Illinois Valley Fire Plan

Community Wildfire Protection Plan

March 2005

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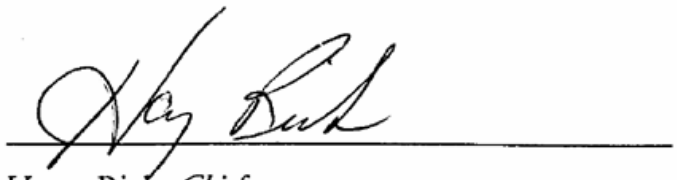

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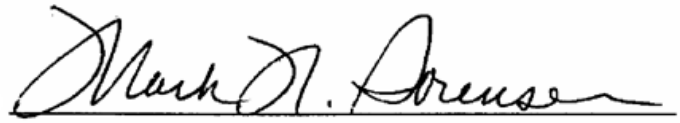

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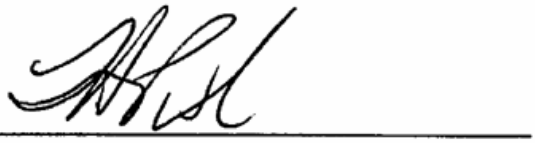

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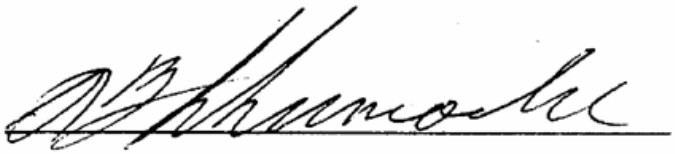

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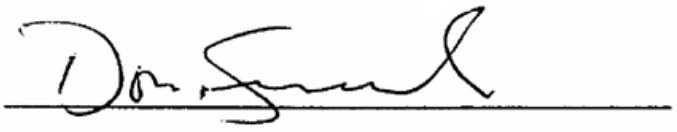


Don Smith, *Executive Director*

Siskiyou Project

EXECUTIVE SUMMARY

This Illinois Valley Fire Plan project developed community awareness, planning, and action on fire safety and fuels reduction in the Illinois Valley. The Illinois Valley Fire District's (IVFD) objective for this project was 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 (HFRA), 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. This is not a regulatory document. These entities approve this plan as a CWPP in order to provide the following benefits:

- This CWPP allows identification of Wildland-Urban Interface boundaries on federal lands. HFRA mandates a minimum of 50% of HFRA project funds to be used within the WUI. The Josephine County Integrated Fire Plan (JCIFP) identified the entire Illinois Valley as WUI. This plan identifies an additional WUI around the community of Sun Star.
- This CWPP can influence where and how federal agencies implement projects on federally managed lands.
- This CWPP can influence where and how additional federal funds may be distributed for projects on non-federal lands.
- Finally, this CWPP increases the success of Illinois Valley communities in receiving funding for the projects prioritized in the plan, especially from National Fire Plan funds.

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 primary 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. The Illinois Valley Fire District will provide administrative support to the Illinois Valley Fire Safe Council to ensure its success. *For more information on the Illinois Valley Fire Safe Council see Chapter 3, Planning Process and Chapter 9, Mitigation Strategy, Implementing the Illinois Valley Fire Plan.*

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 [Curry County, Oregon and Del Norte County, California], 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.[1]

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

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 was written 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 that would better prepare local residents for the next wildfire. The County Community Development Department participated in this discussion. In late 2003, County staff invited the Illinois Valley Fire District (IVFD) to apply for HR 2389 Title III funding from the County for the development of the Illinois Valley Fire Plan. IVFD was awarded a grant and hired a subcontractor—Tracy Katelman of 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 Illinois Valley (which Highway 199 traverses) to Hayes Hill, and along the Illinois River into the Rogue River-Siskiyou National Forest. The following areas, starting from north to south, are the community planning areas used in this document:

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

See Chapter 3: Planning Process .

Planning Process

The heart of this planning process was a series of seven 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 about 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 large base maps (supplied by Josephine County GIS staff, using the local expertise of Cody Zook to appropriately define the boundaries of each community). Residents then identified the above items using color markers on the maps, with a corresponding list of 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. The JCIFP will be undertaking a similar review process in early 2005.

A Planning Committee was developed to oversee the planning process. That committee was integrated into the Illinois Valley Fire Safe Council (which was created through this process).

A letter and survey were sent to 800 residents in areas of high risk or hazard as identified by JCIFP, requesting similar information to that received at the meetings. Forty-five surveys were returned, with that information being incorporated into the community-identified information in Chapter 7.

Finally, there was a public review process of this document. A draft was first circulated to the Illinois Valley Fire Safe Council with comments incorporated into a Public Draft. The Public Draft was released in November 2004. Comments were due on that draft January 15, 2005, and incorporated into this document.

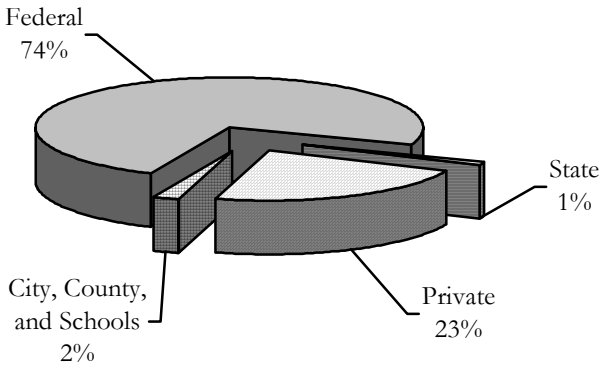
For more information, see Chapter 3: Planning Process

Illinois Valley Profile

Situated 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 below 1,000 feet along the Illinois River at Oak Flat, to 3,400 feet in the west at the top of Woodcock Mountain, to 7,055 feet on Grayback to the east.[2] The following figure identifies land ownership in the greater Illinois Valley.

For more information on the Illinois Valley, see Chapter 1, Introduction, and Appendix B, Illinois Valley Profile.

Figure 1. Illinois Valley Land Ownership, by percentage



Fire Safety Introduction

When residents in the wildland-urban interface[3] 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 2, Fire Safety Introduction begins with a broad description of how communities can defend themselves when faced with a wildfire. This Plan describes 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 structures enhancing the chances of structural and human survivability. Chapter 2 documents the various elements that make up defensible space in clear action-oriented terms. It also lists various additional ways that a community can enhance its chances of surviving a fire, including the use of fire ignition-resistant building materials and construction, water availability, escape plans, landscaping, and fuel hazard reduction. Recent evidence indicates that a structure has over an eighty percent chance of surviving a wildfire if it has adequate brush clearance and is made of ignition-resistant materials.[4] The Plan also includes references to existing regulations related to fire safety, Josephine County Article 76 and Oregon Senate Bill 360.

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[2] Dick Boothe, Fire Management Officer, Rogue River–Siskiyou National Forest, personal communication, 1/21/05.

[3] Wildland-urban interface is that area where residences and wildlands (forests, grasslands, etc.) intermingle.

[4] 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.

Various actions are outlined that community members should take when a wildfire threatens. These include evacuation; keeping friends and family members informed of evacuation 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 and the Illinois Valley

Fire is part of natural ecological processes in the Illinois Valley. As well, Native Americans here used fire as a management tool for thousands of years. In the past century, extensive fire suppression efforts and intensive logging have lead to unnaturally high levels of fuels. In addition, more people are moving into the forests, increasing the chance of fire in these interface areas.

The 2002 Biscuit Fire burned nearly ½ million acres very near the communities of the Illinois Valley.

For more information, see Chapter 4, Forest Conditions & Wildfire in the Illinois Valley.

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.)" [5]

In addition to the JCIFP risk assessment, community-identified risks and hazards were evaluated (based on community meetings and surveys) and compared to the JCIFP assessment.

For more information, see Chapter 5, Wildfire Risk Assessment.

Fire Suppression Resources

There are four fire suppression organizations in the Illinois Valley. The Illinois Valley Fire District (IVFD 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.

[5] JCIFP, pp. 45-46.

Interface Community Planning Areas

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

- Planning Area Introduction
- Emergency Response, Evacuation, and Safe Zones
- 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 River-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 H, Public Lands and Fire Management.

Mitigation Strategy

As per the Community Wildfire Protection Plan guidelines, a long-term mitigation strategy was developed to reduce risks of wildfire in the Illinois Valley.

Projects were prioritized based on:

- Overlap between community-identified projects and JCIFP hazard and risk assessment ratings.
- 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.

The following table summarizes the Illinois Valley Fire Plan mitigation strategy.

TOPIC	SUB-TOPIC	PROPOSED MITIGATION STRATEGY
DEFENSIBLE SPACE		➢ Continue and enhance existing defensible space assessments and education. IVFSC,[6] IVFD,[7] and ODF[8] work with JCIFP[9] and IV[10] Family Coalition to provide these services to low-income households, especially in areas of high hazard or risk as identified through this process and 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. *SB 360's "Evaluation and Self-Certification Guide" in Appendix C, provides excellent guidance for defensible space.* ➢ All new developments must adhere to Josephine County Article 76. County, [11] City, [12] IVFD, and IVFSC work together to educate residents on these new standards.
FUELS REDUCTION		➢ All fuelbreaks created through this plan should maintain the highest level of shade canopy possible to reduce regeneration. A shaded fuelbreak that prescribes opening the canopy should only be done in agreement with IVFSC members. Lomakatsi can provide guidance on these prescriptions. ➢ FS,[13] BLM,[14] and ODF monitor burned-areas surrounding IV communities and focus fuel hazard reduction and forest restoration efforts there, in cooperation with IVFSC, to minimize possibilities for reburn of dead fuels. ➢ IVFSC, IVFD, ODF, FS, IVCDO[15], City, and County cooperate to implement the following priority fuel reduction projects.

[6] Illinois Valley Fire Safe Council

[7] Illinois Valley Fire Protection District

[8] Oregon Department of Forestry

[9] Josephine County Integrated Fire Plan

[10] Illinois Valley

[11] Josephine County

[12] Cave Junction

[13] US Forest Service, Rogue-Siskiyou National Forest

[14] Bureau of Land Management, Medford District

[15] Illinois Valley Community Development Organization, formerly Illinois Valley Community Response Team

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: • Kenrose Lane. This was also identified as a priority project by the JCIFP Fuels Reduction Committee. • South Barlow Street from Hamilton to Sherwood Hills side • West River from 199 to North Junction • Manzanita Lane area through Oak Drive to Dogwood ➢ Create shaded fuelbreaks 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 fuelbreaks or brush clearance (depending on forest cover) in O'Brien along: • Lone Mountain Road • Naue Way and spur roads • Arrowhead Street ➢ Create a shaded fuelbreak and/or clear brush (depending on forest cover) along Takilma Road from approximately Four Corners and downtown Takilma to approximately #9710 (where the road drops). ➢ Reduce fuels north of Selma adjacent to Highway 199. This project was identified by JCIFP Fuels Reduction Committee for FY 2005 National Fire Plan funding and was submitted by the County for funding. ➢ 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. ➢ Reduce fuels at two large buck brush areas in Takilma. One is between Takilma Road and East Fork Illinois River across from intersection with Meadows Road. The other is from approximately 8650 to 8900 Takilma Road. ➢ FS implement fuels reduction around camping areas at Hogue's Meadow.

	Second-Priority Fuel Reduction Projects	➢ Explore development of strategic shaded fuelbreaks between Kerby and BLM or FS lands. ➢ South Deer Project between BLM and Deer Creek Valley 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 on roads to Mars Swimming Hole and Seats Dam. Work with local schools to develop educational signs about fire safety to place at these popular spots. ➢ ODF work with landowners to implement fuel hazard reduction and remove logging slash on property of and around Hope Mountain Road logging. ➢ IVFSC work with The Nature Conservancy and FS to create a shaded fuelbreak and/or brush clearance along the boundary with private residential properties in O'Brien. ➢ IVFSC, IVFD, and FS identify the most strategic location for one or more shaded fuelbreaks between Takilma and Sun Star. ➢ IVFSC work with FS, Siskiyou Project, and Forestry Action Committee to identify location on west side of town for a shaded fuelbreak to protect Cave Junction in the event of a reburn of any areas of the Biscuit Fire, possibly on the first ridge west of Highway 199. This needs to be a location and prescription that can be agreed upon by all members of the community. ➢ IVFSC with BLM, FS, DCVNRCA,[16] and others explore development of strategic shaded fuelbreaks in Selma, beginning with Deer Creek Road as it heads towards Williams. This could serve as a break from fires coming from the east, while also improving this road as an evacuation route. ➢ IVFSC and O'Brien residents explore fuel reduction with riparian enhancement along West Fork Illinois River east and west of 199, through private properties. ➢ Clear brush in Section 12 near Dick George, in the old-growth forest south of llama ranch (while maintaining old-growth forest overstory), and in the fallow fields. Include mowing areas of high grass. ➢ City, IVFSC, and others cooperate to remove dead trees along the Kerby ditch.

[16] Deer Creek Valley Natural Resources Conservation Association

FUEL REDUCTION		➢ IVFSC work with agencies and participating landowners to ensure ongoing maintenance of treated areas, including funding for this maintenance. An "adopt-a-fuelbreak" program is an option for fuels treatments near populated areas, where local residents regularly check the adopted area for dead materials and undesirable regeneration to remove. This could be done in conjunction with local schools creating educational signs to be posted in these areas explaining the project and encouraging participation. ➢ ODF, FS, and BLM ensure all land management activities in the Illinois Valley do not result in accumulation of hazardous fuels, such as following logging operations, unless done so for specific restorative purposes.
REDUCING STRUCTURAL IGNITABILITY	Roofing	➢ IVFSC, IVFD, ODF, FS, City, and County educate residents, realtors, and developers on the importance of replacing wood-shake roofs. ➢ City and County explore incentive programs for shake roof replacement and/or replacement upon sale of property.
	Vent Openings	➢ IVFSC, IVFD, ODF, FS, City, and County educate residents, realtors, and developers on importance of steel vent screening. ➢ City and County explore incentives for homeowners to encourage steel screening of vent openings.
	Decks	➢ IVFSC, IVFD, ODF, FS, and others educate residents on importance of fire-safe decking. ➢ City and County explore regulations regarding use of synthetic decking materials.
	Outbuildings	➢ IVFSC, IVFD, ODF, FS, and others educate residents on need for separation of heat loads from their residence.
	Wood Piles	➢ IVFSC, IVFD, ODF, FS, and others educate residents on need to have a minimum of 20 feet separation of firewood piles and woodsheds from their residence.
	Propane Tanks	➢ IVFSC, IVFD, ODF, FS, and others educate residents on need to have vegetative and flammable material clearance around propane tanks near their residence, and on need to keep propane tanks and other flammable materials at least 20 feet from homes and outbuildings.
FIRE PROTECTION		➢ IVFD and County work to upgrade both Holland bridges to allow safe fire engine passage. ➢ County, City, and IVFD work together to fix the address numbering system on Westside Road, and number the power-line roads. There are problems with 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	➢ Law enforcement, IVFD, ODF, BLM, and FS cooperate to develop and post escape route signs for all key evacuation routes in the Illinois Valley. ➢ IVFSC, IVFD, and others work with law enforcement to educate residents on safe evacuation. ➢ Law enforcement, City, and County work with neighboring governments to create alternate evacuation sites. ➢ Law enforcement, FS, BLM, and IVFD 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, IVFD, and IVFSC. 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
	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 that 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	➢ 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 Valley Road in Selma ➢ Sun Star is in the process of receiving two water tanks. A proposal is being developed for three more tanks to submit to the Del Norte RAC. IVFSC, IVFD, and FS support this effort to get additional water storage at Sun Star. ➢ IVFD, IVFSC, City, County, ODF, and FS educate residents regarding use of dry hydrants with ponds and facilitate their installation. ➢ IVFSC educate residents on opportunities and logistics of rainwater harvesting.

EDUCATION		➢ IVFSC work with IVFD, ODF, City, 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, City, County, Siskiyou Project, FS, BLM, and law enforcement to coordinate a community-wide education effort regarding defensible space, fire safety, and safe evacuation. ➢ IVFSC and IVFD work with area schools to develop community fire safety educational signs in conjunction with fire safe curricula. ➢ IVFSC and IVFD work with Takilma 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. ➢ All local, state, and federal public and private land management agencies appoint a representative to actively and regularly participate in the Fire Safe Council. ➢ Public and private-sector organizations and individuals work with IVFSC to develop ongoing financial and in-kind support for FSC activities and development. ➢ All partners work together to fund a part-time IVFSC coordinator position through IVFD. This will likely be a key step in the FSC's ability to successfully address fire safety issues in the Illinois Valley. ➢ IVFSC members participate in all committees of the Josephine County Integrated Fire Plan to ensure adequate Illinois Valley representation. There are already several IV residents participating in one or more of these committees. This existing participation should be in conjunction with the IVFSC, to ensure the Council 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.
Implementing the Illinois Valley Fire Plan		➢ IVFSC, IVFD, and others hold neighborhood-level community meetings throughout the Illinois Valley to further refine and implement this Plan. This will also serve to familiarize more residents with the FSC, likely resulting in increased participation. ➢ IVFSC work with residents to identify risks, hazards, and potential projects in neighborhoods further out the Caves Highway toward Grayback. This is in accordance with the IVFSC purpose to continue fire-planning efforts at the local level in the Illinois Valley.

		➢ IVFSC apply for National Fire Plan, Homeland Security, and other federal funding sources[17] to implement the priority projects identified in this Plan. Work with local organizations, agencies, and individuals to provide cost-share matches to these projects. ➢ IVFSC and partners review the Illinois Valley Fire Plan every five years and update it as needed, using a collaborative public process. This could be done as an Appendix to this document.

Successful implementation of this plan will be a direct result of community involvement and adoption of this plan. Therefore, the IVFSC in cooperation with IVFD and other agency and organizational parties (FS, BLM, ODF, City, County, IVCDO, FAC, and Siskiyou Project) will lead this implementation.

For more information, see Chapter 9: Mitigation Strategy

[17] See Appendix J, JCIFP Resources, Current and Potential Funding Resources.

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 individuals for their help and dedication, often going beyond the call of duty. *(Tracy Katelman)*

- 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

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- Gary Biggs, Public Works Director, City of Cave Junction
- Dick Boothe, Fire Management Officer, Rogue River–Siskiyou National Forest
- 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 (JCIFP)
- Ron Phillips, Illinois Valley Community Response Team (formerly)
- Jerry Schaeffer, Fire Marshal, Illinois Valley Fire District
- Paul Showalter, Illinois Valley Community Development Organization
- Don Smith, Executive Director, Siskiyou Project
- De Spellman, Fire Prevention Officer, Illinois Valley Fire District

Other Partners

- Don Belville, Rogue River–Siskiyou National Forest
- Neil Benson, Josephine County Integrated Fire Plan
- Darren Borgias, Senior Stewardship Ecologist, The Nature Conservancy
- Pat Butler, Fuels Technician, Bureau of Land Management, Medford District
- Mary and Orville Camp, Deer Creek Valley Natural Resources Conservation Association
- Oshana Catranides, Lomakatsi
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- David Kellenbeck, Assistant Planning Director, Josephine County
- Charlie Phenix, Deputy Fire Staff/Operations, Rogue River-Siskiyou National Forest
- Harry Rich, Chief, Illinois Valley Fire District
- Dale Sandberg, Photographer, Illinois Valley Fire District
- Bob Schumacher, Illinois Valley Community Development Organization
- Delaine Sherman, Administrative Clerk, Illinois Valley Fire District
- George Shook, Sun Star
- Many Smiles, Illinois Valley Fire District
- Robin Wilson, Forestry Action Committee

- Residents of Cave Junction, Holland, Kerby, O'Brien, Selma, and Takilma

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4. Sample Letter
5. Sample Survey
6. Education Information Sent in the Mailing: Illinois Valley Residents - This Fall and Winter Remember to…

Appendix E – Illinois Valley Fire District Materials

1. 2004 Incident Report By Type of Situation Found
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Appendix F – Thompson Creek Case Study (Coordinating a Neighborhood Fuels Reduction Project: A Case Study in Design, Implementation and Monitoring of Fuels Reduction Efforts in Josephine County, Oregon)

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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. In addition, the National Fire Plan encourages funding of projects prioritized in a community fire plan. The projects identified in this plan are therefore prioritized.

The plan 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. Several issues of the mitigation strategy were addressed by JCIFP, most notably designation of Wildland-Urban Interface boundaries, Communities at Risk, utilization of treated materials, and some countywide policy uses.

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, 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, and shaded fuel breaks. It also contains 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, provides an introduction to the history and role of fire in the Illinois Valley, especially to its forests. Local descriptions of ecosystem types and indigenous use of fire in the Illinois Valley are incorporated here.

Chapter 5, Wildfire Risk Assessment, is taken from the Josephine County Integrated Fire Plan, and illustrates the methodology used to conduct the JCIFP risk assessment, which was used in this document.

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

Chapter 9, Mitigation Strategy, identifies priority projects to reduce risks from wildfire in the Illinois Valley.

Appendices, includes twelve resource sections in a separate document that provide acronyms, background information, defensible space and fuel reduction resources, fire district materials, fire management policies for public land managers, fire safety references, useful links, and a bibliography. There are also resources from the Josephine County Integrated Fire Plan including lists of contractors and funding sources.

Illinois Valley, Oregon

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

The total area of Illinois Valley is approximately 427,380 acres, of which approximately 99,600 acres are privately owned and 327,780 acres are publicly owned. Of the federal lands in Illinois Valley, the US Forest Service manages 245,555 acres, the Bureau of Land Management manages 71,565 acres, and the National Park Service manages 480 acres. Approximately 3,035 acres are managed by the State of Oregon. Table 1. Top Ten Landowners in Illinois Valley, illustrates land ownership in the greater Illinois Valley (as defined by Josephine County).

The area is dominated by forests 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 below 1,000 feet along the Illinois River to Oak Flat, to 3,400 feet in the west at the top of Woodcock Mountain, to 7,055 feet on Grayback to the east.[18]

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 lessens as you travel east in the Illinois Valley. For example, Grants Pass typically receives 30 inches of rainfall per year, while Cave Junction receives up to 60 inches. O'Brien can get up to 82 inches of rainfall per year, and the mountains on the west edge of the valley average 150 inches per year. Rainfall usually begins in November and ends in May. Snow usually occurs on the valley floor in the winter and is seldom more than six inches, while at higher elevations snow accumulation can be substantially more. Winter temperatures rarely fall below 15 degrees. During the summer there is low humidity, and temperatures sometimes exceed one-hundred degrees.[19]

For more information on the Illinois Valley, please see Appendix B, Illinois Valley Profile.

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

[19] Dick Boothe, Fire Management Officer, Rogue River–Siskiyou National Forest, personal communication, 1/21/05.

Table 1. Top Ten Landowners in Illinois Valley[20]

Landowner	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%
Total	359,650.68	

Map 1. Illinois Valley Planning Area Location in Josephine County, Oregon

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

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, reduce fuels around your property, and be prepared for the eventuality of a wildfire.

Fire Safety and Defensible Space

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.

Defensible space means creating a space around your structure so it is defensible in 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 feet[21] around a structure that is cleared of flammable brush or vegetation."[22] Firefighters sometimes use the terms "winners" and "losers," or "defendable" and "non-defendable" 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 these with defensible space, which have 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 home that is not defensible.

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 C, Defensible Space and Fuels Reduction.

Home Ignition Zone

The "Home Ignition Zone"[23] is a concept developed by Jack Cohen of the US Forest Service Rocky Mountain Research Station. Jack's research of fires from the 1960s 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.[24] His research indicates that:

> [T]he 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[25] 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

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

[22] Fire Information Toolbox Digital Dictionary, www.fs.fed.us/r2/fio/dict.htm

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

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

[25] 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.

> 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.[26]

Spend a few hours reviewing your home and property with the Homeowner's Checklist (in Appendix C). 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 by contacting De Spellman at IVFD at 592-2225. 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 above and below your home, 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 C. Fire-resistant plants generally look green (not brown), healthy, and vibrant. Most deciduous trees and shrubs are fire-resistant. In addition, they have:
    - 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.
- Remember the other critters who share your home. Leave a vegetation buffer around streams and other wildlife corridors.
- 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 or individual trees. Anything around your home or trees that will ignite easily will threaten them. It can serve as kindling 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.

George Shook, a participant in the Takilma community meeting made this observation:

> 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. It's

[26] Cohen, 2000.

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 chainsaw and go out and just cut a little brush for an hour in the morning, and you take it and pile and burn it, 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.[27]

Appendix C, Defensible Space and Fuels Reduction, Appendix I, Fire Safety Resources, and Appendix K, Useful Links contain more detailed information on defensible space and fire safety, including resources for further reading. The following photos exemplify before and after defensible space treatments in the Illinois Valley.

Figure 2. Before and After Defensible Space Photos

(Note the house in the background of the first picture.)

(This is a treatment better for further away from your home.)

[27] George Shook, Takilma Community Fire Meeting, 7/7/04.

Legal Requirements Relating to Fire Safety

Senate Bill 360: Oregon Forestland-Urban Interface Fire Protection Act

The Oregon Forestland-Urban Interface Fire Protection Act (SB 360) was passed in 1997.

> The act provides four important steps that lead toward an effective wildland/urban interface protection system by:
>
> - establishing legislative policy regarding wildland/urban interface fire protection
> - defining the wildland/urban interface in Oregon, and establishing a process and system for classifying the interface
> - establishing standards for wildland/urban interface property owners so they can manage or minimize fire hazards and risks
> - providing the means for establishing adequate, integrated fire protection systems in wildland/urban interface areas, including education and prevention efforts. [28]

Each county determines the wildland-urban interface (WUI)[29] 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 citizens 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 has not been done in Josephine County; however a similar process was done during preparation of the Josephine County Integrated Fire Plan, *(see JCIFP Chapter 5 for more information)*. Through the JCIFP, the entire Illinois Valley was defined as WUI, as shown in Map 6. Illinois Valley Wildland-Urban Interface (WUI).

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 that 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, which is expected to be in the next year or two. A property is certified as having met the requirements of SB 360 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 owner's 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 or "extraordinary fire suppression" 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.

Appendix C contains the Oregon Forestland-Urban Interface Fire Protection Act (SB 360) Property Evaluation & Self-Certification Guide, for more information on these requirements, and defensible space and fuel reduction.

Article 76: Josephine County Wildfire Safety Standards

Whereas SB 360 applies to all IV residents, Article 76 applies principally to new construction within the Valley.

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

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[28] Oregon Forestland-Urban Interface Fire Protection Act, www.odf.state.or.us/divisions/protection/fire_protection/prev/sb360/overview2.htm

[29] Wildland-Urban Interface

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.

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 a stream or 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 fuelbreaks 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 has been under review by the Josephine County Planning Commission. A series of public hearings and workshops were held to gain input on proposed amendments. The most current version (February 2005) currently under consideration can be found in Appendix C, or at www.co.josephine.or.us/planning/wildfire.htm. The following chart summarizes the changes and some of the key components of Article 76. It will go before the Josephine County Board of Commissioners for approval in March.

Article 76 guidelines provide great guidance for existing homeowners regarding creating and maintaining your defensible space. Check out the Vegetation Mitigation Section (76.080) for great guidelines in Appendix C.

Table 2. Article 76 Changes[30]

ARTICLE 76 CHANGES

(Comparison)

THE FIVE MOST IMPORTANT CHANGES OF THE PROPOSED ORDINANCE ARE:

① It is an education and agency cooperation process that provides applicants with information on fire safety standards and links them with fire service providers to achieve fire safety;

② It is a self-certification process similar to Senate Bill 360 that will satisfy both county and state requirements;

③ It applies to all zones;

④ It provides a process to modify standards by using site plan review procedures for site specific situations; and

⑤ It provides for a rock and gravel surface up to a grade of 15%. The existing ordinance requires asphalt or Portland Cement surface when any portion of a driveway exceeded a 12% grade.

SUMMARY OF CHANGES:

STANDARD	EXISTING	NEW[31]
ZONES AFFECTED	Forest zones & new land divisions requiring wildfire mitigation plans	All zones
CONSTRUCTION FEATURES	Fire retardant roof & a spark arrester on each chimney	① A fire rating of Class B or better roof & a spark arrester on each chimney that meets National Fire Protection Association standards ② Exposed undersides of porches, decks, and balconies 3' feet or less above the ground shall be enclosed with 1/4" non-combustible, corrosion resistant metal mesh ③ Attic openings, soffit vents, foundation louvers and vents and other direct openings shall be no larger than 144 square inches and covered with 1/4" noncombustible, corrosion resistant metal mesh.
DRIVEWAY WIDTH	Minimum width 12' increased to 14' in curves with centerline radius less than 150' to ensure emergency vehicles stay on an all weather surface	No change
DRIVEWAY CURVES	No standard	Must have minimum radius of 48' or greater

[30] David Kellenbach, Assistant Planning Director, Josephine County, personal communication, 2-23-05

[31] February 2005 version.

DRIVEWAY GRADE	① Not to exceed 18% ② Transitions shall not exceed 1% in 3'	① Not to exceed 15% except grades may increase to 18% for intervals of 100' as long as there are no more than three 100' sections per 1000' ② Transitions shall not exceed 1% in 3'
DRIVEWAY SURFACING	① 12% grades or less - all weather surface required (no standard provided) ② 12% to 18% grades must be surfaced with asphaltic concrete or Portland Cement	① 15% grades or less must be constructed with a base course of 6" to 8" of pit run rock and a leveling course of 2" to 3" of 3/4" minus angular gravel compacted so that there is no more than 1/4" of deflection on any portion of the surface from the passing of a fully loaded 10 cubic yard dump truck ② 15% to 18% must be constructed to the surface standards specified by a registered engineer that certifies the surface will support 50,000 pounds, provide adequate drainage and traction and prevent significant degradation or deterioration as a result of rain or freezing and thawing.
DRIVEWAY VEGETATION CLEARANCE	Width: Cleared from each side with no distance specified Height: 14'	Width: 2' both sides where vegetation cannot exceed 6 inches in height Height: 13.5"
DRIVEWAY TURNAROUNDS	① Must end in an approved turnaround (no standards provided) ② Must be within 50' of habitable structures & other significant buildings ③ Must be within 15' of a required water source	① Must have a minimum inner radius of 27' and a minimum outer radius of 42' ② Must be within 50' of habitable structures & 150' non-habitable structures ③ Must be within 10' of a required water source
DRIVEWAY TURNOUTS	Every 400' (no dimensions provided)	Driveways in excess of 600' must have a 12' x 25' turnout surfaced the same as the driveway at a minimum spacing of 400' to create safe passage.
ENGINEERED STRUCTURES & FILL/CULVERTS	May require engineer's certificate to support 50,000 lbs	① Must be certified by an engineer to support 50,000 lbs. and be same width required for the driveway. ② Culverts must be a minimum of 12" in diameter designed to AASHTO HS-20 standards.
DRIVEWAY GATES	Width: 14' or 16' on curves	① Width: 12' or 14' on curves ② Set back: 30' from a public road to allow emergency vehicles to clear roadway when

		stopped at the gate.
LOOPED ROADS	To be provided where possible in land divisions(no standards provided)	New public roads longer than 800' must provide: (1) A looped road when it is both feasible and practical, or (2) An emergency access consisting of an easement that lawfully connects to a new public road, or (3) Special mitigation measures to offset the lack of a looped road or emergency access.
FIRE SAFETY ZONES	100' to 250' depending on the slope	① 50' Primary safety zone ② 50' Secondary safety zone ③ 50' extension of the secondary safety zone on slopes that exceed 20%
VARIANCES	No process established; general variance procedures available but health & safety concerns make departures hard to justify	Process provided to modify standards by using site plan review procedures for site specific situations; experts involved
GUIDELINES FOR APPLICATIONS	None provided	Step-by-step list that allows Article 76 to be a one-stop resource for fire siting requirements

Examples of before and after fuels treatment per Article 76, can be found at www.co.josephine.or.us/planning/vegetation_mitigation.htm.

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. SB 360 is more stringent for homeowners with shake roofs. "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."[32] 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 to your house 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 with ¼-inch screen (or hardware cloth). Enclose eaves, fascia, and soffits with screens. 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.

[32] 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.

- 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.

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. Four-thousand 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 fire-fighting 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- to four-inch line, buried twelve inches below ground. An above-ground 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 water line 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, preferable four to ten feet from the road. 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.

Another option worth considering is rainfall harvesting in the wet winter months to provide water through late summer and fall. Prefabricated tanks with funnel roofs could be constructed and staged around the Illinois Valley. The tanks would fill up with rainfall and could store water into fire season. For more information on rainwater harvesting, go to http://www.gdrc.org/uem/water/rainwater/index.html.

Roads

Roads are critical components in the fire equation. They are a great place for a fuelbreak.[33] They are critical for evacuation. They are also needed for firefighters 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.

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.

[33] A fuelbreak 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.

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. The Oregon Forestland-Urban Interface Fire Protection Act (SB 360) Property Evaluation & Self-Certification Guide in Appendix C has detailed information regarding how to do this around your property. Here are a few things to keep in mind. Older forests are much more fire-resistant than younger forests. If you have mature or old-growth forests on your property, your best wildfire defense is most likely to let them be. If you have younger forests, you'll probably need to thin them to reduce fuels. Keep in mind when working in your forest that there are many other species depending on it. Balance your fuel-reduction needs with those of wildlife habitat, stream protection, and forest productivity. For example, when burning around your property, remember that many of the forest's nutrients are in the duff on the forest floor.

Shaded Fuelbreaks

A shaded fuelbreak is a break in fuel continuity—treating both surface and ladder[34] fuels—to give firefighters 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 fuelbreak 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. Instead, 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 shaded fuelbreaks and requiring less maintenance. Shaded fuelbreaks 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. Fuelbreaks are important places for fire fighters to fight a wildfire.

The exact prescription for a shaded fuelbreak 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.

Once fuel reduction treatments are in place they will need to be maintained. Prescribed burning is the least expensive form of maintenance. The issues around burning are the creation of habitat for invasive species, and loss of forest-floor nutrients critical to soil fertility and productivity. Manual brush removal is the other common maintenance method, and usually the most expensive. Goats can also be used. However, when in a natural forest their use must be carefully monitored to ensure they are not removing any rare plants or disturbing important habitat.

The following figure shows the different layers of fuels in a forest and the different types of fires they can generate. Focus on thinning or removing the lower-strata fuels in a shaded fuelbreak and all your fuel reduction efforts.

[34] A fuel ladder is a ladder of vegetation from the forest floor to the tree canopy, which allows fire to climb into your trees from the ground.

Figure 3. Forest Fuel Layers.[35]

Figure 4—Fuelbed strata affect the combustion environment, fire propagation and spread, and fire effects. Note that woody surface fuel and shrubs can also contribute to crown fires.

Lomakatsi Restoration Project

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

Figure 4. Lomakatsi Restoration Project Draft Ecological Principles for Fuel Load Reduction and Tree Planting[36]

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.
- 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.

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[35] Peterson, David L., Morris C. Johnson, James K. Agee, Theresa B. Jain, Donald McKenzie, and Elizabeth D. Reinhardt. 2004. "Fuel Planning: Science Synthesis and Integration – Forest Structure and Fire Hazard." Gen. Tech. Rep. PNW-GTR-xxx. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 30 pages.

[36] Oshana Catranides, Lomakatsi, personal communication, 11/12/04, www.lomakatsi.org/Page.asp?PID=34 .

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 5. Lomakatsi Restoration Project Examples of Fuel Reduction Treatments[37]

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.

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. Be judicious in your use of fire, especially where and how much you burn. Remember to replant the burned areas ASAP or monitor them to reduce the chance of invasive species establishment. 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.

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

- ✓ 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.[38]

In Illinois Valley you can only burn out of fire season, not during fire season. To burn, you need to obtain a free permit from IVFD. *See Appendix E 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 whereby 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.[39] 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 Home Ignition Zone and/or shaded fuelbreaks.

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 aboveground 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 lies 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.

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

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

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, and is addressed in JCIFP.

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 a Fire

Fire can be extremely frightening. However, taking steps now to prepare you and your family and your home will make it easier to survive a fire, and it will likely reduce panic and help you to effectively deal with the situation. Even the most organized of us will forget something when the crisis moment arrives. Create easy-to-follow checklists for your family to use to safely survive a wildfire.

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 firefighters can easily find and use it.

The following document from Living with Wildfire, Pacific Northwest Wildfire Consulting Group,[40] 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.

[40] 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 mementos 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[41] 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!

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

Emergency Communication

Communication and preparedness are the keys 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[42] 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 firefighters 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 firefighters 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. If you have any respiratory problems, leave as early as possible. 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 that you are comfortable with both routes. However, several alternate evacuation routes in the Illinois Valley are on long, windy roads through public lands. Before attempting these, make sure that you know your way on these roads before attempting to navigate them. During an emergency situation, routes such as these will be identified in some way if you need to use them. Have keys or combinations to locked gates in your vehicle. Turn on your headlights, and drive SLOWLY and carefully. 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.*

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. In addition, 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. (This is not to be confused with the "fire safety zones" in Article 76, although your home may be your safest place if you have good defensible space.) Safe zones 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 ahead of the flames, and you could

[42] Global Positioning System.

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 firefighters. Do not attempt to shelter in a firefighter safety zone if you are not actively fighting the fire.

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 a 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 after the 2003 Southern California fire storms. Although the ecosystem there is different, the lessons learned 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, power lines, 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.[43]

Furthermore, 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 earlier in this chapter. This will soon be law via Article 76.

Start making your home fire safe today! Check out the information in Appendix C, Defensible Space and Fuels Reduction, Appendix I, Fire Safety References, Appendix K, Useful Links, and the SB 360 Evaluation Form on the next page.

[43] *Forestland Steward*, Spring 2004, p. 1.

Figure 6. SB 360 Evaluation Form

Evaluation Form

Use this checklist to evaluate what you may need to do to comply with the Oregon Forestland-Urban Interface Fire Protection Act's standards.

Within 30-50 feet of the house, evaluate what you may need to do to create a primary fuel break:

- ☐ Is the area substantially composed of nonflammable ground cover? If not, tall grass will need to be cut, and needles and leaves raked and removed.
- ☐ Are trees and shrubs green and healthy? If not, remove dead branches, and dead or dying trees and shrubs.
- ☐ Are the lowest branches of trees directly above shrubs or tall, dry grass? If so, these lower branches must be pruned, or the vegetation beneath them trimmed or removed, or the grass trimmed to a height no greater than four inches.
- ☐ Are trees and shrubs growing in large, continuous thickets? If so, consider thinning some of them; it is recommended that you consult a forester before cutting trees.
- ☐ Is your roof covered with flammable material, such as cedar shakes? If so, a secondary fuel break needs to extend beyond the primary fuel break an additional 20-70 feet.

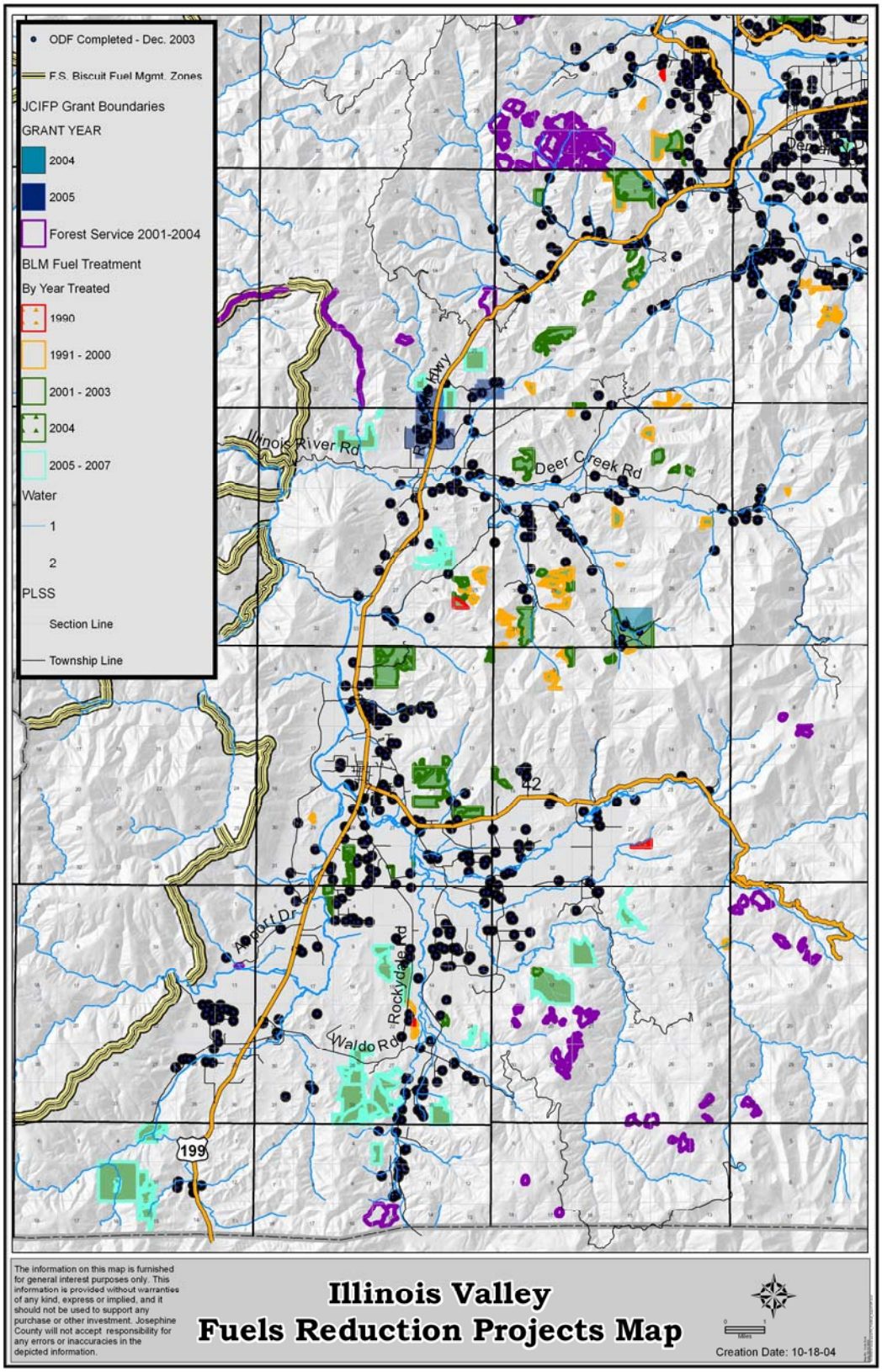
Other considerations:

- ☐ Is your driveway longer than 150 feet? If so, brush needs to be cleared 10 feet from both sides of the centerline, and overhead branches must be removed to 13' 6".
- ☐ Are any tree branches within 10 feet of a chimney that vents a wood-burning fireplace or stove? If so, the branches will have to be removed.
- ☐ Do any dead branches hang over the roof? If so, the dead branches will have to be removed.
- ☐ Are lumber piles or firewood piles stored under wooden decks or stairways? If so, the firewood and lumber will have to be removed.
- ☐ Is there an accumulation of tree needles, leaves and other fine, woody debris under wooden decks or stairways? If so, this debris will have to be raked and removed.
- ☐ Is a pile of firewood next to the house? If so, by the time fire season starts, the firewood pile will need to be fully enclosed, or moved at least 20 feet from the house.
- ☐ Are there vents in attic, soffits and foundation? Are there openings to the undersides of wooden decks and stairways? If so, these openings need to be covered with 1/4" metal screen, or other nonflammable material.
- ☐ Are there spark arresters in the chimneys and vents of all wood-burning devices, such as fireplaces, wood stoves, barbecues and incinerators? Is there a safe disposal site for ashes and charcoal? If not, screens must be installed and a disposal site created.
- ☐ Do the gutters contain dry leaves, needles and other fine woody debris? If so, these need to be cleaned, and fitted with screens or covers to keep debris out.

Fuel Reduction Projects in the Illinois Valley

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

Map 2. Illinois Valley Fuel Reduction Projects



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 through her work at IVFD.

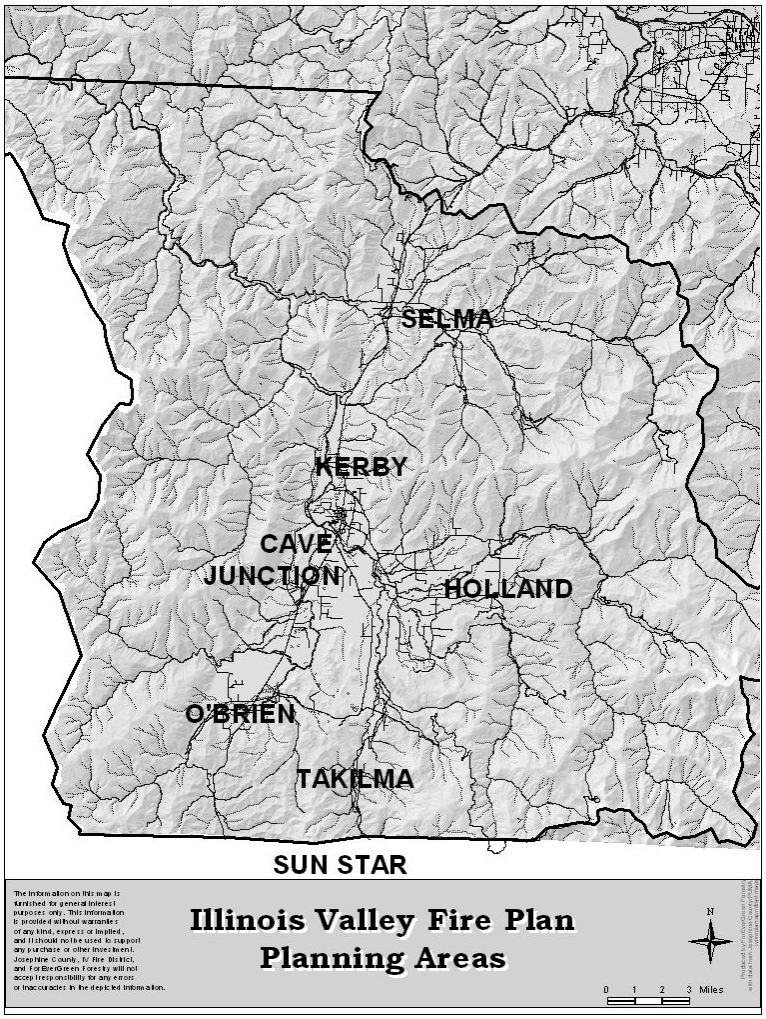
Illinois Valley Fire Plan Purpose and Goals

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 through the Illinois Valley (which Highway 199 traverses) to Hayes Hill, and along the Illinois River into the Rogue River-Siskiyou National Forest.

Map 3. 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 was 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 D, Planning Process.

Table 3. 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	County Building	May 19, 2004
Selma Community Meeting	Selma Community	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,
Community Meeting to Review Draft	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 that 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 (since retired)
- Dick Boothe, Fire Management Officer, Rogue River-Siskiyou National Forest
- 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/Development Organization (left and replaced by Paul Showalter)

- Paul Shoalwalter, Illinois Valley Community Development Organization
- 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:

The Planning Committee communicated throughout the process via email. In addition, two meetings were held. The purpose and outcomes of those meetings are 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. (JCIFP will later use these maps in refining its 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 D, Planning Process.

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. Firewise Video - 20 minutes
6. Defensible Space and Fire Safety – De Spellman (IVFD)
7. Question and Answer Period – Tracy Katelman facilitates
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 was 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 to 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 Exercise (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 Illinois 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 Development Organization, and Cody Zook of Josephine County GIS all contributed many hours getting this mailing to residents. We received 45 completed surveys back from residents. The information identified in those surveys was incorporated into the Community-Identified Values, Hazards, Risks, and Projects for each community, as listed in Chapter 7. See Appendix D, Planning Process for the sample letter, survey, and educational information sent in this mailing.

Public Review Process

An Internal Draft of this plan was provided to the Fire Safe Council and Planning Committee in October for the October FSC meeting. Comments were incorporated from that draft and a Public Draft was produced on November 15th, for public review. The Public Draft was placed in the library, and at public locations in Selma (Selma Community Center), Kerby (Joe's Market and the Belt Building), Holland (Holland Store), O'Brien (O'Brien Store), Takilma (Dome School), and the IVFD Administration. Building in Cave Junction for community review, with comments due on January 15, 2005. In addition the Plan and maps were posted on the IVFD website (www.ivfire.com/FirePlan.htm) as well as on the JCIFP site (http://cwch.uoregon.edu/CCWP/JCIFP/Fire_Districts/illinois_valley.htm). An advertisement noticing the public review opportunity was placed in the Illinois Valley News with reference to the IVFD website. Comments on the plan were reviewed and incorporated into this final document. The following table summarizes the comments received on the Public Draft.

Table 4. Comments Received on Public Draft

From	Summary of Comments
Gordon Lyford	Emailed web site re: rainfall harvesting. Water cannot be returned to Kerby ditch. No fire hazard at swimming hole, but along the roads to the swimming hole. Leave old growth, clear understory. Change average precipitation numbers. Cannot construct ponds without water rights permit. Add white pine to ecosystem types. Added to list of Cave Junction values at risk.
Rich Fairbanks, ID Team Leader, Biscuit Fire Recovery Project	Excellent. George Shook's comment on page 87 is priceless. Is there a way these community plans can start a process for safe, effective under burning?

Greg Nagle (Ph.D., Forest Science), Siskiyou Project	Limited local market for small diameter logs. Not sure of resources available for fuels treatment on private lands in IV. In order for there to be adequate protection needs to be more fuels reduction than proposed in this plan. Dubious whether typical prescription for fuelbreaks will be adequate. Wonder whether small private tracts proposed for treatment cover nearly enough ground to be effective. How often will these shaded fuelbreaks and treatment areas need to be retreated? Seems like every 5-10 years to be effective, an unlikely commitment in some areas. More large-scale prescribed fires around IV may do much to prevent buildup of ladder fuels. Emailed comments and map re: Biscuit burnout areas.
Jenny Hawkins, Project Coordinator, Program for Watershed and Community Health, Univ. of Oregon	Chapter 9: define how each issue is in the JCIFP. Update Thompson Creek project information.
Kathy Lynn, Associate Director, Program for Watershed and Community Health, Univ. of Oregon	Discuss in Exec. Summary and Chapter 9 how IVFD and IVFSC will implement and monitor the recommendations. JCIFP is refining priority list of fuels treatment projects. When describing community mapping on pg. 24, restate that in JCIFP community values will be compared with technical information gathered during risk assessment. Need to clarify summary of findings from community surveys.
Mary Camp, Chair, Deer Creek Valley Natural Resources Conservation Association (DCVNRCA)	Add the late successional forests in the South Deer Project to the community values. Concerns with shaded fuelbreaks outside of Home Ignition Zone. They remove ecotones, a valuable wildlife refuge. Consider the Natural Selection Alternative and letter of support from Dennis Odion. We are not using any prescribed fire because it is biologically, ecologically, and economically costly. Emailed letter to Abbie Josie. Sent fire literature. Sent emails re: Natural Selection Alternative. Please follow "14 Criteria for Sustainability."
Orville & Mary Camp, Camp Forest	Creek name errors as well as stream drainage errors in Selma area.
Orville Camp	Myth that putting out fires leads to high hazard and risk. Lowest risk in late successional forests, highest in early successional. Forest management practices in late successional forests are reverting them to early successional conditions and this is what leads to high fire hazard and risk. We haven't used any prescribed fire for 30+ years and every year our hazards and risks go down. Need to explain why late and early successional forests have risks they do. Also need to explain what needs to be done. We have tours and workshops at Camp Forest and this program needs to be expanded. We are willing to contribute to this expansion.
Pamela Tennity, Vice Chairperson, DCVNRCA	Support Natural Selection Alternative. Want to see old growth protected against any prescribed fire. Old growth should be part of values at risk. No prescribed fire should occur outside of the Home Ignition Zone.
Elaine Wood, IV Rogue Group Sierra Club	Healthy forest is critical to community. IV is forest dependent, not timber dependent. Current science and Ignition Zone will protect community. Natural Selection Alternative is a statement of human responsibility. We support DCVNRCA on BLM South Deer Project. Hopeful that this plan will resolve fire hazard and risk. Add Fred's Fowl Farm to values at risk. Shaded fuelbreaks remove ecotones, valuable wildlife refuge and increases fire risk.
Gary Biggs, Public Works, City of Cave Junction	All spelling of local places and names looks correct. Everything looks good to me.
Dick Boothe, Two Rivers Zone Fire Management Officer, US Forest Service	Correct acreage in text for BLM and average annual precipitation. Elevations range from 3,409' to less than 1,000'. I disagree with paragraph and quote from Frost and Sweeney on page 33. I disagree with the statement on pg. 37 that little suppression activities occurred. On pg. 68, from June 21-Oct. 1 there is a 16-person initial attack helitack/rappel module and helicopter available at the Grants Pass Interagency Fire Center in Merlin. Pg. 85, Dick Boothe attended. Pg. 94, acreage error. Pg. 98, bullet re: treatment along boundary with Nature Conservancy. Pg. 126 should include Botanical Areas. Delete timber harvest allowed phrase. Pg. 130 re: LRMP, delete 1st and 2nd

	bullets.
Jerry Schaeffer, Fire Marshal, IVFD	On fire resources please add station #6 1968 GMC 1000 gal. Everything else looks good. Nothing else to add to mitigation strategy.
Dennis DeLack, Assistant Fire Staff, Fuels Management and Air Quality, Rogue River - Siskiyou National Forest	Very good, well written plan and document. Change references to National Forest to "Rogue River-Siskiyou National Forest." In mitigation strategies, might mention more landscape treatments. Disagree with quote in paragraph under Post Fire Assessment, pg. 32. Recommend deleting it and the section Post Fire Assessment. Disagree with paragraph and quote on pg. 33 under Table 3. Make sure all known escape routes are identified in plan and the road numbers are accurate. Add as mitigation "develop and post escape route signs." Look at HFRA & HFI Interim Field Guide Municipal Watershed & Municipal Water Supply Systems sections to see if these would fit in Chapter 7. Might want to include road number for Takilma Rd. and clarify other road numbers. On pg. 93, second paragraph, change sentence. On pg. 126, first sentence needs to be changed in order to clarify.
De Spellman, Fire Prevention, IVFD	In mitigation strategies add that we will go with dry hydrants where there is a pond.
Don Bellville, Prescribed Fire/Fuels Planner, Two Rivers Fire Zone, Rogue River-Siskiyou National Forest	Forest Service fuel reduction projects update on Sun Star area.
Don Smith, Exec. Director, Siskiyou Project	Excellent draft, thorough. More attention and detail to implementation of Plan (i.e., more detailed steps). Also include personnel and workforce needed to implement and maintain the Plan. Provide greater detail about funding of plan, its initial implementation and maintaining feasibility of plan in the long-term.
Tim Gonzales, Fire Mitigation and Education Specialist, Medford BLM Grants Pass RA	Looks good.

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 Development Organization
- 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 finalized this list and voting structure.

Principal 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 Mill
- Selma Community Center
- Service Clubs: Lions Club/Lionesses, American Legion

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

Meetings are generally held on the third Monday of the month. However, the Council now meets quarterly, with smaller neighborhood/community meetings happening monthly..

The IVFSC was created in part to implement this fire plan, in cooperation with all participating agency and organizational partners. It is the logical organization to oversee the implementation because its membership

includes all participating agencies, organizations, and communities involved in creating this plan. Therefore the Council's ongoing development is critical for effective implementation and community acceptance of this plan.

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 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 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

Wildfire 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/# per 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 on a separate set of maps. All maps were then given to Josephine County to digitize[44] for incorporation into the GIS. The community-identified items were then compared to the latest risk assessment produced by the JCIFP[45]. ForEverGreen Forestry then developed a set of maps for each planning area.

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

- Overlap between community-identified projects and JCIFP hazard and risk assessment ratings.
- 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.

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

[45] JCIFP will be doing a similar comparison between these community-identified items and the JCIFP risk assessment in the Spring of 2005.

CHAPTER 4:
FOREST CONDITIONS AND WILDFIRE IN THE ILLINOIS VALLEY

Fire has been a major evolutionary force in the Illinois Valley 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.

> Fire has played a major role in shaping the globally outstanding forest of the Klamath-Siskiyou ecoregion and any fire management plan striving to protect human lives and property must also be careful to sustain this fundamentally important ecological process.[46]

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."[47] The area is recognized as a place of Global Botanical Significance by the International Union for the Conservation of Nature (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 (Wagner 1997)[48]. Environmental factors such as geology, topography, climate, time, and fire have shaped this landscape for thousands of years.

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.

> 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.[49]

The following section was taken in its entirety from "Southwest Oregon State Forest Management Plan," Final Plan, January 2001.[50]

> 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

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[46] Conservation Biology Institute (CBI) 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, p. iv.

[47] CBI, p. 1.

[48] CBI, p. 1.

[49] JCIFP, p. 22.

[50] 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, p. 2-11.

chinquapin *(Castanopsis chrysophylla)*. Soils are diverse and include serpentine 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-dominated 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, tan oak *(Lithocarpus densiflorus)*, and canyon 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 spp.)* 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 drier 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.[51]

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.[52]

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[51] 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, p. 2-11.

[52] 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, p. III-4.

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.[53]

Illinois Valley's wildfire history mirrors the risk facing communities throughout Oregon. Table 5 below illustrates the number of fires and acres burned from both human- and lightning-caused fires over the past century in the Rogue River-Siskiyou National Forest (which extends beyond the Illinois Valley).

Table 5. Fire Cause on the Rogue River-Siskiyou National Forest, 1910 – 2002[54]

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	4,159	59% (average)	41% (average)

Traditional Use of Fire by Native American Tribes

> 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.[55]

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.[56]

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[53] JCIFP, p. 22.

[54] JCIFP, p. 39, Source: Biscuit EIS, USFS 2002.

[55] Frost and Sweeney, p. 27.

[56] Amy Sobiech, Archaeologist, BLM Medford District, personal communication, 11/8/04.

The following is from "Overview of the Environment of Native Inhabitants of Southwestern Oregon, Late Prehistoric Era" by Reg Pullen.[57]

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.

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 a 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[58] 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.

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[57] Pullen, pp. 1-4.

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

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, park-like 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.

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.

Post-Settlement Interaction with Wildfire

Upon the arrival of European settlers, the influence of Native 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."[59]

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 Native 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 1930s.[60]

Logging is another human activity that has radically influenced fire regimes in the Klamath-Siskiyou region, substantially increasing fuel loads and hence fire hazard. 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 1960s, even-aged logging became standard practice on all Forest Service and BLM lands throughout the region. Accelerated rates of logging continued through the 1980s, 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[61] 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.[62]

History of Fire Suppression in the Forest

Fire suppression began with the creation of the federal forest system in 1906. Many people worked in fire suppression during the Depression. In the 1940s 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.

> By the 1930s 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 1940s. By the 1950s 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

[59] Ibid., p. 27.

[60] Ibid., pp. 27-28.

[61] A hectare is 2.5 acres.

[62] Frost and Sweeney, pp. 29-30.

forest and the occurrence of larger, more devastating wildfires. As stated in the Biscuit Fire Recovery Environmental Impact Statement:[63]

> '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 fires, although this number has decreased over time due in part to effective public education efforts.'[64]

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 is due to both increased lightning frequency and decreasing summer precipitation patterns characteristic of the Klamath-Siskiyou region.[65]

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."[66]

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.[67]

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 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; south into northern California; east to the Illinois Valley; and north to within a few miles of the Rogue River. *(See the Biscuit Boundary on several of the community maps in Chapter 7.)* There was one fatality as a result of the fire, and several structures were lost including four homes, nine outbuildings, one lookout and numerous recreation structures.

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[63] JCIFP, p. 44.

[64] 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.

[65] Frost and Sweeney, p. 5.

[66] Ibid., p. 5.

[67] JCIFP, p. 38.

> 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 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.)[68]

Fire Regimes

Fire regimes and condition class (next section) both give us a sense of the role of natural fire in the ecosystem and the departure from it.

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:

[68] JCIFP, pp. 38-39.

Fire Regime I; <35 years non-lethal, low-severity[69] (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[70] (grassland and scrublands). (Shrub-steppe community)

Fire Regime III; 35-100+ years, mixed severity.[71] (Moist/high-elevation white fir, tan oak, western hemlock series)

Fire Regime IIIa; < 50 years, mixed severity. (Dry-site tan oak series)

Fire Regime IIIb; 50-100+ years, mixed severity. (Low-elevation, wet-site white fir, wet-site tan oak, 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.

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[69] A "low-severity" fire is one that generally does not burn very hot, hence is not very "severe." Most trees are usually left standing, and most small surface fuels are consumed.

[70] A "stand-replacing" fire is one that generally burns very hot and hence most of the trees in the particular stand are killed. This can leave significant damage to soil.

[71] A "mixed-severity" fire means one that burns at different intensities throughout the forest, killing some trees and other vegetation, but not all. It can have mixed impact on the soil.

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.

Hazard

Hazard is addressed as part of the JCIFP Risk Assessment in Chapter 5.However, an additional study was conducted by the Conservation Biology Institute (CBI) in order to develop an approach to mapping fire hazard and was 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.

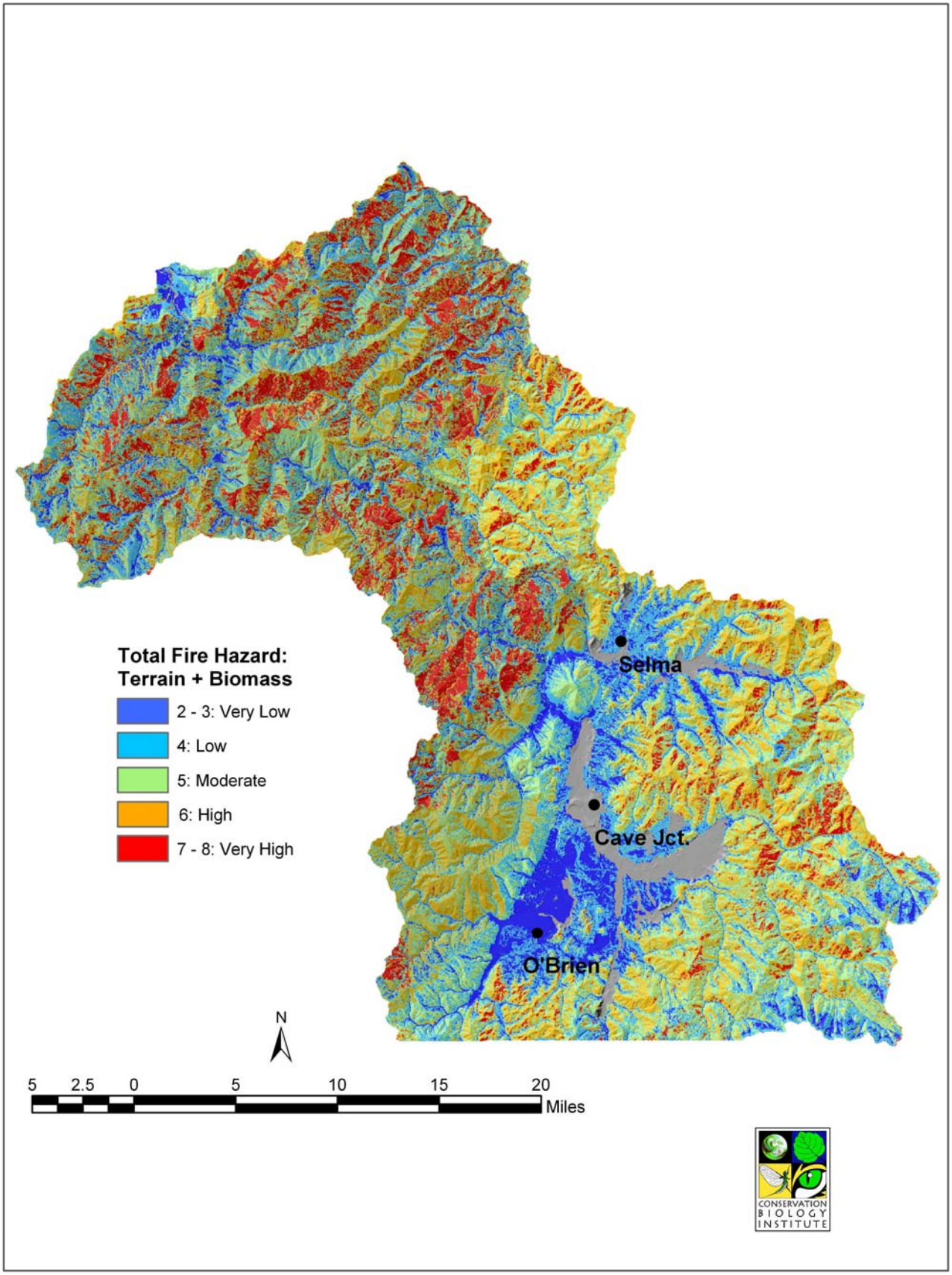
The study defined the wildland-urban interface (WUI) following USDA guidelines using US Bureau of the Census, 2000 population data. Census blocks with population densities of at least twenty-eight people per square mile were defined as WUI. The WUI was then buffered by two kilometers to form another 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 (Map 4. Conservation Biology Institute, Illinois Valley Hazard Map) on the following page indicates 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.[72]

[72] Conservation Biology Institute, p. 7.

Map 4. Conservation Biology Institute, Illinois Valley Hazard Map



CHAPTER 5: WILDFIRE RISK ASSESSMENT

This chapter was taken in its entirety from the Josephine County Integrated Fire Plan, November 2004. Any significant changes (other than editorial) 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[73] 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

[73] Federal Emergency Management Agency

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

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, 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.[74]

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 Map 5. Illinois Valley Communities at Risk, at the end of this chapter.

[74] 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.

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 JCIFP, Resource A: Acronym List, Definitions and Policies, http://cwch.uoregon.edu/CCWP/JCIFP/Attachments/A_Acronym_Definition.pdf .*

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 treatment projects, another consideration includes identifying where there are planned fuels reduction projects on federal, state, or county land.

Table 6. JCIFP Risk Assessment Category Scoring

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.	0-50
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.).	0-40
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).	0-90

Hazard

The Hazard layer is based on vegetation, topography, and land use. The vegetation information comes from the "IVMP"[75] dataset supplied by the BLM. The topographic information (elevation, slope, aspect) is based on 10-meter USGS[76] digital elevation models. The land use characteristics come from UGB[77] boundaries and aerial photography interpretation. The combined elements of this layer have values ranging from 0 to 80.

[75] Integrated Vegetation Mapping

[76] US Geological Survey

[77] Urban Growth Boundary

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.

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 7. Illinois Valley Hazard Layer Map, at the end of this chapter.

[An alternate hazard analysis map is provided in Chapter 4, see Map 4. Conservation Biology Institute, Illinois Valley Hazard Map.*]*

Risk

Risk is modeled from the density of historic fire ignitions. The data are 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 8. 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 50.

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 9. 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 10. 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 11. 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 understory, 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 (in other words, the highest-risk units that show up as 'red' on the corresponding map of strategic planning units at the end of this section).

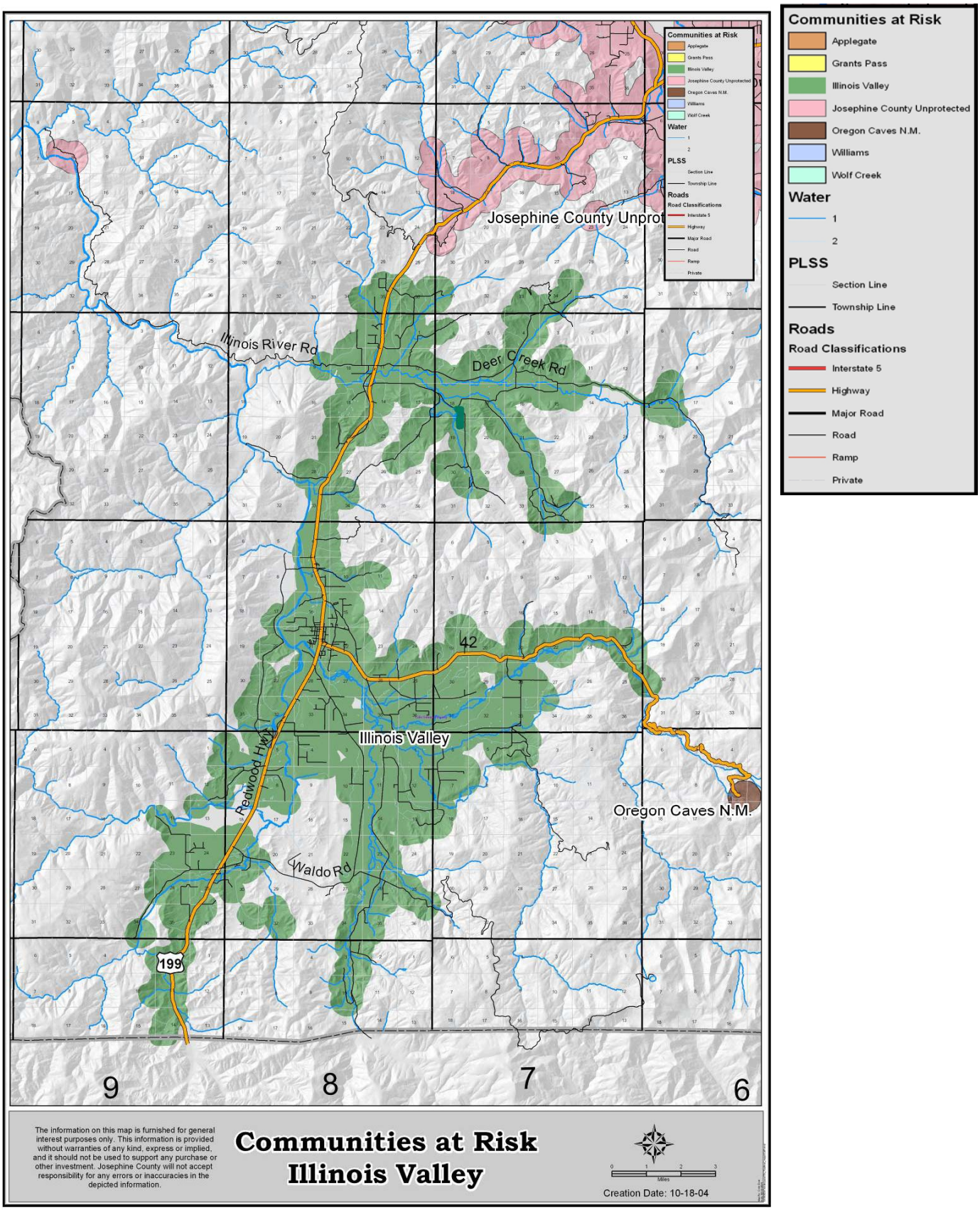
Table 7. High-Risk Strategic Planning Units in the Illinois Valley

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 Creek	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

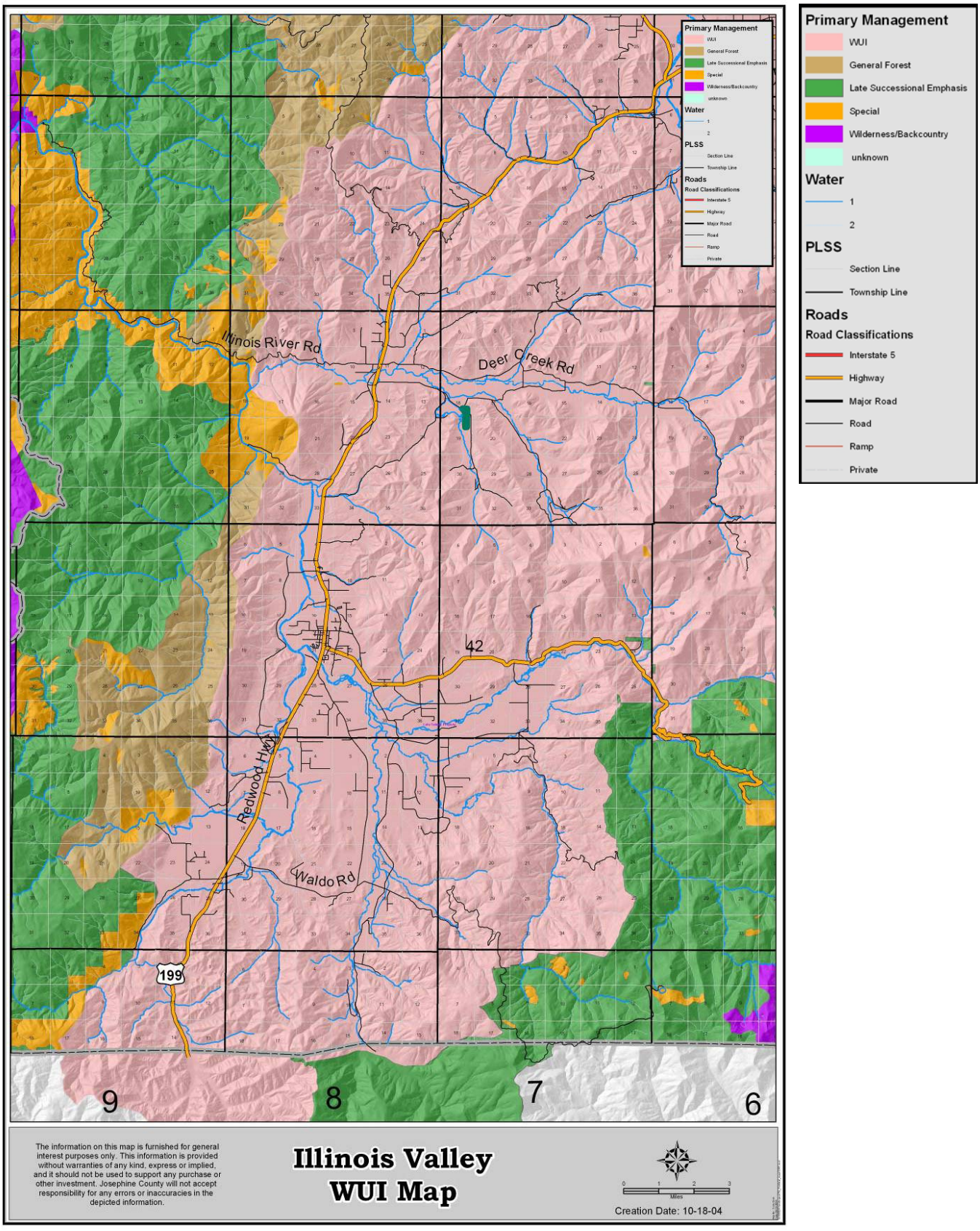
Gilligan Butte	913.5	6	455	330	0	12	0
Little Grayback Creek	547.4	5	294	65	0	0	187
Elk Creek	336.9	15	0	304	0	28	0
Thompson Creek W.	1177.4	14	952	214	0	6	0
Sailor Jack Creek	1312.0	70	561	646	0	2	89
Hope Spring	121.5	13	0	118	0	0	0
Cedar Guard Station	1178.8	9	520	213	0	86	343
Caves HWY	58.2	2	20	38	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 12. Illinois Valley Risk Assessment, Strategic Planning Units, at the end of this chapter.

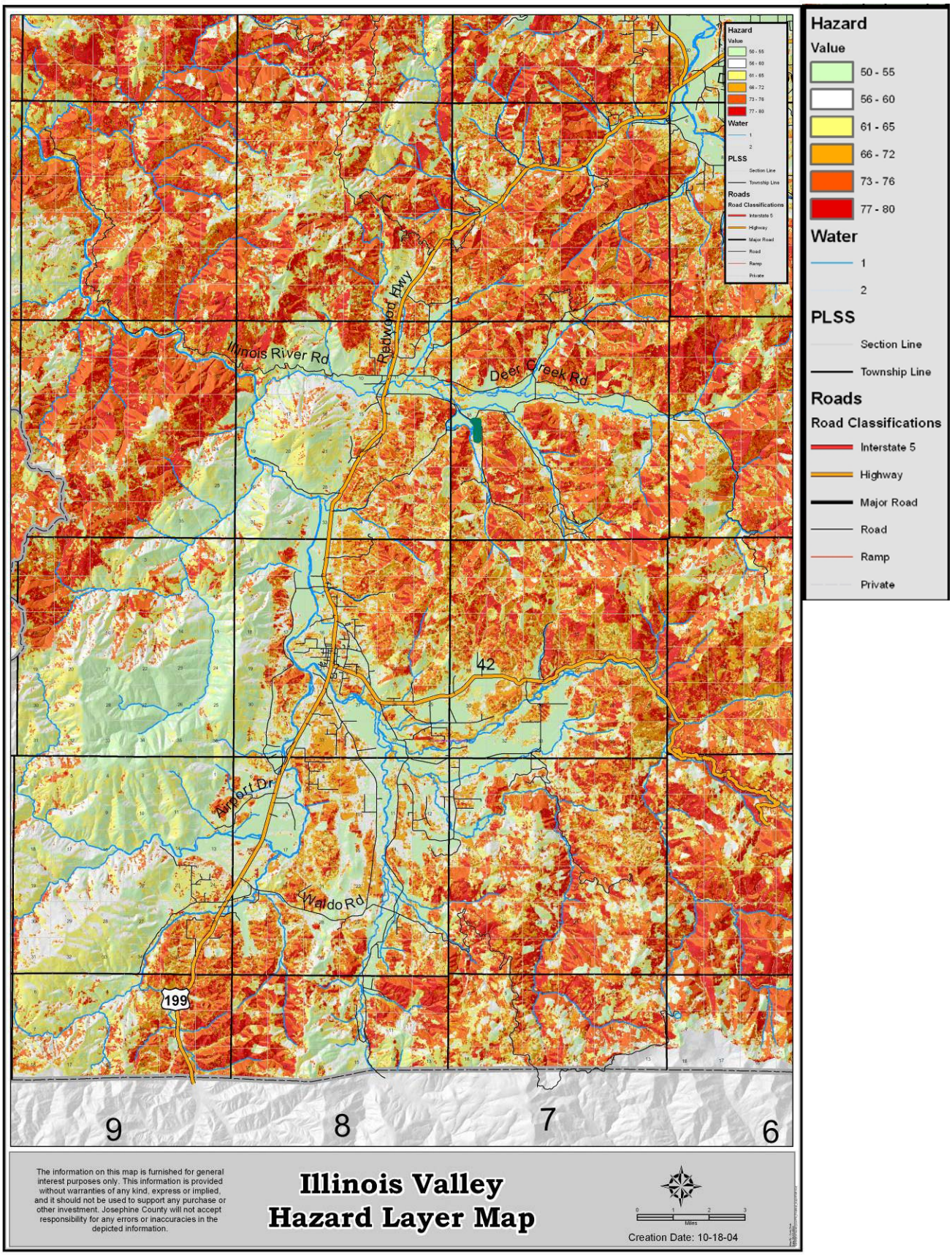
Map 5. Illinois Valley Communities at Risk



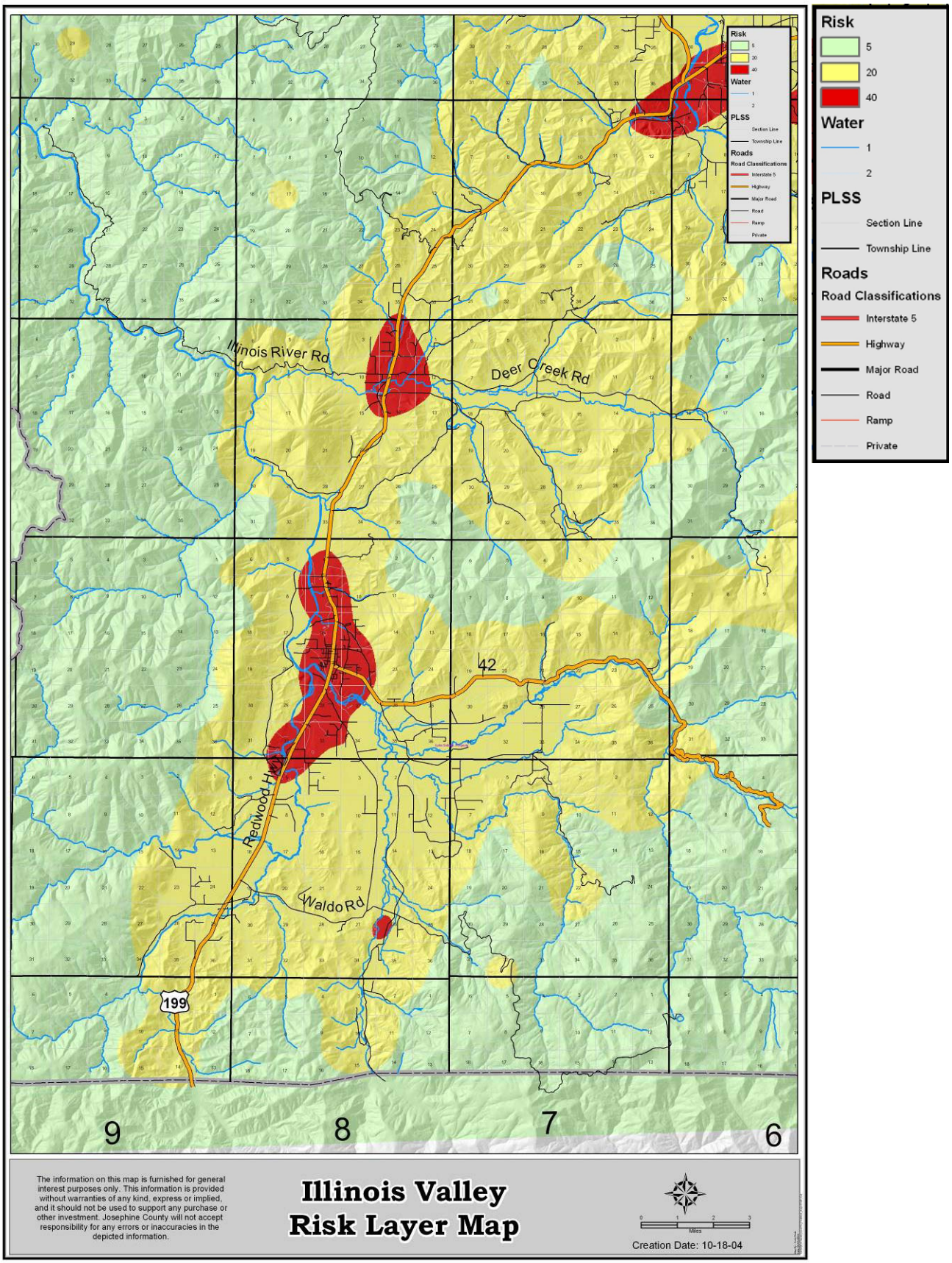
Map 6. Illinois Valley Wildland-Urban Interface (WUI)



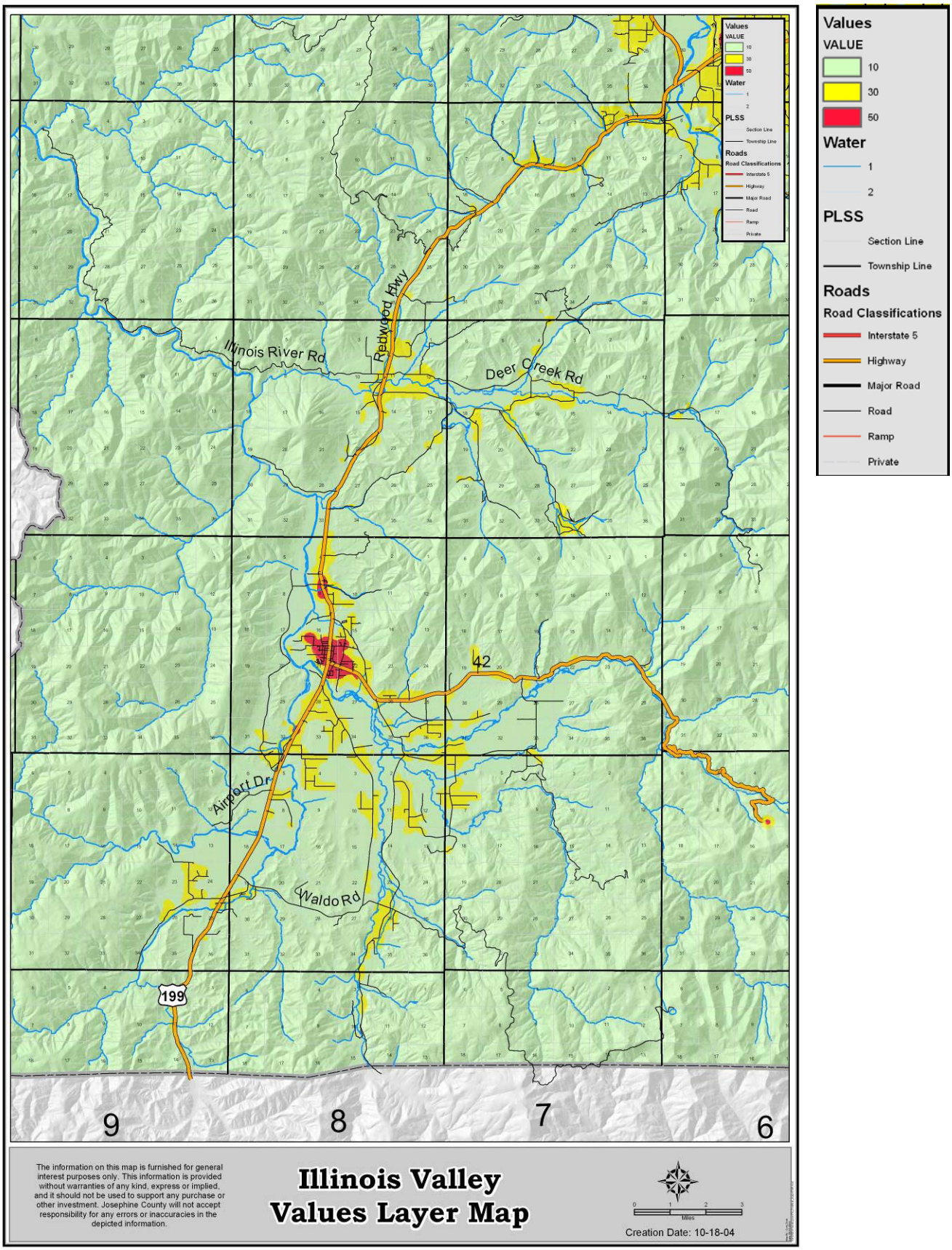
Map 7. Illinois Valley Hazard Layer Map



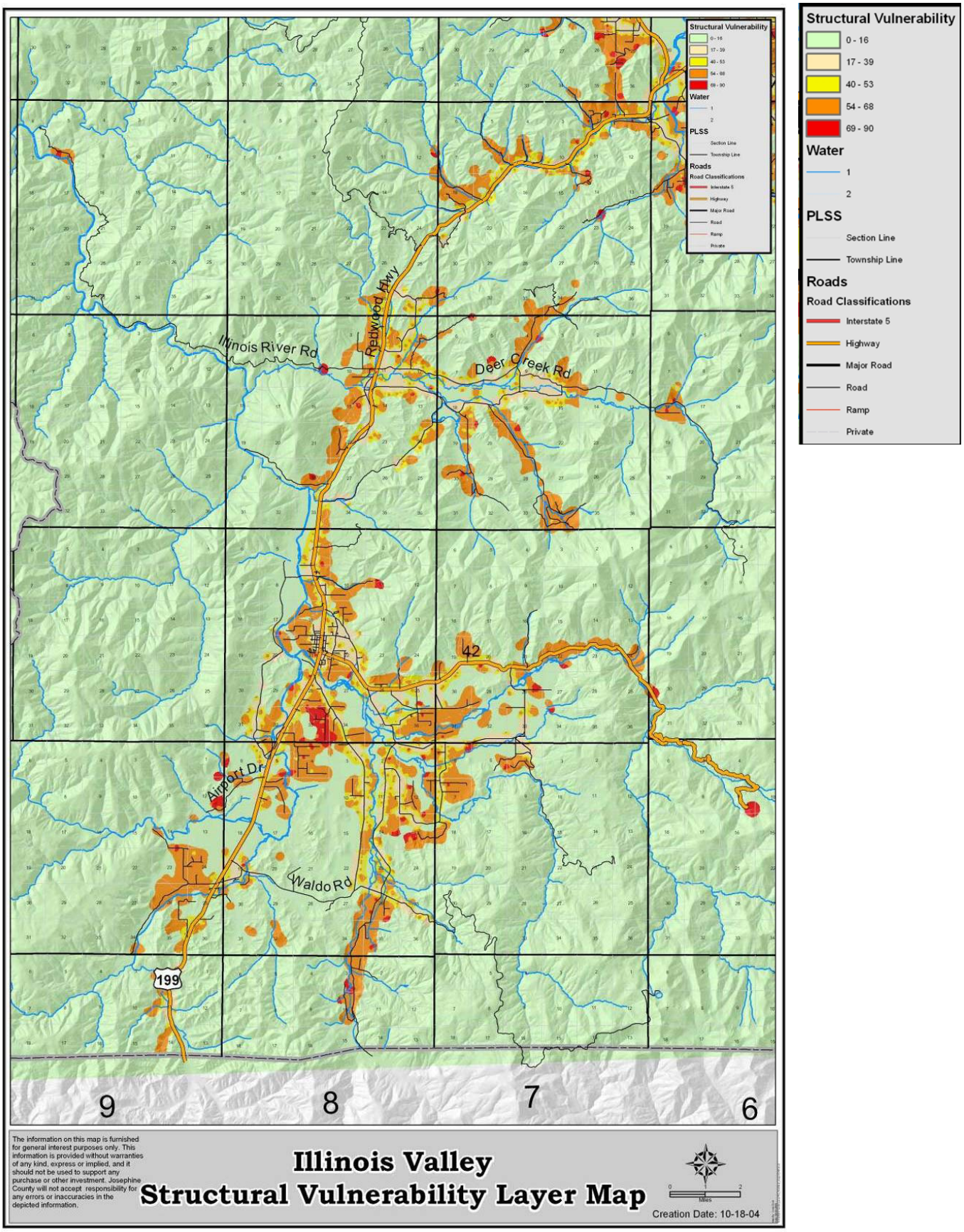
Map 8. Illinois Valley Risk Layer Map



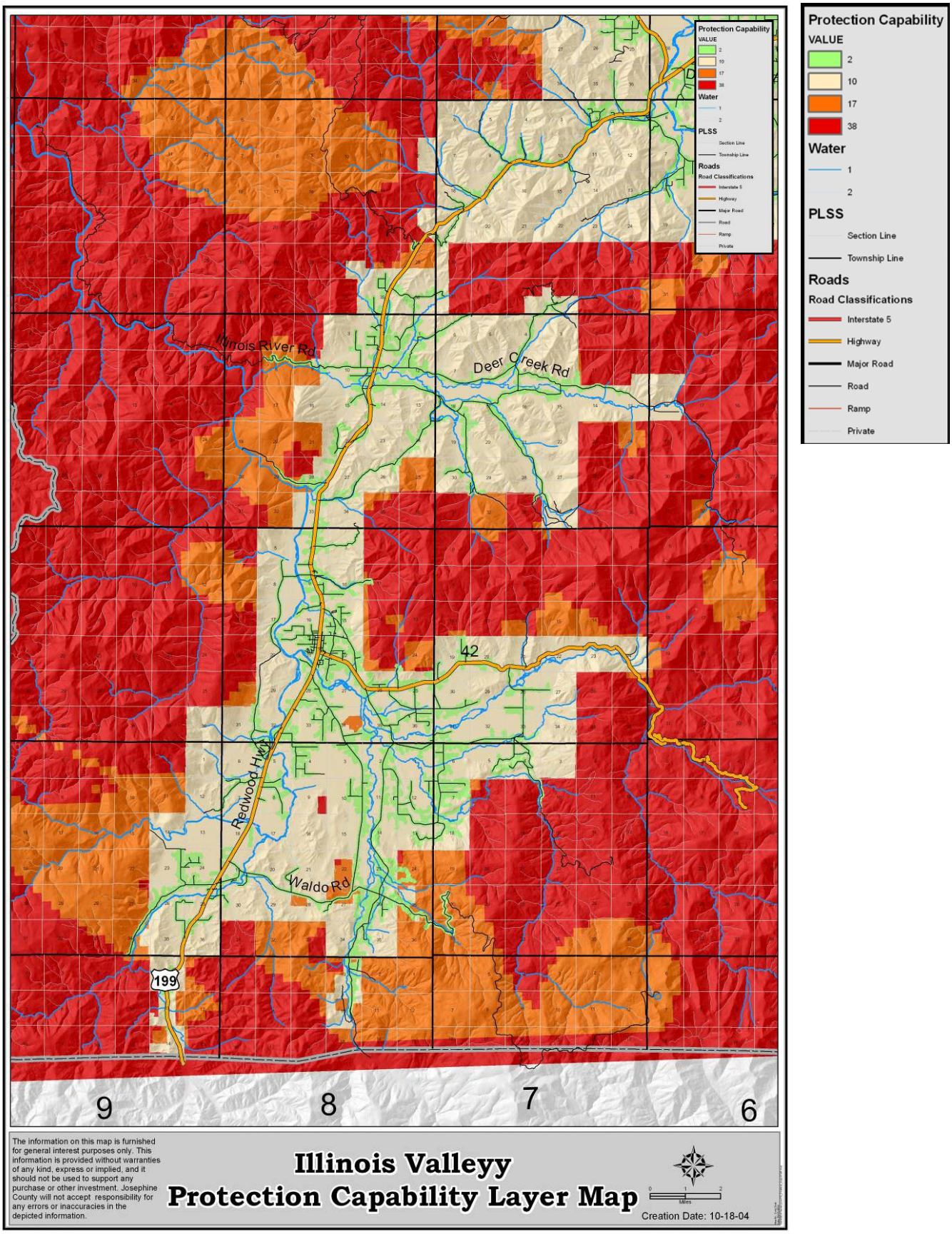
Map 9. Illinois Valley Values Layer Map



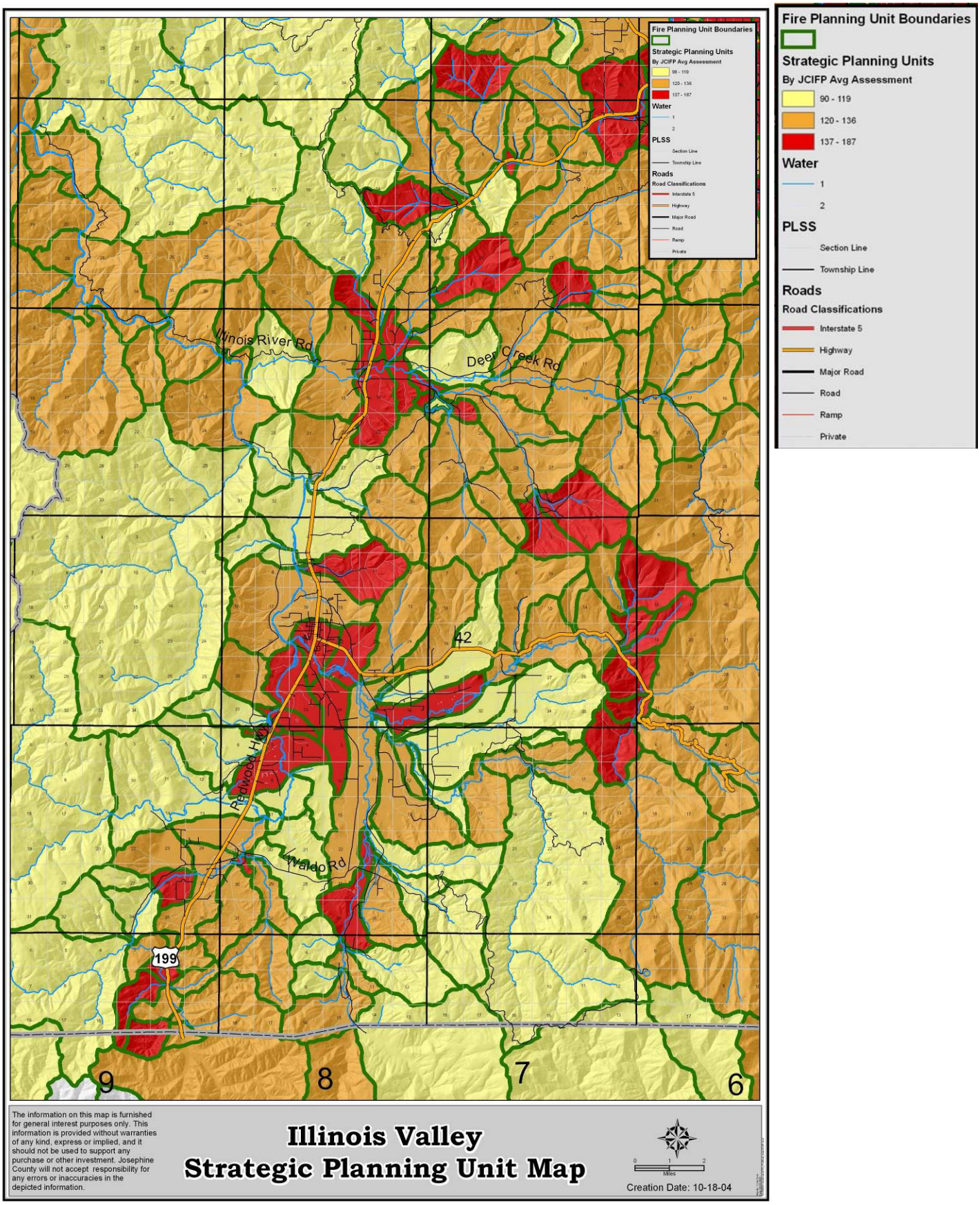
Map 10. Illinois Valley Structural Vulnerability Layer Map



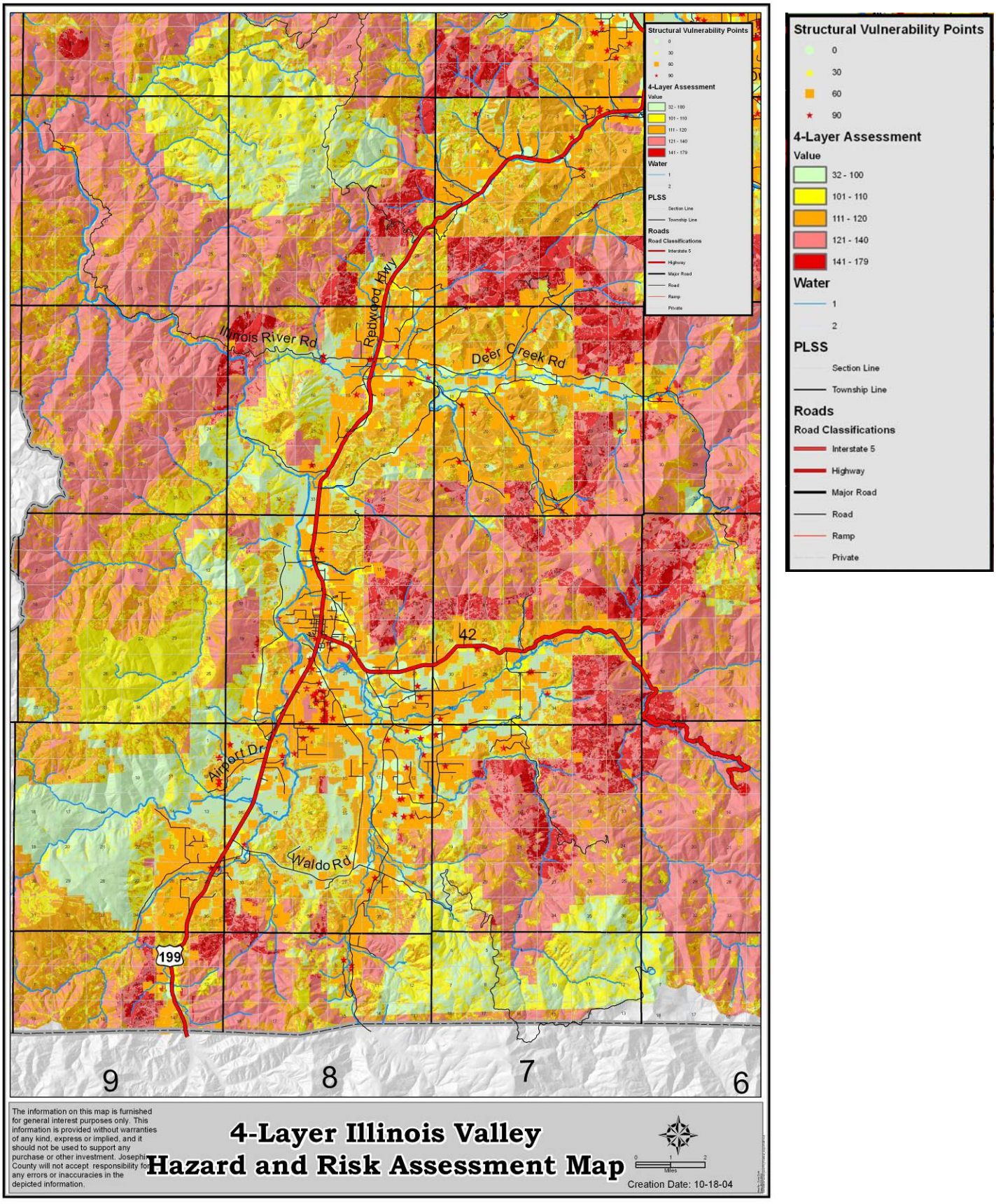
Map 11. Illinois Valley Protection Capabilities Layer Map



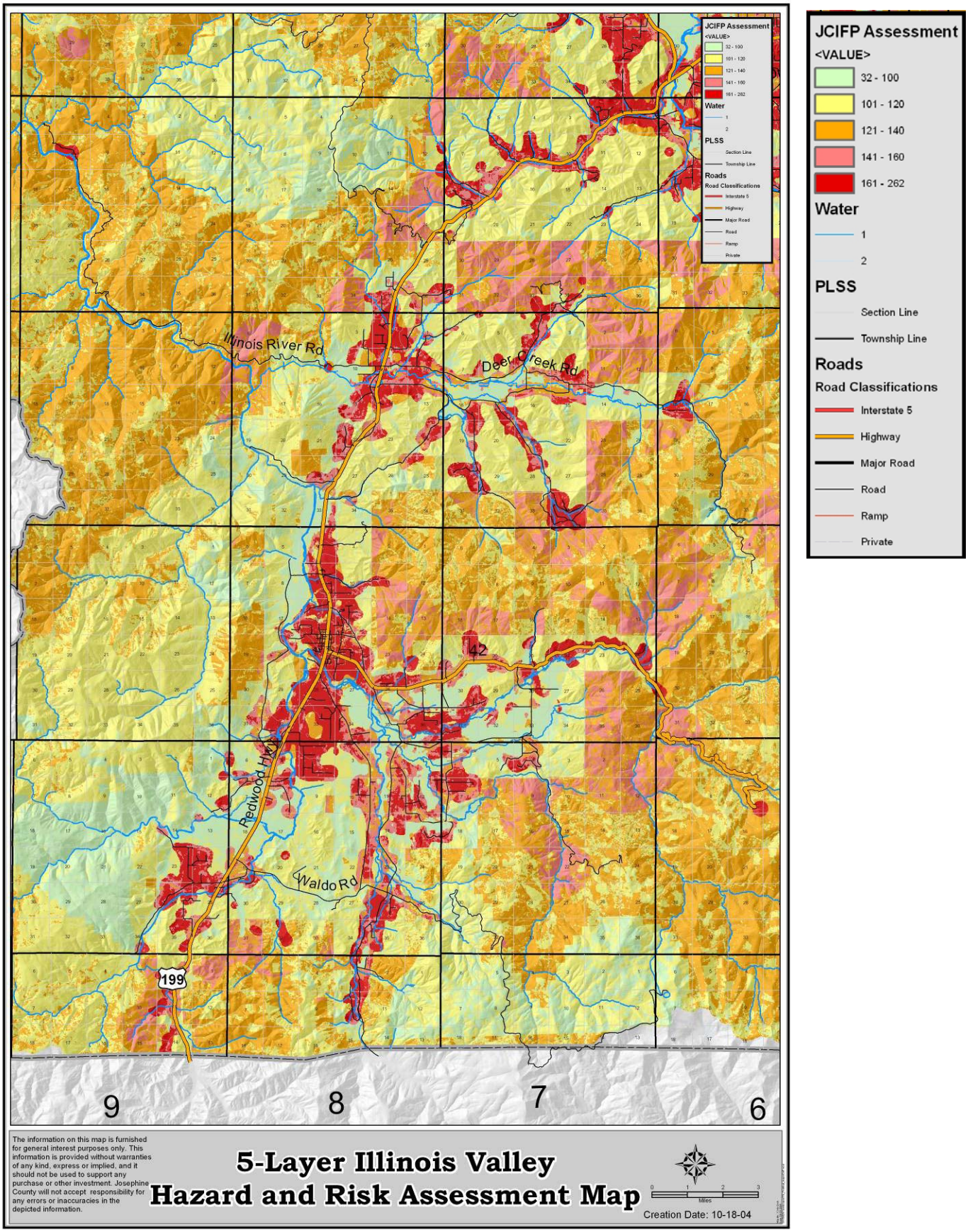
Map 12. Illinois Valley Risk Assessment, Strategic Planning Units



Map 13. Four-Layer Illinois Valley Hazard and Risk Assessment Map (w/SV points)



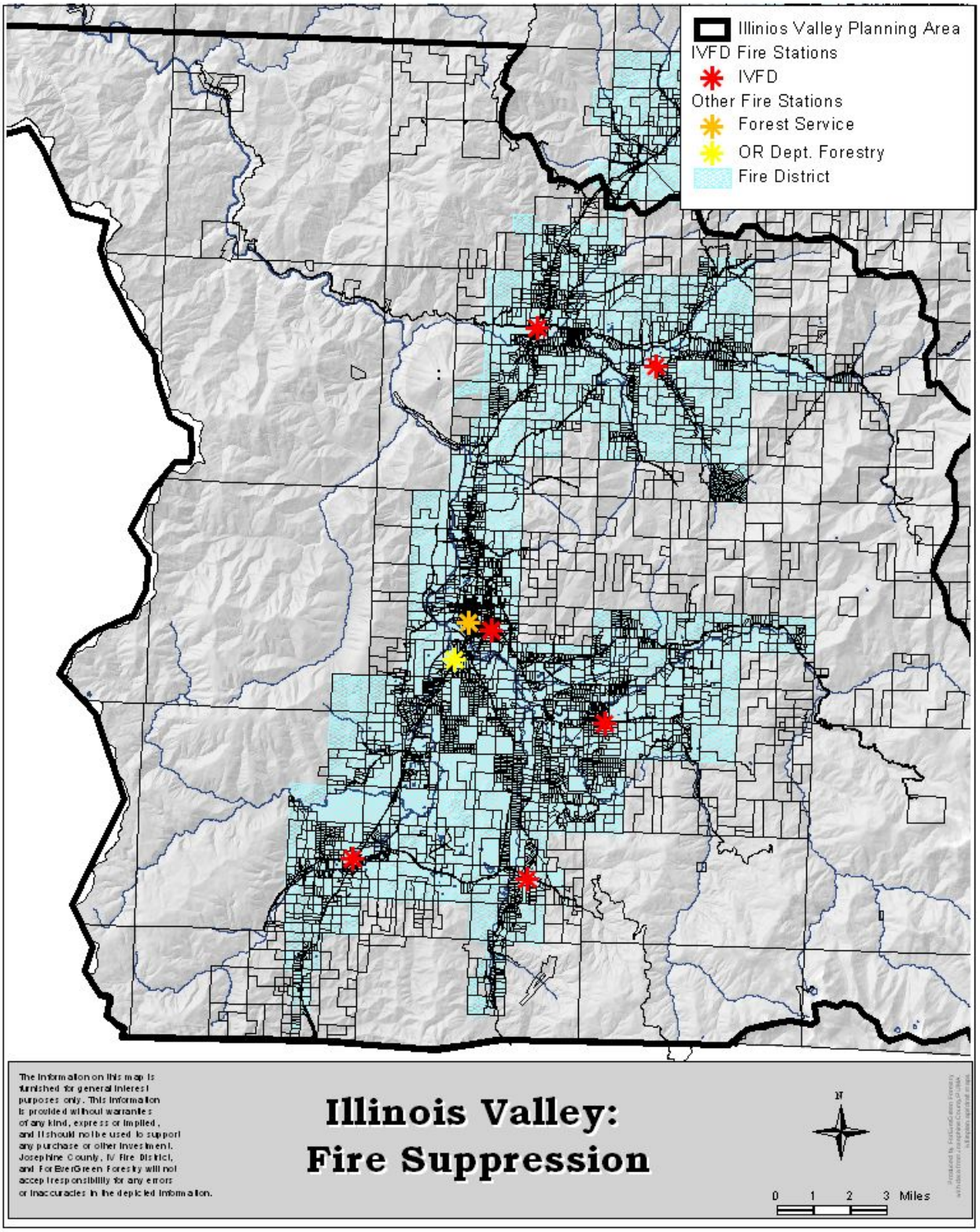
Map 14. Five-Layer Illinois Valley Hazard and Risk Assessment Map



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 15. Illinois Valley Fire Suppression Resources



Illinois Valley Rural Fire Protection District[78]

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, with 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.[79] 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 Table 8, Illinois Valley Fire Protection District and Map 15. Illinois Valley Fire Suppression Resources. Taxpayers approved a bond in 2001 that is funding the building of new fire stations at Stations 1, 2, and 3. That work began in October 2004.

Table 8. IVFD 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

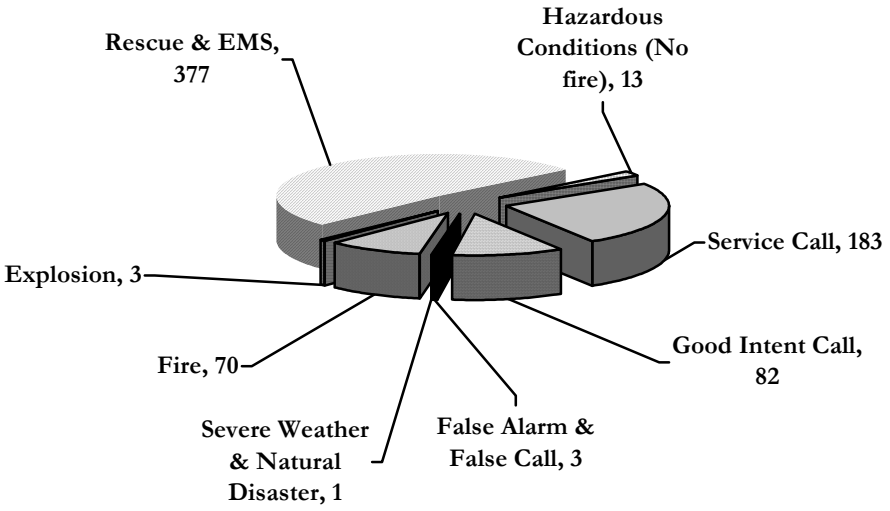
The amount of time it takes first responders to arrive at a scene usually has a big impact on their ability to save a structure from fire or a person with a medical emergency. Within the Illinois Valley, IVFD can respond to incidents in the entire District within 20 minutes. Ninety percent of the District 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 2004, IVFD responded to a total of 732 incidents within the District. The following Figure 6 summarizes the type and frequency of incident.

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

[79] IVFD Chief Harry Rich, personal communication, 10/17/04.

Figure 7. IVFD 2004 Number of Incidents by Type of Incident



For a more detailed description of IVFD incident response, please see Table C, Illinois Valley Fire District 2004 Number of Incidents by Type of Incident[80] in Appendix E.

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*[81] agreements with Rural Metro (Grants Pass area), Gasquet Fire Protection District (California), American Medical Response (ambulance), 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*[82] agreements with these same entities except Gasquet FPD for certain situations. 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 and IVFD have auto 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 20 years old, but none are 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 9. IVFD Equipment Resources

Station	Engine #	Year	Gallons of Water Capacity
Structural Fire Engines:			
1 – Cave Junction	8901	2001	1000

[80] Incident Date 1/01/2003 to 12/31/2003 and Incident Type 100 to 911.

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

[82] Auto aid means that the parties of an auto aid agreement will be dispatched at the same time to respond to incidents outside their regular district or jurisdiction to assist with fire suppression or other emergencies.

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
6 – Takilma	8906	1968	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 Association 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 4,000 gallons of water available to firefighters in case of a fire. As stated in Chapter 2, this needs to be visibly accessible to firefighters, 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 lost 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 standpipe.

In additional to residential water storage, a series of community water tanks for fire-fighting has been identified through this Fire Plan process. Those locations are identified in Chapter 7, Interface Community Planning Areas. Priority locations are summarized in Chapter 9, Mitigation Strategy. This additional water storage is sorely needed by IVFD volunteer firefighters.

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 7 as well, with some prioritized in Chapter 9. Residents are encouraged to look at their road 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, firefighters, 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 and rapidly get to you? If not, examine what you can do to improve your access so your odds of surviving a medical or fire emergency are greater. The best firefighters 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 firefighters can help you survive the next fire.

Oregon Department of Forestry

ODF provides wildland fire protection for private, industrial, county, state, BLM, and municipal forestlands. Every year, ODF determines the beginning of the fire season based on fire danger. The season typically starts in June although it has been as early as April. It lasts until the fire danger diminishes to a point where there is no longer a threat of wildfire. The season typically ends in October but it has been ended in September or November. During fire season operators must have their fire equipment at their operation site and a fire watch. As fire danger increases, more restrictions are placed on the public and industry using any State-protected land (private, County, and State-owned lands). Included in these restrictions are Industrial Closures for any commercial operations on state-protected lands. These limit the amount, type, and timing of activity. 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).

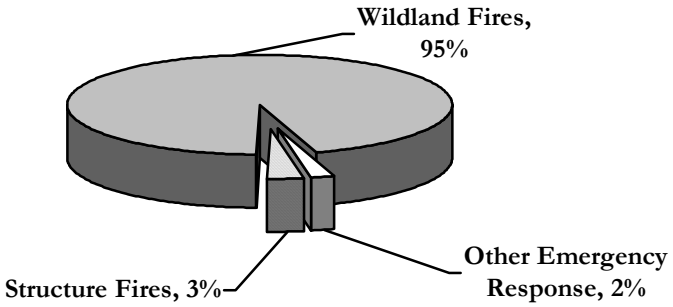
ODF provides wildland fire protection to approximately 18,000-20,000 residents in their 200- to 250-square-mile service area in the Illinois Valley. The geographic area that ODF serves in Illinois Valley stretches from the California border to Wonder and east and west to the Forest Service boundary.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

There are six paid staff members in the 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 15, Illinois Valley Fire Suppression Resources.

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 summarizes the type and frequency of ODF incident response in 2003.

Figure 8. ODF 2003 Number of Incidents by Type of Incident



In addition to providing service within the 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 the 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 10. 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[83]

The United States Forest Service (USFS) Two Rivers Fire Zone provides wildland fire protection to 245,555 acres in the Galice and Illinois Valley Ranger Districts of the Rogue River-Siskiyou National Forest. 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 16-person initial attack helitack/rappel module and helicopter available at the Grants Pass Interagency Fire Center at Merlin.

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

The Illinois Valley Ranger District Station is located in the Valley at 26568 Redwood Highway in Cave Junction, as shown in Map 15, Illinois Valley Fire Suppression Resources.

Within the Illinois Valley Ranger District, the 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 Station.

All of the incidents responded to by the 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 cannot enter a structure on fire.

In addition to providing service within the Galice and Illinois Valley Districts, the USFS will respond outside of the service area boundaries to incidents in Six Rivers National Forest, Rogue River-Siskiyou National Forest, and 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.

The USFS has two wildland brush trucks stationed in the Valley, 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 the USFS at the Illinois Valley Ranger District Station, during normal business hours at 541-592-4000 or at 26568 Redwood Highway, Cave Junction.

United States Bureau of Land Management[84]

The United States Bureau of Land Management – also known as BLM – provides wildland fire protection to 71,565 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.

There are 346 paid staff members serving the Medford District, including 220 red-carded[85] personnel, and 126 active wildland firefighters. The BLM contracts with ODF to fight wildfire ignitions on BLM lands. BLM provides project inspectors to administer the fire suppression contract when fires occur on BLM lands. The BLM also provides resource advisors to ensure that 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. The 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.

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

[85] Red-carded personnel are state-certified to fill wildland firefighter positions as needed.

Table 11. BLM 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, the 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 the USFS.

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

Table 12. 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, chainsaws, firing equipment, government vehicles, and hand tools.			

You can contact the 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 principal population centers in the Illinois Valley. These communities are all "interface" communities, as they are pockets of residential inhabitance within a wildland landscape. A public 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 of 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, beginning near Eight Dollar Mountain. The 2000 population of Selma was 1,934.[86]

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 occur on the forested private lands throughout Selma, including Camp Forest, a Natural Selection Forestry demonstration area. 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 Development Organization (IVCDO) is coordinating a fuel reduction project in the upper Thompson Creek watershed, in conjunction with IVFD and BLM. The project currently includes 101 acres of private landowner participation. Funding was secured in FY2004 by IVCDO from the National Fire Plan. This area was chosen for fuel reduction because it is a high hazard area as identified by JCIFP. Future phases of the project are being explored A description of that program is in Appendix F, Thompson Creek Case Study (Draft).

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. Their alternative follows the "14 Criteria for Sustainability" which are included in Appendix G. This project is an example of what can be done on other federal lands in the Illinois Valley.

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.

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

> 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.[87]

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).[88]

Selma Community Meeting

The Selma Community meeting was held on June 9, 2004, 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
- Daniel Green
- Ron Green
- Scott Heller
- Bill Hunt
- Lynn Kaufman
- Gerald Kaufman
- William Mondale

[87] DCVNRCA, personal communication, 10/18/04.

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

- Audrey & Joel Moore
- Keni Moore
- Kris Sherman
- Jim Tehan
- Melanie Tehan
- Fred Tokash
- Jan & Jack Walker
- Larry Weatherwax
- Shane Welsh, *Illinois Valley 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
- Delaine Sherman, IVFD
- De Spellman, IVFD
- Robin Wilson, FAC

Selma Emergency Response, Evacuation, and Safe Zones[89]

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 firefighters in the Valley. Three officers with brush trucks are Selma residents, adding to the resources available to this community.

Selma residents on the east side of Highway 199 were evacuated during the Biscuit fire in 2002. Backfiring operations were within one mile of this community.

The principal evacuation route for Selma 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 site for providing emergency evacuation signage.

[89] A safe zone is a place where residents can go to survive a wildfire if they are unable to evacuate.

- 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[90], Hazards[91], Risks[92], 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
- Fred's Fowl Farm*
- Gas station
- Lake Selmac Resort
- Late successional forests in the South Deer Project
- 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

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[90] Values are places other than individual homes that have value to local residents.

[91] Hazards are the conditions that may contribute to wildfire.

[92] Risks are the potential and frequency for wildfire ignitions.

* These values are not on the map because they were added during the public comment period after the community map was created.

- 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
- Roads rutted, no bridge between Briar and Forest Creek Road
- 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 at community meeting for immediate action:

- Bridge on Briar, make it dependable
- COMMUNITY CHIPPER
- EDUCATION (MOST IMPORTANT BECAUSE LEADS TO GETTING THINGS DONE)
- EVACUATION ROUTES
- FUELS REDUCTION:
    - Areas along Highway 199
    - Draper Valley – Rough & 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
- Road access on Forest Creek Road
- WATER STORAGE ON BLM HILL NORTH OF DRAPER
- Water tanks
- Water supply on Thompson Creek Road north of Briar Lane – develop

Selma Mitigation Strategy

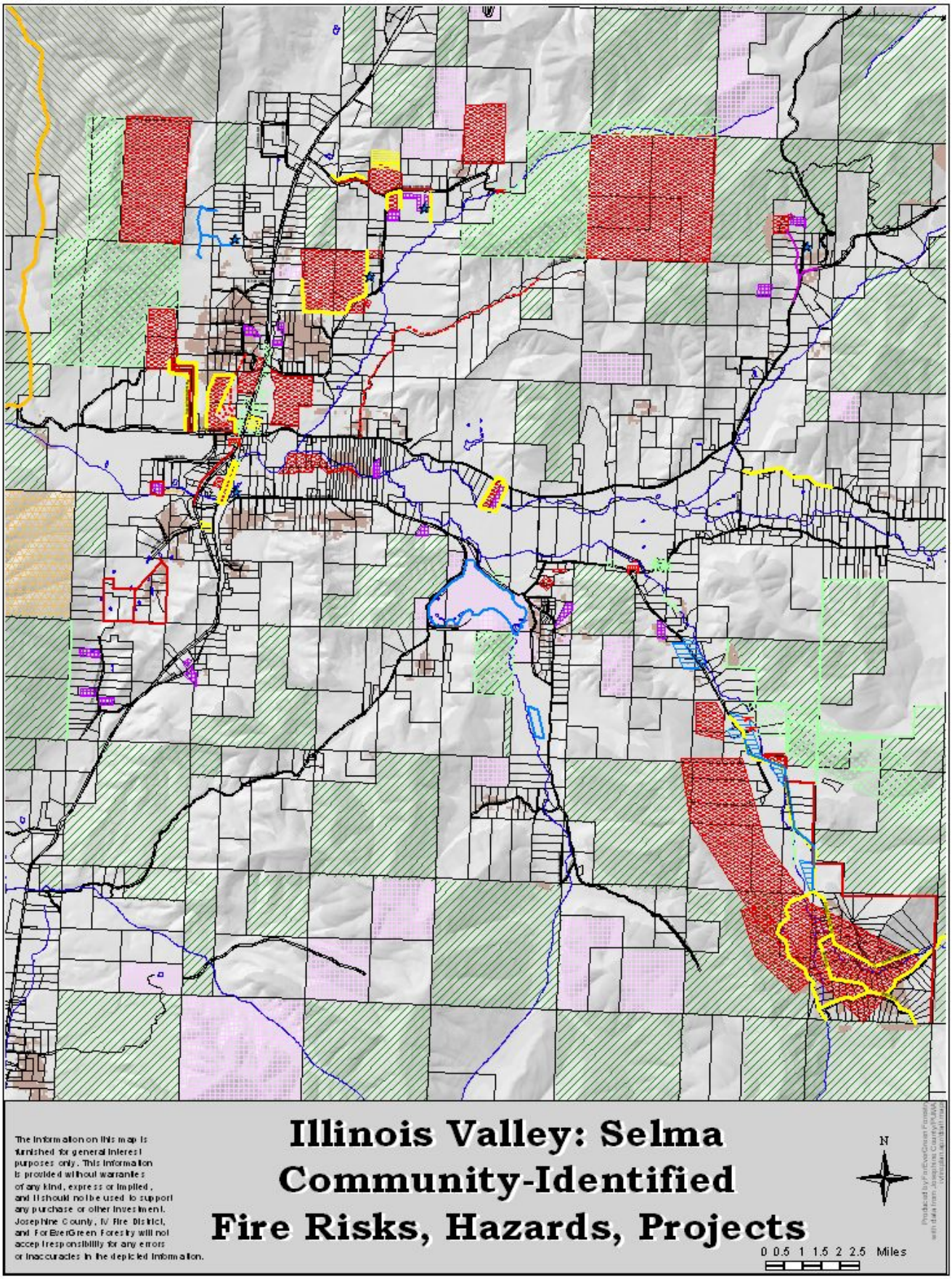
- Implement future phases of Thompson Creek collaborative fuel reduction project. The current project is progressing very well, with many participating landowners. It is important to maintain the momentum in this very high hazard neighborhood by exploring and continuing future phases.
- Develop signage 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, IVFD, and IVFSC. 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. 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. Funding sources should be explored and obtained to purchase a community chipper to be housed at the Selma Community Center or one of the IVFD fire stations here. Once received, community chipper days can be organized in conjunction with defensible space education.
- South Deer Project between BLM and Deer Creek Valley 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 fuelbreaks, beginning with Deer Creek Road as it heads towards Williams. This could serve as a break from fires coming from the east, while also 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.

Figure 9. Legend for Selma Community Map (on following page)

Map 16. 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 River and its tributary Holton Creek watershed. It has a small business district along the highway. Kerby shares a zip code with part of Cave Junction—97531—and 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 the southern end of this community, and along Holton Creek and Glendon Roads.

Kerby Community Meeting

The Kerby Community meeting was held on July 28, 2004, 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 closest stations are Station #1 in Cave Junction (approximately 3 miles), and Station #2 in Selma (approximately 6.5 miles).

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 Highway 199 north of O'Brien; Finch Road is also a connector road from 199 in Kerby, to Westside Road. Westside Road also goes to Tennessee Lookout Road and the Qbar X Ranch.
- The other route is two miles north of Kerby on 199 to Reeves Creek to Southshore Drive in Selma (as described in the Selma section).

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:

- All other buildings along the Redwood Highway in Kerby*
- Business district along 199
- Community Building*
- Joe's Market & Post Office*
- 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
- Dead trees falling on power lines
- East 6th Street
- Finch Road to Tennessee Lookout
- Glendon Road is a dead end
- "It's a Burl," lots of fuel there
- Josephine Street, history of structure fires here
- Holton Road is our only way out.
- Power line easements (from bikers, unauthorized drug parties, transients, etc.)
- Power line poses a hazard (almost had a fire a few years back when a tree fell on the power line at night)+
- River bar party spot
- Southeast on the east side of the river on Finch Road (There has been someone, perhaps a family, parked on the State property all summer apparently using the area as living quarters. They have a fire ring from a tire but recently someone put three large piles of brush very near by the same people's "camp" spot.)+

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

- A dead tree that could fall on the power line should be taken care of.
- Fuel hazard reduction on Holton Creek Road
- Get our water district up and running so we will have hydrants.

Kerby Mitigation Strategy

- County, City, and IVFD work together to fix the address numbering system on Westside Road, and number the power line roads. There are problems with residents here having addresses tied to the main roads, not the actual roads where they live. 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 along 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.
- Explore development of strategic shaded fuelbreaks between Kerby and BLM or USFS lands.

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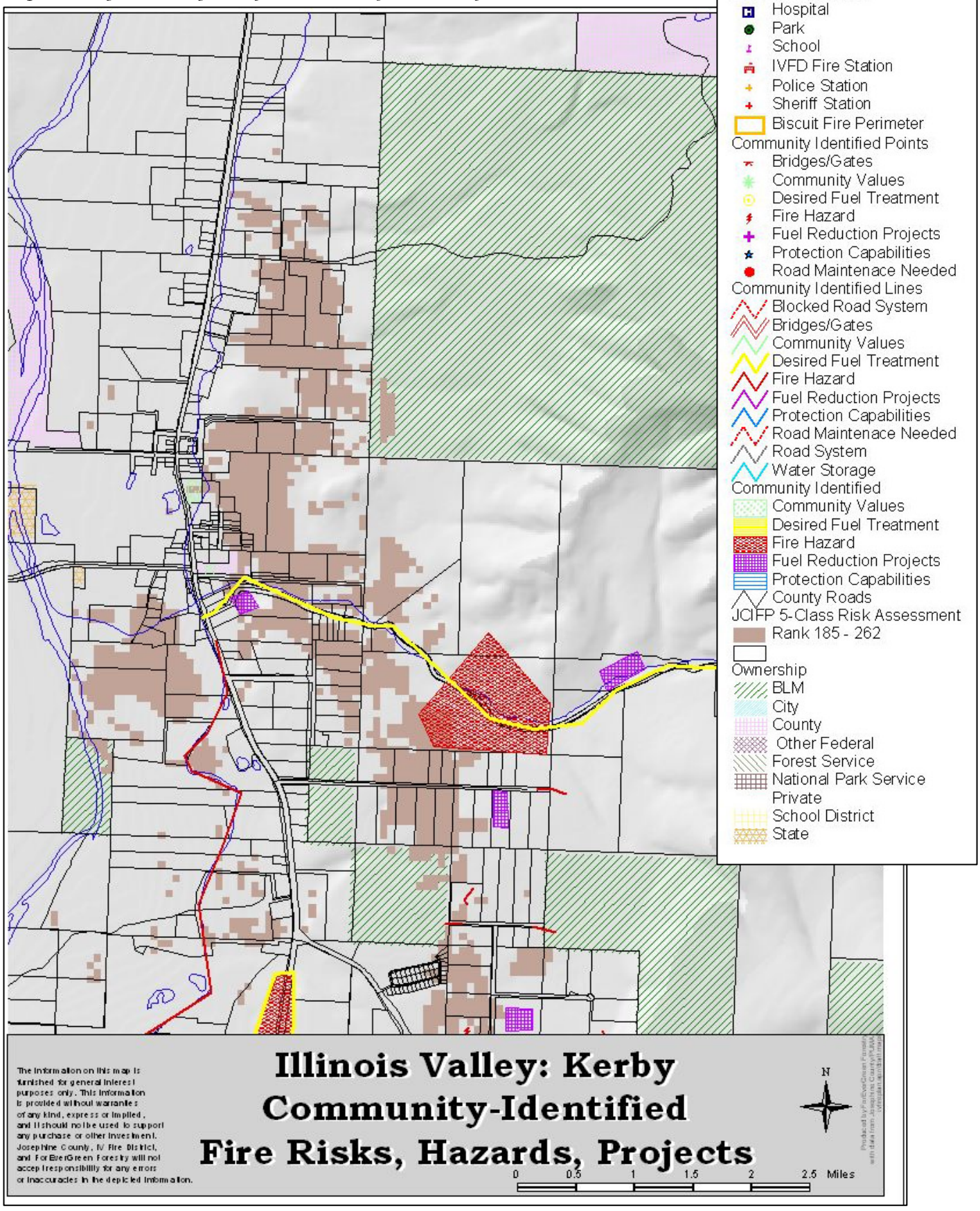
* These values are not on the map because they were added during the public comment period after the community map was created.

+ These hazards are not on the map because they were added during the public comment period after the community map was created.

- CJ, IVFSC, and others cooperate to remove dead trees along the Kerby ditch.

Map 17. 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.[93]

Cave Junction is the commercial center of the Illinois Valley. It is the only incorporated city 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, more than 6,000 Illinois Valley residents use a Cave Junction address or zip code. The Illinois River borders the town on the south, west, and northwest.

Cave Junction Community Meeting

The Cave Junction Community Meeting was held on August 18, 2004, at the County Building, 102 S. Redwood Highway. The following people attended the meeting:

Residents

- Sarah, Joshua, Noah, and Richard Clipp
- Derwyn and 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

[93] RogueWeb: Cave Junction, Illinois Valley, Southern Oregon, http://www.rogueweb.com/cjunct/.

Cave Junction Emergency Response, Evacuation, and Safe Zones

IVFD Station #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 #1 or the Administration Building during the day. 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 Biscuit fire caused Cave Junction residents to be on a 30-minute notice for evacuation. It is unlikely most residents would have been able to evacuate in that short time frame.

The principal 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 principal alternate evacuation route is:

- Caves Highway (OR 46) to Holland to Takilma Road (County Road 5820) to Happy Camp (FS Rd.48 on Rogue River-Siskiyou National Forest side and Rd. 40S07 on Klamath National Forest side, 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
- Doctor's office*
- Evergreen Elementary School*
- Fire Stations, Administration Building
- Forest area around town
- Fueling stations
- Grocery stores*
- High school
- Historical sites
- Lamb's Body Shop on Rockydale
- Library*

* These values are not on the map because they were added during the public comment period after the community map was created.

- Lorna Byrne Middle School
- Medical facilities
- Pine Ridge Estates
- Police Department
- Power companies
- Senior Center
- Shade cover on the river and the creeks*
- Taylor's Sausage Plant
- Telephone stations
- Water Department 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 Highway 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 use of the land there, and no accessible water on the property.
- Brushy areas next to High School and Lorna Byrne tract
- Brushy dead-end roads
- Burch Drive in the chaparral bushes
- County property up the hill from the city well
- Discarded cigarettes
- Driveways that are difficult for fire engines to access
- Evergreen behind Bus Barn
- Heavy brush along both sides of river
- Heavy brush in general
- High grass in fields
- Hunters and others in BLM area between Fernwood Drive and the river. Access is very limited.
- Junction Avenue at Lorna Byrne 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 (Simmons Cut & Logan Cut are dead-end streets). There is only one way in or out of the area, and many of the property owners 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 power-line road through 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
- Logan Cut — many cigarette butts in the street
- Logging slash and trash never cleaned+
- Main road: most traffic, vehicles, and pedestrians
- Mesa Verde Drive – many have no way on to property
- North behind Old Joe's

* These values are not on the map because they were added during the public comment period after the community map was created.

+ These hazards are not on the map because they were added during the public comment period after the community maps were created.

- Not maintaining burns and storages of burnables
- Only one way out of area
- Pinewood Way — length of street has tall pines and firs. Also, it's a dead-end street with only one way in or out.[+]
- Possibly Lamb's Body Shop due to paint thinners, chemicals, etc., but there is no fire history there, and the owner is a good neighbor.
- Power line east and west of 199
- Property on Nolan Road by city wells
- Residences on Simmons Cut and Logan Cut have no escape route in the event of wildfire.
- 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 at the community meeting for immediate action:</u>

- BLM needs to clean up their areas from campers, clearcut, wood cutting, and dumped slash along the Cuts Road entrance at end of Fernwood Drive.
- Brush clean-up regularly.
- Careful monitoring of any vagrants or passersby.
- Cite residents who neglect to clear dense brush, undergrowth.
- Creating "wood pile" cutting areas invite people to dump their trash and invite more traffic where there usually is no "fire hazard."
- Don't leave slash piles, especially with plastic covers.
- Education
    - Burning education, be careful.
    - Community awareness of carelessness by others.
    - Continue to remind and inform, especially about when fire season begins and what the restrictions are.
    - Education and strict enforcement of fire laws, burn permits, etc.
    - Education, especially 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, possibly to become 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.
    - Develop and post signs showing emergency exit routes.
- More fire hydrants here and there
- Fire inspection of our neighborhood and each property – to give owners ideas/suggestions of things we can do to improve fire safety. Do this annually if possible. Follow up with offenders.

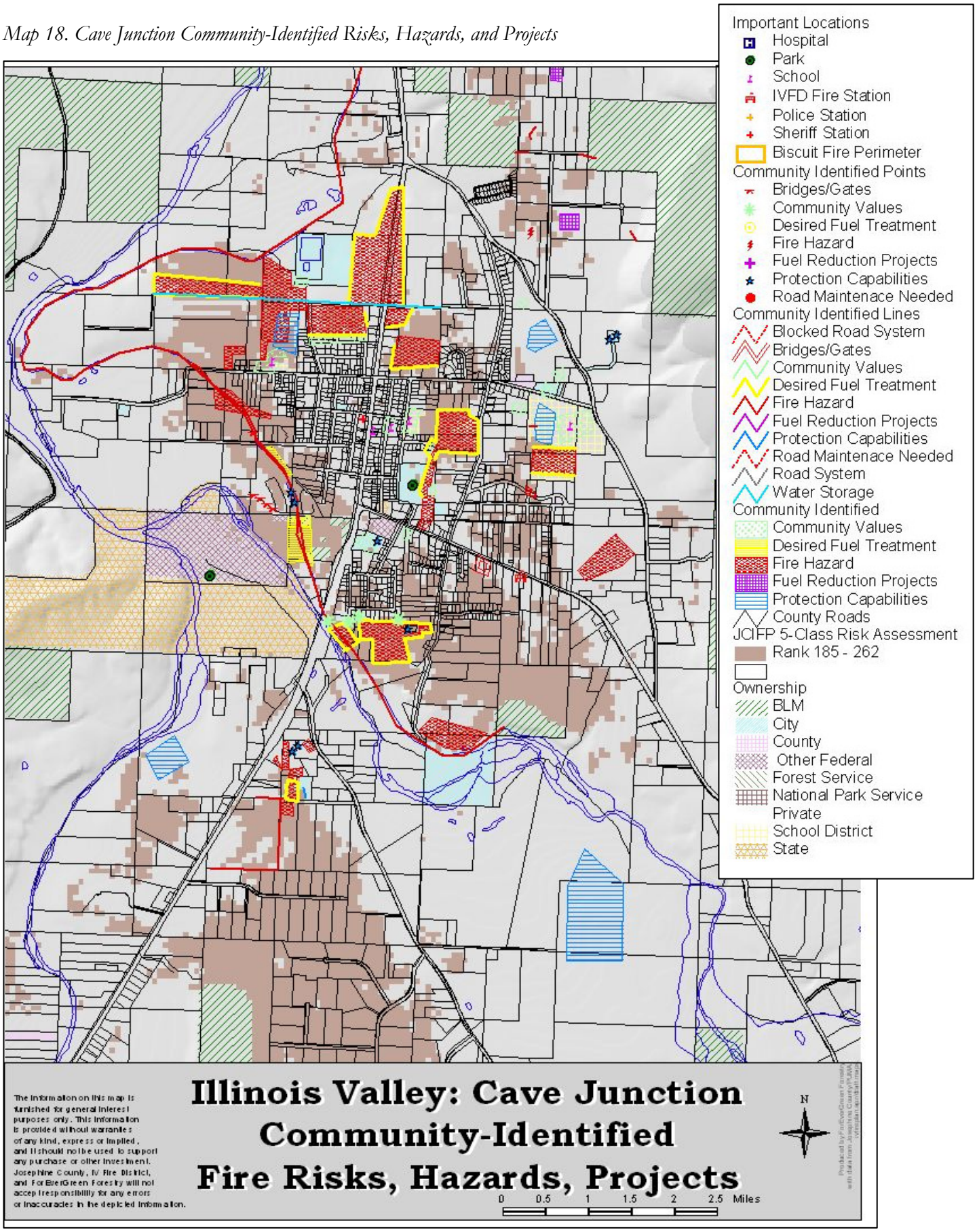
[+] These hazards are not on the map because they were added during the public comment period after the community maps were created.

- 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 roadsides
    - CLEAR 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
    - Landowners should be required to clear slash and brush in forested areas
    - 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
    - Power line 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 of dense, close-together trees that are thin and scrawny
    - 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 neighbor's 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 Department 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 fire 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.
- 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 include the neighborhoods around Kenrose Lane, Barlow, Rockydale, River, Manzanita Lane, Hanby, South Kerby, Sawyer, Tracy, Idylewild, Mesa Verde, Stevenson, and other areas with dense brush near residences.

Map 18. 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 & Ready Mill is located north 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 16, 2004, at IVFD Fire Station #3, 33054 Lone Mountain Road. The following people attended the meeting:

Residents

- Phil Aria
- Marilyn Arnold
- Maureen and Clifford Johana
- Kathy Lombardo
- Gordon Lyford
- Dave Nichol
- Bill Woodburg

Agency and Project Participants

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

O'Brien Emergency Response, Evacuation, and Safe Zones

IVFD Station #3 (33054 Redwood Highway) is in O'Brien, with two structural engines and a water tender. There are seven IVFD 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 backfire operations on the Biscuit fire got within a mile of the O'Brien community, yet they did not evacuate. Most residents were on a 30-minute notice, however, it is doubtful many could have evacuated in that short time frame.

The principal 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 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
- Power station*
- Power substations*
- Schools*

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
- Behind 201 Mahin Road — limited access and safety+
- Cobalt Drive
- Field on Naue Way by Jill Smith's+
- 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 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 – access in and out
- Roads going to Mars swimming hole on Rough & Ready — lots of fuel, lots of traffic in summer+
- Mountains west of O'Brien
- Nature Conservancy's one hundred acres at end of Naue Way/Rough and Ready Creek Road
- Naue Way
- O'Brien Street – gravel, hazards
- Power lines
- Power line Road -- kids playing with matches
- Power line Road off Naue Way (Muddy Flat)+
- Recreation sites on federal land with swimming holes
- Ron Way
- Rough & Ready Mill – dry lumber+
- Samarkand – narrow wooden bridge, difficult for fire engine? Dead cars

* These values are not on the map because they were added during the public comment period after the community map was created.

+ These hazards are not on the map because they were added during the public comment period after the community map was created.

- Seats Dam access road, access in and out
- 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.

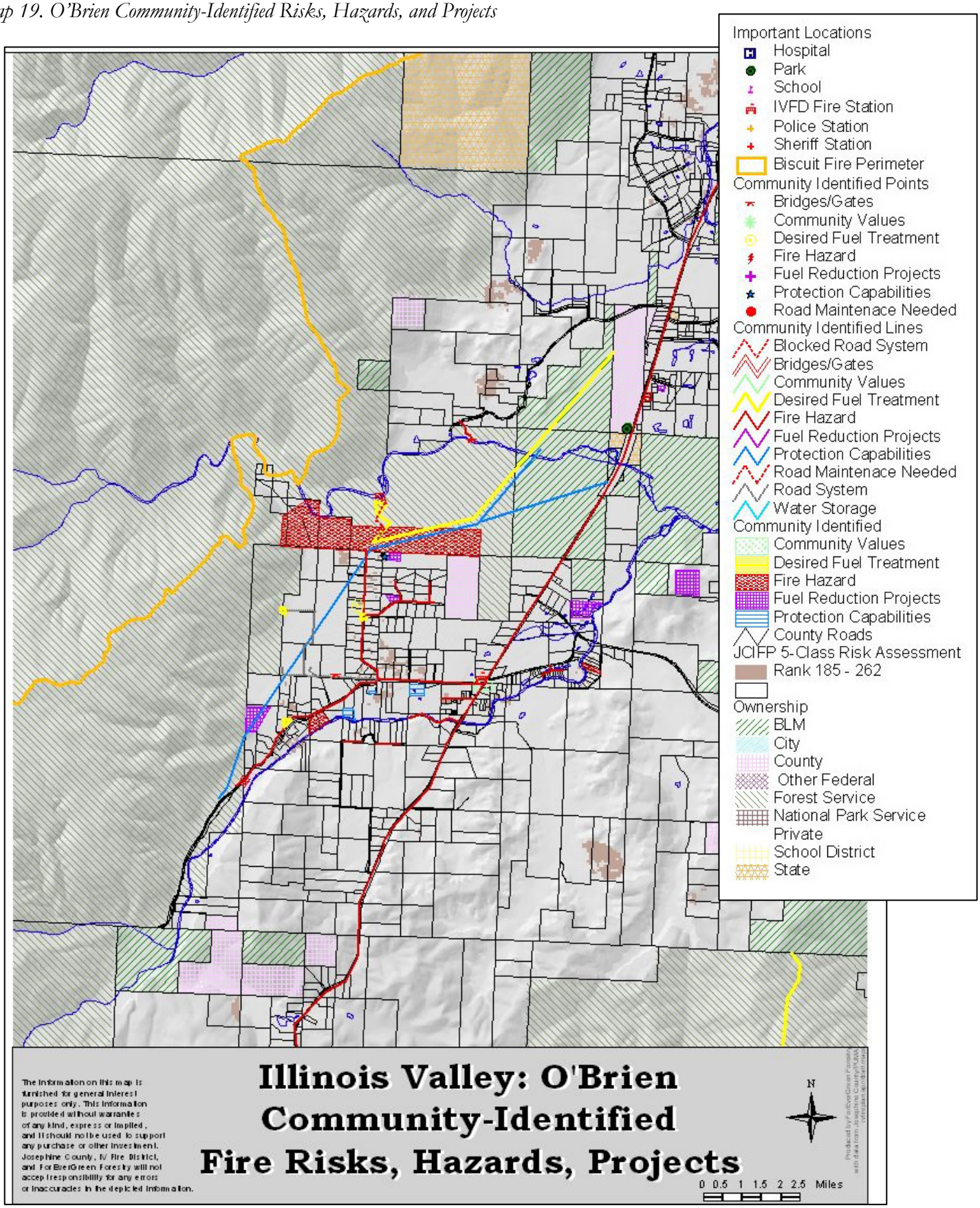
The following projects were identified as priorities for fuel reduction in O'Brien, those in CAPS as highest priority for immediate action:

- Burn barn at 820 Naue Way as IVFD training exercise
- Clear out manzanita (under brush)
- Cut dead trees
- 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
- Fire lines
- 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 land
- WATER TANKS: INSTALL ADDITIONAL COMMUNITY WATER STORAGE AT:
    - Corner between 822 and 848 Naue Way and FS land
    - 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.
- 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 can implement fuels reduction on roads to Mars Swimming Hole and Seats Dam. Work with local schools to develop educational signs about fire safety to place at these popular spots.
- IVFSC work with The Nature Conservancy and FS to create a shaded fuelbreak and/or brush clearance along the boundary with private residential 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 19. 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 the Caves Highway. Dick George is a significant loop road off 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-acre parcel and several 5-acre areas off Dick George.

Holland Community Meeting

The Holland Community Meeting was held on August 11, 2004, at the IVFD Fire Station #4, 5465 Holland Loop Road. The following people attended the meeting:

Residents

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

Agency and Project Participants

- Bruce Bartow, Josephine County
- 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 principal 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 Creek. It is a high-standard one-lane gravel road the rest of the route. It is open May 1 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 turnouts, open from May until November.
- There is one escape route out of 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 Holland Community Meeting:

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

The following were identified as causes of wildfire in Holland, 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 to #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 to #5001 (east side of road)
- Takilma Road – dry grass behind #5262 to #6000 (west side of road)
- Undeveloped properties

The following projects were identified as priorities for fuel reduction in Holland:

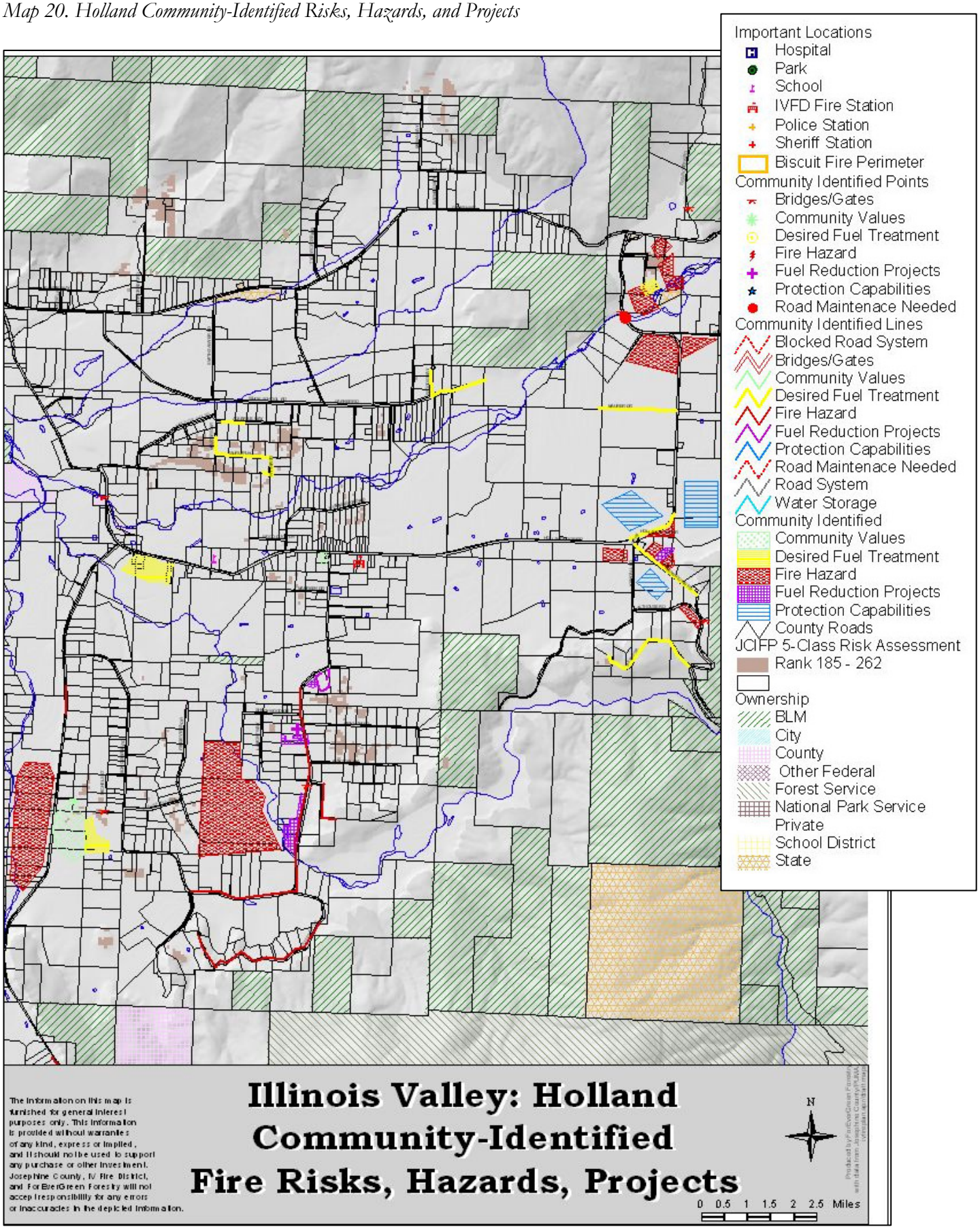
- Area of highly flammable vegetation in Section 12. High priority for fuels work. 160 acres of thick, young forest.
- Fix 5-ton 5-mph bridge on Holland Loop over Sucker Creek. 9-ton bridge east end Holland.
- Fallow fields northwest Section 1.
- Improve on-the-ground communication (e.g., Dick George 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 near Dick George, the old-growth forest south of llama ranch (while maintaining old-growth forest overstory), and in the fallow fields. Include mowing areas of high grass.
- IVFSC work with residents to identify risks, hazards, and potential projects in neighborhoods further out toward Grayback.

Map 20. Holland Community-Identified Risks, Hazards, and Projects



Takilma

Takilma Community Planning Area

The rural community of Takilma is situated just north of the California border in a valley amongst mountainous land 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, not even groceries or 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 7, 2004, at the Takilma Community Center, 9367 Takilma Road. The following people attended the meeting:

Residents

- Susan Gustafson
- Robert Hirning
- Frances and Gordon Killan
- Kate Lenstet
- Lynette Owley
- Laurie Prouty
- George Shook
- 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

Takilma Emergency Response, Evacuation, and Safe Zones

IVFD Station #6 (8450 Takilma Road) is in Takilma, with a structural engine and a water tender. However, there are only two IVFD 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 there are enough volunteers at the latter station). If this fire response resource is important to Takilma residents, more people must step up to the plate and volunteer as firefighters 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 principal evacuation route for the Valley, or Takilma Road to Holland Loop or Rockydale via Waldo to Highway 199.

- The principal evacuation route is the paved, two-lane road from Takilma Four Corners, right on Happy Camp Rd. #48 up to the California line (county-maintained) and then to FS Road 40507. This road is open approximately May 1 through Thanksgiving.

- From Takilma, south along FS Road 4904, the upper East Fork through Sun Star to FS Road 4808, and from there to the Happy Camp Road 48. This route is single-lane, gravel with turnouts, 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:

- Blacksmith
- 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 turnaround 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 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 turnaround 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:

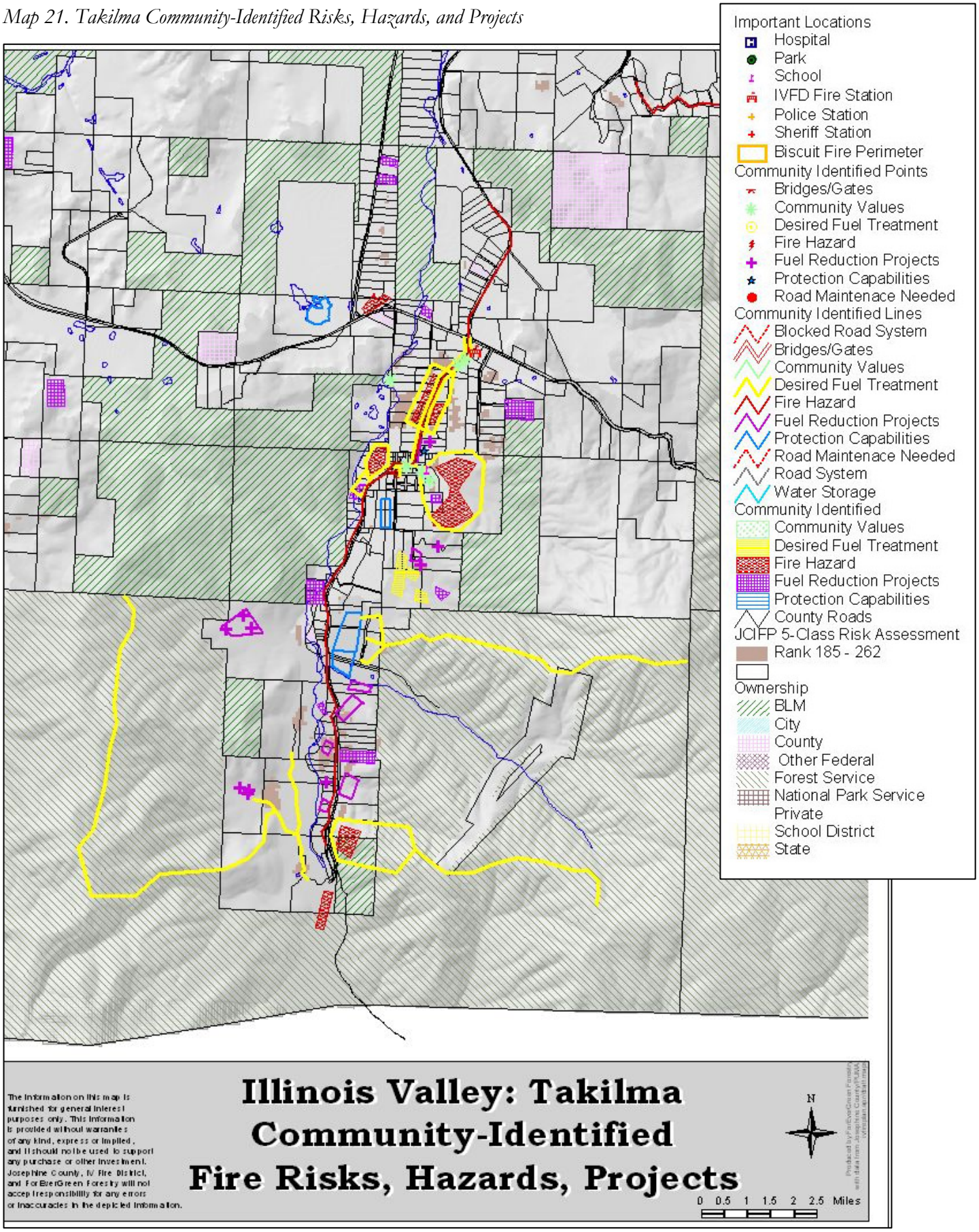
- Fuel reduction behind Hogue's Meadow
- Establish a trail maintenance crew
- Fuel reduction around buck brush at northeast corner of Rockydale and Waldo Roads intersection
- FUEL HAZARD REDUCTION AROUND HOPE MOUNTAIN ROAD LOGGING SLASH
- FUEL HAZARD REDUCTION AT TWO LARGE BUCK BRUSH AREAS, ONE BETWEEN TAKILMA ROAD AND EAST FORK 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 Takilma
- Page Creek to Cedar Gulch, shaded fuelbreak along public road
- Rancho Hopeful needs defensible space around structures
- RIDGE BETWEEN LONG AND CEDAR GULCHES (SHADED FUELBREAK)
- RIDGE BETWEEN PAGE CREEK AND PACKERS CREEK (SHADED FUELBREAK)
- RIDGE NORTH OF PAGE CREEK (SHADED FUELBREAK)
- Shaded fuel break along Sanger Peak Road on the ridge-top
- School – defensible space
- SHADED FUEL BREAK OR BRUSH AND CLEAR ALONG TAKILMA ROAD FROM FOUR 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 fuelbreak and/or brush clearance (depending on forest cover) 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 East Fork 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 fuelbreaks between Takilma and 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.
- ODF work with landowners to implement fuel hazard reduction and remove logging slash on property of and around Hope Mountain Road logging.
- 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 Hogue's Meadow.

Map 21. 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 lines 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. Lightning 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-like nature of this area, the winds can also swirl around Sun Star in many different directions.

Rogue River-Siskiyou National Forest has delineated two planning areas around Sun Star for hazardous fuel reduction. The first is East Fork Illinois (Dunn), and is adjacent to Sun Star to the east, with the project area primarily to the southeast. The other is called East Fork Illinois (East Fork), and is southeast of Sun Star.

> Both projects plan to use prescribed fire, manual and mechanical treatments. Each of these planning areas is 2,000-4,000 acres.
>
> Both areas have some completed [biological] surveys. Best guess is these cover only one-quarter to one-third of each of these areas. No NEPA[94] is planned to start until surveys are completed. No additional surveys have been implemented in either of these areas for the past two to three years because of a lack of funding.
>
> Within and outside of these two planning areas are various 'managed stands.' For the purpose of definition, you can assume a managed stand is a regenerated clearcut, wildfire, etc. This definition, however, does not entirely cover all managed stand situations, <u>but</u> it covers most. Such 'managed stands' are currently covered by an approved NEPA document (EA[95]) signed in June 2002 and called 'Plantation Thinning and Fuels Reduction.' This EA approved manual and mechanical treatment within such stands over approximately 44,000 acres of the Siskiyou National Forest. However, this EA <u>does not</u> approve understory or broadcast burning. It does approve thinning up to twelve-inch diameter trees by either manual or mechanical means, extraction of material, lopping/scattering, handpiling/pile burning, etc.
>
> Any of these 'managed stands' we could treat literally tomorrow if we had the funds to do so. The Longwood Fire area is an example of an area we could treat if funds were available.

[94] NEPA is National Environmental Policy Act

[95] EA is Environmental Assessment

> Currently we have a 216-acre hazardous fuel reduction project being worked in the Longwood Fire area (approx. sixty acres felled (thinned) to date. I have the funds and plan to award two other hazardous fuel reduction projects in the Longwood Fire area (in Oregon) this year. The first will be an agreement with the Northwest Youth Corps for approx 25 acres of thinning and handpiling immediately adjacent to private land in T41S, R8W, S15. The second project is an FY05 funded [Siskiyou] RAC project for hazardous fuel reduction work in the Longwood Fire area. This contract will complete hazardous fuel reduction work over approximately forty acres in Oregon, but the exact location is not yet determined. [96]

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. and 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 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. However, if a large fire from the Cave Junction or Takilma area threatened Sun Star, IVFD resources would likely be prioritized in the former Oregon 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 feet of 1½-inch hose, 800 feet of 1-inch hose, and Wajax portable pump. Smith River Fire Protection District (California) recently donated Nomex protective wildland fire-fighting clothing, and Gasquet Fire Protection District 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:

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[96] Don Bellville, Prescribed Fire/Fuels Planner, Two River Fire Zone, Siskiyou National Forest, personal communication, 2/15/04.

- the meadow (which is mowed and could be kept irrigated from the North Fork Illinois to improve its 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 turnouts. It is generally not open in winter.

Rogue River-Siskiyou National Forest has delineated two planning areas around Sun Star for hazardous fuel reduction. The first is East Fork Illinois (Dunn), and is adjacent to Sun Star to the east, with the project area primarily to the southeast. The other is called East Fork Illinois (East Fork), and is southeast of Sun Star.

> Both projects plan to use prescribed fire, manual and mechanical treatments. Each of these planning areas is 2,000-4,000 acres.
>
> Both areas have some completed [biological] surveys. Best guess is these cover only one-quarter to one-third of each of these areas. No NEPA[97] is planned to start until surveys are completed. No additional surveys have been implemented in either of these areas for the past two to three years because of a lack of funding.
>
> Within and outside of these two planning areas are various 'managed stands.' For the purpose of definition, you can assume a managed stand is a regenerated clearcut, wildfire, etc. This definition, however, does not entirely cover all managed stand situations, but it covers most. Such 'managed stands' are currently covered by an approved NEPA document (EA[98]) signed in June 2002 and called 'Plantation Thinning and Fuels Reduction.' This EA approved manual and mechanical treatment within such stands over approximately 44,000 acres of the Siskiyou National Forest. However, this EA does not approve understory or broadcast burning. It does approve thinning up to twelve-inch diameter trees by either manual or mechanical means, extraction of material, lopping/scattering, handpiling/pile burning, etc.
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> Any of these 'managed stands' we could treat literally tomorrow if we had the funds to do so. The Longwood Fire area is an example of an area we could treat if funds were available.
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[97] NEPA is the National Environmental Policy Act

[98] EA is an Environmental Assessment

[99] Don Bellville, Prescribed Fire/Fuels Planner, Two River Fire Zone, Siskiyou National Forest, personal communication, 2/15/04.

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
- East Fork 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

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

- 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
- Improve main evacuation road to Takilma by brushing and improving the road surface for easier evacuation
- Shaded fuelbreak between Long Gulch and Cedar Gulch
- Shaded fuelbreak on FS Road 4904, between Sun Star and the White Bridge
- Water exploration for horizontal wells
- WATER TANKS PLACED THROUGHOUT PROPERTY

Sun Star Mitigation Strategy

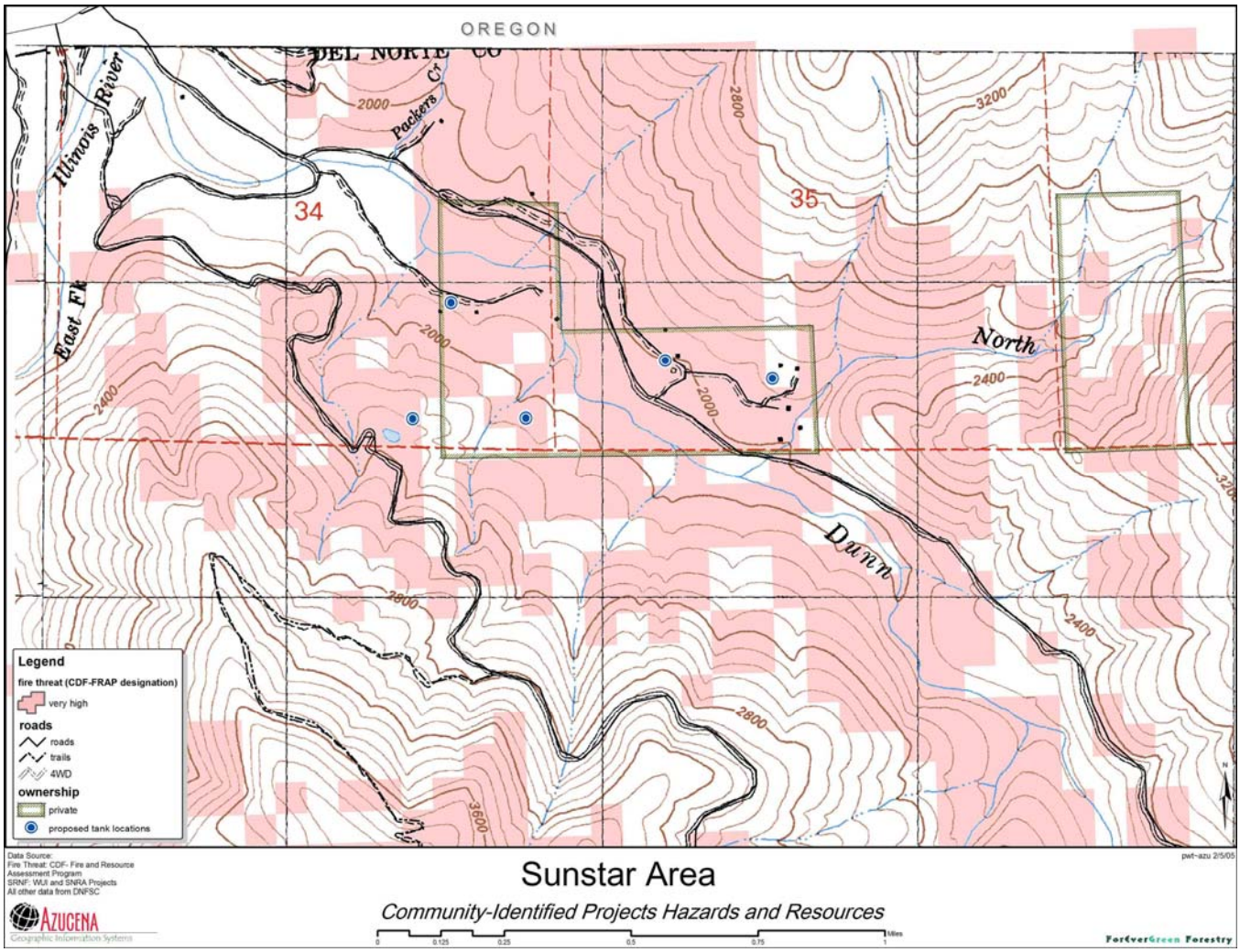
- Water storage for fire is critical here. IVFD and the Del Norte Fire Safe Council (DNFSC) worked with Sun Star residents to identify locations for a series of community water tanks for fire-fighting. The following five tank locations were identified through this process. Two tanks are currently being installed at site 4 in a cooperative project between the IVFD, Gasquet Fire Protection District, and DNFSC. These came from DNFSC's existing Del Norte Resource Advisory Committee (RAC) tank project that had been designated for the Gasquet area and offered by Gasquet FPD. A proposal is being developed for three more tanks to submit to the Del Norte RAC.
    - 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 a conventional lawn about 30 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 SRNF land on spur 017 of Forest Service 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 50-year-old tree 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.

  These locations are identified on the following map.

- Fuels reduction and shaded fuelbreaks 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 fuelbreak 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 by the Takilma community. An assessment of other areas for potential shaded fuelbreaks to protect this remote community is a necessary next step for these residents in cooperation with Rogue River-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. All nearby fire organizations should donate equipment or training to this local fire crew when possible.

Map 22. Sun Star Proposed Water Tank Locations[100]



[100] This map was created as part of the Del Norte Fire Safe Plan. The pink areas reflect those designated as "very high fire threat" by the California Department of Forestry and Fire Protection, Fire and Resource Assessment Program.

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.[101]

> 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, and 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 [and the Interagency Implementation Strategy of 2003] 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 FMUs. The ODF…is bound by direction in State Law and Statute, which serve as the parent documents for these administrative units. ORS 477.005[102] 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 (LRMPs) for each forest. The Siskiyou National Forest LRMP of 1989 (as amended by the Northwest Forest Plan in 1994) guides management of the Siskiyou portion of the National Forest. Management of the Rogue River portion of the National Forest is guided by the Rogue River National Forest LRMP of 1990 (also amended by the Northwest Forest Plan in 1994).

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[101] JCIFP, p. 10.

[102] 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.

In regard 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."[103]

In terms of wildland fire management strategies, RRSNF's goal for 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 prescribed fire."[104] 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 H, Public Lands and Fire Management.

Currently, there are no approved wildland fire use[105] 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 71,565 acres of land that are 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 "sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations."[106]

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.[107] 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 H, 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 480 acres that make up the Oregon Caves National Monument and includes three-and-a-half miles of marble caverns, an old0growth coniferous forest and a historical lodge.

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

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

[104] "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, September 2004, p. 33.

[105] "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, September 2004, p. 34.

[106] Oregon/Washington BLM, Mission, http://www.or.blm.gov/whatwedo.htm.

[107] Southwest Oregon Fire Management Plan, September 2004, p. 34.

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…

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:

'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.[108]

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 used for hazard fuel reduction as needed, with a focus on ecosystem management. Other treatment options available include mechanical treatments.[109]

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.[110]

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

[109] Southwest Oregon Fire Management Plan, September 2004, p. 38.

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

Oregon Department of Forestry, State Lands

In the Illinois Valley, the Oregon Department of Forestry (ODF) manages 3,035 acres. These lands are scattered parcels located throughout the 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."[111]

Management of the state lands in the Illinois Valley are guided by the Southwest Oregon State Forest Management Plan, Final Plan, January 2001 and the Southwest Oregon Fire Management Plan, September 2004.

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.[112] A range of treatment options is available including mechanical and chemical treatments.[113]

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.[114] For more details on management activities and relevant policies, please see Josephine County Lands in Appendix H, Public Lands and Fire Management.

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

[112] ODF, Oregon Smoke Management Plan Information, http://www.oregon.gov/ODF/FIRE/SMP/smokemgt_onthe_web.shtml.

[113] Southwest Oregon Fire Management Plan, September 2004, p. 37.

[114] 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 or risk 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. SB 360's "Evaluation and Self-Certification Guide" in Appendix C, provides excellent guidance for defensible space.
- All new developments must adhere to Josephine County Article 76. County, City, IVFD, and IVFSC work together to educate residents on these new standards.

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[115] 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. Most 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[116] with defensible space treatments as described in Chapter 2. Beyond this, strategic locations around communities should be identified and prioritized for creating fuelbreaks. "Fuelbreaks are never designed to stop fires but to allow suppression forces a higher probability of successfully attacking a wildfire."[117] The combination of effective defensible space and shaded fuelbreaks around communities is one of the best-known strategies to protect communities from wildfire.

- All fuelbreaks created through this plan should maintain the highest level of shade canopy possible to reduce regeneration. A shaded fuelbreak that prescribes opening the canopy should only be done in agreement with IVFSC members. Lomakatsi can provide guidance on these prescriptions.
- FS, BLM, and ODF monitor burned-areas surrounding IV communities and focus fuel hazard reduction and forest restoration efforts there, in cooperation with IVFSC, to minimize possibilities for reburn of dead fuels.

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

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

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

- IVFSC, IVFD, ODF, FS, IVCDO, City[118], and County[119] cooperate to implement the following priority fuel reduction projects.

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:
    - Kenrose Lane. This was identified as a priority project by the JCIFP Fuels Reduction Committee.
    - South Barlow Street from Hamilton to Sherwood Hills side
    - West River from 199 to North Junction
    - Manzanita Lane area through Oak Drive to Dogwood
- Create shaded fuelbreaks 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 fuelbreaks or brush clearance (depending on forest cover) in O'Brien along:
    - Lone Mountain Road
    - Naue Way and spur roads
    - Arrowhead Street
- Create a shaded fuelbreak and/or clear brush (depending on forest cover) along Takilma Road from approximately Four Corners and downtown Takilma to approximately #9710 (where the road drops).
- Reduce fuels north of Selma adjacent to Highway 199. This project was identified by JCIFP Fuels Reduction Committee for FY 2005 National Fire Plan funding and was submitted by the County for funding.
- 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.
- Reduce fuels at two large buck brush areas in Takilma. One is between Takilma Road and East Fork Illinois River across from intersection with Meadows Road. The other is from approximately 8650 to 8900 Takilma Road.
- FS implement fuels reduction around camping areas at Hogue's Meadow.

Second-Priority Fuel Reduction Projects:

- Explore development of strategic shaded fuelbreaks between Kerby and BLM or USFS lands.
- South Deer Project between BLM and Deer Creek Valley 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 on roads to Mars Swimming Hole and Seats Dam. Work with local schools to develop educational signs about fire safety to place at these popular spots.
- ODF work with landowners to implement fuel hazard reduction and remove logging slash on property of and around Hope Mountain Road logging.
- IVFSC work with The Nature Conservancy and FS to create a shaded fuelbreak and/or brush clearance along the boundary with private residential properties in O'Brien.

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[118] Cave Junction

[119] Josephine County

- IVFSC, IVFD, and FS identify the most strategic location for one or more shaded fuelbreaks between Takilma and Sun Star.
- IVFSC work with USFS, Siskiyou Project, and Forestry Action Committee to identify location on west side of town for a shaded fuelbreak 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 with BLM, FS, DCVNRCA[120] and others explore development of strategic shaded fuelbreaks in Selma, beginning with Deer Creek Road as it heads towards Williams. This could serve as a break from fires coming from the east, while also improving this road as an evacuation route.
- IVFSC and O'Brien residents explore fuel reduction with riparian enhancement along West Fork Illinois River east and west of 199, through private properties.
- Clear brush in Section 12 near Dick George, in the old-growth forest south of llama ranch (while maintaining old-growth forest overstory), and in the fallow fields. Include mowing areas of high grass.
- Remove dead trees along Kerby ditch.

Once fuel reduction treatments are in place they will need to be maintained. Prescribed burning is the least expensive form of maintenance. The issues around burning are the creation of habitat for invasive species, and loss of forest-floor nutrients critical to soil fertility and productivity. Manual brush removal is the other common maintenance method, and usually the most expensive. Goats can also be used. However, when in a natural forest their use must be carefully monitored to ensure they are not removing any rare plants or disturbing important habitat.

- IVFSC work with agencies and participating landowners to ensure ongoing maintenance of treated areas, including funding for this maintenance. An "adopt-a-fuelbreak" program is an option for fuels treatments near populated areas, where local residents regularly check the adopted area for dead materials and undesirable regeneration to remove.
- ODF, FS, and BLM ensure all land management activities in the Illinois Valley do not result in accumulation of hazardous fuels, such as following logging operations, unless done so for specific restorative purposes.

Reducing Structural Ignitability[121]

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.[122]

- IVFSC, IVFD, ODF, USFS, City, and County educate residents, realtors, and developers on the importance of replacing wood-shake roofs.
- City and County explore incentive programs for shake roof replacement and/or replacement upon sale of property.

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[120] Deer Creek Valley Natural Resources Conservation Association

[121] Much of the information in this section comes from Jerry Hurley, Plumas Fire Safe Council, personal communication, 10/26/04.

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

Vent Openings

Provided adequate defensible space is maintained, screening of vent openings with ¼-inch steel screens will prevent embers (during the ember blizzard that comes with a wildfire) from entering into attics and crawl spaces.

- IVFSC, IVFD, ODF, FS, City, and County educate residents, realtors, and developers on importance of steel vent screening.
- City and County 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, as long as it is not surrounded by flammable objects. 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, USFS, and others educate residents on importance of fire-safe decking.
- City and County explore regulations regarding use of synthetic decking materials.

Outbuildings

Structures (e.g. storage, wood, and tool sheds) with less than 20 feet of separation from outbuildings place homes at a high risk of loss.

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

Wood piles

Wood piles with less than 20 feet of separation from structures often place homes at a high risk for loss.

- IVFSC, IVFD, ODF, FS, and others educate residents on need to have a minimum of 20 feet separation of firewood piles and woodsheds from their residence.

Propane tanks

Tanks with less than 10 feet of clearance around them and 20 feet separation from houses may place homes at a risk of loss.

- IVFSC, IVFD, ODF, FS, and others educate residents on need to have vegetative and flammable material clearance around propane tanks near their residence, and on need to keep propane tanks and other flammable materials at least 20 feet from homes and outbuildings.

Fire Protection

- IVFD and County work to upgrade both Holland bridges to allow safe fire engine passage.
- County, City, and IVFD work together to fix the address numbering system on Westside Road, and number the power line roads. There are problems with 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 given in each community planning area section. During the Biscuit fire, many residents were told they may have to evacuate within ½ hour. This is not a realistic timeframe if residents are not fully prepared for evacuation. As well, alternate evacuation sites are needed. During Biscuit, the fairgrounds were set up for evacuees, but it would not have nearly met the need had a full-scale evacuation been required.

- IVFSC, IVFD, and others work with law enforcement to educate residents on safe evacuation.
- Law enforcement, IVFD, ODF, BLM, and USFS cooperate to develop and post escape route signs for all key evacuation routes in the Illinois Valley.
- Law enforcement, City, and County work with neighboring governments to create alternate evacuation sites.
- Law enforcement, FS, BLM, and IVFD 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, IVFD, and IVFSC. 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.

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 that 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 mandates 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 neighboring Del Norte RAC has been very supportive for water tank projects, including on the Rogue River-Siskiyou National Forest at Sun Star.

- 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 Valley Road in Selma
- Sun Star is in the process of receiving two water tanks. A proposal is being developed for three more tanks to submit to the Del Norte RAC. IVFSC, IVFD, and FS support this effort to get additional water storage at Sun Star.
- IVFD, IVFSC, City, County, ODF, and FS educate residents regarding use of dry hydrants with ponds and facilitate their installation.
- IVFSC educate residents on opportunities and logistics of rainwater harvesting.

Education

Many people are motivated to create a fire safe home if they understand why it is to their advantage. In addition, 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, City, 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, City, Siskiyou Project, FS, BLM, and law enforcement to coordinate community-wide education effort regarding defensible space, fire safety, and safe evacuation.

Programs in local schools are a fundamental step towards improving fire safety in the Illinois Valley. One resident commented that their child came home after experiencing the IVFD trailer and pointed out all the fire safe violations in the family home! Cooperating agencies and the Fire Safe Council can work with local schools to adopt fire safety curricula where it does not already exist. Additionally, children can create community fire safety education signs. Generally, signs made by local kids are not vandalized. In this way, both the school kids and area residents will be educated or reminded of fire safety issues.

- IVFSC and IVFD work with area schools to develop community fire safety educational signs in conjunction with fire safe curricula.
- IVFSC and IVFD work with Takilma 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 by first seeing if the truck can even safely make it to their home. 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. The Council's ongoing development is critical for effective implementation and community acceptance of this plan. To this end, supporting their efforts is essential.

- IVFD provide ongoing administrative support to IVFSC.
- All local, state, and federal public and private land management agencies appoint a representative to actively and regularly participate in the Fire Safe Council.
- Public and private-sector organizations and individuals work with IVFSC to develop ongoing financial and in-kind support for FSC activities and development.
- All partners work together to fund a part-time IVFSC coordinator position through IVFD. This will likely be a key step in the FSC's ability to successfully address fire safety issues in the Illinois Valley.
- IVFSC members participate in all committees of the Josephine County Integrated Fire Plan to ensure adequate Illinois Valley representation. There are already several IV residents participating in one or more of these committees. This existing participation should be in conjunction with the IVFSC, to ensure the Council 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.

Implementing the Illinois Valley Fire Plan

Implementation of this plan is clearly a far bigger task than creating it. There is much work to be done to reduce the increased fire risks and hazards created over the last century. Collaborative processes and projects are proving to be most effective at tackling such complex problems. Therefore, the Illinois Valley Fire Safe Council is perfectly suited to address the long-term fire issues in the Illinois Valley, provided that it continues to be an active organization with real participation by all relevant parties.

- IVFSC, IVFD, and others hold neighborhood-level community meetings throughout the Illinois Valley to further refine and implement this Plan. This will also serve to familiarize more residents with the FSC, likely resulting in increased participation.
- IVFSC work with residents to identify risks, hazards, and potential projects in neighborhoods further out Caves Highway toward Grayback. This is in accordance with the IVFSC purpose to continue fire-planning efforts at the local level in the Illinois Valley.
- IVFSC apply for National Fire Plan, Homeland Security, and other federal funding sources[123] to implement the priority projects identified in this Plan. Work with local organizations, agencies, and individuals to provide cost-share matches to these projects.
- IVFSC and partners review the Illinois Valley Fire Plan every five years and update it as needed, using a collaborative public process. This could be done as an Appendix to this document.

Policy, WUI, and Utilization

Although some county-wide policy issues were discussed here, especially in terms of reducing structural ignitability, most policy-level mitigation strategy issues are addressed in the Josephine County Integrated Fire Plan. As well, the JCIFP designated WUI for the Illinois Valley as well as Communities at Risk. Utilization issues are also addressed for the Illinois Valley in the JCIFP. Please review that Plan for relevant recommendations at http://www.co.josephine.or.us/wildfire/index.htm.

[123] See Appendix J, JCIFP Resources, Current and Potential Funding Resources