TREE SERVICE
PORTER, Scott
950 Jaynes Drive
Grants Pass, OR 97527
(541) 471-7894
(541) 772-7900
(541) 472-2818 PAGER

VALDEZ, Charlie
8171 Deer Creek Rd.
Selma, OR 97538
(541) 597-4005
Stand Improvement

WONSYLD, Michael
891 Coutant Lane
Grants Pass, OR 97527
(541) 479-4517

WRIGHT TIMBER CONTR
2002 Galls Creek Rd
Gold Hill, OR 97525
(541) 855-1823
(541)621-5272
Yarder, skidder, falling, salvage, thinning

HORSE LOGGERS

ACTION HORSE LOGGING
JUDD, Don
233 Rogue River Hwy #273
Grants Pass, OR 97527
(541) 659-9293
Horse Logging

Southern Oregon Consultants and Surveyors

May 12, 2004 – Jackson and Josephine County (from the local area)

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DAKE FOREST MANAGEMENT
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2610 Dellwood, Medford, OR
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Central Point, OR 97502
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BIOLOGICAL CONSULTANTS
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(541) 770-6746

LOMAKATSI RESTORATION PROJECT
BEY, Marko, PO Box 3084
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(541) 471-7894
(541) 772-7900
(541) 472-2818 (pager)

SISKIYOU WOODLAND COMMUNITY
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Ashland, OR 97520
(541) 261-6203

SMALL WOODLAND SERVICES
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Medford, OR 97501
(541) 552-1479

STEWART, Martin C
Professional Forester
6370 Hwy 66
Ashland, OR 97520
(541) 488-2831

THOMPSON, Robert
1140 Acacia Lane
Grants Pass, OR 97527
(541) 476-3269

ZIEGLER, Steven
4622 Eagle Trace Drive
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(541) 857-8984
(541) 857-8984 FAX
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GROWING SOILS
KITZROW, Gary A.
244 Apple Blossom Lane
Roseburg, OR 97470
(541) 673-4846
(541) 673-0373 FAX
E-MAIL: soileye@mci.net

ACCU-TANKS & EQUIP.
PO Box 31, Williams, OR 97544
(541) 846-0182
sales@accutanks.com

Southern Oregon Consultants and Surveyors

June 2, 2003 – Jackson and Josephine County (from out of the area)

Disclaimer: *The names listed are solely for the purpose of providing information and have been placed here at the request of the businesses listed. Josephine County and the Oregon Dept. of Forestry/State of Oregon do not guarantee or warranty the contractors named, or imply that they comply with state or local licensing, bonding, and insurance requirements. References to them do not signify our approval to the exclusion of other contractors.*

BARNES & ASSOCIATES, INC.
3000 Stewart Parkway, Suite 204
Roseburg, OR 97470
(541) 673-1208
(541) 673-9789 FAX NUMBER

GENETECHS
COURTER
Richard W.
1600 Northwest Skyline Blvd.
Portland, OR 97229
(503) 297-1660
Association of Consulting Foresters of America web page searches can be made to locate ACF Foresters
www.acf-foresters.com

SPITZ, Jim
60045 River Bluff Trail
Bend, OR 97702
(541) 389-5978
(541) 389-9173 FAX

STUNZER, Ron
PO Box 118
Coos Bay, OR 97420
(541) 267-2872

WOODLAND MANAGEMENT INC.
Kruse Woods One Bldg.
Suite # 468
5285 SW Meadows
Lake Oswego, OR 97035
(503) 684-4004
(503) 684-4005 FAX
woodland@woodlandmgmt.com

W.R. WEATHERS & ASSOCIATES
PO Box 39
29 South Alder Street
Lowell, OR 97452
(541) 937-3738
(541) 937-2518 FAX

Portable Saw Mills

June 2, 2004

Disclaimer

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HENRY BLANK EXCAVATION
2748 Anderson Creek Rd.
Talent, OR 97540
(541) 535-7295

CRUTCHER, Ron
283 Pickett Creek
Grants Pass, OR 97527
(541) 474-5519
Can cut up to 21'
Shares/Hourly/MBF

FREEMAN, Robert
12111 Table Rock Rd
Central Point, OR 97502
(541) 840-8821

OUT OF THE WOODS ECO-FORESTRY
SCHATTLER, Joe
4062 Yale Creek Rd
Jacksonville, OR 97530
(541) 899-7836

PACIFIC SLOPE TREE CO
DAHL, Chuck
PO Box 353
Williams, OR 97544
(541) 846-9226
Contractor #106737

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WOLF CREEK WOODWORKS
STUBBLEFIELD, Jim
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160 Lower Wolf Creek Rd
Wolf Creek, OR 97497
(541) 866-2545
Custom milling, small logging jobs, chipping, unique yarder - low impact

List of Sawmills – Southern Oregon Area

April 22, 2003

Disclaimer

The names listed are solely for the purpose of providing information and have been placed here at the request of the businesses listed. Josephine County and the Oregon Dept. of Forestry/State of Oregon do not guarantee or warranty the contractors named, or imply that they comply with state or local licensing, bonding, and insurance requirements. References to them do not signify our approval to the exclusion of other contractors.

JOSEPHINE COUNTY

LOUISIANA PACIFIC CORP.
PO Box 340
Rogue River, OR 97537
(541) 582-3288

ROUGH & READY LBR & TBR
MCLAUGHLIN, Dan
PO Box 519
Cave Junction, OR 97523
(541) 592-3116

SUPERIOR LUMBER PRODUCTS
MAURER, Ken
PO Box 250
Glendale, OR 97470
(541) 832-2151

JACKSON COUNTY

BOISE CASCADE CORP.
PO Box 100
Medford, OR 97501
(541) 776-6609

HOMESTEAD LOG HOMES
6301 Crater Lake Hwy
Central Point, OR 97502
(541) 826-6888

LOUISIANA PACIFIC CORP.
PO Box 340
Rogue River, OR 97537
(541) 582-3288

TIMBER PRODUCTS CO.
PO Box 766, Yreka, CA 96097
(541) 773-6681

COOS COUNTY

ROSEBURG FOREST PRODUCTS
PO Box 1088
Roseburg, OR 97470
(541) 679-3311

CURRY COUNTY
SOUTH COAST LUMBER
PO Box 670
Brookings, OR 97415
PO Box 670
(541) 469-2136

DOUGLAS COUNTY
C & D LUMBER CO.
PO Box 27, Riddle, OR 97469
(541) 874-2281

D.R. JOHNSON LUMBER CO.
KECK, Jerry
PO Box 66, Riddle, OR 97469
(541) 874-2231

DOUGLAS CO. FOREST PRODUCTS
BLODGETT, John
PO Box 848
Winchester, OR 97495
(541) 957-0209

GLIDE LUMBER PRODUCTS
PO Box 370
Glide, OR 97443
(541) 496-3571

HERBERT LUMBER CO.
PO Box 7, Riddle, OR 97469
(541) 874-2236

KELLER LUMBER
4418 NE Tiller Rd, Roseburg, 97470, (541) 672-6528

LOUISIANA PACIFIC CORP.
PO Box 340
Rogue River, OR 97537
(541) 582-3288

MURPHY VENEER
7975 11th St, White City, OR 97503, (541) 459-4545

ROSEBURG FOREST PRODUCTS
PO Box 1088
Roseburg, OR 97470
(541) 679-3311

SUPERIOR LUMBER PRODUCTS
PO Box 250, Glendale, OR 97470, (541) 832-2151

LONE ROCK TIMBER
PO Box 1127, Roseburg, OR 97470, (541) 673-0141

Southwest Oregon – Self Loaders

May 12, 2004

Disclaimer

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PO Box 157
Glendale, OR 97442
(541) 476-9686

DAN B CLINE TRUCKING, INC
PO Box 153
Glendale, OR 97442
(541) 832-2620

FRINK, Russell
1075 Tara Circle
Medford, OR 97504
(541) 734-4658

GYPPO LOGGING
VITTO, Mike
222 Granite Hill Rd
Grants Pass, OR 97526
(541) 479-6047

HAMMAFORD, JD
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Eagle Point, OR 97524
(541) 826-5767

JOE VARGAS TRUCKING
399 Mountain View Drive
Eagle Point, OR 97524
(541) 826-3374

JOHN R WOOD TRUCKING
12310 Williams Hwy
Grants Pass, OR 97527
(541) 846-6265

MCFALL, Dale
51 Barton Rd
Eagle Point, OR 97524
(541) 826-4679
Call in the evenings

PLUMLEY INC
7189 Agate Rd
White City, OR 97503
(541) 826-1290

R & S TRUCKING
WARDLE, Rocky
9495 E Evans Creek Rd
Rogue River, OR 97537
(541) 582-1367

RICK MIRANDA CONTRACTING
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Grants Pass, OR 97526
(541) 472-1487

RIGEL, John
9400 Elk Creek Rd
Trail, OR 97541
(541) 878-4219
(541) 840-7196

SCOTT DOWNING SELF LOADING LOG TRUCK
9775 Blackwell Rd
Central Point, OR 97502
(541) 855-5515

UMPQUA SELF-LOADERS LLC
PO Box 189
Sutherlin, OR 97549
(541) 459-303

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APPENDIX J. JOSEPHINE COUNTY INTEGRATED FIRE PLAN - EDUCATIONAL MATERIALS

- Current and Potential Funding Resources
- Materials Inventory
- Fire Mitigation and Education Resources
- Evacuation: Are You Prepared?

Josephine County Integrated Fire Plan - Current and Potential Funding Sources

Program	Funding Agencies	Funding For:	Eligible Applicants	Funding Cycle	Website	Contact
National Fire Plan Community Assistance	USDI - BLM, NPS, USFWS, BIA, USDA - FS	Fuels Reduction, Fire Planning, Education, Biomass Utilization	Counties, Cities, state and local govt. agencies, federally recognized tribes, universities, and state-chartered non-profits	Applications due 2/13/04 for FY05 funds	www.nwfireplan.gov	Lauren Maloney , 503.808.6587 Lauren_Maloney@or.blm.gov Jackson & Josephine Counties, Paul Galloway, 541.552.2921 pgalloway@fs.fed.us
Rural Fire Assistance/ Vol. Fire Assistance	Oregon Dept. of Forestry	Prevention/Education, Equipment, Training	Rural/Vol. Fire Departments serving <10,000	Call for Applications: March - April	www.odf.state.or.us	Don Matlick, 503.945.7444 dmatlick@odf.state.or.us
Assistance to Firefighters Grant Program	FEMA - U.S. Fire Administration	Fire Operations & Firefighter Safety, Fire Prevention, Emergency Medical Services, Firefighting Vehicles Acquisition	Fire Departments (Not Fed. or for-profit organizations)	Call for Applications: March - April	www.usfa.fema.gov	Robert Carnahan, FEMA 425.487.4751
Assistance to Firefighters - Fire Prevention and Safety Grants	FEMA - U.S. Fire Administration	Fire Prevention	Fire Departments	Call for Applications: November - December	www.usfa.fema.gov/fire-service/grants/safetygrant/03-prev-grants.shtm	Robert Carnahan 425.487.4751
PL106-393 Secure Rural Schools and Community Self-Determination Act of 2000 - **Title II**	USDI - BLM USDA - FS	Watershed Restoration and Forest Ecosystem Health (fuels reduction) on and off federal lands, benefiting resources on federal land	Any	Medford BLM, Rogue River – Siskiyou & Umpqua National Forests March-April	www.or.blm.gov/Medford www.fs.fed.us/r6/siskiyou www.fs.fed.us/r6/rogue	Bill Freeland, 541.618.2417 William_Freeland@or.blm.gov Nancy Rose. 541.858.2218 nrose@fs.fed.us
PL106-393 **Title III**	Counties	Search & Rescue, Fire Prevention & Planning, Forest Education, Conservation Easements, Community Forestry	Any	Call for Applications: Josephine Co. - Late spring Jackson Co. - April		Bruce Bartow, 541.474.5421 bbartow@co.josephine.or.us Lin Bernhardt 541.774.6086 BernharLD@jacksoncounty.org
Federal Excess Personal Property	Oregon Dept. of Forestry	Excess federal equipment that can be used in a fire program	Fire Departments	Available equipment posted on web site March-May	www.odf.state.or.us www.fs.fed.us/fire/partners/fepp/	Don Sohler 503.359.7467 Don.W.Sohler@state.or.us
State Fire Assistance	Oregon Dept. of Forestry	Special Projects identified by ODF	ODF staff areas and districts			Don Matlick, 503.945.7444 dmatlick@odf.state.or.us
Program	**Funding**	**Funding For:**	**Eligible Applicants**	**Funding**	**Website**	**Contact**

	Agencies			Cycle		
OWEB	Oregon Watershed Enhancement Board	Watershed Restoration, Land&Water Acquisition, Assessment&Action Plans, Monitoring, Education	Any individual, organization, local government, or institute of higher education	Two cycles - Late October & Late April	www.oweb.state.or.us	Mark Grenbemer 541.471.2886 mark.a.grenbemer@state.or.us
OWEB Small Grants Program	Oregon Watershed Enhancement Board	Watershed restoration or enhancement on forest, farm, and rural residential lands	Tribe, watershed council, SWCD, institution of higher education, others	Varies, next Rogue Basin window 3/15-30/04.	www.oweb.state.or.us/SmallGrant/smallgrant.shtml	Mark Grenbemer 541.471.2886 mark.a.grenbemer@state.or.us
National Forest Foundation Community Assistance Program	National Forest Foundation	Creation of locally based forest partnerships.	A newly forming or re-organizing group	4 cycles -- December, March, June and September	http://www.natlforests.org/consp_05_cap.html	National Forest Foundation Alexandra Kenny, Director of Grants Programs 2715 M Street, NW - Suite 100, Washington, DC 20007 202.298.6740
FEMA Pre-Disaster Mitigation Grant Program	FEMA	Hazard Mitigation Planning and Projects	Municipalities, Counties, Special Districts	Annual - Fall 04?	http://www.fema.gov	Sharon Loper, FEMA Region 10, sharon.loper@dhs.gov

Josephine County Integrated Fire Plan - Materials Inventory

Resource	Organization	Type of Resource	Where it can be obtained	Cost per item	Ordering info	Notes
Insurance Information for Homeowners	Institute for Business and Home Safety	Insurance information	http://www.ibhs.org	N/A		
A Homeowners Guide to Wildfire Retrofit (FWC-004-01-BK)	Institute for Business and Home Safety (IBHS)	20 page booklet	http://www.firewise.org/catalog/audiovisual/	S&H Only (2 pkg limit)	http://www.firewise.org/catalog/audiovisual/	This guide, developed by IBHS, provides a solid background in wildfire behavior and how homeowners can make their homes safer through simple, often inexpensive modifications. 20 pages, 25/pkg, 2001
Address on Fire and Vegetation patterns in region	Siskiyou Field Institute (SFI)	Address	institute@siskiyou.org	Not for purchase	Contact SFI - 541-592-4459	541-592-4459
"Saving Homes from Wildfires: Regulating the Home Ignition Zone" (FWC-403-01-RP)	American Planning Association	article reprint	https://www.cmsassociates.com/Firewise/9075_02.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	This article by Jack Cohen, Nan Johnson, and Lincoln Walther, AICP explains wildland fire behavior, the home ignition zone,and provides suggestions on tools that local planners can use to minimize property losses from wildfire in their jurisdiction.
Living on the Wildside (FWC-404-03-RP)	NFPA Journal	article reprint	https://www.cmsassociates.com/Firewise/9577.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	"Remote Control" discusses homeowner responsibility for wildfire safety in remote WUI areas. Includes interviews with developers, fire chiefs, homeowners, building contractors and state forestry staff regarding the use of design standards for siting and construction to reduce the potential for home ignitions in a wildfire event. "Show Low Arizona Inferno" is about the 2002 Rodeo-Chediski Fire.
WUI Hazard Assessment Methodology	National WUI Fire Protection Program (FWC-003-98-BK)	Assessment Guide (pdf)	https://www.cmsassociates.com/Firewise/9049.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	For communities that find other standard assessment systems don't fit their circumstances, this guide will help in establishing and designing a local hazard assessment system.
Firewise Communities: Where We Live, How We Live	Firewise (FWC-001-03-BK)	book	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	This hard-covered book illustrates Firewise homes that demonstrate aesthetically pleasing landscape designs that function as barriers against wildfire. Explanatory text is provided to describe designs and plant materials.

Resource	Organization	Type of Resource	Where it can be obtained	Cost per item	Ordering info	Notes
Firewise Communities Bookmark (FWC-103-03-MK)	Firewise	bookmark	https://www.cmsassociates.com/Firewise/8986.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	A great handout for meetings, workshops, and Firewise/community days. List important Firewise principles.
Firewise Around Your Home (FWC-201-03-PH)	Firewise	brochure	https://www.cmsassociates.com/Firewise/9060.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	A brochure that provides a sample home diagram with defensible space with Firewise hints for the homeowner
Firewise Communities/USA (FWC-203-02-PH)	Firewise	brochure	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pkg limit)	http://www.firewise.org/catalog/audiovisual/	This brochure describes the Firewise Communities/USA Recognition Program, how a community can participate in the program, and the Firewise Communities/USA Standards that must be met to become recognized. 50/pkg, 2002
Firewise - Around Your Home	Firewise	brochure	http://www.firewise.org/brochure.zip	Free Download	http://www.firewise.org/	
Firewise - Around Your Home (Spanish Version)	Firewise	brochure	http://www.firewise.org/around_home_sp.pdf	Free Download	http://www.firewise.org/	
WUI Hazard Assessment Training (FWC-624-03-CD)	Firewise	CD Training Course	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	WUI Interface Hazard_Assessment Training Course presentation and field assessment from Spearfish, South Dakota, and includes field assessments presented in Prescott, AZ; Boise, ID; Daytona Beach, FL; and Toms River, NJ. 3 material CDs provide information on hazard assessments for residential developments in the WUI.
Home Improvement: A Firewise Approach	Firewise (DVD / FWC-603-03-DV)	DVD	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	This home improvement and landscaping video documents one home's journey to become Firewise. The video discusses and illustrates each stage of the landscaping and construction renovations in detail of the home to meet Firewise criteria. Appropriate for homeowners, home construction and landscaping professionals.
Firewise CommunitiesBecoming a Firewise Community - DVD	Firewise (FWC-605-02-DV)	DVD	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	This DVD includes the Firewise Communities USA: Becoming a Firewise Community video as well five individual videos that document the efforts, processes, and activities of several communities around the nation.
Resource	**Organization**	**Type of Resource**	**Where it can be obtained**	**Cost per item**	**Ordering info**	**Notes**

Keeper of the Flame	Firewise (FWC-625-03-DV)	DVD	http://www.firewise.org/catalog/audiovisual/	S&H Only (2 pc limit)	http://www.firewise.org/catalog/audiovisual/	*Keeper of the Flame* tells the story of fire and how fire policy changed dramatically during the 20th Century and how fire is now being re-introduced across the American landscape. The film culminates with the impact of development in the WUI and the changing terrain of fire ecology.
Fire Ecology kit	SOU EE program	Education	seec@students.sou.edu	free	reserve - 541-552-6876	Youth field kit on fire ecology
Fire Fighter Safety in the WUI Series (FWC-602-03-VST)	Firewise	Education	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	The Fire Fighter Safety Series is a multipart instructional package developed for small community fire departments to address the problems faced by structural and wildland firefighters when fighting fires, especially those threatening structures in the WUI. The complete instruction package contains: 1. 3 videos or DVDs (a) Fire Behavior in the WUI (b) Structure Protection Strategies in the WUI (c) Firefighter Safety in the WUI 2. An Instructor Guide 3. A computer-slide presentation corresponding with the videos. The computer-slide presentation has been designed so that the program can be instructor-led in the classroom or self-paced for the individual student
Science Teacher Kit Wildfires: Beware and Prepare	Firewise	educational program	http://www.firewise.org/catalog/audiovisual/	S&H Only (1 pc limit)	http://www.firewise.org/catalog/audiovisual/	Firewise Communities and Lifetime Learning Systems has developed this educational program to assist teachers in explaining wildfire hazards to students in grades 6-8. Students will learn how wildfires start, how they can be prevented, what makes a home or community susceptible to wildfires, and safety features that can be implemented at home or in the community to help reduce the risk and damage of wildfires.
Insiders Guide - Facilitator's / Operators (FWC-005-02-BK)	Firewise	Facilitator's Guide	https://www.cmsassociates.com/Firewise/9080.pdf	Free Download	http://www.firewise.org/catalog/audiovisual/	This guide, for local and regional workshop facilitators and computer operators, can add insight into the simulation exercises as well as providing shortcuts and skills needed for better presentation. 36 pages, 5/pkg, 2002
Living with Fire	PNWCG	Flyer/Newsletter	http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf		Contact PNWCG	Pacific Northwest Wildfire Coordinating Group
Living with Fire	PNWCG	Flyer/Newsletter	http://www.or.blm.gov/nwfire/docs/Livingwithfire.pdf		Contact PNWCG	
Everyone's Responsibility: Fire Protection in the WUI	National WUI Fire Protection Program	Guide	http://www.firewise.org/pubs/everyones_resp/pdf/resp.pdf	Free Download	http://www.firewise.org/	
Firewise Glossary	Firewise	Guide	http://www.firewise.org/glossary/fwglossary.pdf	Free Download	http://www.firewise.org/	

Is Your Home Protected From Wildfire Disaster?	Institute for Business & Home Safety	Guide	http://www.firewise.org/pubs/is_your_home/WILDFR2.PDF	Free Download	http://www.firewise.org/	The purpose of this document is to provide homeowners with guidance on ways to retrofit and build homes to reduce losses from wildfire damage. It contains suggestions and recommendations based on professional judgment, experience and research and is intended to serve only as a guide.
Fire-Resistant Plants for Oregon Home Landscapes	OSU Extension	Handbook	http://extension.oregonstate.edu/deschutes/FireResPlants02.pdf	free on-ine	Stephen Fitzgerald	541-548-6088 x16 Stephen.Fitzgerald@orst.edu
Is your Home Protected from Wildfire?	Institute for Business and Home Safety	Handbook	http://www.ibhs.org/publications/view.asp?id=130	free on-ine	pdf or hardcopy	Other resources available
Wildland Fire Prevention Education Teams	National	Interactive web site	http://www.firepreventionteams.us/	Free		Wildland fire prevention/education teams can be mobilized in advance of fires, when fire danger becomes extreme. Prevention/education teams are available to support any geographic area preceding and during periods of high fire danger or fire activity. Teams assist the local unit in the prevention of unwanted human-caused wildfires.
Making Your Home Firewise	Firewise	Interactive Web site	http://www.firewise.org/pubs/fwc		http://www.firewise.org/	This presentation gives ideas and techniques for homeowners when constructing or modifying homes in WUI areas. The host demonstrates how a simple walk around the house can give the homeowner an initial Firewise assessment of the property. Topics include roofs, windows, eaves, and decks, with some attention given to landscaping. It also provides information that a prevention officer or anyone with cooperative duties can use in presentation or basis of discussion for various local groups. 1997

Josephine County Integrated Fire Plan - Fire Mitigation and Education Resources

Websites

Resource

Keep Oregon Green – http://www.keeporegongreen.org

Firewise – http://www.firewise.org

Pacific Northwest Wildfire Coordinating Group – http://www.pnwcg.org

Northwest Interagency Fire Center – http://www.nifc.gov

EcoSmart – FireWise Program - http://wcufre.ucdavis.edu/ecosmart/firewise/

Fire Ecology Education

Resource

Discovery Channel: Fire Ecology Curriculum K-12 grades
http://school.discovery.com/lessonplans/programs/forestfires/

Prescribed Fire Information and helpful links - http://flame.doacs.state.fl.us/Env/fire.html

Fireworks: A portable trunk that contains educational materials for hands on learning about how forest change over time, especially in relationship to fire. Provides curricula for all grade levels.
http://www.firelab.org/fep/research/fireworks/fireworks.htm

Northwest Fire Prevention Education http://www.or.blm.gov/nwfire/

Minnesota DNR Fire Prevention Education Curriculum -
http://www.dnr.state.mn.us/education/wildfire/curriculum.html

Fire Ecology Quiz - http://www.enn.com/indepth/fire/index.asp

Environmental Education

Resource	Website
The Nature Conservancy	http://www.tnc.org/
National Science Teachers Association	http://www.nsta.org/
A library of creative curriculum resources	http://school.discovery.com/
Ecosystems Matter Curriculum	http://na.fs.fed.us/spfo/ce/content/for_teachers/curriculum/
Project Learning Tree	http://www.plt.org/

Children's Fire Prevention Handouts and Interactive

Resources	Website
Coloring Sheets	http://www.kansasforests.org/Programs/fire/prevention/coloring.htm
FEMA for Kids	http://www.fema.gov/kids/wldfire.htm
Home Fire Escape Plan	http://www.ci.kent.wa.us/fireprevention/publiceducation/
Good Fire Bad Fire	http://www.ci.kent.wa.us/fireprevention/publiceducation/goodfiresbadfires.pdf
Stanislaus NF Kids Center Website	http://www.fs.fed.us/r5/stanislaus/kidcenter/index.shtml
Fire Pals	http://www.firepals.org/

Older Kids Fire Prevention

Smokey takes Algebra	http://illuminations.nctm.org/lessonplans/912/smokey/index.html

Risk Assessments by High School Students as public service	http://www.wildfireprograms.com/search.html?displayId=228

Fire Prevention

NWCG Working Teams Fire	http://www.nwcg.gov/teams/wfewt/biblio/index.htm
Washington State DNR Fire Prevention Curriculum	http://www.dnr.wa.gov/htdocs/rp/prevention/k3.htm
National Fire Protection Association	http://www.firepreventionweek.org/
NIFC: Fire Prevention and Education	http://www.nifc.gov/preved/index.html
FEMA for Kids: teaching kids about prescribed fire	http://www.fema.gov/kids/wldfire.htm
Education World: Fire Safety: Activities to Spark Learning!	http://www.education world.com/a_lesson/lesson026.shtml
Fire Safe is the home page/resource directory for Safety Information	http://firesafe.org/usa.html
Smokey Bear	http://www.smokeybear.com/
IMAX Film, Wildfire: Feel the Heat	http://pictures.discovery.com/dppages/wildfire/wildfire.html
Fire Safety Education	http://www.fire.ca.gov/Education/FireSafety.asp
Sparky the Fire Dog	http://www.sparky.org/index.html
FEMA: Fire Safety Education Resource Directory	http://www.usfa.fema.gov/fserd/
Total Escape Fire Prevention while Camping – Use of Fires	http://totalescape.com/active/camp/firesafe.html

Wildland Urban Interface

Firewise -http://www.firewise.org/

Missoula FireLab - http://www.firelab.org/

Fire Safe Councils - http://www.firesafecouncil.org/

Blue Print for safety - http://www.blueprintforsafety.org/wildfire/wildfire_graph.html

What trees can provide - http://cufr.ucdavis.edu/

Defensible Zones - http://www.cahe.nmsu.edu:16080/defensible_zone/protect/zone.html

Firelab Vegetation Simulator - http://www.firelab.org/fep/research/model/data.html

Home and Fire Magazine - http://www.homeandfire.com/

Living with Fire Utah - http://www.ut.blm.gov/livingwithfire/index.htm

A Model for Improving Community Preparedness for Wildfire - http://www.ncrs.fs.fed.us/4803/highlights/Intro to website.pdf

The Ad Council Firewise Campaign PSA's - http://www.adcouncil.org/campaigns/firewise/

UC Forest Products Lab Fire Resistant Plant Testing Results in a list - http://www.ucfpl.ucop.edu/I-Zone/XIV/vegetati.htm

Where's the Fire Wise choices make safe communities - http://cufr.ucdavis.edu/products/8/cufr_150.pdf

Emergency Management

FEMA (Federal Emergency Management Agency) - http://www.fema.gov/

American Red Cross - http://www.redcross.org/

Fire Prevention Materials: Places to get and order stuff

NWCG Publications (Guides etc) - http://www.nwcg.gov/pms/pms.htm and http://www.firepreventionteams.us/

Smokey Bear Official Licensees List - http://www.smokeybearlicensing.com/

The Ad Council PSA's - http://www.adcouncil.org/psa/newspaper_ftp/

The Firehouse - http://www.thefirehouseinc.com/

UNICOR Posters for Internal Forest Service Ordering - http://fsweb.wo.fs.fed.us/eng/unicor/cover.htm

Jack Cohen's "Wildfire Preventing Home Ignitions" - http://www.fs.fed.us/rm/main/videos/wildfire.html

2003 NIFC Radio PSA's to download - http://www.nwcg.gov/teams/wfewt/wfeduc_psa.htm - 2003

Smokey Fire Danger Rating Sign GSA Contract - http://pmsignsinc.com/shopping/product-detail.php?ProductID=SBR-1*72x72*Redwood*routed

Wildland Fire Prevention Guides and NWCG Prevention Materials - http://www.nwcg.gov/teams/wfewt/products.htm

Fire News and Links

Wildfire News -http://www.wildfirenews.com/fire/links.shtml

Wildfire: Feel the Heat IMAX movie - http://pictures.discovery.com/dppages/wildfire/wildfire.html

Western States Fire Assistance 2002 Competitive Grant Program - http://www.fs.fed.us/r4/sfa_grants/sfa_grants.html

Fire Planning

RAMS (Risk Assessment and Mitigation Strategies) - http://www.nifc.gov/preved/rams.html

National Fire Plan - http://www.fireplan.gov/

WUI: Wildland Urban Interface Project - http://www.fs.fed.us/r3/wui/

Fire Planning - http://www.fs.fed.us/fire/planning/

EMERGENCY INFORMATION: KEEP THIS INFORMATION IN CASE OF FIRE

Wildfire Evacuation: Are You Prepared?

Evacuations save lives and allow responders to focus on the emergency.

PLEASE EVACUATE PROMPTLY WHEN REQUESTED!

For more information contact your local fire district!

LONG BEFORE A FIRE THREATENS

*1) Create and maintain a **defensible space** - an area that will help protect your home and property and provide a safety zone for firefighters who are battling the flames.*

*2) Identify and **practice driving** at least two evacuation routes before an actual emergency.* During an evacuation, law enforcement personnel may determine your route.

Prepare an Evacuation Checklist and Organize:

- Critical medications
- Important personal papers, photos, etc.
- Essential valuables
- Pet and livestock transport and food
- Cell phone, change of clothing, toiletries.
- Critical papers & effects in a fire proof safe.

THE LAW

A county, city or municipal corporation may authorize an agency or official to order mandatory evacuations of residents and other individuals after a declaration of a state of emergency within the jurisdiction is declared. An evacuation under an ordinance or resolution authorized by this section shall be ordered only when necessary for public safety or when necessary for the efficient conduct of activities that minimize or mitigate the effects of the emergency **(ORS 401.309)**. Keep in mind; after a mandatory evacuation order goes into effect, **emergency responders will not risk their lives to save you should you choose to stay at your home after the order**.

EVACUATION ORDERS

*You will often hear the terms **Voluntary** and **Mandatory** to describe evacuation orders, however, local jurisdictions may use other terminology such as **Precautionary** and **Immediate Threat**. These terms will alert you to the significance of the danger. ALL evacuation instructions provided by officials should be followed immediately for your safety.*

IF EVACUATION IS A POSSIBILITY

- Locate your ***Evacuation Checklist;*** assemble the items and PLACE THEM IN YOUR VEHICLE.
- Park your vehicle facing outward and carry your car keys with you.
- Locate your pets and keep nearby.
- Prepare farm animals for transport.
- Place a ladder outside for roof access.
- Place connected garden hoses and buckets full of water around the house.
- Assemble fire-fighting tools near an outside door (shovel, rake, hoe, etc.).
- Move propane BBQ appliances away from structures.
- **Cover up.** Wear long pants, long sleeve shirt, heavy shoes/boots and a cap (100% cotton is best), a dry bandana and goggles or glasses.
- Remove all lawn furniture, doormats, brooms, etc. (with flammable materials) from decks.
- Leave house lights on, windows closed and air conditioning off.
- Shut off natural gas and/or propane at the source before evacuating.

Sponsored by the Josephine County Integrated Fire Plan and Jackson County July 2004 http://www.co.josephine.or.us/wildfire/

Thanks to California Department of Forestry and Fire Protection – Evacuation Fact Sheet

EMERGENCY INFORMATION: KEEP THIS INFORMATION IN CASE OF FIRE

Wildfire Evacuation: Are You Prepared?

THE EVACUATION PROCESS

Officials will let you know which areas will be evacuated and the routes to use based on the location of the fire, behavior, wind and terrain. Law enforcement agencies are typically responsible for enforcing an evacuation order. **Follow their directions promptly!** You will be advised of potential evacuations as early as possible.

*You must take the initiative to **stay informed and aware**. Listen to your radio/TV and read the newspaper for announcements. You may be directed to temporary assembly areas to await transfer to a safe location. When heavy smoke reduces visibility, movement may be restricted only to escorted convoys.*

RETURNING HOME

Fire officials will determine when it is safe for you to return home. This will be based on safety and accessibility considerations. When you do return home:

- Be alert for downed power lines and other hazards.
- Check propane tanks, regulators, and lines before turning gas on.
- Check your residence carefully for hidden embers or smoldering fires.

After the fire passes, and if it is safe, check the following areas for fire:

- The roof and house exterior.
- Under decks and inside your attic.
- The yard for burning trees/woodpiles.
- *Extinguish embers and sparks!*

IF YOU BECOME TRAPPED

While in your vehicle:

- Stay Calm.
- Park your vehicle in an area clear of vegetation.
- Close all vehicle windows and vents.
- Cover yourself with wool blanket or jacket.
- Lie on vehicle floor.
- Use your cell phone to advise officials: 911.

While on foot:

- Stay Calm.
- Go to an area clear of vegetation, a ditch or depression if possible.
- Lie face down, cover up.
- Use your cell phone to advise officials: 911.

While in your home:

- Stay calm and keep your family together.
- Call 911 - tell authorities where you are.
- Fill sinks and tubs with cold water.
- Keep doors and windows closed, but UNLOCKED.
- Stay inside your house.
- Stay away from outside walls and windows.
- Remove combustible materials from proximity of windows and glass doors.

It will get hot in the house, but it is much hotter, and more dangerous outside.

FOR MORE INFORMATION

Contact your local fire district—IVFD at 592-2225—or the Oregon Department of Forestry at 541-664-3328 (Jackson County) or 541-474-3152 (Josephine County).

Sponsored by the Josephine County Integrated Fire Plan and Jackson County July 2004 http://www.co.josephine.or.us/wildfire/

Thanks to California Department of Forestry and Fire Protection – Evacuation Fact Sheet