

# Wildfire Clackamas County Community Wildfire Protection Plan

*...Are You Prepared?*

Oregon Dept.  
of Forestry



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Clackamas County greatly appreciates the time, commitment, and energy these people have invested in the Clackamas County Community Wildfire Protection Plan.

Ginny Van Loo  
 Clackamas County Administration

## EXECUTIVE SUMMARY

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Recent fires in Oregon and across the western United States have increased public awareness of the potential losses to life, property, and natural and cultural resources. In June of 2004, the Board of Clackamas County Commissioners (BCC) directed the County Departments to work with state and federal agencies, fire protection districts, and community organizations throughout the County to develop an integrated wildfire plan. The BCC initiated this effort to reduce wildfire risk to citizens, the environment, and quality of life within Clackamas County. The Clackamas County Community Wildfire Protection Plan assists the county in being more competitive for federal funding programs such as the Healthy Forests Restoration Act, the National Fire Plan, and the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation Program.

### CCWPP Mission Statement

The mission of the Clackamas County Community Wildfire Protection Plan (CCWPP) is to provide a consolidated reference documenting wildfire hazards, prevention and response efforts, and resource-sharing information for all participating local, state, and federal fire agencies. The CCWPP improves upon historical fire planning efforts by providing a more localized and accurate approach for determining wildfire hazards and implementing best practices for wildfire protection in balance with sustainable ecological management and economic activities throughout Clackamas County.

### CCWPP Planning Process

Core partners on the planning committee included Clackamas County, Oregon Department of Forestry (ODF), and the Clackamas District Fire Defense Board. Additionally, the plan was developed in close consultation with the BLM, Mount Hood National Forest, Clackamas County Soil and Water Conservation District, and many other public service and community-based organizations.

A Wildfire Planning Executive Committee (WFPEC) guided the development of the plan by identifying the primary issues to be addressed and assembling technical subcommittees to develop priorities for action. The following chapters of the CCWPP document the objectives and strategies for enhancement in the following five topic areas:

- **Chapter 4: Wildfire Risk Assessment** analyzes the potential losses to life, property, and natural resources. Objectives of the risk assessment are to identify Communities-at-Risk and the Wildland-Urban Interface, and conduct a wildfire risk assessment that can be used in project prioritization.
- **Chapter 5: Hazardous Fuels Reduction and Biomass Utilization** identifies priority projects for reducing hazardous fuels and researches opportunities to add value to extracted vegetation and maintain a sustainable fuels reduction program. The fuels reduction projects focus on protecting life and property while moving toward a more fire-adapted ecosystem.
- **Chapter 6: Emergency Operations** evaluates and coordinates County departments and structural and wildland fire agencies to ensure effective response to a wildfire event.

- **Chapter 7: Education and Community Outreach** includes objectives to develop ongoing strategies for increasing citizen awareness and action for fire prevention.
- **Chapter 8: Structural Ignitability Policies and Programs** relates to reducing structural vulnerability by reviewing all local and state regulatory and non-regulatory standards relating to development and making recommendations to enhance fire safety.

## **Fire District Coordination**

The County is committed to developing a comprehensive CCWPP that provides the foundation from which the fire districts can build more detailed local plans. The WFPEC (in coordination with *Resource Innovations*) hosted a series of three workshops to provide all fire districts with the tools and information necessary to develop local plans. A toolkit CD was provided to all fire districts. The tools are also available for download at <http://ri.uoregon.edu/programs/CCE/communityfireplanning.html>.

The training elements are as follows:

- Training #1: Community Wildfire Protection Planning & Public Outreach
- Training #2: Risk Assessment & Follow-up on Public Outreach
- Training #3: Connecting Planning to Implementation

## **Community Involvement**

The planning approach directly involved the county's fire protection districts as an avenue to reach citizens in the county. The fire district workshops (mentioned above) provided the forum for identifying six communities that would serve as *pilots* for local community wildfire planning meetings. The communities that were selected include Government Camp, Estacada, Sandy, Boring, Welches, and Canby. (One meeting was conducted for the communities of Sandy and Boring.) The purpose of the meetings was to provide fire prevention education materials to concerned community members and obtain feedback regarding community priorities for wildfire protection. The community members were also asked to document any potential wildfire hazard issues including fuels loading, access, and water supply issues. The results from the community meetings are documented in the CCWPP and will assist the fire districts in developing local priorities for project implementation. Please refer to Resources B and C of the CCWPP for more information regarding the outcomes of the community meetings.

## **Plan Adoption**

To ensure recognition by the public, as well as partner agencies and organizations, Clackamas County presented the Clackamas County Community Wildfire Protection Plan to the Board of County Commissioners for adoption on October 13<sup>th</sup>, 2005. Oregon Department of Forestry and the Clackamas District Fire Defense Board also signed the plan in recognition of the collaborative development process.

## **Sustaining Fire Plan Efforts**

Development of the CCWPP has been no small task. Implementing and sustaining these efforts will be much more complex. Building a collaborative and cooperative environment between community-

based organizations, fire districts, local government, and the public land management agencies has been the first step in identifying and prioritizing measures to reduce wildfire risk. Maintaining this cooperation with the public is a long-term effort that requires commitment of all partners involved.

The Wildfire Planning Executive Committee and the technical subcommittees will continue with quarterly meeting schedules to work through the implementation of action plans. The CCWPP will undergo an annual review to ensure that the document maintains its relevance and effectiveness over the long term.

In the fall of 2005, Clackamas County and partnering agencies will begin implementing the CCWPP by working with fire districts, community organizations, and public agencies to coordinate fuels reduction projects. The CCWPP will focus on public meetings in local fire districts, coordinating a spring education campaign, strengthening emergency management and evacuation procedures, and exploring opportunities for biomass marketing and utilization.

### **Related Policies: Community Wildfire Protection Plans**

The most recent authorities for community fire planning come under the Healthy Forests Restoration Act (HFRA). Title III of the HFRA provides guidance for developing Community Wildfire Protection Plans (CWPP). Communities with a CWPP may receive significant benefit in the future should funding be appropriated through HFRA for fuels reduction and fire prevention. HFRA provides clear guidance for what should be developed in a CWPP.

# CHAPTER 1

## INTRODUCTION

### Clackamas County drafting wildfire plan

*With more homes being built near forested areas, fire departments collaborate on teaching prevention*

By SARAH HUNSBERGER  
THE OREGONIAN

Clackamas County is developing a comprehensive wildfire plan that aims to pinpoint high-risk spots, teach residents how to protect their homes and better coordinate efforts to prevent and fight fires.

Fire districts that cover wooded areas of the county will have four public meetings in April and May on the evolving plan.

About 50 percent of the county is forestland. More homes are being built at the edge of forested areas, increasing the risk to people and buildings, said Cindy Kolomechuk, the county's hazard mitigation specialist.

The county is not required to develop a wildfire plan, but doing so increases fire districts' chances of receiving federal grant money, Kolomechuk said.

Officials from the county's fire districts have been meeting to begin identifying high-risk areas. They hope to have a draft plan by September that will include maps identifying areas outside any fire district's coverage.

The public meetings will give residents a chance to help identify historic or particularly important properties to be protected in a fire. The meeting will also gather information about sources of water, such as back yard ponds, and identify areas that are at high risk of wildfire, whether they are over-



BOB ELLIS/THE OREGONIAN

**A burn pile off Wildcat Mountain Drive got out of control Feb. 23 amid unseasonably dry conditions and burned about two acres before firefighters from Boring, Estacada, Sandy and the Oregon Department of Forestry contained it. As Clackamas County works on developing a wildfire plan, rainfall totals remain well below normal for the year, raising worries about risks in the months ahead.**

grown with brush or simply far from a source of water.

Areas where homes and other development border wild, forested areas are usually considered to be at the highest risk, Kolomechuk said.

Fire officials also will use the meetings to teach property owners how to protect their homes. Some agencies already have stepped up their education efforts.

The Sandy and Boring fire districts have teamed up with the Mount Hood National Forest to

encourage residents of wooded areas to plant fire-resistant plants around their homes, said Glen Sachet of the Mount Hood National Forest.

The agencies have worked with garden centers, including the Damascus Bi-Mart, Portland Nursery, and Drake's 7 Dees Nursery in Gresham, to develop displays of fire-resistant plants and teach customers about their benefits. They include azalea, daylily, penstemon, phlox, sedum, Japanese maple and daphne varieties.

The general rule is that homes in wooded areas should have a 30-foot defensible perimeter planted with fire-resistant plants and a well-watered lawn, said Erin Spens, protection supervisor for the Oregon Department of Forestry. Trees within this perimeter should be far apart and away from the house.

Fire experts also encourage homeowners to create a secondary perimeter outside the 30-foot buffer where they clear low-growing brush and thin trees so that the crowns don't touch.

#### PUBLIC MEETINGS

Fire districts in Clackamas County will have four public meetings to gather public input on wildfire hazards and prevention. The meetings will include tips on protecting homes from forest fires.

**Hoodland Fire District**, 7 p.m. to 9 p.m. Monday, Resort at the Mountain, 6800 E. Fairway Ave., Welches.

**Sandy and Boring fire districts**, 9 a.m. to 1 p.m. April 16, Mount Hood National Forest headquarters, 16400 Champion Way, Sandy.

**Estacada Fire District**, Estacada fire station, 10 a.m. to 2 p.m. May 7, 445 S.E. Currin St., Estacada.

**Canby Fire District**, 10 a.m. to 2 p.m. May 14, Canby fire station, 221 S. Pine St., Canby.

The Mount Hood National Forest is working with Government Camp to create larger-scale buffers just outside the mountain community, Sachet said.

Crews have been working since last year to thin out dead and dying trees and remove underbrush on a 5-acre site and a 15-acre site.

"If a fire does approach, it would hit these areas, the intensity would lower, (and) we could fight it effectively," Sachet said.

The wildfire plan will create a priority list of similar projects throughout wooded areas of the county, Kolomechuk said.

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THE OREGONIAN ♦ THURSDAY, APRIL 7, 2005

## **CHAPTER 1: INTRODUCTION**

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Fires are a natural part of the forest ecosystem in Clackamas County, Oregon. In fact, they have shaped the forests and rangelands valued by Clackamas County residents and visitors. However, decades of timber harvest and aggressive fire suppression have significantly altered forest composition and structure. The result is an increase in the wildfire hazard as forest vegetation has accumulated to create a more closed, tighter forest environment that tends to burn more intensely than in the past. The exposure to wildfire hazards is also increasing, as recent population growth has spurred more residential development close to the forests in what is referred to as the wildland urban interface (WUI). As development encroaches upon forests with altered fire regimes that are more conducive to larger, more intense fires, the risk to life, property, and natural resources continues to escalate.<sup>1</sup> The Clackamas County Community Wildfire Protection Plan (CCWPP) provides direction and helps facilitate a wildfire-based approach to managing our forestlands and the human development in the interface.

The Board of Clackamas County Commissioners (BCC) is concerned with the risk that wildfires pose to citizens and valued forest resources. This concern, coupled with recently adopted state and federal legislation promoting the development of Community Wildfire Protection Plans, made the development of the CCWPP a priority. In May 2004, the BCC directed county departments to facilitate a collaborative community wildfire planning effort including local, state and federal agencies, community organizations, and individuals that have a vested interest in reducing wildfire hazard. Throughout the planning effort, the collaborative group identified wildfire risks, developed priorities for project funding, and developed programs to reduce the risk of wildfires to citizens and communities in Clackamas County.

The Wildfire Planning Executive Committee (WFPEC) began meeting in June of 2004 to facilitate the development of the CCWPP. The CCWPP addresses the requirements of the FEMA Pre-Disaster Mitigation program, National Fire Plan, and the Healthy Forest Restoration Act (HFRA), and will begin laying the foundation for implementation of Senate Bill 360: the Oregon Forestland-Urban Fire Protection Act of 1997. This CCWPP is designed to promote two broad concepts: intergovernmental cooperation and personal responsibility.<sup>2</sup>

### **CCWPP Mission, Goals and Objectives**

The WFPEC has developed the mission statement and objectives for the CCWPP and is concentrating efforts on five major areas: Risk Assessment, Structural Ignitability, Emergency Operations, Fuels Reduction and Biomass Utilization, and Public Outreach. The CCWPP updates (and replaces) “Chapter 7: Wildfire” of the *Clackamas County Natural Hazard Mitigation Plan*, which also identifies mitigation strategies for floods, landslides, wind and winter storms, earthquakes, and volcanoes. The activities identified in the CCWPP are in accordance with the multi-hazard mitigation planning goals outlined in the County’s Natural Hazard Mitigation Plan. As such, the WFPEC agreed to adopt these goals with a few slight modifications.

### **Clackamas Community Wildfire Protection Plan (CCWPP) Mission**

The mission of the Clackamas County Wildfire Protection Plan is to provide a consolidated reference documenting wildfire hazards, prevention and response efforts, and resource-sharing

information for all participating local, state, and federal fire agencies. The CCWPP improves upon historical fire planning efforts by providing a more localized and accurate approach for determining wildfire hazards and implementing best practices for wildfire protection in balance with sustainable ecological management and economic activities throughout Clackamas County.

## **CCWPP Goals**

### **Protect Life and Property**

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Improve hazard assessment information to make recommendations for regulating new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards.
- Ensure that new development meets the criteria set forth in the plan, thereby creating a more fire-resistant community.
- Provide evacuation procedure information to public.

### **Increase Public Awareness**

- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.
- Utilize existing public outreach/education programs, including: Chamber of Commerce, Citizen Planning Organization, Community Emergency Response Teams, Neighborhood Watch, Parks Development Volunteers, Parent Teacher Association's, etc. to communicate information about wildfire hazard and prevention.

### **Enhance Natural Systems**

- Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

### **Develop Partnerships and Support Implementation**

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

## **Strengthen Emergency Services**

- Recommend policies and projects that reduce vulnerability of critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.
- Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

## **Plan Objectives**

- Develop a coordinated wildfire plan for the county that builds on the Natural Hazard Mitigation Plan. The CCWPP will also provide a foundation from which to build local fire district plans.
- Coordinate planning efforts with appropriate local, state, and federal agencies to ensure that the plan addresses National Fire Plan and Healthy Forest Restoration Act criteria and meets the intent of Senate Bill 360.
- Implement an effective public outreach campaign to incorporate citizen input and provide the public with information regarding wildfire prevention and structural protection capabilities.
- Provide technical assistance to the fire districts for developing local plans.
- Obtain necessary data for developing a county-wide wildfire risk assessment and coordinate methodology with appropriate local, state, and federal partners.
- Review County regulatory standards addressing wildfire hazards and provide recommendations for improvement.
- Document potential funding sources and increase eligibility for future grant opportunities by providing a more accurate assessment of risk and a prioritized list of risk-reduction projects.
- Ensure effective coordination between county departments and fire districts.
- Review emergency operations procedures (communications, evacuations, etc.) and provide recommendations for improvement.
- Develop fuels reduction projects in concert with biomass utilization projects to reduce wildfire hazards while promoting economic sustainability.
- Consider public land management policies and the potential effects these policies could have on wildfire risks and hazards in the county.

## **Planning Area Boundaries**

The CCWPP addresses the wildfire hazard across the entire county, creating a foundation from which local fire districts can develop more detailed, community-based plans. Clackamas County is served by portions of at least 14 fire districts, the Oregon Department of Forestry (ODF), the Bureau of Land Management (BLM), and the US Forest Service (USFS) Mt Hood National Forest (see Map #1: Fire District Boundaries). Clackamas County is one of the few counties in the state that encompasses BLM, USFS, and ODF-managed land. These agencies have participated (to

varying degrees) in the development of the CCWPP and will undoubtedly provide support for plan implementation and local fire district plan development. A more detailed description of the fire agencies in Clackamas County is provided in Chapter 10.

## **County Profile**

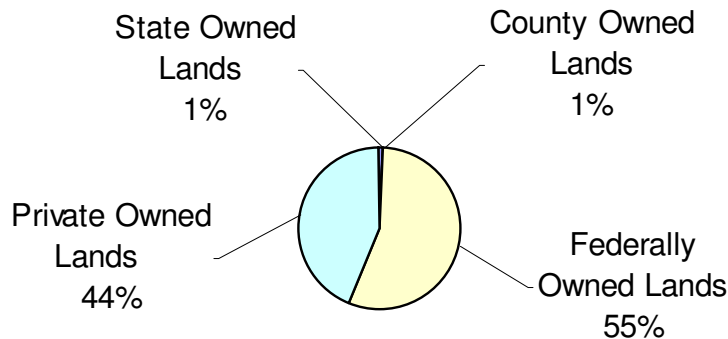
Clackamas County is located along the Willamette River in Northwestern Oregon and encompasses an area of 1,879 square miles. About one-eighth of the land area in Clackamas County is incorporated, while the majority is unincorporated and publicly owned. Although development is concentrated in the urban areas, population density in the more rural areas continues to grow. In addition, the Mt Hood National Forest draws thousands of recreationalists into the more remote forest lands of the county. The exposure of people to wildfire hazards underscores the importance of effective wildfire prevention programs.

Elevations in the county range from a low of 55 feet on the shores of the Willamette River in Oregon City to a high of 11,235 feet at the peak of Mt. Hood. There are a variety of complex ecoregions, including high-altitude forests, foothills, lowlands and valleys, prairie terraces, and riparian forest. Clackamas County has two major physiographic regions that should be considered in planning for wildfire hazards: the Willamette River Valley and the Cascade Range Mountains. The Willamette River Valley, in western Clackamas County, is the most heavily populated portion and is characterized by flat or gently hilly topography. The Cascade Range, in eastern and southern Clackamas County, has a relatively small population and is characterized by heavily forested slopes.<sup>3</sup> The varied geographic terrain and population density requires a flexible approach for effectively reducing wildfire hazards. For more information regarding the geography, population, development patterns of Clackamas County, please refer to Chapter 3 of the Natural Hazards Mitigation Plan (<http://www.co.clackamas.or.us/emergency/hmp.htm>).

## **Land Ownership**

The total area of Clackamas County is approximately 1,246,573 acres, of which about 551,236 acres is privately owned and about 695,337 acres is publicly owned. Of the federal land, the U.S. Forest Service manages 557,747 acres. ODF provides fire protection on approximately 267,853 acres of private, state and county owned lands and an additional 97,943 acres under contract with BLM. Figure 1-1 below illustrates land ownership in Clackamas County.

**Figure 1-1 Clackamas County Land Ownership**



## **Fire Policies and Programs**

Various local, state, and federal policies and programs have provided frameworks and criteria to be used in the development of community fire plans. Most notably, the National Fire Plan (2001) and the Healthy Forest Initiative (2003) mandate rural communities to assess risk and develop action plans. Below is a listing of program criteria and CCWPP compliance.

**Healthy Forest Restoration Act (2003)** - federal bill signed by President Bush to promote fuels reduction projects on federal land, the development of community plans, and biomass energy production. HFRA contains a variety of provisions to expedite hazardous fuel reduction and forest restoration projects on specific types of federal land that are at risk of wildland fire or insect and disease epidemics. The act helps rural communities, states, tribes, and landowners restore healthy forest and rangeland conditions on tribal, state, and private lands. It also:

- Encourages biomass removal from public and private lands;
- Provides technical, educational, and financial assistance to improve water quality and address watershed issues on non-federal lands;
- Authorizes large-scale silvicultural research;
- Authorizes acquisition of Healthy Forest Reserves on private land to promote recovery of threatened and endangered species and improve biodiversity and carbon sequestration;
- Directs the establishment of monitoring and early warning systems for insect or disease outbreaks; and
- Provides guidance for the development of Community Wildfire Protection Plans (CWPPs). HFRA directs communities to engage in a collaborative process to develop CWPPs that

identify and prioritize hazardous fuels reduction projects and address structural ignitability (see Table 1-1. below).

**National Fire Plan and 10-Year Comprehensive Strategy (2001)** –interagency plan that focuses on firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The National Fire Plan (NFP) was established after a landmark fire season in 2000, with the intent of actively responding to severe wildland fires and their impacts to communities while assuring sufficient firefighting capacity for the future.

The NFP is a long-term commitment intended to help protect human lives, communities, and natural resources, while fostering cooperation and communication among federal agencies, states, local governments, tribes, and interested public citizens. The Western Governor’s Association completed a 10-Year Comprehensive Strategy in August 2001 (NFP 2001) and an Implementation Plan in May 2002 (NFP 2002). The NFP focuses on 1) firefighting, 2) rehabilitation, 3) hazardous fuels reduction, 4) community assistance, and 5) accountability.

**Table 1-1 HFRA and NFP Requirements and CCWPP Compliance**

<b>Federal Program</b>	<b>Requirements</b>	<b>Plan Elements</b>
<b>HFRA</b>	Collaborative process	Chapter 2: Planning Process
	Identify and prioritize areas for hazardous fuels reduction	Chapter 5: Hazardous Fuels Reduction
	Identify strategies to reduce structural ignitability	Chapter 9: Structural Ignitability: Policies and Programs
<b>NFP</b>	Identify Communities-at-Risk	Chapter 4: Wildfire Risk Assessment
	Identify Wildland Urban Interface	

**Oregon Forestland-Urban Fire Protection Act of 1997 (Senate Bill 360)**—state bill intended to facilitate development of an effective WUI protection system in Oregon by 1) establishing policies regarding WUI protection, 2) defining the WUI in Oregon and establishing a process and system for classifying the interface, 3) establishing standards for WUI property owners so they can manage or minimize fire hazards and risks, and 4) providing the means for establishing adequate, integrated fire protections systems in WUI areas, including education and prevention efforts.

Since the enactment of this legislation, ODF has only implemented Senate Bill 360 in Jackson and Deschutes Counties. In 2005, ODF began working with several counties in Northeast Oregon and Klamath Falls. Due to limited resources and the complex nature of SB 360 implementation, ODF has been unable to implement Senate Bill 360 in all counties statewide at this time.

Although Clackamas County has not yet been selected for SB 360 implementation, the CCWPP process is laying the groundwork for implementation by coordinating agencies that have a vested interest in reducing wildfire hazards, implementing a wildfire prevention public outreach campaign, improving understanding of fire safe construction and practices in regulatory agencies, and promoting a more wildfire-based approach to managing the forests in Clackamas County.

**Oregon Statewide Land Use Planning Goals**—provide the foundation of Oregon’s strong statewide program for land use planning. The goals express the state’s policies on land use and related topics, such as citizen involvement, housing, and natural resources, and must be incorporated

into local Comprehensive Land Use Plans. Clackamas County has adopted all 19 Land Use Planning Goals, including Goals 4 and 7, which address development as it relates to natural hazards and forest preservation.

#### **Goal 4: Forest Lands**

The purpose of Goal 4 is to conserve forest lands by maintaining the forest land base, to provide for recreational opportunities and agriculture, and to protect the state's forest economy by enabling economically efficient forest practices. These forest practices should assure that the continuous growing and harvesting of forest tree species (the leading use on forest land) is consistent with sound management of soil, air, water, and fish and wildlife resources.. (<http://www.lcd.state.or.us/LCD/docs/goals/goal4.pdf>)

#### **Goal 7: Areas Subject to Natural Hazards**

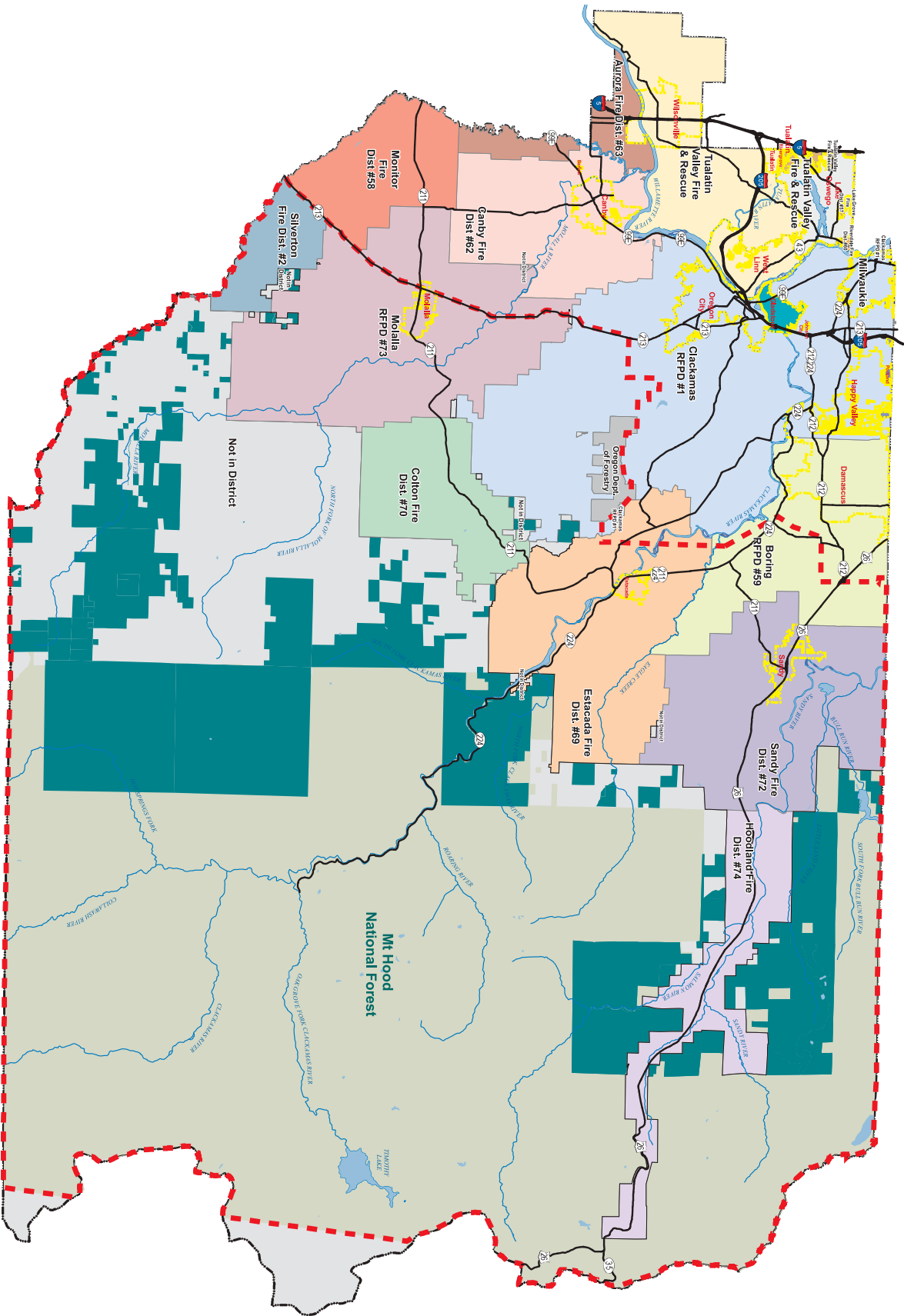
Goal 7 directs local governments to adopt comprehensive plans (inventories, policies, and implementing measures) to reduce risk to people and property from natural hazards. Goal 7 also indicates that new hazard inventory information provided by federal and state agencies shall be reviewed by the Oregon Department of Land Conservation and Development (DLCD) in consultation with affected state and local government representatives. (<http://www.lcd.state.or.us/goalpdfs/goal07.pdf>.)

**Federal Emergency Management Agency Disaster Mitigation Act (2000)**—specifies criteria for state and local hazard mitigation planning. Federal Emergency Management Agency (FEMA) requirements under Title 44 CFR Part 201 of the Disaster Mitigation Act of 2000 specify criteria for state and local hazard mitigation planning which require local and Indian tribal governments applying for Pre-Disaster Mitigation (PDM) funds to have an approved local mitigation plan. Activities eligible for funding include management costs, information dissemination, planning, technical assistance, and mitigation projects. The Clackamas County Natural Hazard Mitigation Plan was adopted by the Board of Clackamas County Commissioners and approved by FEMA in September, 2002 (<http://www.co.clackamas.or.us/emergency/hmp.htm>).

#### **Existing Efforts, Studies, and Planning Documents**

There are numerous land use and emergency management plans that relate to the Clackamas County Community Wildfire Protection Plan. These include the Clackamas County Fire Resources Management Plan, the Clackamas County Emergency Operations Plan, and wildfire planning annexes of Fire District Emergency Operations Plans, all of which are referenced in greater detail in Chapter 7: Emergency Operations.

# Clackamas County Fire Districts



## Legend

- City Boundaries
- Clackamas County
- Mt. Hood National Forest
- Bureau of Land Management
- Oregon Department of Forestry
- Major Rivers and Lakes
- Rivers, Streams and Creeks

## Map #1



CLACKAMAS COUNTY  
ECONOMIC DEVELOPMENT DIVISION  
2015

Map #1: Fire Districts. This map is a general representation of fire district boundaries and is not intended to be used for legal purposes. For more information, please contact the Clackamas County Economic Development Division at (503) 653-3300.

# CHAPTER 2

## PLANNING PROCESS



Clackamas County held three community wildfire planning workshops to provide local fire districts with the tools to develop local plans (winter and spring of 2004 and 2005).

## CHAPTER 2: PLANNING PROCESS

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### Clackamas Community Wildfire Protection Plan Framework

A variety of community wildfire planning models have been developed to address the federal legislation promoting community wildfire protection planning. The Wildfire Planning Executive Committee (WFPEC) used the steps outlined in “Preparing a Community Wildfire Protection Plan: A Handbook for Wildland–Urban Interface Communities” to develop a comprehensive and effective CWPP.<sup>1</sup> Clackamas County is encouraging fire districts to follow this model for more detailed local planning efforts. Table 2-1 provides a summary of the planning process.

**Table 2-1 Community Wildfire Protection Plan Steps**

<b>Community Wildfire Protection Planning Steps</b>
Step 1: Convene Decision makers
Step 2: Involve Federal Agencies
Step 3: Engage Interested Parties
Step 4: Establish a Community Base Map
Step 5: Develop a Community Risk Assessment
Step 6: Establish Community Priorities and Recommendations
Step 7: Develop an Action Plan and Assessment Strategy
Step 8: Finalize Community Wildfire Protection Plan

### Technical Assistance

The WFPEC is committed to developing a comprehensive CCWPP that includes community input and provides a foundation from which the fire districts can build more detailed local plans. The WFPEC contracted with University of Oregon’s *Resource Innovations* to provide Clackamas County fire districts with the tools to develop local plans and to facilitate five public outreach meetings for the county planning process.

### Collaborative Process

The development of the Clackamas Community Wildfire Protection Plan (CCWPP) required coordination of multiple agencies and organizations to define common goals and work together to achieve a successful and useful plan. An Executive Committee provided oversight and guidance to the planning and implementation of the fire plan with representation from the county’s fire protection districts and the public agencies responsible for fire protection.

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<sup>1</sup> “Preparing a Community Wildfire Protection Plan: A Handbook for Wildland–Urban Interface Communities” was sponsored by the Communities Committee, National Association of Counties, National Association of State Foresters, Society of American Foresters, and the Western Governors’ Association and is available at <http://www.safnet.org/policyandpress/cnpphandbook.pdf>.

## **Wildfire Planning Executive Committee (WFPEC)**

The Wildfire Planning Executive Committee (WFPEC), with representation from the county's Fire Defense Board and the public agencies responsible for fire protection, met monthly to provide oversight and guidance for the development of the CCWPP. The WFPEC identified five areas of focus for the CCWPP: risk assessment, structural ignitability policies and programs, emergency operations, fuels reduction and biomass utilization, and public outreach.

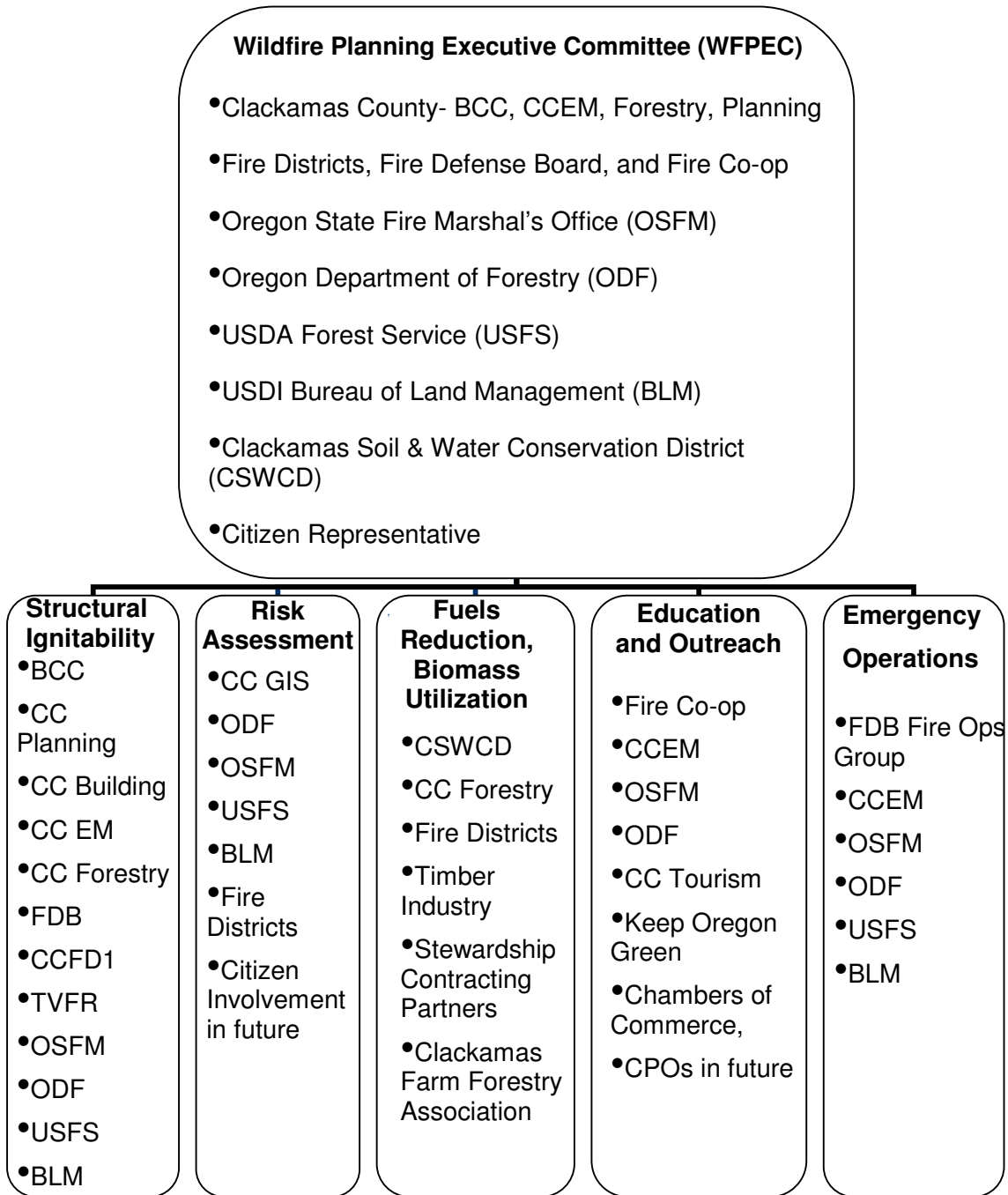
## **Technical Subcommittees**

The WFPEC appointed technical subcommittees to address the five areas of focus. The progress of the technical subcommittee activities relies on strong coordination among diverse partners and stakeholders. Representatives from fire agencies, industries, businesses, natural resource agencies, and citizens participated in the subcommittees. Each subcommittee developed a series of objectives and action items or strategies to meet their objectives. The objectives developed by these subcommittees are presented as chapters in the CCWPP.

## **Organizational Structure**

Throughout the planning and coordination of the CCWPP, the committees and fire districts identified a structure that would help them sustain these efforts in the long-term. This structure is illustrated in Figure 2-1 below. *(Resource A includes a listing of all acronyms used in the plan)*

**Figure 2-1 CCWPP Planning Organizational Structure**



## Fire District Coordination

The WFPEC (in coordination with *Resource Innovations*) hosted a series of three workshops to obtain critical information for the County's CWPP, and to provide all fire districts with the tools and information necessary to develop local plans. A toolkit CD was provided to all fire districts. The tools are also available for download at <http://ri.uoregon.edu/programs/CCE/communityfireplanning.html>.

The training elements are as follows:

- Training #1: Community Wildfire Protection Planning and Public Outreach
- Training #2: Risk Assessment and Follow-up on Public Outreach
- Training #3: Connecting Planning to Implementation

## Public Outreach Process

Clackamas County (in coordination with *Resource Innovations*) hosted a series of five pilot public outreach events between March and May 2005 in coordination with the County Wildfire Protection Plan. The fire departments and fire planning partners identified the five communities targeted for the pilot public outreach events. Drawing on the perspectives shared and skills developed during the pilot phases, the fire plan partners will continue the public outreach effort, holding events in additional fire districts throughout the County. Following is a brief synopsis of the Community Wildfire Planning Workshops. For a more complete discussion of the workshop elements, please see Resource B.

### Purpose of Community Outreach Events

The community meetings provided partners involved with the Clackamas County Wildfire Protection Plan an opportunity to gather input from community members about their perceptions of wildfire risk, community priorities, and resources residents want to protect from wildfire. Outcomes of the meeting included the identification of opportunities to reduce wildfire risk, increased education for residents about living with wildfire and creating defensible space, and increased support for and awareness of the CCWPP and fire department protection services.

**Table 2-1 Spring 2005 Community Meetings Series and Attendance**

Date	Time	Location		Attendance
3/25/05	7:00 pm - 9:00 pm	Government Camp Meeting	Cascade Ski Club	81
4/11/05	7:00 pm - 9:00 pm	Hoodland Meeting	Resort at the Mountain	50
4/16/05	9:00 am - 1:00 pm	Sandy and Boring Meeting	US Forest Service Head Quarters	36
5/7/05	10:00 am - 2:00 pm	Estacada Open House	Estacada Fire Station	65
5/14/05	10:00 am - 2:00 pm	Canby Open House	Canby Fire Station	171
Total Attendance:				403

## Findings of Public Outreach Events

The issues most frequently mentioned during the public events are listed in the following table. These were gathered from comments written on maps or issues recorded on flip charts. Appendix B includes a brief description of the types of comments expressed by participants and a list of proposed actions, including potential implementation partners. While the proposed actions included are not exhaustive, they are intended to provide partners with a summary of potential actions to move forward and address community needs at the county and local level.

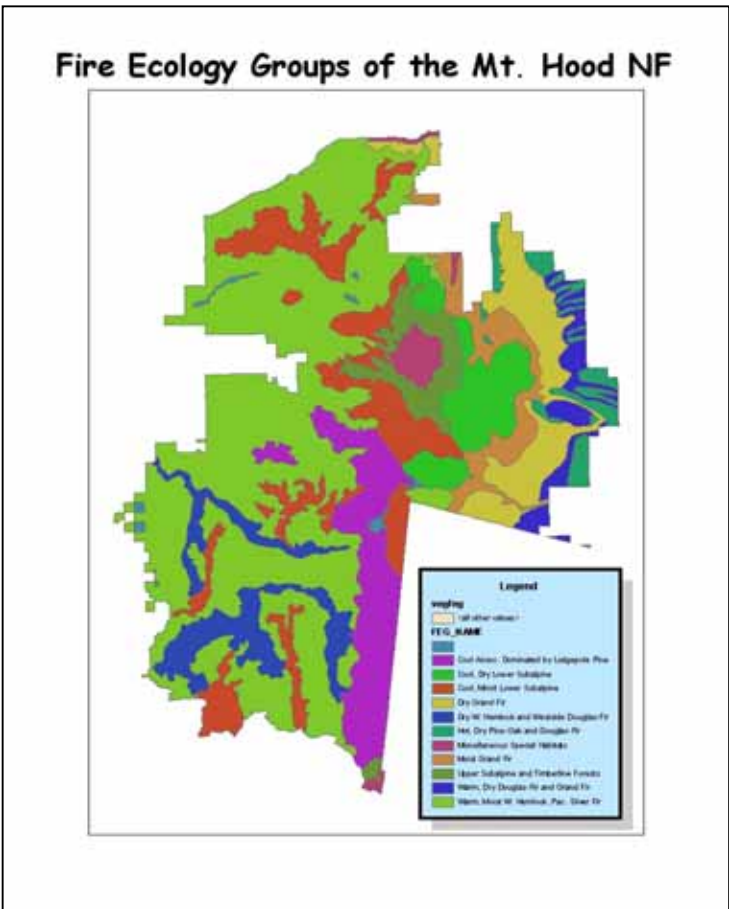
**Table 2-2 Topics and Issues Raised at Community Outreach Events**

Topic	Meeting Location				
	Government Camp	Welches	Sandy/Boring	Estacada	Canby
Evacuation, Emergency Response and Local Ingress and Egress	high	high	med	high	low
Protection Capabilities	high	high	high	med	n/a
Hazardous Fuels	med	low	med	med	med
Community Values and Resources	med	med	high	low	med
Unmanaged Recreation and Illegal Dumping	low	med	med	med	low
Concerns about Adjacent Public Lands	high	low	low	low	n/a
Concerns about Neighboring Private Property	med	low	low	low	n/a

\* Number of times mentioned on maps and flip charts: low 1-3, med 4-6, high 7+

# CHAPTER 3

## FOREST CONDITIONS AND WILDFIRE



## CHAPTER 3: FOREST CONDITIONS & WILDFIRE

### History of Wildfire in Clackamas County

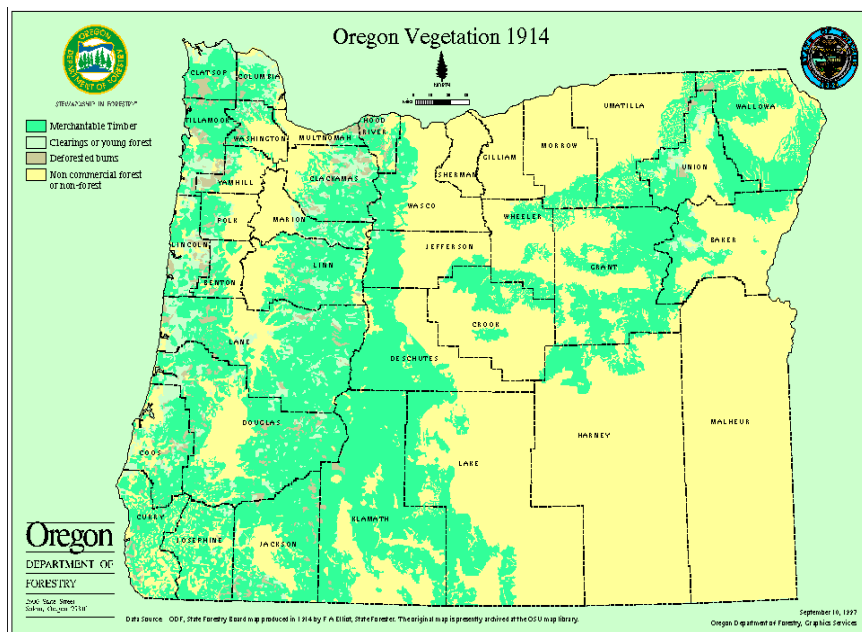
Oregon Department of Forestry documents from the 1940's show average annual acres lost to fires to be over 2,000 acres. During the fire season of 1951, the Clackamas-Marion District (now known as the North Cascade District) reported 13,059 acres lost to fire. Eleven thousand of the acres burned occurred on the Sardine Creek fire in neighboring Marion County. The remaining 2,000 acres burned in Clackamas and Multnomah counties. In 2001, lightning started eight fires in eastern Clackamas County on USFS lands near Ollallie Lake. In 2002, the Bowl Fire burned over 300 acres just east of Estacada. Combined these fires burned about 380 acres.

Clackamas County has escaped the recent large fire occurrences of other western Oregon counties. However, weather, fuels buildup, and climatic changes have provided conditions conducive for a large fire event. Residential development in Clackamas County is heavily interwoven with forest land, so a relatively small fire of only a few hundred acres would pose a significant risk to many residents and their homes.

By conservative estimates, there are a quarter million homes in the wildland-urban interface of Oregon. This demographic shift has underscored the problem of unprotected and under-protected areas. The longstanding missions of Fire Service Programs to put out fires quickly at the lowest cost has been complicated by the presence of homes and people in the forest. Oregon Department of Forestry places the number of homes on forest land within ODF's boundary in Clackamas County at over 11,000.

**Figure 3-1. Oregon Vegetation in 1914**

Clackamas County has significant areas listed as deforested burns, commonly referred to as a stand replacement fire.



## State and Regional Fire History

### Oregon Fires 2002

The summer of 2002 marked the most destructive wildfire season in recorded history, 736 fires (totaling 84,752 acres) on ODF-protected lands. Some 258 fires (totaling 81,395 acres) were lightning-caused and 478 fires (totaling 3,357 acres) were human-caused. In 2001, there were 924 statistical fires (totaling 50,404 acres). Some 376 fires (totaling 46,772 acres) were lightning-caused and 548 fires (totaling 3,632 acres) were human-caused. Prior to 2002, the worst fire season in recent history occurred in 1987 with at least 1,087 fires totaling 19,427 acres.<sup>4</sup> Table 3-1 reports the fire statistics for the largest fires in Oregon as of August 2002.

**Apple** (Umpqua National Forest): This fire, 21 miles east of Glide, encompassed 9,800 acres. Twenty residences were threatened.

**Tiller Complex** (Umpqua National Forest): This 65,824 acre fire, consisted of eight large and numerous small fires and was located on the Tiller Ranger District and in the Rogue-Umpqua Divide Wilderness Area, 25 miles east of Canyonville. Sixty-seven residences were threatened.

**Biscuit Fire** (Siskiyou National Forest): This fire was the biggest blaze in Oregon history. The huge blaze cost more than \$100 million to fight, and was located in southern Oregon and northern California. The fire began on July 13, 2002 and reached 500,023 acres by August 2002. Estimated to be one of Oregon's largest in recorded history, the Biscuit Fire encompassed most of the Kalmiopsis Wilderness. The boundary of the Biscuit Fire stretched from 10 miles east of the coastal community of Brookings, Oregon; south into northern California; east to the Illinois Valley; and north to within a few miles of the Rogue River. There were 274 structures threatened by this fire. Four residences and nine outbuildings were lost.<sup>5</sup>

**Table 3-1 USFS reported fire statistics for 2002 (last updated in August 2002)**

Incident Name	State	*Lead Agency	Size (acres)	Personnel	Structures Lost
Biscuit	OR	FS	500,068	3,221	13
Tiller Complex	OR	FS	66,355	1,785	0
Apple	OR	FS	10,200	1,129	0
Quartz Mt. Complex	WA	FS	1,074	28	0

Source: USDA Forest Service

### Historic Fires in Oregon

In 1990, Bend's Awbrey Hall Fire became one of Oregon's most destructive fires in recent history as it destroyed 21 homes, caused approximately \$9 million in damage and cost over \$2 million to suppress. In 1996, Bend's Skeleton Fire burned over 17,000 acres and damaged or destroyed 30 homes and structures. In that same year, 218,000 acres were burned, 600 homes were threatened, and 44 homes were lost statewide.<sup>6</sup> Table 3-2 lists the major wildfires that occurred in Oregon between 1848 and 1966.

**Table 3-2. Large Historic Fires in Oregon (1848-1966)**

<b>Year</b>	<b>Fire</b>	<b># of Acres Burned</b>
1848	Nestucca	290,000
1849	Siletz	800,000
1853	Yaquina	482,000
1865	Silverton	988,000
1868	Coos Bay	296,000
1933	Tillamook	240,000
1936	Bandon	143,000
1939	Saddle Mountain	190,000
1945	Wilson River/Salmonberry	180,000
1951	North Fork/Elkhorn	33,000
1966	Oxbow	44,000

Source: "Atlas of Oregon," William G. Loy, et al, University of Oregon Books, 1976. Oregon Department of Forestry, "Tillamook Burn to Tillamook State Forest," revised 1993.

During the 2000 fire season, more than 7.5 million acres of public and private lands burned in the US, resulting in loss of property, damage to resources, and disruption of community services. Taxpayers spent more than \$1.6 billion to combat 90,000 fires nationwide.<sup>7</sup> Many of these fires burned in wildland/urban interface areas and exceeded the fire suppression capabilities of those areas. The magnitude of the 2000 fires was the result of two primary factors: (1) severe drought, accompanied by a series of storms that produced thousands of lightning strikes and windy conditions; and (2) the effects of wildfire suppression over the past century that has led to buildup of brush and small diameter trees in the nation's forests and rangelands.<sup>8</sup> Table 3-3 illustrates fire suppression costs for state, private, and federal lands protected by the Oregon Department of Forestry (ODF) between 1985 and 2000.

**Table 3-3. Fire Suppression Costs in Oregon 1985-2000**

<b>Year</b>	<b>Suppression Costs in \$\$</b>
1985	3,268,644
1986	5,847,018
1987	32,080,746
1988	13,192,596
1989	6,394,593
1990	8,279,974
1991	5,381,192
1992	17,000,000
1993	4,023,033
1994	21,100,000
1995	4,360,349
1996	5,066,227
1997	1,210,692
1998	2,056,343
1999	5,320,555
2000	5,750,862

Source: Oregon Department of Forestry: <http://www.odf.state.or.us> \*Figures apply to the 15.8 million acres of state, private, and federal lands protected by ODF.

## **Clackamas County Fire Ignitions**

### **Lightning-Caused Fires**

Lightning-caused fires in Clackamas County occur less frequently then compared to southern and eastern Oregon. Recent ten year averages from ODF show lighting as the cause of one to two fires yearly on private land. However, in some years, lightning has ignited up to a dozen fires from one storm event in Clackamas County. These multiple fire events sometimes cause a shortage of resources and contingency move-ups from other parts of the state become necessary. Lightning on the Mount Hood National Forest is responsible for 30% of the 1,425 fires during the most recent study period of 1980 to 2004. The other 70% were human-caused.

### **Human-Caused Fires**

Human caused fires are responsible for the majority of fires in Clackamas County. The North Cascade District of ODF lists fires caused by debris burning as the number one cause of fires on forest lands in Clackamas County. Over 166 fires in the past ten years have been caused by debris burns.

The second leading cause of fires in the North Cascade District is recreation. Campers and other visitors to the forest have been responsible for 85 fires in the last ten years.

The third leading cause of fire is the miscellaneous category. Miscellaneous fires include ignitions from electric fences, burning buildings and vehicles, spontaneous combustions and sparks from mufflers and converters. These and other miscellaneous causes are responsible for 83 fires in the last ten years.

*\* Fire data is only for ODF protected lands in Clackamas County. During the CWFP process it became evident that one of the action items for the plan was to address the inconsistencies in reporting.*

## **Fire Regime and Condition Class**

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

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 and Washington) conditions. *Note that there may be variation among the species listed under each Fire Regime:*

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

A large portion of forested land in Clackamas County is in a moderate to high fire severity regime. The “high” severity fire regimes are characterized by: infrequent severe crown fires or surface fires that cause high tree mortality; or stand replacement fires that typically result in total stand mortality and moderate-to-high loss of the duff-litter layer. Unlike “moderate” fire severity regimes, the landscape following “high” severity fire regimes are usually dominated by a lack of residual (remnant survivor) trees. Stand structure is void of an overstory and this results in an even-aged stand. These fires are generally associated with drought years, east wind weather events (which lower humidity),

and an ignition source such as lightning. Fires are often of short duration, but of high intensity and severity (Krusemark, et al. 1996).

## **Condition Class**

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

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

The condition class scale was developed to exhibit the departure in severity, intensity, and frequency of fires burning in the ecosystem in its current condition as compared to fire’s historic or reference condition. The majority of Clackamas County forests are in Condition Class 1.

## **History of Forest Fire Management in Clackamas County**

### **Private and State Fire Protection**

The first organized fire suppression effort for private forest land in Clackamas County began in 1912, when private forest landowners formed the Clackamas-Marion Forest Protective Association to provide forest fire protection. This group of private land owners continued providing protection until 1968. At this time the Association turned over the responsibility to the Oregon Department of Forestry. The Association remains active and serves as an advisory group to ODF, helping to determine the level of fire protection needed and approving the operating budgets for the cost of fire protection services.

### **Rural Fire Districts**

Rural fire districts were formed in Clackamas County for structural fire protection. District formations are associated with scattered communities throughout the county. As the population increased, more rural fire districts were formed. Soon, districts found themselves providing suppression services for all types of fires occurring in their districts, as homes became more interfaced with natural fuels such as grass, brush, and forest cover. Rural fire districts have addressed their continuing role in urban and rural fire protection by adding training and equipment to be used for wildfires occurring inside of their boundaries and responding to fire conflagrations in the wildland urban interface areas statewide.

## **United States Forest Service**

The Cascade Range Forest Reserve was established in 1893, and divided into several National Forests in 1908, when the northern portion was merged with the Bull Run Reserve (city watershed) and named the Oregon National Forest. The name was changed again to Mt. Hood National Forest in 1924. The Mount Hood National Forest provides wildland and forest fire protection on 557,747 acres in Clackamas County.

## **BLM**

The Molalla Unit of the Oregon Department of Forestry North Cascade District provides fire protection to 97,943 acres of forest land managed by the Bureau of Land Management in Clackamas County through a protection contract.

# CHAPTER 4

## WILDFIRE RISK ASSESSMENT

“Related to wildfire assessment, it is clear that one-size-does-not-fit-all. However, nearly all assessment models consider **risk, hazard, protection capabilities** and **values protected**. In addition, an assessment of the **vulnerability of values at risk** is needed for community down to parcel level assessments.”

-Oregon Dept. of Forestry

## CHAPTER 4: WILDFIRE RISK ASSESSMENT

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Wildfire risk to forest lands and homes is inseparable. Forest fires can endanger and burn homes. Fires that start as structural fires can spread to the forest. Although the threat of wildfire is not as great in Clackamas County as in other parts of the state, wildfire officials are cognizant of the growing potential. One of the core elements of the Clackamas Community Wildfire Protection Plan is developing an understanding of the risk and potential losses to life, property, and natural resources during a wildfire in order to identify and implement the most effective strategies for preventing losses from fire, while allowing natural fires to take their course in shaping a more healthy and sustainable forest.

The Healthy Forests Restoration Act, the National Fire Plan, FEMA's Disaster Mitigation Act of 2000, the National Association of State Foresters, and Oregon Department of Forestry provide guidance on conducting a hazard and risk assessment for wildfire. The methodology used in the CCWPP to conduct a wildfire risk assessment follows Oregon Department of Forestry's guidance for determining wildfire risk. An interagency team, including representatives from Clackamas County, Oregon Department of Forestry, US Forest Service, Bureau of Land Management, and the Clackamas District Fire Defense Board, led the assessment. It is essential that both the assessment process and the prioritization of projects be done collaboratively, with all agencies having fire protection jurisdiction talking an active role.

Clackamas County used Geographic Information Systems (GIS) in creating the risk assessment. GIS is a computer-based system that can be used to analyze and integrate spatial layers of information, such as fire hazard, risk, location of values, protection capabilities, and the location of vulnerable structures with physical factors such as slope, aspect, and vegetation to assess the relative level of wildfire risk within the County and produce visually informative maps.

### Members of the Risk Assessment Subcommittee include:

Bureau of Land Management (BLM)	Oregon Department of Forestry
Clackamas County Emergency Management	Sandy/Boring Fire Prevention Office
Clackamas County Geographic Information Systems	Tualatin Valley Fire & Rescue
Colton Fire District	State Fire Marshal's Office (SFMO)
Hoodland Fire District	
Mt. Hood National Forest	

### Risk Assessment Objectives

- I. Develop and conduct a wildfire risk assessment to accurately portray vulnerable populations, property, and infrastructure.
- II. Utilize fire district boundaries to identify Communities-at-Risk (CARs), and encourage the identification of more detailed CARs during local planning processes
- III. Identify wildland-urban interface and forest-urban interface areas consistent with the state methodology and appropriate for future SB 360 development.

- IV. Coordinate with fire districts to determine risk level of highly vulnerable and/or unprotected areas.
- V. Develop a risk assessment at a level detailed enough to use in prioritizing fuels treatment and other fire prevention projects, but broad enough to encompass entire county.
- VI. Develop a risk assessment that can be adapted to reflect changing forest conditions.
- VII. Develop an appropriate point distribution system for risk assessment (protection capability, structural vulnerability, values, etc.) consistent with fire district priorities.
- VIII. Utilize state, county, and local data to create a seamless risk assessment that can be used as a foundation for fire districts can build their own more localized risk assessments for their community fire plans.

**Risk Assessment Action Items**

**1. Improve consistency in “wildland” fires ignition data.**

- a. Develop a standard for reporting “wildland” and “natural cover” fires, communicate this standard to all fire districts, and promote reporting of fires.
- b. Research opportunities to incorporate a records management system into the Computer Aided Dispatch (CAD) system that is compatible with State Fire Marshal (SFM) Form 10 **OR** insert a line in the CAD database, indicating the SFM code associated with the CAD code for wildland/natural cover fires.

Timeline:	1 Year
Lead:	Fire Defense Board, State Fire Marshal
Partners:	CCOM, ODF, USFS
Priority:	Medium

**2. Develop a series of recommendations for tracking structural vulnerability data throughout the County.**

- a. Work with fire districts to utilize the GPS units for obtaining home locations and structural vulnerability data.
- b. Work with tax assessor to enhance data retrieved through the seven year home inspection process.

Timeline:	Ongoing
Lead:	Risk Assessment Subcommittee
Partners:	Fire Districts, Fire Co-op
Priority:	High
Progress:	Hoodland Fire District is using the GPS units to obtain structural triage and home location data for the summer home area of the Highway 26 corridor. The Fire Co-op is housing a GPS unit that can be used by all partner agencies for collecting structural vulnerability data. GIS and ODF have developed a protocol for obtaining and reporting the GPS data.

- Utilize GPS technology to get accurate spatial and attribute data (e.g. size, access, water source volume, etc.) for fire suppression resources including, but not limited to, water sources, hellispots, and potential fire camp areas.

Timeline:	Ongoing
Lead:	Risk Assessment Subcommittee
Partners:	ODF, USFS
Priority:	Medium

- Work with local fire districts to develop more detailed risk assessments using local and community-derived data.

Timeline:	Ongoing
Lead:	Risk Assessment Subcommittee
Partners:	Fire Districts
Priority:	High
Progress:	County GIS is currently working with Sandy Fire District to develop a more detailed risk assessment for the Wildcat Mountain community.

- Refine Communities-at-Risk and Strategic Planning Areas using risk assessment point totals.

Timeline:	1 year
Lead:	Risk Assessment Subcommittee
Partners:	Fire Districts
Priority:	High

- Include the United States Forest Service Fire Program Analysis data (including areas to be considered for fuels modification work such as infrastructure, buildings, communications towers, etc.) as a third tier in the WUI designation.

Timeline:	6 months
Lead:	United States Forest Service
Partners:	County GIS
Priority:	High

## Communities-at-Risk

As outlined in Title 1 of the Healthy Forest Restoration Act, communities may identify themselves as being “at risk” based on an analysis following the National Association of State Foresters Field Guidance on Identifying and Prioritizing Communities-at-Risk (June 27, 2003) or during development of their Community Wildfire Protection Plans. In order to determine Communities-at-Risk, the county 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). The Federal Register (August 2001) lists the following Clackamas County communities as “Urban Wildland Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildland Fire” (Map #2. Federal Register Communities-at-Risk).

**Federal Register Communities-at-Risk in Clackamas County (2001)**

- Bull Run
- Eagle Creek
- Estacada
- Government Camp
- Hoodland Corridor (includes Alder Creek, Brightwood, Faubion, Mountain Air Park, Rhododendron, Salmon, Tawney, Welches, Wemme, Wildwood and Zigzag)
- Molalla

Because the Clackamas CWPP addresses wildfire hazards county-wide (not just those areas in close proximity to federal lands) the CCWPP defines Communities-At-Risk by looking at the common service boundaries for fire protection (Map # 3: CCWPP Communities-at-Risk). Specifically, our methods for identifying Communities-at-Risk are to assess:

1. Fire district or municipal service boundaries. (In Clackamas County, there are parts of at least 14 fire service agencies that provide structural fire protection.)
2. In areas where there is no fire district or municipality, communities will be listed as “Clackamas County Unprotected.”

**CCWPP Communities-at-Risk in Clackamas County**

- Aurora Fire District
- Boring Fire District
- Clackamas County Unprotected
- Clackamas Fire District #1
- Canby Fire District
- Colton Fire District
- Estacada Fire District
- Gladstone Fire District
- Hoodland Fire District
- Lake Oswego Fire District
- Molalla Fire
- Monitor Fire District
- Sandy Fire District
- Tualatin Valley Fire and Rescue
- Silverton Fire District

**Strategic Planning Areas**

Wildfire hazards vary within fire district boundaries, as most districts encompass a variety of communities that have very different development patterns, vegetation types, and protection capability. As fire districts conduct community meetings, they will gain a better understanding of the needs of their communities, which will assist in developing effective strategies to prevent and respond to potential wildfire events. The communities that have been identified as high hazard areas in community meetings and/or by fire district personnel are considered *strategic planning areas*. It is recommended that fire districts target these areas for site-specific wildfire planning and project implementation.

Community members that attended the wildfire planning workshops described the boundaries of their neighborhoods, the hazards and potential solutions specific to their communities, and the

values they would like to see protected. The communities identified through this process are listed below as the *strategic planning areas*. The listing below is not exhaustive, and includes only those communities that were identified in the districts that hosted community meetings. As fire districts conduct more community meetings, this list will grow to include the various strategic planning units that have been identified. In addition, GIS will be utilizing the Risk Assessment to help further prioritize these high-risk communities.

Using the risk assessment as a guide, the WFPEC will identify four communities from the strategic planning areas listing to showcase on the <http://healthyforest.info/> website. This website allows counties to highlight Communities-at-Risk by providing a website and an online rapid visual risk assessment that assists in framing the primary issues in the high-risk communities.

**Table 4-1 Strategic Planning Areas in Clackamas County**

Hoodland Fire District	<ul style="list-style-type: none"> <li>• Cherryville/Alder Creek</li> <li>• Marmot</li> <li>• Brightwood/Sleepy Hollow</li> <li>• Barlow Trail</li> <li>• Welches/Wemme</li> <li>• Lolo Pass</li> <li>• Rhododendron</li> <li>• USFS Summer Homes (east of Rhododendron)</li> <li>• Government Camp/Summit Meadows</li> </ul>
Sandy Fire District	<ul style="list-style-type: none"> <li>• Roslyn Lake</li> <li>• Wildcat Mtn.(Dover)</li> <li>• Cedar Creek</li> </ul>
Boring Fire District	<ul style="list-style-type: none"> <li>• Eagle Creek</li> <li>• Damascus</li> </ul>
Estacada Fire District	<ul style="list-style-type: none"> <li>• Redland Rd Area</li> <li>• Ladee Flats</li> <li>• Faraday Rd</li> <li>• Fellows Rd</li> </ul>
Canby Fire District	<ul style="list-style-type: none"> <li>• Logging Trail Rd</li> <li>• Molalla Forest Rd</li> <li>• Township Rd</li> <li>• Redwood Rd</li> </ul>
Clackamas Fire District #1	<ul style="list-style-type: none"> <li>• Mount Talbert area</li> </ul>
Colton Fire District	<ul style="list-style-type: none"> <li>• Fernwood Rd</li> <li>• Red House Rd</li> <li>• Young Rd</li> <li>• Mountain Rd</li> <li>• Hunter Rd</li> <li>• Grays Hill Rd</li> <li>• Bonney Rd</li> <li>• Engstrom Rd</li> <li>• Fernwood Rd</li> </ul>

Hoodland Fire District	<ul style="list-style-type: none"> <li>• Cherryville/Alder Creek</li> <li>• Marmot</li> <li>• Brightwood/Sleepy Hollow</li> <li>• Barlow Trail</li> <li>• Welches/Wemme</li> <li>• Lolo Pass</li> <li>• Rhododendron</li> <li>• USFS Summer Homes (east of Rhododendron)</li> <li>• Government Camp/Summit Meadows</li> </ul>
Molalla Fire District	<ul style="list-style-type: none"> <li>• Molalla Heights</li> <li>• Sawtell Rd</li> <li>• Dicky Praire Rd</li> <li>• Rambsy Rd</li> <li>• Grimm Rd</li> <li>• Munson Rd</li> <li>• Dooghie</li> <li>• Maple Grove Rd</li> <li>• Leabo Rd</li> <li>• Hardy Rd</li> <li>• Trout Creek Rd</li> <li>• Elk Prairie Rd,</li> <li>• Ramsby Rd,</li> <li>• Hwy 211</li> </ul>
Clackamas County Unprotected	<ul style="list-style-type: none"> <li>• Mt. Hood National Forest</li> <li>• Timberline Lodge Historic Site</li> <li>• Wapinitia</li> </ul>

## Wildland Urban Interface

### WUI as Defined by HFRA and the Federal Register

The Federal Register states, "the urban-wildland interface community exists where humans and their development meet or intermix with wildland fuel." In an effort to further refine the federal register definition HFRA has identified two levels of the WUI designation: *Interface* and *Intermix* communities. In both interface and intermix communities, housing must meet or exceed a minimum density of one structure per 40 acres.

- The *Interface Community* exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures, and wildland fuels. Wildland fuels do not generally continue into the developed area, and development is usually denser than in *intermix* communities. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire.
- The *Intermix Community* exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed

area. Fire protection districts funded by various taxing authorities normally provide life and property fire protection, and may also have wildland fire protection responsibilities.

**WUI as defined by the CCWPP**

The CCWPP risk assessment subcommittee used the federal register and HFRA’s guidance for determining the WUI. In an effort to identify the areas where “humans and their development intermix with wildland fuel,” we identified the areas that have an urban density of at least one structure per forty acres *and* have hazardous fuels (Fuel Type III: tall flammable grass, heavy flammable brush, or heavy timber).

The risk assessment subcommittee then began to consider how the WUI would be used. It was determined that we should develop a larger-scale, *Primary WUI* that would be used for planning larger-scale fuels modification work (the Intermix Community). In addition, the committee determined that a smaller scale, *Secondary WUI* will be used to target property owners for educational efforts for reducing wildfire hazards around the home (the Interface Community). The difference in the Primary and Secondary WUI is the buffer associated with the original overlay of housing density and hazardous fuels (Map #4: Primary and Secondary Wildland Urban Interface). Table 4-2 describes the primary and secondary WUI in greater detail.

**Table 4-2 Primary and Secondary WUI**

<b>Explanatory Information</b>	<b>Primary WUI</b>	<b>Secondary WUI</b>
Purpose	<ul style="list-style-type: none"> <li>• To be used for large-scale fuels modification work.</li> </ul>	<ul style="list-style-type: none"> <li>• To be used for planning small-scale fuels reduction projects, for targeting home owners for wildfire education and outreach (focusing on the creation of defensible space).</li> </ul>
Data Used	<ul style="list-style-type: none"> <li>• 1 structure per 40 acres</li> <li>• Fuel type III (tall flammable grass, heavy flammable brush, or heavy timber)</li> <li>• Areas that meet the above criteria and are in ODF protection boundary (used as an indicator of forest land)</li> <li>• Areas that meet the above criteria and are zoned Agriculture/Timber</li> </ul>	<ul style="list-style-type: none"> <li>• 1 structure per 40 acres</li> <li>• Fuel type III (tall flammable grass, heavy flammable brush, or heavy timber)</li> </ul>
*Buffer Used	<ul style="list-style-type: none"> <li>• Effective fuels modification strategies in more heavily forested Timber/Agricultural areas can extend up to and beyond 1.5 miles, depending on topography.</li> <li>• The buffer used on the west side was 1.5 miles.</li> <li>• The buffer on the east side extended to ridge tops, to reflect the extent to which fuels modification would enhance structural survivability.</li> </ul>	<ul style="list-style-type: none"> <li>• The most effective fuels modification for reducing spread of wildland fire in an urban setting is creation of defensible space from 150-300 feet.</li> <li>• The buffer used for the CCWPP Secondary WUI is 200 feet.</li> </ul>

\*The buffer is to be used as a guide for estimating the extent to which fuels modification would be effective. Each potential fuels reduction project will be evaluated to determine the appropriate fuels modification strategy.

## **Risk Assessment Methodology and Results**

The Clackamas County Wildfire Hazard and Risk Assessment (Assessment) is a tool to illustrate the relative level of risk to life, property, and natural resources in any area of the county. It is intended to identify locations for focused resources allocation to most effectively reduce wildfire risk. It would take nearly unlimited resources to reduce all of the hazards and risks in the county, therefore the Assessment provides decision makers with valuable information about where to focus limited resources to most effectively reduce the risks to communities and citizens.

As projects are implemented through the CCWPP, the maps and priorities developed through the risk assessment will change, but they will always point to those areas identified as having the highest relative ranking for risk and hazard. The project is intended as a tool to rank, not define, the absolute hazard or risk for any area in the county.

It can be tempting to rely on technology to provide all of the answers, but it is important to recognize the limits of the data and modeling, and to educate users about such limitations. This has been critical in gaining acceptance by the professionals dealing with fire.

Clackamas County used “Identifying and Assessment of Communities-at-Risk in Oregon, Draft Version 4.0” dated October 18, 2004, and developed by ODF, with cooperators through a statewide steering committee, as a template to conduct the Assessment. This methodology was designed to conduct a statewide risk assessment for wildfire as well as provide guidance for county and local plans. This results obtained are intended to provide a broad view of the county and its relative risks. More detailed local assessments, conducted as part of each fire district’s community plans, can be used to later refine the countywide Assessment.

A county-wide map was produced at each step of the risk assessment process. These maps were reviewed and the methodology was often revised based on expert opinion within our risk assessment subcommittee. As stated earlier, the state document was used as a template or a guide for our county Assessment and was not intended to provide all of the answers. It has been recognized that each county will have some unique factors that will require different applications of the data. As with any assessment using multiple data sources, there were questions about the data and in some cases the methods. The county assessment used the best available data and the best available methods at the time it was developed. The Assessment was being completed at the same time as the state assessment (which was our model). Lessons learned are still being reported as of this writing and it will be necessary to review and revise our assessment at a future date. As the community plans are developed at the fire district level, some of the county data will need to be updated, and some of this information will stay at the local level where it is best utilized. The maps presented in this chapter are final maps from each stage of the county risk assessment as well as the combined final assessment map for overall risk of wildfire in Clackamas County. It is this map that will assist in prioritizing fuels reduction projects and other work in the future.

### **Table 4-3. Risk Assessment Elements**

The Assessment considers four categories in determining the relative severity of fire risk. Structural Vulnerability is a fifth category that will be examined in local plans but is not considered at the state or county level due to limited available data.

<b>Assessment Categories</b>	<b>Elements</b>	<b>Score</b>
Hazard	Fuels (developed from vegetation information), Slope, Aspect, Elevation, Weather	0-80
Risk	Historic Fire Occurrence (derived from state and federal fire agency databases) and an estimation of ignition risk based on expert opinion and home density	5-40
Values	Life/Property as determined by home density (homes per 10 acres) and community infrastructure	0-50
Protection Capability	Fire Response Time (determined from fire district boundaries and district-reported response times) and Community Preparedness	0-40
Structural Vulnerability	Roof type, Defensible space, and Access	No Data

### **Hazard Methodology**

The *Hazard* layer consists of fuels, topography and weather information. **(0-80 points).**

#### ***Fuels (0-30 points)***

The primary fuels data that was used was derived from 2001 Landsat Enhanced Thematic Mapper (ETM) satellite imagery (30-meter pixels). Image classification for the fuels data was completed by Spatial Solutions, Inc. in 2002. The fuel classes were taken from the Oregon Administrative Rules (OAR) 629-044 “Criteria for Determination of Wildfire Hazard Zones” and are consistent with the National Forest Fire Laboratory (NFFL) fuel models used by many agencies. In order to complete a county-wide fuels layer, additional fuels data was obtained from the state risk assessment team. The source of this data was Eugene BLM and a crosswalk of the data classes to the NFFL model had already been developed. This was not a perfect scenario, but at least similar fuel data was available for the forest areas and the southern portion of the county not mapped in the county’s earlier work due to limited funds.

Non-forested areas receive 0 points for fuels. Fuel models 1 (grass), 5 (low/less flammable brush), and 8 (short-needle timber litter) received a fuel hazard factor of 1 and therefore 5 points. Fuel models 2 (grass/timber), and 6 (moderate brush, conifer reproduction, open sage, and juniper) receive a hazard factor of 2 and 15 points. There is very little of hazard factor 2 found in Clackamas County. Fuel models 3 (tall/flammable grasses), 4 (heavy/flammable brush), and 10 (mature timber with slash) receive a hazard factor of 3 and 30 points. It is this last group that typically produces a flame length of over 8 feet, a wildfire that exhibits frequent spotting, torching, or crowning, and which results in a burned area that normally cannot be entered for over one hour. It is these fuel types that are found in our highest risk areas.

#### ***Topographic characteristics (0-10 points)***

Topographic characteristics include slope, aspect, and elevation. Slopes are broken into three classes at 25 and 40 percent slope values. The slope layer has values ranging from 0 (least slope) to 3 (most slope). Aspect is also divided into three classes where 0 was assigned to the north-facing slopes, 3 to

west and east-facing slopes, and 5 to the southern slopes. Finally, elevation point values are assigned from highest to lowest elevation with areas over 5000 feet receiving 0 points, 3501-5000 feet receiving 1 point, and the lowest elevations receiving 2 points. These three characteristics are combined for a possible 10 points.

### ***Weather (0-40 points)***

The number of days per season that forest fuels are capable of producing a significant fire event is important to consider. The reference for establishing the wildfire weather hazard factor is data provided by the Oregon Department of Forestry, which was developed following an analysis of daily wildfire danger rating indices in each regulated use area of the state. A weather value was assigned by county: 1 on the coast, 2 in the Willamette Valley, and 3 for eastern and much of southern Oregon. These values translate to 0, 20 and 40 points respectively, with Clackamas County receiving 20 points.

### **Hazard Results: Map #5**

The high hazard areas (dominated by highly flammable fuels) can be seen throughout the county, especially along the edge of populated areas. It is in the fire districts of Hoodland and Sandy however, that these areas really stand out. These are 2 of our local communities that have been placed on the state's interim Communities-at-Risk list due to their proximity to high risk watersheds in Multnomah County.

Clackamas County is very fortunate to have obtained good fuels data that could be used in this Assessment. Hazard (dominated by fuels) represents 38% of the total points available. At the time of this writing, it has been proposed for the state methodology that hazard category should receive even more weight. This is very valuable information, but that which will need to be updated periodically as the land use in Clackamas County changes with development. An increase in non-fuel areas is to be expected. Perhaps a less expensive method (without reclassifying imagery) of identifying these areas can be used either with change detection software or utilizing administrative boundaries and current aerial photography.

### **Risk Methodology**

#### ***Risk (5-40 points)***

Risk is the likelihood of a fire occurring, was determined from historic wildfire occurrence and ignition risk.

The statewide assessment group created a density grid of fire occurrence per 1000 acres per 10 years. The historic data was acquired from the Oregon Department of Forestry, the US Forest Service, and the state fire marshal. The data is derived from varying numbers of years of data on fire occurrences. The Clackamas County data was pulled from the state data and given 5, 10, or 20 points for historic wildfire occurrence.

In addition to historic fire occurrence, ignition risk was used to help determine overall risk of fire occurrence. Historic fire occurrence is not necessarily a good indicator of future fires, depending on the cause of the fire. A number of potential ignition risks were discussed by the risk assessment subcommittee as suggested by the state assessment team's methodology. Our experts determined

that without GIS data for many of these potential sources (including active logging, debris burning, fireworks use, off-road vehicle use and target shooting) we would be safe to assume that these activities are more likely to occur in the county's rural areas. Housing density information (homes per 10 acres) was used to determine the county's rural areas. All of the ignition risk points (20) were given to the rural areas.

### **Risk Results: *Map #6***

The historic fire occurrence data came from the state fire marshal's office, Mt Hood National Forest and the Oregon Department of Forestry. Duplicates of reported fire data (when districts giving mutual aid to another district) was removed at the state level. The data used from these three sources does not cover the same span of time. Our subcommittee wanted to use 20 years worth of data starting in the early 80's in order to include some of the larger fires from that decade. The data from the state fire marshal's office was only available from 1996-2003 due to a change in data reporting and data quality issues. For the data that was available, a large number of reported wildfires occurred in urban areas. This is a concern that has been designated as the first action item to come out of the Assessment.

### **Values Methodology**

The *values* considered for this Assessment are a combination of life/property and community infrastructure. **(0-40 points)**

An address point layer has been developed for the county that shows known structure locations. It is this data that was used to create the home density layer (homes per 10 acres). There are many possible county-wide values. Community infrastructure was chosen to include with home density. For purposes of this Assessment, the county's community infrastructure that is critical in emergency response included hospitals, fire stations, cell tower sites, police stations, 911 centers, power substations, and emergency transportation routes (state highways and freeways). The point locations were all buffered at a .1 mile radius and the highways had a buffer of 300 feet. The state chose values such as forest lands and municipal watersheds, and local plans will make their own value decisions, some of which have already been determined at community meetings.

### **Values Results: *Map #7***

Beyond general life and property, "values protected" is a very subjective area. The risk assessment subcommittee chose physical buildings and roads that are part of emergency response. Many of these buildings, like fire stations and police stations, exist near each other in populated areas. These areas are already given more weight because they have more people and homes. The committee's choices for community infrastructure grant additional points to the most populated areas.

### **Protection Capability Methodology**

The *protection capability* layer is dominated by the boundaries of the rural fire protection districts. Points were assigned for 2 categories, fire response and community preparedness. (0-40 points)

#### ***Fire Response (0-36 possible):***

- Areas inside a fire district with structural response under 10 minutes receive 0 points
- Areas inside a fire district with structural response over 10 minutes receive 8 points

- Areas outside of a fire district with wildland response under 20 minutes receive 15 points (This was determined by areas within 300' of a major road.)
- Areas outside of a fire district with wildland response over 20 minutes receive 36 points

***Community Preparedness (0-4 possible):***

- All areas received a minimum of 2 points, meaning that their community's preparedness through public education was limited to agency efforts (mailings, FireFree, etc.)
- The unprotected areas of Clackamas County as well as the districts of Molalla, Colton, Monitor, Silverton, and Aurora received an additional 2 points.

**Protection Capabilities Results: *Map #8***

This layer was created with careful input from each of the fire districts and the Oregon Department of Forestry regarding their response time capabilities. Fire District participants engaged in this exercise indicated that it seemed that fire district boundaries carries much more weight in the Assessment than whether or not a district is able to provide adequate protection in a reasonable amount of time. Also, response times are expected to be long outside of the fire districts, especially if a fire occurs in the off-season.

**Structural Vulnerability Layer**

An assessment of structural vulnerability, or the likelihood that structures will be destroyed by wildfire, is best determined by on-site visits. This was not practical at the county level. Risk, hazard, and protection capabilities account for 90% of the likelihood of a wildfire threatening life and property. It is factors controlled by the homeowner however that account for 90% of the likelihood of a wildfire threatening the structures. The three primary factors are roofing, defensible space, and access. These factors need to be assessed at the local plan level.

**Overall Risk of Wildfire in Clackamas County: Maps #9 & #10**

Two versions of the overall risk map were created. Map #9 follows the point distribution laid out by the state methods and classes for low, moderate, and high. Point totals from the four categories in the Assessment would fall into the following categories at the state level: Low (0-70), Moderate (70-140), and High (140-210). At the state level, Clackamas County only contains results in the low and moderate categories. Points obtained from the weather category play a large role in this outcome. Table 4-4 shows the number of acres in Clackamas County within each hazard classification category.

**Map # 10** recognizes and illustrates some natural breaks in the point distribution within the low and moderate categories. The goal of the county Assessment is to determine relative risk within the county. In this map, the weight that protection capability has is very clear. The areas of higher natural hazard are also evident, but the values and risk layers are not as evident in the final composite map. This map represents the county's perception of low, low to moderate, moderate to high, and high hazard areas.

**Table 4-4 Hazard Level Acreage**

<b>Hazard Level</b>	<b>Acres</b>
Low	151,488
Low/Moderate	152,176
Moderate	213,426
Moderate/High	502,051
High	180,083

### **Risk Assessment Limitations**

#### **Best Available Data**

All participating agencies and departments provided data for the Assessment. It was a challenge to integrate this data since all of the agencies do not collect and report data in the same formats. For example, those conducting the statewide assessment compiled the fire history data that was used at the county level. They discovered that some sources had 30 to 40 years of usable data while others only had 10 years. Also, what is considered a statistical or countable incident differs greatly between urban fire departments and forest management agencies. In another case, the county had developed the fuels data for all of the fire districts in 2002, but not for the unprotected portions of the county. In order to provide a seamless risk assessment for the entire county, fuels data was acquired from the Bureau of Land Management (through the state assessment effort) and merged with the more detailed county data.

#### **Landscape Level vs. Site-Specific Assessment**










Fire was viewed as a landscape level event, 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 were generalized for small scale mapping and 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.



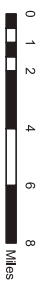
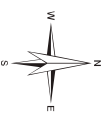


# Primary & Secondary Wildland Urban Interface

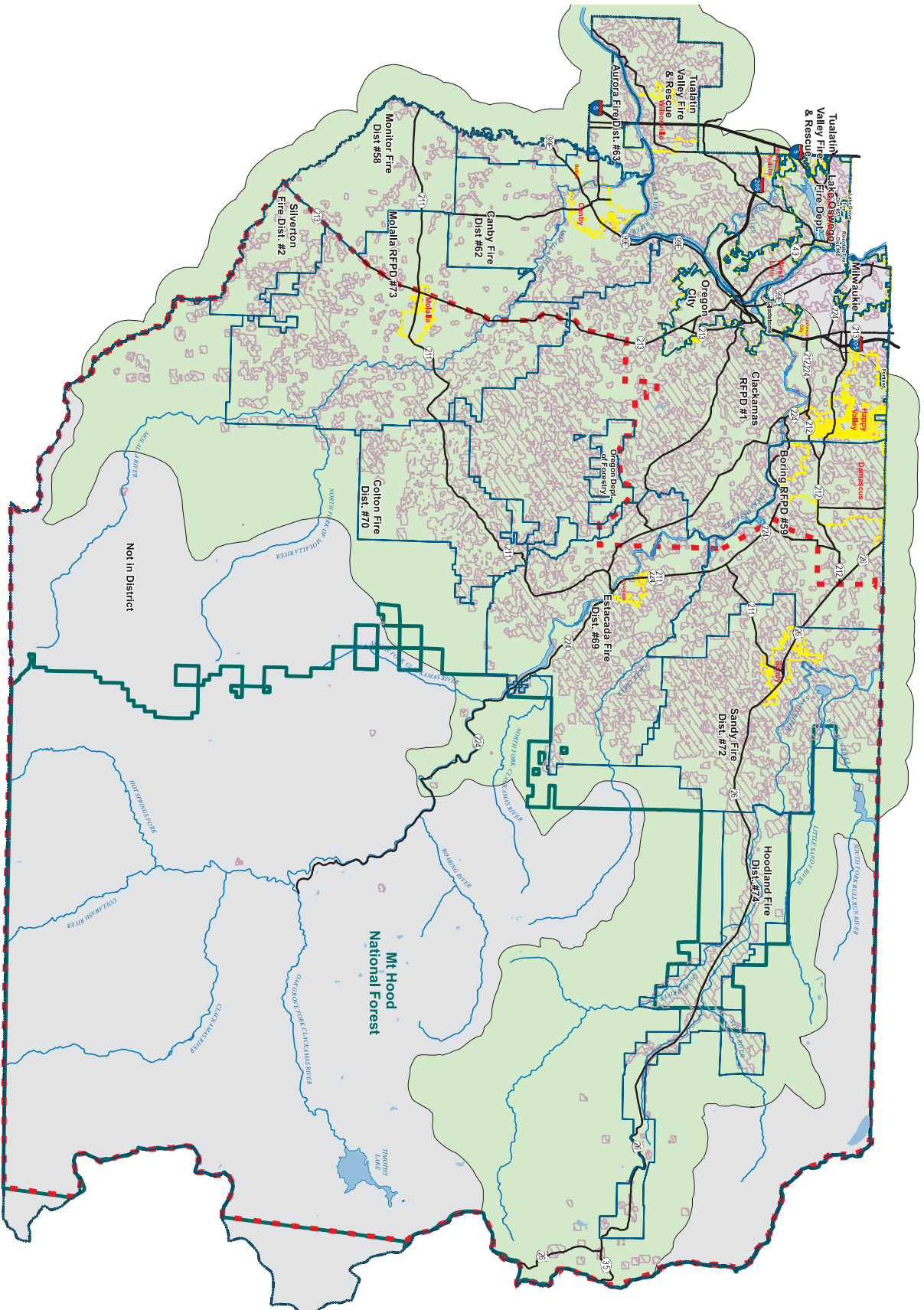
## Legend

-  Primary WUI
-  Secondary WUI
-  Fire Districts
-  City Boundaries
-  Clackamas County
-  Mt Hood National Forest
-  Oregon Department of Forestry
-  Major Rivers and Lakes
-  Rivers, Streams and Creeks

### Map #4



**CLACKAMAS COUNTY**  
 ECONOMIC INFORMATION SYSTEMS  
 DEPARTMENT OF INFORMATION TECHNOLOGY AND COMMUNICATIONS SERVICES  
 10000 NE MULTNOMAH AVENUE, SUITE 1000, PORTLAND, OREGON 97218  
 (503) 325-3300  
 www.clackamas.gov



# Hazard: Weather, Topography and Fuels

## Legend

- Hazard Categories
  - Moderate
  - High
- Important Info.
- Fire Districts
- Clackamas County
- Mt Hood National Forest
- Bureau of Land Management
- Oregon Department of Forestry
- Major Rivers and Lakes
- Rivers, Streams and Creeks

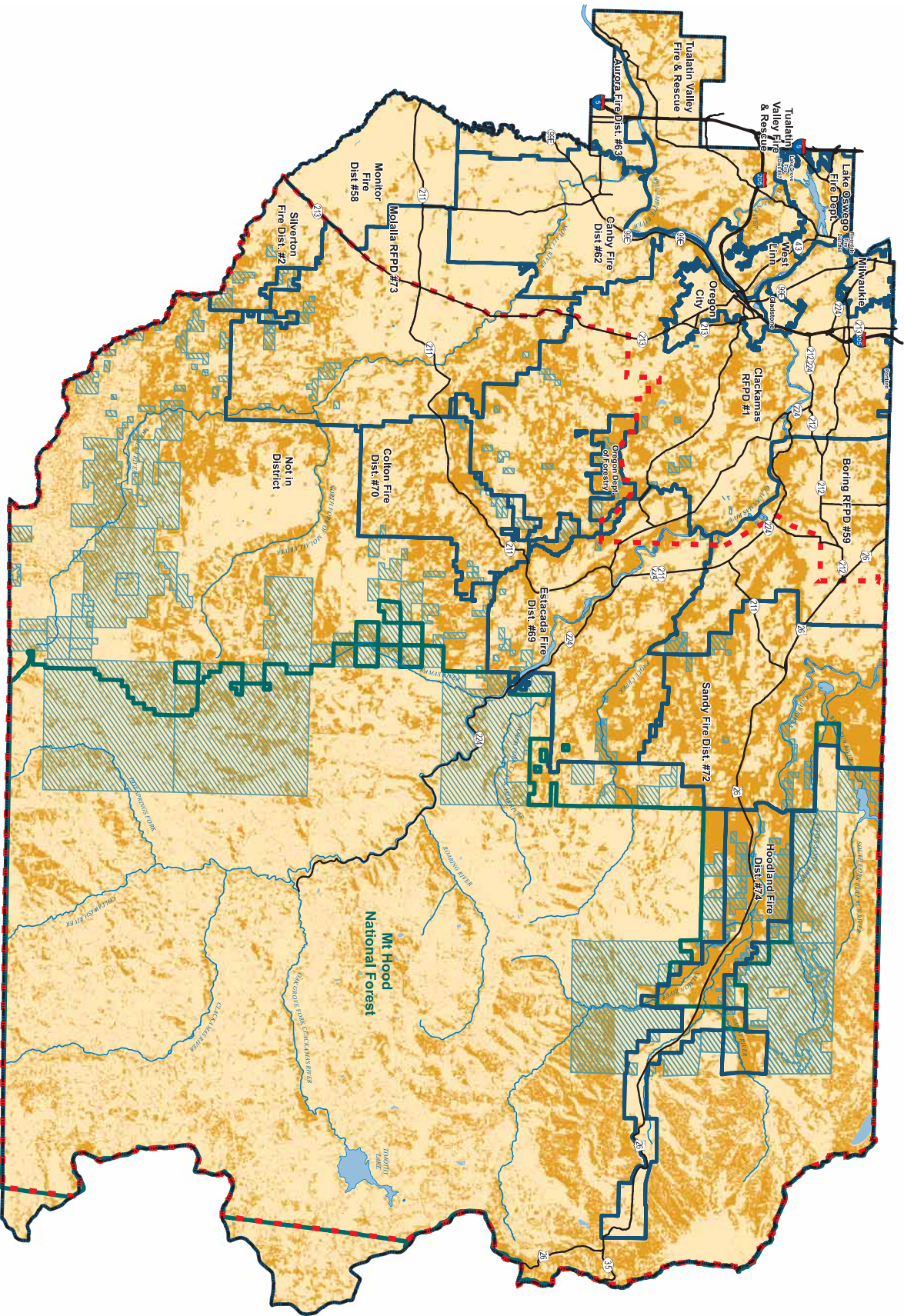
## Map #5

Hazard: Resistance to control once a wildfire starts, being the weather, topography and fuel that adversely affect suppression efforts.



**CLACKAMAS COUNTY**

REGULATORY INFORMATION SYSTEMS  
 DEPARTMENT OF AIR QUALITY, WATER RESOURCES AND ENVIRONMENTAL SERVICES  
 1000 NE Oregon Street  
 Portland, Oregon 97232  
 503.944.2700  
 www.clackamascounty.gov



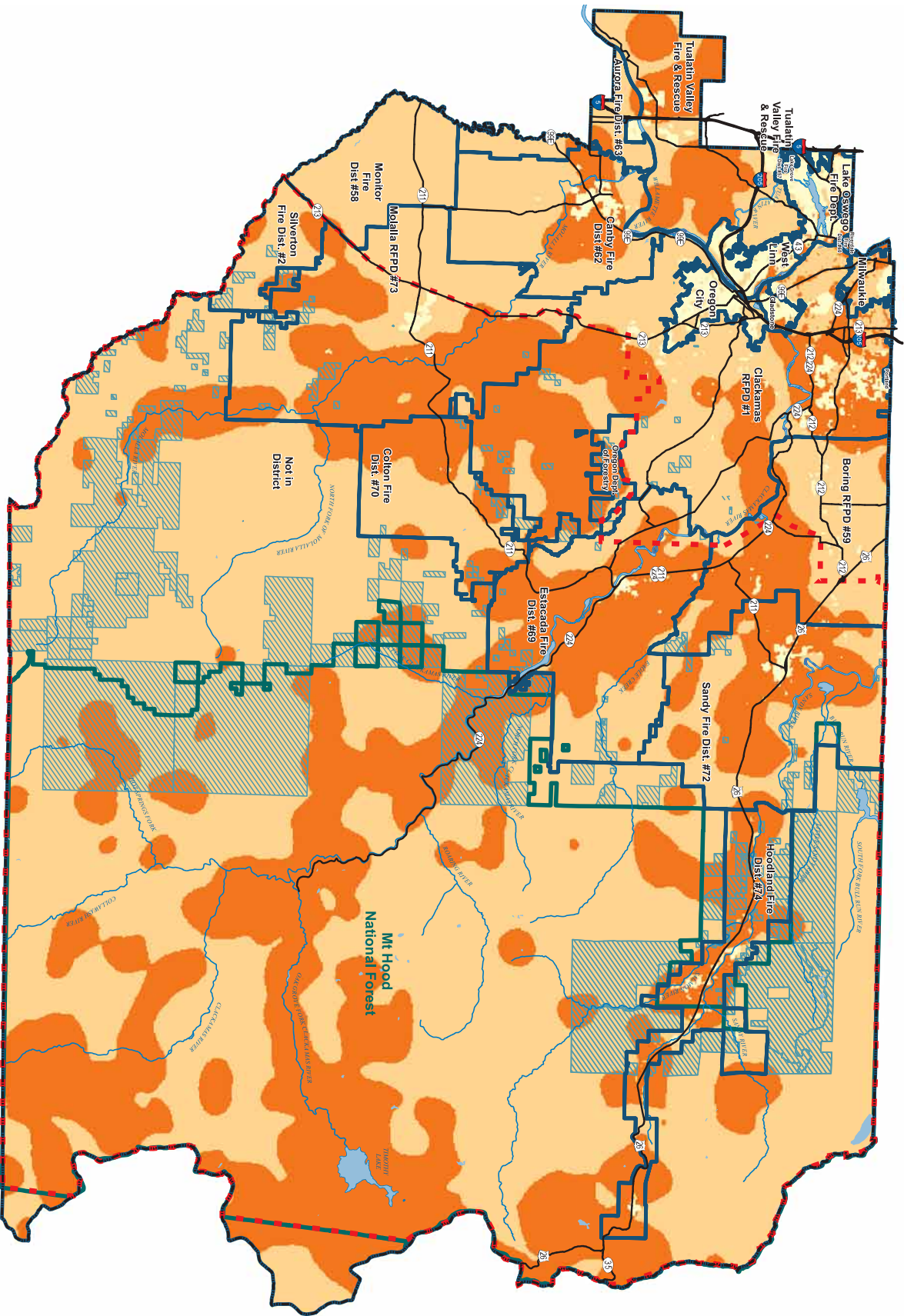
# Risk: Historic Fire Occurrence and Ignition Risk


## Legend

- Risk Rating**
  - Low
  - Moderate
  - High
- Important Info.**
  - Fire Districts
  - Clackamas County
  - Mt Hood National Forest
  - Bureau of Land Management
  - Oregon Department of Forestry
  - Major Rivers and Lakes
  - Rivers, Streams and Creeks

Risk: Likelihood of a fire occurring. Historic fire occurrence data was provided by ODF, OSFM, and the USFS.

## Map #6



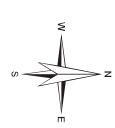


**CLACKAMAS COUNTY**


REGULATORY INFORMATION SYSTEMS

DEPARTMENT OF ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT

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This map was created using ArcGIS Pro 3.0. The data was provided by the Oregon Department of Forestry, Oregon State Fire Marshal, and the United States Forest Service. The map is for informational purposes only and does not constitute a warranty or guarantee of accuracy. The map is subject to change without notice. The map is provided as a service to the public and is not intended for use in legal proceedings. The map is provided as a service to the public and is not intended for use in legal proceedings.

# Values Protected

## Legend

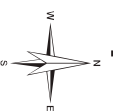
- Risk Rating**
- Low
  - Moderate
  - High

**Important Info.**

- Fire Districts
- Clackamas County
- Mt Hood National Forest
- Bureau of Land Management
- Oregon Department of Forestry
- Major Rivers and Lakes
- Rivers, Streams and Creeks

Values Protected: The human and economic values associated with communities or landscapes. In Clackamas County, life and property were valued as determined through home density. Emergency egress routes and emergency services buildings were valued as community infrastructure.

## Map #7

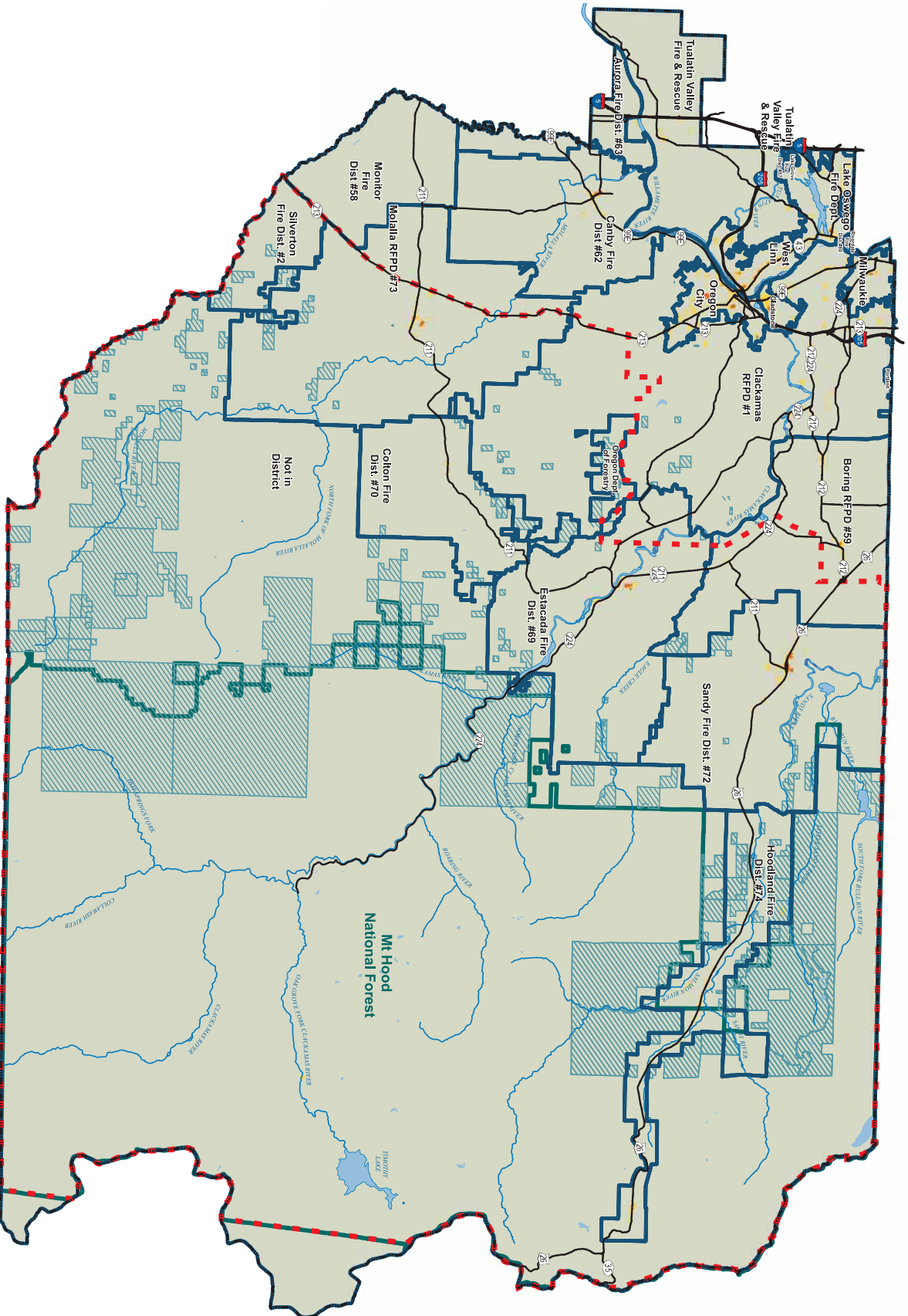


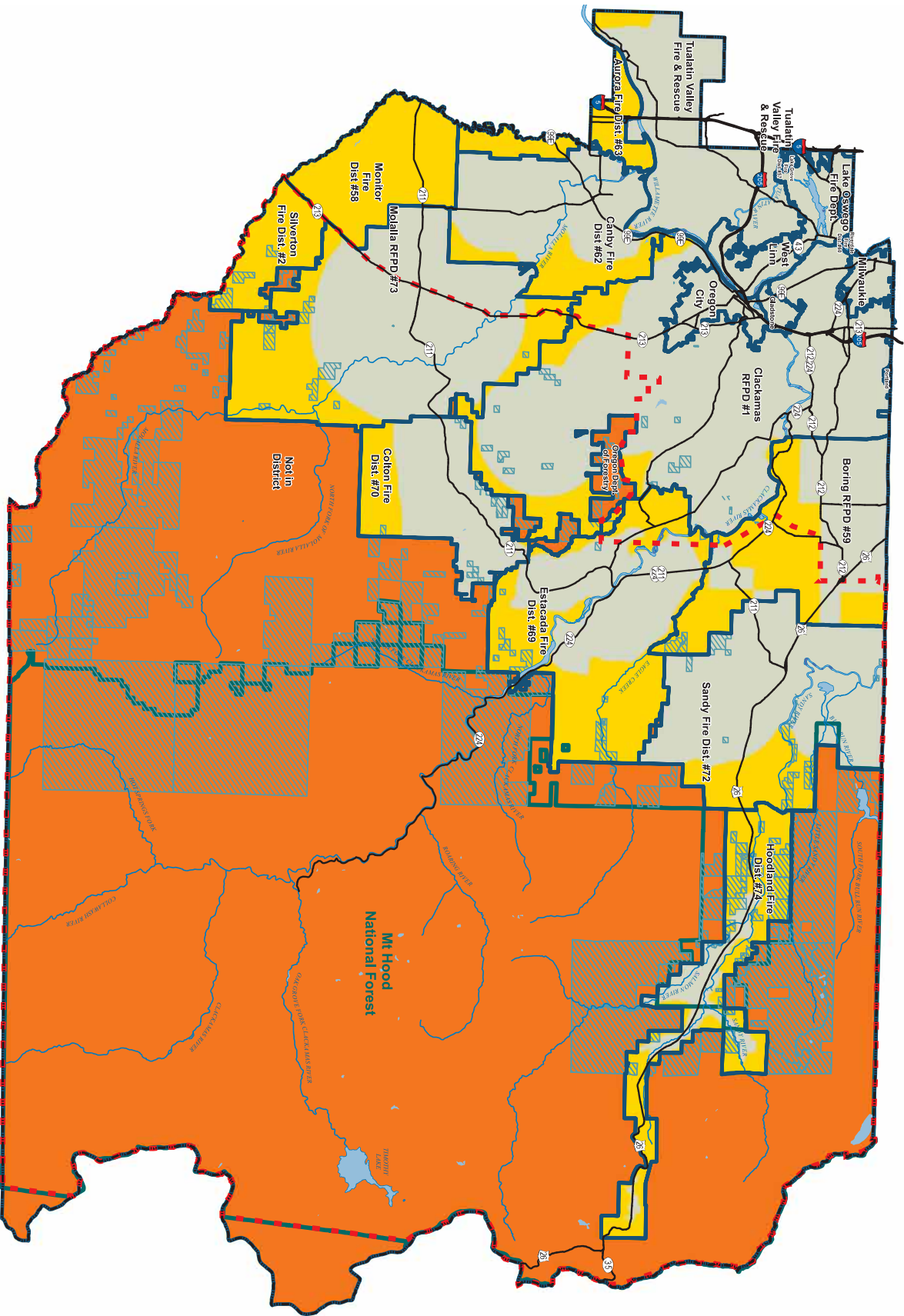
**CLACKAMAS COUNTY**

REGULATING INFORMATION SYSTEMS

DEPARTMENT OF AIR QUALITY, WATER RESOURCES, AND ENVIRONMENTAL PROGRAMS DIVISION  
2015 2017 2018 2019

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# Protection Capabilities

## Legend

- Risk Rating
  - Low
  - Moderate
  - High

### Important Info.

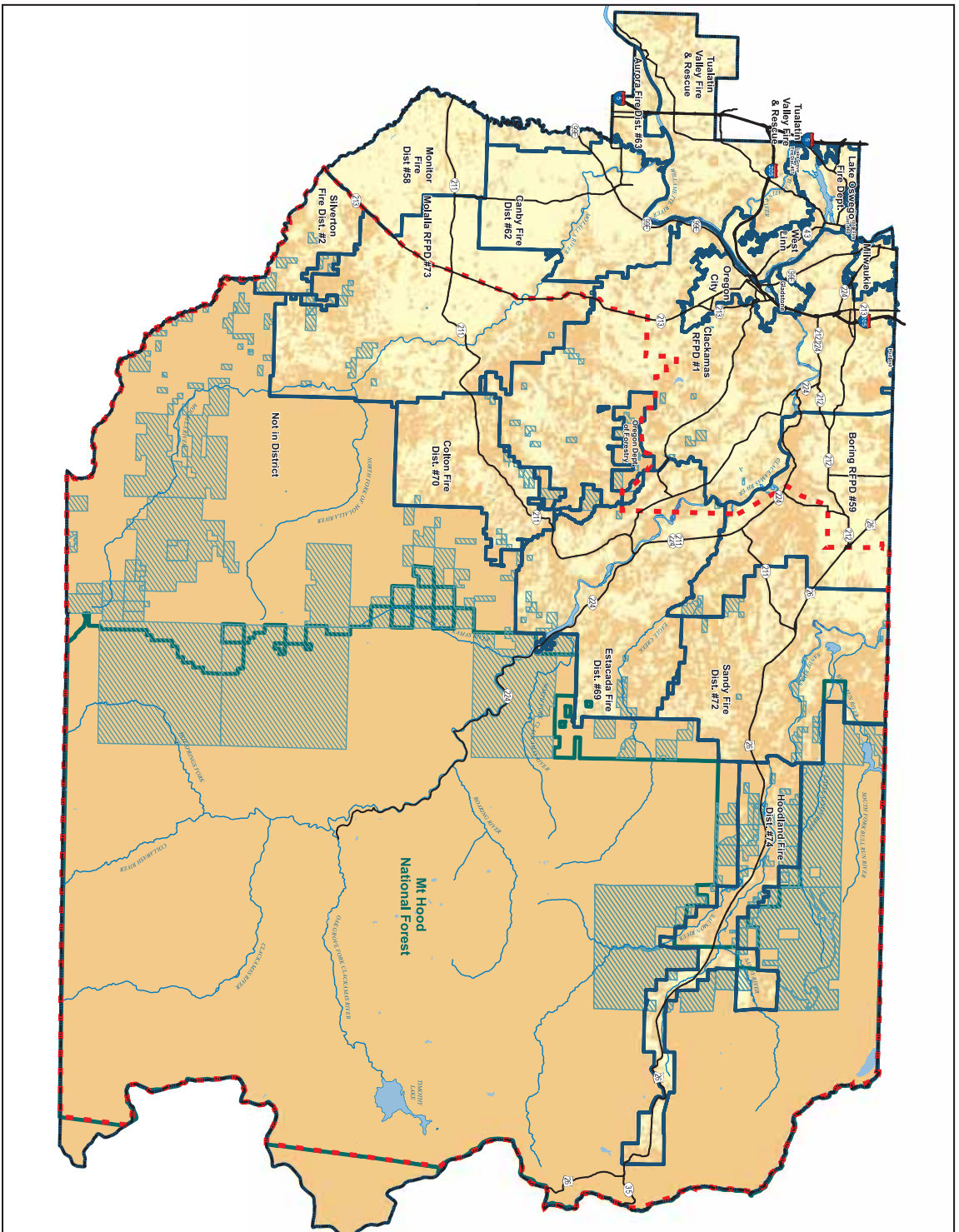
- Fire Districts
- Clackamas County
- Mt. Hood National Forest
- Bureau of Land Management
- Oregon Department of Forestry
- Major Rivers and Lakes
- Rivers, Streams and Creeks

## Map #8

Protection Capabilities: Risks associated with wildfire protection capabilities, including capacity and resources to undertake fire prevention measures; Low Risk-Organized structural response < 10 minutes; Moderate Risk-Inside fire district; response > 10 minutes. High Risk- No structural response, all wildland response times.



CLACKAMAS COUNTY  
 ECONOMIC DEVELOPMENT DIVISION  
 2015  
 2015  
 2015



# Overall Risk of Wildfire in Clackamas County (State) Legend

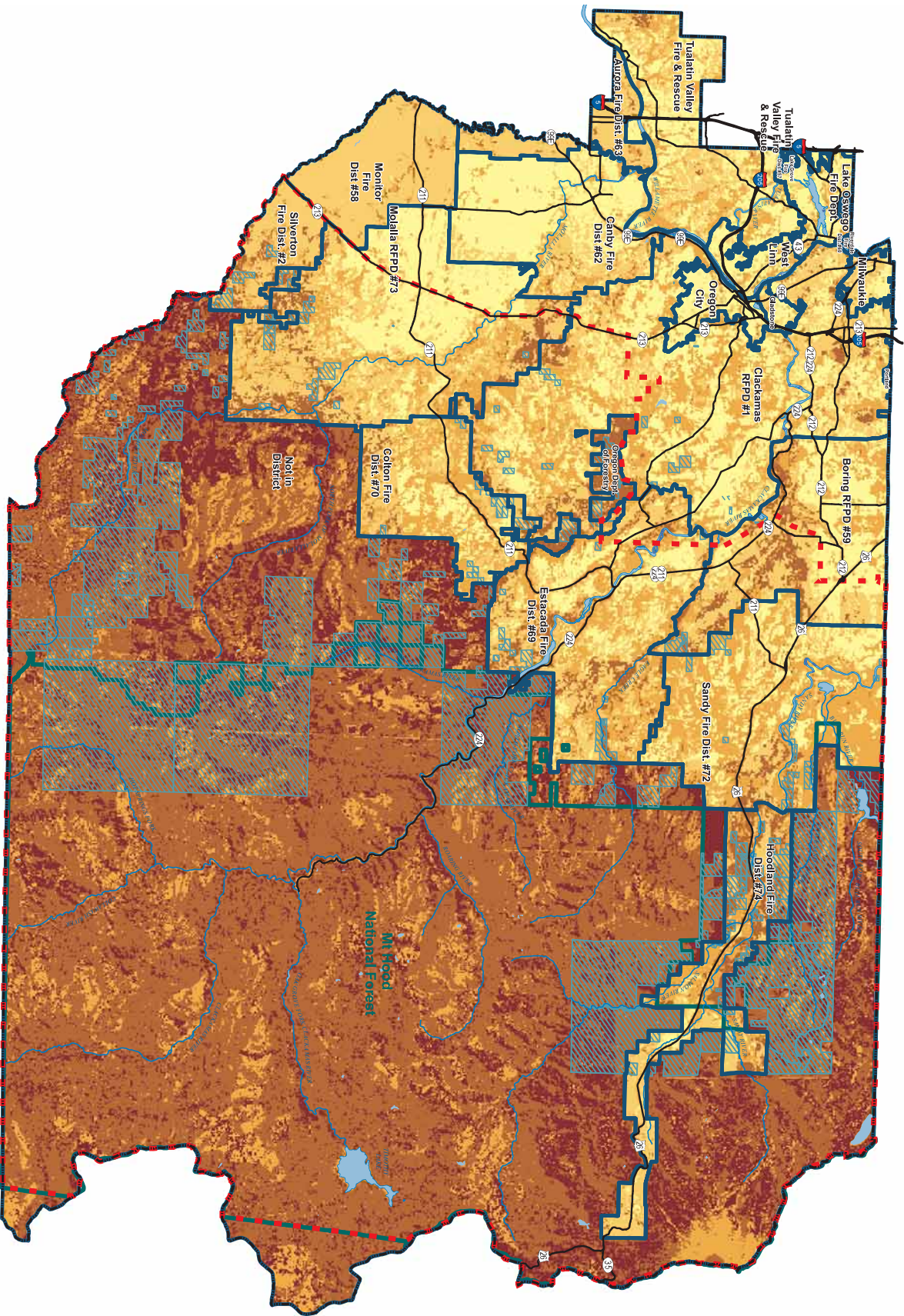
- Overall Risk**
  - Low
  - Moderate
  - Important Info
- Fire Districts**
- Clackamas County**
- Mt Hood National Forest**
- Bureau of Land Management**
- Oregon Department of Forestry**
- Major Rivers and Lakes**
- Rivers, Streams and Creeks**

## Map #9

Overall Risk of Wildfire in Clackamas County determined from state-wide risk assessment model outlined in 2004 by the Oregon Department of Forestry and a statewide steering committee. State-wide ratings include low, moderate, and high.



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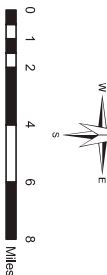
# Overall Risk of Wildfire in Clackamas County

- Legend**
- Overall Risk
    - Low
    - Low - Moderate
    - Moderate
    - Moderate - High
    - High

- Important Info.**
- Fire Districts
  - Clackamas County
  - Mt Hood National Forest
  - Bureau of Land Management
  - Oregon Department of Forestry
  - Major Rivers and Lakes
  - Rivers, Streams and Creeks

Overall Risk of Wildfire in Clackamas County determined from state-wide risk assessment model outlined in 2004 by the Oregon Department of Forestry and a statewide steering committee. For the purpose of determining relative risk within Clackamas County only, five categories were used rather than just low, moderate and high.

## Map #10



**CLACKAMAS COUNTY**

REGULATORY INFORMATION SYSTEMS

DEPARTMENT OF ENVIRONMENTAL SERVICES/REGULATORY SERVICES

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# CHAPTER 5

## HAZARDOUS FUELS REDUCTION & BIOMASS UTILIZATION



Oregon Department of Forestry works with Wapinitia homeowners to create defensible space around these at-risk homes.

## **CHAPTER 5: HAZARDOUS FUELS REDUCTION & BIOMASS UTILIZATION**

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### **Fuels Reduction and Biomass Utilization in Clackamas County**

Reducing hazardous fuels around homes, along transportation corridors, and at a landscape scale can significantly minimize losses to life, property, and natural resources from wildfire, which is a core focus of the Clackamas Community Wildfire Protection Plan.

Research using modeling, experiments, and wildland urban interface case studies indicates that home ignitability during wildland fires depends on the characteristics of the home and its immediate surroundings. These findings have implications for hazard assessment and risk mapping, effective mitigations, and identification of appropriate responsibility for reducing the potential for home loss caused by wildland-urban interface fires.<sup>2</sup> Wildland-urban ignition research indicates that a home's characteristics and the area immediately surrounding a home within 100 to 200 feet principally determine a home's ignition potential during a severe wildland fire. Jack Cohen with the Forest Service Rocky Mountain Research Station refers to this area that includes a home and its immediate surroundings as the *home ignition zone*.

The CCWPP Fuels Reduction Committee began meeting in November, 2004 to discuss how to approach fuels reduction throughout the county and on both public and private lands. Committee members committed to facilitating cooperation between public and private organizations to ensure that fuels reduction work occurs strategically and benefits both adjacent public and private lands.

Members of the Fuels Reduction Committee include:

Clackamas County Administration	Warm Springs Co-Gen
Clackamas County Emergency Management	Clackamas Farm Forestry Association
Clackamas County Forestry	Clackamas Fire Defense Board
Clackamas County Soil and Water Conservation District	Edelweis Farms
Maple Grove Trading	Northwest Oregon Resource Conservation District
Ecotrust	Clackamas County Economic Development

### **Objectives**

- I. Implement fuels reduction projects in highest risk areas.
- II. Establish prescription criteria for potential projects.
- III. Develop a process for biomass utilization and adding value to extracted vegetation.
- IV. Identify and promote stewardship opportunities.
- V. Coordinate administration of fuels reduction program that is equitable across fire agencies, and provides them with the information necessary to implement a sustainable, landscape approach to managing fuels.

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<sup>2</sup> Cohen, J., Preventing Disaster: Home Ignitability in the Wildland-Urban Interface Journal of Forestry <http://www.firelab.org/fbp/fbpubs/fbpdf/cohen/Preventing.pdf>

## Fuels Reduction Actions

### Fuels Reduction Strategies

**1. Develop and maintain an inventory of potential fuels reduction projects in high-risk areas, prescriptions, and list of prioritized future projects.**

- a. Utilize risk assessment to identify the highest risk areas.
- b. Gather fire district priorities for fuels reduction.
- c. Utilize public outreach meetings to identify willing landowners, high hazard areas, and community priorities in order to develop a prescription.

Timeline:	Ongoing
Lead:	Fuels Reduction Subcommittee
Partners:	Fire Districts, County GIS
Priority:	High
Progress:	An initial listing of potential fuels reduction projects has been developed with input from fire districts and community members. Please refer to Table 5-1 for a listing of the prioritized fuels reduction projects.

**2. Develop and maintain an inventory of successful local fuels reduction projects.**

Timeline:	Ongoing
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, Fire Districts, USFS, OSU Extension, Clackamas SWCD
Priority:	High
Progress:	Fire districts that have been working with communities to remove hazardous fuels are documenting the successes and challenges in order to benefit future mitigation projects.

**3. Develop a “Prescription Team” to evaluate potential fuels reduction projects, and include the assessment in prioritizing projects for implementation.**

- a. The team will provide fuels reduction prescriptions for each project that identifies hazardous vegetation to be removed, opportunities for biomass utilization, and potential impacts on the community.
- b. Consider recruiting retired timber cruisers for prescription team members
- c. Utilize GIS vegetation map to develop general prescriptions for major forest types found in the county.
- d. Identify strategies to assist fire agencies in managing fuels reduction projects, as they have very little staff time available for project oversight.

Timeline:	Ongoing
Lead:	Fuels Reduction Committee
Partners:	OSU Extension, ODF Stewardship Foresters, Clackamas Farm Forestry Association
Priority:	Medium

**4. Develop an inventory of hazardous fuel (volume/species) located on private lands, and target high risk areas for fuels reduction projects.**

Timeline:	Ongoing
Lead:	Clackamas SWCD
Partners:	OSU Extension, ODF Stewardship Foresters, Clackamas Farm Forestry Association, County GIS
Priority:	High
Progress:	Clackamas SWCD has submitted a Title III grant that will allow for consolidation of inventory volume data as well complete any data gaps.

**5. Identify opportunities to assist special needs populations in creating defensible space around homes and communities.**

Timeline:	Ongoing
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, Molalla Communities That Care
Priority:	Medium
Progress:	ODF is currently using a Title III crew to assist in creating defensible space for property owners that are not able to do the work.

**6. Obtain funding to implement fuels reduction projects.**

- a. Utilize the CCWPP for applying for National Fire Plan, Pre Disaster Mitigation, and other grant programs.
- b. Utilize partners such as the Resource Conservation District for accessing federal dollars not tied to NFP or HFRA.

Timeline:	1 Year
Lead:	Fire Agencies
Partners:	Clackamas County, WFPEC
Priority:	High
Progress:	ODF was awarded a Western State Fire Manager's grant to implement two model fuels reduction projects in '05.

**7. Explore ODF Fuels Reduction Program for cost sharing opportunities designed to decrease the financial burden on the property owner.**

Timeline:	Ongoing
Lead:	ODF
Partners:	Property Owners, CCFA Members, Clackamas SWCD

Priority:	High
Progress:	Search state and federal grant funding opportunities under NFP and Western State Fire Managers

**8. Develop a process to assist land owners with removing woody debris.**

- a. Promote community clean-up days and utilize portable saw mills, chippers, etc. to assist land owners in removing hazardous vegetation.
- b. Research opportunities to access federal excess property equipment for hauling woody materials.
- c. Provide fire agencies with tools necessary for promoting fuels reduction as a management practice to reduce fuels loading and restore ecosystems.

Timeline:	2 years
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, OSU Extension, Clackamas SWCD, CPOs, Fire Districts, Fire Co-Op
Priority:	Medium
Progress:	Continue to work with fire districts, and CPOs and other partners to provide outreach and education to local citizens

**Biomass Utilization/ Economic Development Strategies**

**9. Research opportunities to provide a county-wide sort yard or county-wide woody debris collection site in an effort to add value to the vegetation and enhance economic development.**

- a. Consider locations of potential fuels reduction projects and high-risk areas when siting the county-wide operation.
- b. Enhance rural employment and job creation opportunities.

Timeline:	Ongoing
Lead:	Clackamas County Economic Development Commission – Ag/Natural Resources Committee
Partners:	Fuels Reduction Committee, Local mills and businesses, Mt. Hood Economic Alliance, USFS, Ecotrust , County, FSC Landowners
Priority:	High
Progress:	Clackamas SWCD has submitted a Title III grant to identify local inventory and volumes, sort yard feasibility and market analysis and development of a business plan to recruit private investment dollars

**10. Research partnership opportunities and strategies for adding value to extracted vegetation, and enhancing economic development.**

- a. Work with industries that can utilize small diameter wood and woody debris

- i. Warm Springs Co-Gen operation could potentially back fill their loads taken to the valley with small diameter wood or dirty chips
- ii. Work with local farms to provide biomass and green material for their manure composting operation.
- b. Work with economic development agencies
- c. Engage entrepreneurs to promote job creation and program sustainability
- d. Develop an inventory of economic assets that can be used for developing biomass utilization strategies including grants, entrepreneurs, potential sorting sites, and companies that want to purchase the fiber/raw materials.

Timeline:	1 Year, Ongoing
Lead:	Fuels Reduction Subcommittee
Partners:	Warm Spring Co-Gen, Edelweis Farms, County Economic Development, Estacada Economic Development, Ecotrust, CCFFA, OSU Extension
Priority:	High
Progress:	Continue to invite interested businesses, landowners and organizations to participate in fuels reduction and small stem utilization discussions that will lead to strategic partnerships, funding opportunities and development of marketing opportunities.

**Public Outreach and Education**

- 11. Develop a listing of resources that could provide technical assistance for property owners or other interested parties in assessing the wildfire hazard, developing prescriptions, removing hazardous vegetation, and adding value to the extracted vegetation.**

Timeline:	1 Year; Ongoing
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, OSU Extension, Clackamas SWCD, Fire Coop, Clackamas County Farm Forest Association, Clackamas County Forestry
Priority:	High
Progress:	Inventory current resources, fill data gaps and distribute information to partnering local organizations involved with fuels reduction and creating defensible space

- 12. Provide land owners with information regarding the opportunity to reduce the expense of removing trees through stewardship.**

- a. Document cost, process, and benefits of stewardship.
- b. Utilize stewardship to assist in being SB 360 compliant.
- c. Develop educational packet for homeowners and fire agencies for implementing successful fuels reduction projects.
  - i. Include successful fuels reduction and biomass utilization projects.
  - ii. Include examples of fire wise vegetation management strategies.

- iii. Include a listing of resources that could provide technical assistance for programs, property owners, or other interested parties.
- iv. Include the inventory of fuels reduction and biomass utilization tools regarding process for proper tree removal, opportunities for woody debris use and/or disposal, industries that use small diameter wood, consultants, and entrepreneurs, and grant programs.
- v. Include description of stewardship opportunities.
- vi. Include information from the OSU Forestry Extension Program. (<http://wood.oregonstate.edu/>)

Timeline:	2006-07
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, Fire Prevention Coop, Metro Realtors, County Cable, Local Media
Priority:	High
Progress:	Market and promote Community Sort Yard as it develops and becomes available online; inventory current information material, fill data gaps and distribute information to target markets and audiences.

**13. Work with forestland managers and watershed managers to protect water quality in high risk areas.**

- a. Develop Bull Run Watershed forest management prescription to address heavy fuel load and high risk fire potential.

Timeline:	2006-07
Lead:	Fuels Reduction Subcommittee
Partners:	ODF, USFS, Clackamas Forestry Dept, Multnomah County BES, Consortium of Water Providers
Priority:	High
Progress:	Recognition of the potential contamination of major metropolitan water supply through erosion and sedimentation in the event of wildfire in the Bull Run watershed.

**Identification and Prioritization of Fuels Reduction Projects**

The Healthy Forests Restoration Act provision for Community Wildfire Protection Plans (CWPP) requires that communities identify and prioritize hazardous fuels treatments as part of the CWPP. Through the CCWPP planning process, Clackamas County has developed an initial listing of areas that would benefit from fuels reduction projects. The projects were identified using the following three components:

- 1. CCWPP Risk Assessment

2. Community input on values and priority project areas (obtained at local community meetings such as those that were held in Government Camp, Welches, Sandy, Boring, Estacada, and Canby)
3. Fire district input

### **Prioritization**

In order to aid in selecting priority areas to receive funding and attention for fuel reduction efforts, the fuels reduction subcommittee ranked each potential project based on the criteria listed below. The initial priorities for project implementation are listed in Table 5-1. Each potential project site will be evaluated by a prescription team, and information gleaned from site surveys will be incorporated into the prioritization process.

- Number of acres and percentage by risk rating
- Number of residences
- Proximity to federal lands that could be treated
- Partners/Community Support
- Percent in or WUI
- Ingress/Egress
- Community/Environmental Assets

Some additional factors that should be taken into consideration once an area has been prioritized for treatment dollars related to logistical and fire behavior:

- Predominate wind direction during high fire danger days
- Steepness of slope and aspect orientation of landscape in relation to wind flows and neighborhood location
- Type of fire behavior expected at treatment area, during average worst case conditions
- Access to areas best suited for treatment
- Neighbor cooperation in areas best suited for treatment
- Fire behavior concerns should be considered for initial burn period of a fire. Long duration, large fires may need to be modeled separately<sup>9</sup>.

## Projects and Priorities Including USFS and Private Lands

Fire District	Project Location	Size of Project	Project Description	Cost	Potential Funding Sources	Land Owner	Veg	Economic Benefit Potential	Partners/Community Support	Com. Input	Access for Project	Ingress/Egress	Env. & Com Assets	# of Homes (AVG 136)	% In WUI (AVG 80%)	Risk	Distance to Fed. Land (AVG 4 mi)	Rank
Unprotected (ODF)	Wapinitia Forest home sites.	60 acres	Develop primary fuel reductions within 30 feet of structures and reduce fuel loading in secondary zone to 100 feet. Prune and remove limbs on all access roads within 15 feet of roads. Provide 14 feet of vertical clearance above roadways.	\$12,000	Western States Fire managers Grant	Private	DF and WF. Mostly dead and down and green limbs.	Unknown	Wapinitia HOA, USFS and ODF.	Yes	good	Very poor	Hwy 26	40	75%	High	0 mi	1
Hoodland	The Village of Government Camp, Hwy 26 Business Loop	300-320 acres	Clearing some underbrush and limbing trees up 1/3 height of tree and chipping removed fuels for composting. Creating firebreaks using natural barriers	\$20,000	Possible funding through TIFF established for Government Camp and partial match by National Fire Plan monies	Private	Mixed conifer stands with underbrush of rhododendron, huckleberry, snowberry. Some tree stands are in kumholtz config.	Unknown	Government Camp citizens, Hoodland Fire District, USDA Forest Service, Oregon Department of Forestry	Yes	Good	Good	Ski areas within the village of Government Camp, and development of high density upscale housing	462	70%	Medium	0 mi	2
Sandy	Wildcat Mountain Drive east of Firwood Rd. Brian Ranch Road.	5 sq miles	Defensible Space, firebreaks, and ingress/egress, clear road sides of fuels	No Info	Unknown	Private	Range of heavy timber to thick brush	Possible opportunity	Wilcote W/m Residents	Yes	Primarily paved, some gravel	One Way In/Out	Timber Resource	149	96%	Medium	1.7 mi	3
Hoodland	Timberline Rim off Barlow Trail Road and Highway 26 includes all 5 divisions of Timberline Rim.	300 acres	Clearing some underbrush around structures and underbrush in greenbelt. Chip removed fuels for trail. Create fire breaks out of riparian zone and hillside to the North.	\$12,000	HOA fees possible	Private	Mixed conifer stands with dense underbrush, some English Ivy and Scotch Broom. Some deciduous trees on site near river.	unknown	Hoodland Fire District, ODF, Home Owners of Timberline Rim	Yes	Very good to houses, some issues to greenways.	good	Hwy 26, Barlow Trail Road, Sandy River, Community of Brightwood to the West	390	90%	Medium High	0.3 mi	4

Fire District	Project Location	Size of Project	Project Description	Cost	Potential Funding Sources	Land Owner	Veg	Economic Benefit Potential	Partners/Community Support	Com. Input	Access for Project	Ingress/Egress	Env. & Com Assets	# of Homes (AVG 136)	% In WUI (AVG 80%)	Risk	Distance to Fed. Land (AVG 4 mi)	Rank
<b>Sandy</b>	Aims community. Laughing Water Road, Tuck Ridge Road.	2.5 sq miles	Defensible Space, firebreaks, and ingress/egress, clear road sides of fuels	\$5,000	Unknown	Private	Range of heavy timber, deciduous trees to thick brush	Possible grinding and compost	Bull Run CPO	Yes	Primarily paved, some gravel	Laughing Water Rd. has one ingress/egress	Borders the Bull Run Watershed. Fires could threaten all residents	125	100%	Medium	0 mi	5
<b>Boring</b>	Big Valley Mobile Home Park, 32700 Leewood Lane, Eagle Creek	150 acres	Defensible Space, firebreaks, and ingress/egress	No info	Park Owners	Private	Douglas fir	Possible grinding and compost	Boring Fire District/HOA/ODF/Eagle Creek CPO	Yes	Paved Roads	One Way In/Out	Tickle Creek	150	100%	Medium	4.8 mi	6
<b>Sandy</b>	Sandy River Canyon Rim, Sandy/Bluff Rd. area to 422 <sup>nd</sup> Ave. south of Coalman Rd.	4 sq miles	Fuels reduction around homes at base and top of canyon rim. Check roads for good brush and tree clearance	\$15,000	Unknown	Private	Range of heavy timber to thick brush on steep slopes below structures	Possible grinding and compost	Bull Run CPO, Possibly City of Sandy	Yes	Primarily paved, some gravel	422 <sup>nd</sup> Ave and Serban Rd. are potentially poor ingress and egress	Sandy High School, Sandy Grade school, Mt. Hood Hospice and building	213	50%	Low	1.9 mi	7
<b>Boring</b>	Bronze/Gold/Nickel/iron Roads, Boring Fire map # 6512	1 sq mile	Defensible Space, firebreaks, and ingress/egress	No info	Homeowners/Boring Fire District	Private	cedar/fir, understory vegetation-native	Possible grinding and compost	Boring Fire District/Home Owners/ODF/Eagle Creek CPO	Yes	Gravel road	One Way In/Out	Deep Creek drainage	25	99%	Medium-High	1.7 mi	8
<b>Hoodland</b>	Zig Zag HOA off of LoLo Pass Road	60 acres	Clearing underbrush and limbing trees up 1/3 height of tree, chipping removed fuels for composting and landscaping. Create fire breaks using natural barriers.	\$8,000	Homeowner association fees possible	Private	Mixed conifers with Spanish moss/lichen from limbs and salale ground cover	unknown	Hoodland Fire District #74, Zig Zag Village HOA, ODF	Yes	good	good	Within 1/4 mile of Bonneville Power lines right of way. Single main road through area (LoLo Pass Road.)	58	99%	Medium		9

Fire District	Project Location	Size of Project	Project Description	Cost	Potential Funding Sources	Land Owner	Veg	Economic Benefit Potential	Partners/Community Support	Com. Input	Access for Project	Ingress/Egress	Env. & Com Assets	# of Homes (AVG 136)	% In WUI (AVG 80%)	Risk	Distance to Fed. Land (AVG 4 mi)	Rank
<b>Hoodland</b>	Rippling River Homeowners Association off of Welch Road and Arrah Wanna Blvd.	120 acres	Clear dense underbrush from riparian zones. Chip and compost removed fuels.	\$6,000	Possible fees from Homeowners Association	Private	Mixed conifer and Big Leaf maple with dense underbrush, some invasive weeds of Scotch Broom, English Ivy and Blackberry.	No real opportunity for utilization beyond landscape chips.	Hoodland Fire District #74, Oregon Dept. of Forestry, USDA Forest Service, Rippling River Home Owners Association	Yes	Good	Good	Major Resort with 36 hole golf course. Two primary roads for access and egress (Welches Rd & Arrah Wanna Blvd.)	120	80%	Medium	0 mi	10
<b>Molalla Fire</b>	Sawtell road fuel breaks	340 acres	Primary and secondary fuel breaks around forested homes		ODF will provide technical assistance. Title 3 fuels crew to work for special needs.	1% State 2% USFS 97% Private	Fir, maple, Understory brush and grasses. Areas of significant scotch broom and blackberry.	Unknown	Oregon Department of Forestry, Molalla Fire District	Door-to-Door survey conducted in 1994	Good	Good	Schools, fire sub-station. Main access road to State and BLM forests.	64	48%	Medium	5.5 mi	11
<b>Boring</b>	Wooded Hills Drive & Court, Boring Fire	1 sq mile	Defensible space, firebreaks, and ingress/egress	No Info	Homeowners/Boring Fire District	Private	Douglas fir, understory veg	Possible grinding and compost	Boring Fire District/Homeowners/City of Damascus	Yes	Paved roads	One Way In/Out	Kelly Creek/Boring Lava Dome	35	100%	Medium	12.1 mi	12
<b>Boring</b>	Kingswood Way & Court and Trillium Court	1 sq mile	Defensible Space, firebreaks, and ingress/egress	No Info	Homeowners/Boring Fire District	Private	Cedar/deciduous, understory veg native	Possible grinding and compost	Boring Fire District/Homeowners/City of Damascus	Yes	Paved roads	One Way In/Out	Kingswood Water District/Boring Lava Dome/Perishon Country Club	40	98%	Medium	10.1 mi	13
<b>TVFR</b>	West Linn Occluded Wildland	58 acres	50 ft. defensible space around homes/structures	\$15,950		Private	Douglas fir, vine maple, alder, mixed brush;	To be ground, composted and sold as compost.	Neighborhood volunteers, Scouts, civic organizations	Yes, natural hazards mitigation plan.	Good	Good	High quality, urban density residential	500 (est)	99%	Medium	17.7	14

Fire District	Project Location	Size of Project	Project Description	Cost	Potential Funding Sources	Land Owner	Veg	Economic Benefit Potential	Partners/Community Support	Com. Input	Access for Project	Ingress/Egress	Env. & Com Assets	# of Homes (AVG 136)	% In WUI (AVG 80%)	Risk	Distance to Fed. Land (AVG 4 mi)	Rank
<b>Molalla Fire</b>	Molalla Heights is a forested subdivision of 5 acre lots with approximately 22 homes at this time.	80 acres	Design defensible space for subdivision. Fuel alterations for primary and secondary fuel breaks. evacuation plans	Unknown	ODF will provide technical assistance. Title 3 fuels crew to work for special needs.	Private	Fir, maple, Understory consists of grasses, Scitch broom and blackberry. Unknown log volume.	Unknown	Oregon Department of Forestry, Molalla Fire District.	Door to Door survey conducted in 1994	Good	Good	Cell tower, air quality and access roads.	22	29%	Low - Medium	0 mi	15
<b>Clackamas Fire District #1</b>	Mount Talberts bordered by Sunnyside Road, Mather Road, Summer Lane, and numerous residential streets to the west of 122 <sup>nd</sup> Avenue in Clackamas.	150 acres	Remove flammable fuels to create a reasonable defensible space corridor. Construct fuel break to mineral soil if possible, thin out dense timber stands near perimeter.	\$10,000	Limited to some materials and service support	98% private 2% county	Fir, fern, vine maple, mixed brush	Unknown	Clackamas County Corrections inmates, fire district volunteers, neighborhood associations. No Input at this point.	No	good	good	Possible main road arterials and school closure due to a fire in this area.	150-200	45%	Medium-High	16 mi	16
<b>Colton Fire District</b>	Dicky, Prairie, Rimbbsy, Grimm, Munson and Dooghle roads defensible space project	400	Design defensible space for road system and homes. Fuel alterations for primary and secondary fuel breaks. evacuation plans	Unknown	ODF will provide technical assistance. Title 3 fuels crew to work for special needs.	1% State 98% County Private	Fir, maple, Understory consists of grasses, Scitch broom and blackberry. Unknown log volume.	Unknown	Oregon Department of Forestry, Molalla and Colton Fire District.	No, area has had arson problems in the past and is intermixed with managed forest land.	Good	Good	School, Cell tower, air quality and access roads.	22	68%	Low - Medium	0.4 mi	17

The use of the Healthy Forest Initiative (HFI) and The Healthy Forest Restoration Act (HFRA) may be powerful tools to streamline the planning process and accomplish more work on the ground. The Healthy Forest Initiative (HFI) provides several categories of projects that can be categorically excluded from an environmental assessment (EA) or an environmental impact statement (EIS). Hazardous fuel reduction projects are only one of the categories. To be categorically excluded under HFI, a proposed hazardous fuel reduction activity must meet the following requirements:

- Hazardous fuel reduction activities using prescribed fire are less than 4,500 acres
- Hazardous fuel reduction activities using mechanical methods are less than 1,000 acres
- Activities shall be limited to areas in the wildland urban interface or to areas in Condition Classes 2 and 3 in Fire Regime Groups I, II, or III outside of the wildland urban interface
- Projects shall be identified collaboratively using the framework identified in *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan*.<sup>3</sup>

The Healthy Forest Restoration Act (HFRA) authorizes special procedures for environmental assessments and environmental impact statements for a variety of land management goals including authorized hazardous fuel reduction projects. The Forest Service and the BLM are not required to analyze alternatives to the proposed action, as is typically required by NEPA if:

- The project area is inside the wildland urban interface and is within 1½ miles of the boundary of an at-risk community except if the proposed action does not implement the recommendations in the adopted community wildfire protection plan. In that case, the agencies are required to analyze the recommended actions in the plan as an alternative to the proposed action.<sup>4</sup>

## **Increasing Access to Available Fuels Reduction Dollars**

Implementation of the Hazardous Fuels Reduction and Small Diameter Utilization objectives outlined in this Chapter are dependent on local community participation and access to available fuels reduction dollars. The Clackamas County Fuels Reduction and Small Stem Utilization Subcommittee (CCFRSSU), along with its many partners will work to secure federal and state grants for implementing fuels reduction projects in our priority at risk areas for wildfire protection. Grant opportunities will be considered from a variety of state and federal funding sources. These include the 2006 National Fire Plan funds, Title II funding through Forest Service and BLM RAC grants, Title III grants through the Clackamas County Board of Commissioners, and ODF. Currently, several grants requests have been submitted on behalf of the Clackamas County Community Wildfire Planning efforts:

1. National Forest Foundation Grant - \$20,000 requested by the Clackamas County Soil and Water Conservation District and Northwest Oregon Resource Conservation and Development Council to build local capacity for fuels reduction project coordination.
2. Title III Grant - \$48,000 requested by the Clackamas County Soil and Water Conservation District to consolidate known inventory data of logs and fiber, establish

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<sup>3</sup> The Healthy Forests Initiative and the Healthy Forests Restoration Act: Interim Field Guide

<sup>4</sup> Ibid.

the feasibility of a Community Log Sort and Utilization Yard to provide landowner financial incentives for creating defensible spaces, and explore market alternatives for logs, wood fiber, and value added wood products.

3. Title III Grant – \$70,000 requested by Oregon Dept. of Forestry to continue efforts for creating defensible space demonstration sites as well as develop and train local work crews for providing defensible space treatments for low income, elderly, and/or disabled citizens.

Perhaps most importantly, creating local investment opportunities may well be the best strategy to support sustainable fuels reduction and small stem utilization programs and projects in the County. Rural economic development that encourages the participation of local businesses and financial resources can better insure the consistency and certainty of supply of raw materials and improve access to existing markets and the creation of alternative value-added markets.

## **Current Fuels Reduction Efforts: Case Studies**

### **Case Study #1. Fuels Reduction and Community Development in the United States Forest Service Summer Home Area**

The Community Solutions to Clackamas County (CSCC) Wildland Urban Interface Fire Prevention project is a partnership between Wolfree, CSCC, the Forest Service, and the Hoodland Fire District. The first project goal is to reduce hazardous fuels conditions and improve emergency vehicle access to summer homes located on National Forest and Clackamas County lands. The second project goal is to provide adjudicated youth referred by the Clackamas County Juvenile Justice Department paid work experience and meaningful environmental education.

To meet these goals, Community Solutions to Clackamas County (CSCC) is working with the Juvenile Dept. to enroll youth, provide supervision, pay wages, provide necessary insurances, and arrange daily crew logistics. Hoodland Fire and the Forest Service have provided a staff person dedicated to offering daily technical guidance and expertise for all projects.

Projects are centered on hazardous fuel reduction along roadways and improved access for emergency vehicles in the wildland urban interface. Present vegetative conditions hamper emergency equipment access increase fire potential around structures. Projects include brushing roadways and driveways, installation of address markers, signing of roadways, filling in potholes, fire prevention activities, GPS mapping, noxious weed pulling, and trail maintenance. The USFS was able to comply with NEPA as the work has taken place within the clearing limits of the road, so the project fell within the authority of Administrative maintenance.

Environmental education will play a key role in the program. Wolfree, Forest Service and Hoodland Fire will facilitate on-site environmental education instruction throughout the duration of each crew. Possible environmental education topics include, but not limited to: fire ecology, fire prevention, introduction to fire suppression, hydrology and riparian areas, archaeology, plant identification, wildlife habitat and species.

### **Case Study #2. Fuels Reduction and Community Development: ODF Title III Crew**

This seven member crew was hired to assist ODF in handling the increased workload during the high wildfire season. The crew is comprised of teenagers and young adults. The training they receive

will qualify them to work as a firefighter for any wildland agency or private fire service. The crew is used for a variety of tasks and will be assisting people with special needs to create defensible space around homes. Their accomplishments to date include:

- Performed hand line construction on two fires.
- Worked on BLM land to obliterate illegal camp fire rings.
- Met with City of Portland Water Bureau crew to identify defensible space and water hole maintenance in the Bull Run Watershed.
- Worked on a State Forest prescription burn.
- Worked with BLM in the Molalla River Recreation Corridor to reduce erosion on foot trails to the river and provide for defensible space around designated camp sites.
- Provided defensible space for a person identified by social services with Boring Fire District in the eagle Creek area.
- Begun work on roadside brushing project to support evacuation route for residents in the Elk Prairie area outside of Molalla. Area has been mapped and contacts will be made with landowners prior to brushing.

Other planned projects:

- Work with Molalla Communities That Care to identify special needs residents who need defensible space work.
- Wapinita defensible space work. Using a Western States Fire Marshal's grant, ODF will hire a contractor to develop community fuels reduction plan.
- Contact Clackamas County Parks to determine whether they have any fire projects with fuel reductions or camp maintenance on county park lands.

### **Case Study #3. Fuels Reduction on Private and Federal Land in Government Camp**

#### ***Private Land***

The Village of Government Camp is a small community located at 3,000 feet, and is totally surrounded by the Mt. Hood National Forest. Its closest neighboring community, Rhododendron, is about 10 miles away and 1,500 feet lower in elevation. The Village receives fire protection services from Hoodland Fire District. There is a fire station located in the village that is manned by community volunteer firefighters and EMT's. However, because of the community's small population, recruitment and retention of volunteers has been a constant struggle. Therefore, many requests for emergency services are actually provided by the main fire station in Welches, approximately 12 miles away.

In an effort to reduce the need for quick fire response, the Village of Government and Hoodland Fire District has taken a proactive approach in actively involving the citizens in a wildfire prevention program. One of the greatest accomplishments has been a weekend *Community Clean-Up* project that has been a huge success for the past two years. This area experiences a severe winter season including heavy snowfall each year. In the spring, the snow melt leaves a substantial accumulation of trees, limbs and woody debris in and around the Village. The weekend clean-up project encourages the community to gather this material and place it at the curbside. During the next week, a private contractor with a truck and a chipper removes this potential wildfire fuel and turns it into mulch and wood chips. The cost for this service is minimized by finding local uses for this material such as, landscape material for ski resorts and residents.

This project serves to benefit all parties involved, as it minimizes potential wildfire fuels and also eliminates much of the individual debris burning activities by homeowners. It creates awareness within the community of the need to remove potential wildfire fuels and to maintain the property in as fire safe manner. In addition, one the greatest benefits is the opportunity for residents to participate in a community activity with Hoodland Fire District that helps to spruce up and beautify the entire Village and at the same time improve their safety from wildfires.

### ***Federal Land***

Although residents of Government Camp are creating defensible space around their homes, they are concerned with fuels accumulation on the Mt Hood National Forest land which completely surrounds the community. The Government Camp Village Revitalization Plan of Clackamas County Development Agency has contracted with U.S. Forest Service to reduce potential wildfire fuels on federal lands that border the northeast and southeast boundaries of Government Camp. This project will thin and remove dead and dying trees that directly surround these areas of the Village. Because this is federal land, the U.S. Forest Service is the only agency allowed to accomplish a fuels reduction project.

The Forest Service land is less than 100 feet from dozens of private homes, and the community is anxious to reduce this significant wildfire threat. The USFS began the actual removal of fuel in the fall of 2004, after three years of discussion, and is continuing work as time allows. Currently, this fuels reduction project is approximately 25% complete. The provisions in the Healthy Forest Restoration Act allow for a more timely environmental review and require the USFS to expend at least 50% of fuels reduction funding in areas identified in Community Wildfire Protection Plans. This should expedite this project and future projects in both Government Camp and in other high-risk communities in the Mount Hood national Forest.

### **Case Study # 4. USFS Fuels Reduction and Trail Development in Government Camp**

The Community of Government Camp, working with Clackamas County Economic Development Agency, developed a Trails Master Plan in 2000 to construct and reconstruct winter and summer trails around the community. Nearly all the trails are located on National Forest lands. The Forest plans to complete an Environmental Assessment (EA) for projects proposed in the Master Plan. The Forest may also consider some trails in the surrounding area. The objectives of the plan are to establish a trail system in and around the Government Camp that allows visitors to get to and from town and the adjacent destinations. In addition to recreational opportunities, the trails will serve as fire breaks for the community of Government Camp.

### **Case Study #5. Fuels Reduction the Structurally Unprotected Community of Wapinitia**

Wapinitia is a small 28-home subdivision near the eastern boundary of Clackamas County. It is private property located within the Mt. Hood National Forest and was developed in the 1970's to be a subdivision of vacation homes close to the Mt. Hood ski resorts. This development is about six miles east of the Village of Government Camp and receives wildfire protection service from ODF. The community members provide their own structural fire protection. The developers of the subdivision placed connections for fixed fire hose stations near each lot. The closest structural fire

protection district is Hoodland Fire District and the nearest fire station is about six miles to the west of Wapinitia.

Hoodland Fire District has advised the Wapinitia community that they have no guaranteed structural fire protection services. Hoodland Fire District's policy is to assist out-of-district communities as long as the fire protection services within its own fire district are not compromised. This means that Hoodland Fire District will assist Wapinitia fight a structure fire so long as the taxpayers of the fire district will not suffer a reduction in service levels. At this time, Hoodland Fire District has no plans to consider annexation of the Wapinitia subdivision because it is more than five miles from the Government Camp fire station. Unfortunately, because of the isolation of this community, their levels of fire protection services are significantly less than most other communities within Clackamas County. They believe that the cost of constructing a new fire station and training volunteer firefighters would be cost prohibitive. Therefore, Hoodland Fire has offered to participate as advisors to the Wapinitia community on how best to protect themselves against structure fires and they have also joined ODF and the USDA Forest Service in attempting to make Wapinitia a more wildfire safe community.

The residents of Wapinitia held a *Community Clean Up Day* in June, 2005. Representatives from the Mount Hood National Forest, ODF, and Hoodland Fire provided technical assistance in reducing wildfire hazards and create defensible space around the homes. The residents also worked with the fire professionals to identify other needs that should be addressed to improve the community's preparedness and response levels. Fire professionals provided guidance regarding the following issues:

- Access for USFS and ODF emergency vehicles (including maps of the community)
- Improvements to roadways to support emergency vehicles
- Turnouts
- Fuel loading
- Above-ground gas tanks
- Improvements to stand pipes
- Wood-shingled roofs
- Fire breaks
- Vacant lots and common areas
- Campfires and barbecues

# Fuels Reduction Projects

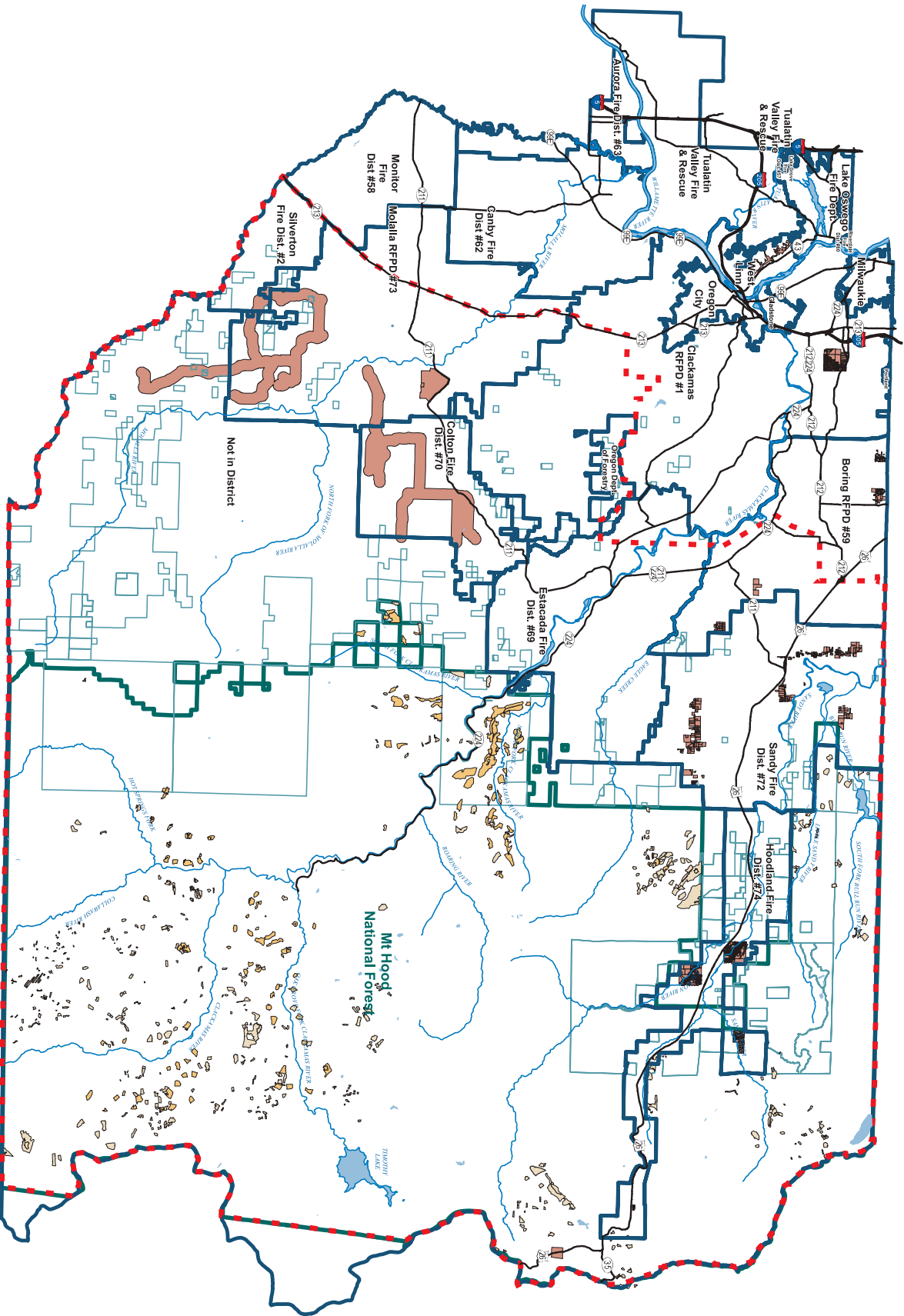
## Legend

- Fuels Reduction Projects**
- Proposed
  - Proposed USFS
  - Historic USFS
- Important Info.**
- Fire Districts
  - Clackamas County
  - Mt Hood National Forest
  - Bureau of Land Management
  - Oregon Department of Forestry
  - Major Rivers and Lakes
  - Rivers, Streams and Creeks

**Map #11**



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# CHAPTER 6

## EMERGENCY OPERATIONS



Oregon Department of Forestry works with Clackamas Fire District #1 on this wildland urban interface fire on the Canemah Bluffs in Oregon City in August, 2005.

## CHAPTER 6: EMERGENCY OPERATIONS

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### Clackamas Wildfire Operations Group (CWOG)

The Clackamas Fire Operations Group (CFOG) is a technical subcommittee of Clackamas District Fire Defense Board. The CFOG is responsible for coordinating fire operations issues and procedures for all fire districts in Clackamas County. The CFOG extended its membership to wildland fire agencies to form the Clackamas Wildland Operations Group (CWOG) for the primary purpose of assessing and addressing wildland fire operations.

#### Members of this Clackamas Wildfire Operations Group (CWOG) include:

Boring Fire District	Lake Oswego Fire Dept.
Bureau of Land Management (BLM)	Molalla Fire Department
Canby Fire District	Monitor RFD #58
Clackamas County Fire District #1	Mt. Hood National Forest
Clackamas County Emergency Management	Oregon Department of Forestry
Colton Fire District	Sandy/Boring Fire Prevention Office
Estacada Fire District	Tualatin Valley Fire & Rescue
Gladstone Fire Department	State Fire Marshal's Office (SFMO)
Hoodland Fire District	

### Objectives

- I. Strengthen Incident Command Systems and improve efficiency in wildfire response efforts by setting and implementing consistent, all-hazard training standards.
- II. Enhance interoperability of fire districts, USFS, ODF, and neighboring jurisdictions.
- III. Improve upon current system for utilizing fire resources within the county and neighboring jurisdictions.
- IV. Clarify and exercise policies and procedures from the Fire Operations Center (FOC) and Emergency Operations Center (EOC).

### Emergency Operations Actions

The Clackamas Wildfire Operations Group (CWOG) identified a number of activities to address the objectives listed above. In an effort to make progress toward implementation of some of the most important activities identified, the CWOG prioritized the activities, and began work on the high priority action items.

#### Objective 1. Action Item #1

**Recommend that the State Fire Marshal's Office take a more all-hazard based approach to credentialing structural fire agencies.**

Timeline:	Long-Term
Lead:	Fire Defense Board
Partners:	SFMO, PNWCG
Priority:	Medium

**Objective 1. Action Item #2**

**Set Clackamas County ICS training standards that should be required for given Fire Operations Center (FOC) and Emergency Operations Center (EOC) positions.**

- a. CWOG will make recommendations to FDB for adoption of county-wide ICS standards to be applied to those filling FOC and EOC positions

Timeline:	October 2005
Lead:	CWOG and FDB
Partners:	CCEM, Public Works, RISK, Fire Districts, Law Enforcement, ODF, USFS
Priority:	High
Progress:	East County Fire Agencies have proposed a standard. The CWOG members would like to see the curriculum and time commitment of the ICS 300 and 400 classes before making a recommendation. Clackamas County Emergency Management has proposed training standards for all EOC staff.

**Objective 1. Action Item #3**

**Develop ICS training needs and a resources list for Clackamas County.**

- a. FDB will notify and encourage Fire Districts to use the standards developed to inventory training needs.
- b. NAFT will use inventory of needs to develop/modify appropriate training schedules to bring CC Fire Districts into compliance.

Timeline:	March 2005
Lead:	Fire Districts, FDB, NAFT
Partners:	CCEM, Public Works, Fire Districts, Law Enforcement, ODF, USFS
Priority:	High

**Objective 1. Action Item #4**

**Encourage consistent application of the Open Burning Policy adopted by the Fire Defense Board.**

- a. FDB Chief should work with ODF to analyze daily conditions using the Fire Severity Rating Matrix to determine open/closed burn days.

Timeline:	Ongoing
Lead:	FDB Chief, ODF
Partners:	Clackamas Fire Agencies
Priority:	High
Progress:	ODF currently provides daily analysis and forecasts to FDB Chief during fire season.

**Objective 2. Action Item #1**

**Update the Integrated Interoperability Plan to provide a template for communications. Identify VHF and 800 Mhz communications needs based on the templates.**

- a. Radio Committee will work with law enforcement, USFS, and other agencies to ensure interoperability when VHF template is complete.
- b. Consider obtaining a cache of VHF and 800 MHZ radios to be used for response efforts.

Timeline:	September 2005
Lead:	Radio Committee
Partners:	CC Fire Agencies, Radio Subcommittees, ODF, USFS, SFMO
Priority:	High
Progress:	<ul style="list-style-type: none"><li>• VHF plan was adopted by the Clackamas District Fire Defense Board on Sept 1, 2005. It includes narrowband and Fire Net, and is working towards 16 consistent county channels.</li><li>• There is a Governor's Committee that is working on the issue of interoperability for all state agencies.</li><li>• Metro 800 MHZ Users group is developing a template with common terminology.</li><li>• 800 MHZ radios are being reflashed in Jan 2006, and all national interoperability channels will be included</li><li>• ODF has 4 800 MHZ radios and has had training</li><li>• USFS needs equipment and training (LE has 800 MHZ training and equipment)</li></ul>

**Objective 2. Action Item #2**

**Address communications needs and deficiencies.**

- a. Promote implementation of reverse 9-11 technologies in Clackamas County.

Timeline:	Long Term, Ongoing
Lead:	All Clackamas County Fire Agencies
Partners:	Clackamas County
Priority:	Medium

**Objective 2. Action Item #3**

**Develop and implement a radio numbering system that reflects geographic area.**

Timeline:	Long Term
Lead:	FDB Radio Committee
Partners:	FDB, ODF
Priority:	Low

**Objective 2. Action Item #4**

**Examine mutual aid agreements (and/or amend as needed via MOU) for protocol regarding resource sharing and potential cost reimbursement for Extended Attack (after first 12 hours).**

Timeline:	October 2005
Lead:	FDB Committee
Partners:	FDB, BIA, Multnomah County, ODF (would like to be included in current subcommittee)
Priority:	High
Progress:	An intracounty mutual aid agreement has been adopted by FDB agencies. An amendment will be made to this to clarify that operational periods are 12 hours. An intercounty mutual aid agreement is being developed to allow for resource sharing among all fire districts in Washington, Multnomah, Clark, and Clackamas Counties.

**Objective 2. Action Item #5**

**CWOG will provide a recommendation to County FDB regarding consistent resource typing (considering National Incident Management System (NIMS), National Wildland Coordinating Group (NWCG), and State Fire Marshal's Office (SFMO)) for updating and maintaining an inventory of current County resources.**

- a. Develop a resource inventory based on FDB typing standards.
- b. Consider using stickers on engines and truck to indicate resource type.
- c. FDB will provide recommendation to the State Fire Marshal's Office that the equipment and staff typing should be consistent in NIMS, NWCG, and the Mob Guide.

Timeline:	Summer 2005
Lead:	CWOG
Partners:	All Clackamas County Fire Agencies
Priority:	High
Progress:	CWOG has identified the differences in NIMS, NWCG, ODF, NFPA, and Mob Guide typing for equipment.

**Objective 2. Action Item #6**

**Develop a consolidated document for reporting resource minimums on fire district, county-wide, and state-wide levels.**

- a. The next iteration of the resource minimum document should include the ODF draw down list.

- b. ODF and USFS will provide morning resource status to the FDB via the CFOG website.

Timeline:	Summer 2005
Lead:	CWOG
Partners:	All Clackamas County Fire Agencies
Priority:	High
Progress:	The Clackamas County Fire Districts have updated the resource minimum list.

**Objective 3. Action Item #1**

**Develop a more efficient system for utilizing intracounty resources (Clackamas County Fire agencies) as well as intercounty (neighboring jurisdictions).**

- a. Clackamas County Fire Districts will update run cards from 1<sup>st</sup> alarm to 5<sup>th</sup> alarm to ensure that the resources and staffing associated with the response alarms are adequate, appropriate, and available (fire agencies should also consider escalating resources associated with wildland fires).
- b. Clackamas County Fire Districts are encouraged to begin utilizing Unified Command upon arrival at a wildland fire to develop a strategy for obtaining resources.
- c. Recommend that the Fire Defense Board develop and adopt an agreement to ensure that fire districts will incur the costs of resources that an agency (ODF) purchases on their behalf which exceed normal resources covered by Mutual Aid Agreements.

Timeline:	December 2005
Lead:	CWOG
Partners:	All Clackamas County Fire Agencies
Priority:	High
Progress:	During the July 7 <sup>th</sup> , 2005 wildland exercise, the fire districts became more aware of the need to update run cards. A Strike Teams and Task Forces list has been developed for inter and intra county use. Clackamas County FDB is participating in the Metro Ops group designed to enhance efficiency in utilization of resources in the Metro area.

**Objective 4. Action Item #1**

**Provide exercises and training to practice upgrade from FOC to EOC, and Unified Command.**

- a. CWOOG will be providing an exercise in Spring 2006, including dispatching of resources, staging, and coordination with Clackamas County Departments (Emergency Management, Law Enforcement, Public Information Officers) for potential evacuations and EOC activation.
- b. Transition to Unified Command should be exercised regularly.
- c. Conflagration procedures should be exercised.

Timeline:	Ongoing
Lead:	CWOOG
Partners:	All Clackamas County Fire Agencies, Clackamas County
Priority:	High
Progress:	A table top exercise was conducted July 7 <sup>th</sup> ODF demonstrated the use of sand tables for training and for post-fire analysis. ODF will provide four sand tables (funded through a Western States Fire Manager's Grant) to structural fire agencies that are interested in incorporating sand tables into training and fire analysis efforts.

**Objective 4. Action Item #1**

**Strengthen public education and agency coordination on evacuation procedures.**

- a. Ensure that the evacuations are executed in a timely and effective manner, by the most appropriate agency.
- b. Clarify roles and responsibilities for evacuation procedures based on different types of incidents, and ensure that all participating agencies are aware of their roles.

Timeline:	Ongoing
Lead:	CWOOG
Partners:	All Clackamas County Fire Agencies, Clackamas County Law Enforcement
Priority:	High

**Fire Severity Rating**

The Clackamas County Fire Danger Criteria (see Resource A) is intended to be used as a guide for Clackamas County Fire Departments to suggest increases in staffing and equipment response during high fire danger periods, and to clarify fire danger terminology.

Based on the daily Fire Severity Information distributed by the Department of Agriculture, moderate, high, and extreme fire danger categories will be used as a standard for Clackamas County. Nothing precludes local departments from using additional information such as Portland Fire Weather and Oregon Department of Forestry recommendations to increase staffing and response levels for their agency depending on local conditions.

Red Flag Warnings may be declared by the Clackamas County Fire Defense Chief or his authorized Representative. Agencies will refrain from using Red Flag terminology unless declared by CCFDB. Portland Fire Weather and ODF Red Flag Warnings shall be used as recommendations to assist CCFDB in Determining a Red Flag declaration.

Red Flag declaration by CC Fire Defense Chief puts all Clackamas County Fire Agencies at the Extreme Danger Level.

## **Open Burning**

Outdoor burning is regulated by the Department of Environmental Quality (DEQ) for pollution concerns, the Oregon Department of Forestry (ODF) when forests or timber is affected, and the Fire Department for fire and life Safety concerns.

DEQ prohibits burning of any materials at commercial, industrial, multi-family dwellings (5 or more units), and construction sites. Burning of construction and demolition debris by the contractor or subcontractors is a commercial operation and is prohibited. The DEQ open burning season is March 1 – June 15 and October 1 – December 15.

Local fire agencies regulate burning based on fire severity and DEQ recommendations. ODF and the Clackamas District Fire Defense Board have developed an explanation of open burning management levels (details above). The FDB Chief, ODF, and fire agencies communicate to determine the open burning level. The Cities of Gladstone and Lake Oswego do not allow open burning.

Permits are required by the ODF North Cascade District for burning of combustible debris on land where clearing and reforestation is planned, underbrush is cleared out, or smaller trees or slash burning takes place. Land clearing in locations where the land is not going to be reforested or is cleared for construction of structures requires a Special Burn Permit from the local fire department. Campfires, cooking fires, and bonfires are permitted throughout the year unless during a severe fire season, at which time all fires may be prohibited. Propane powered cooking appliances that meet the manufacturers listing are not regulated. Burning of trash or yard debris is not permitted in recreational fires. Recreational fires shall not be conducted within 25 feet of a structure or combustible material unless contained in an approved barbecue pit, which shall have 10 feet of clearance from structures and combustibles.

## **Red Card System and Credentialing**

The National Wildfire Coordinating Group (NWCG) is comprised of the USDA Forest Service; four Department of the Interior agencies: Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Indian Affairs (BIA), and the Fish and Wildlife Service (FWS); and state forestry agencies through the National Association of State Foresters. The purpose of NWCG is to coordinate programs of the participating wildfire management agencies so as to avoid wasteful duplication and to provide a means of constructively working together. The group provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions. The National Wildfire Coordinating Group (NWCG) coordinates credentialing for local, state, and federal agencies conducting wildfire suppression activities through an incident qualification system (based on NWCG publication 310-1).

In Clackamas County, structural firefighters who may be called upon to assist in wildland fire suppression receive “red cards,” indicating their qualifications for wildland firefighting. Red cards must be endorsed by a structural fire chief and the Fire Defense Board Chief. Identification of training levels is essential for structural fire personnel responding to wildland fires, as all firefighters participating in fire suppression on BLM and USFS lands are required to meet specified training standards. ODF maintains an Incident Qualifications System for wildland firefighters and fire managers employed by ODF.

Although this red card system has been successful in Clackamas County, a more comprehensive credentialing system needs to be developed for all responders. The system should be multi-discipline, multi-jurisdictional, and take into account the current “red card” system used by agencies conducting wildfire suppression activities. There may be an opportunity to address this issue through the implementation of NIMS. The goal would be a common credentialing system that would be recognized by all agencies. Until a common system can be developed, agencies will recognize the current system utilized by each agency.

## **Associated Plans and Programs**

**Clackamas Fire Resource Management Plan, 2001** was drafted by Clackamas District Fire Defense Board in conjunction with Clackamas County communications agencies, the Oregon Department of Forestry, the United States Forest Service, the Oregon State Fire Marshal’s office, and Clackamas County Emergency Management in an effort to coordinate the functions and responsibilities of all agencies towards the common goal of providing a large-scale emergency response while maintaining adequate levels of emergency services within the county.

**County Search and Rescue (SAR)** coordinators are responsible for managing and coordinating search and rescue missions in Clackamas County for persons who are missing, lost, stranded, injured, or dead in the out-of-doors. Although SAR is a division of the Clackamas County Sheriff’s Office, SAR coordinators are heavily reliant upon highly-trained volunteer resources from around Clackamas County and surrounding counties in order to be successful in their search and rescue operations.

**USFS Mt. Hood National Forest Land and Resource Management Plan** directs multiple-use management of the Mt. Hood National Forest. Pages Four-76 to Four-78 pertain specifically to fire/fuels management. The Northwest Forest Plan amended and updated this management plan in 1994.

**BLM Salem District Resource Management Plan** provides multiple-use management for the Salem District of the BLM to enhance and maintain the ecological health of the environment and the social well-being of the human population. Pages 65-67 pertain specifically to fire/fuels management.

**ODF North Cascade District Fire Operations Plan** is a guide for the prevention of human-caused fires, early detection of fires, fire suppression, continual readiness of firefighting resources, mobilization of additional fire resources, and operational concepts and expected Santiam and

Molalla unit personnel actions. This Plan outlines the primary fire control functions (as described in the Statewide Fire Mobilization Plan) of the North Cascade District<sup>10</sup>.

**Fire District Wildfire Plans** are included as annexes to the Emergency Operations Plans. They describe the current and historical wildland urban interface issues in each district, provide goals for reducing losses in these areas, and outline the districts' capabilities and strategies for preventing and responding to wildfire events.

**Clackamas County Emergency Operations Plan (EOP)** is a document which provides the basic framework to guide departments, agencies, and organizations with emergency capabilities in their efforts to mitigate, prepare for, respond to, and recover from any major emergency or disaster which may affect all or parts of Clackamas County.

**Evacuation** is often used by law enforcement and fire agencies to encourage residents to voluntarily distance themselves from potential hazards. Mandatory evacuation can only be enforced when expressly authorized by the Board of County Commissioners in an Emergency Declaration or in a Governor's Declaration of Emergency. A Clackamas County Emergency Declaration only applies to the defined emergency area within the unincorporated portion of the county.

Law enforcement agencies have primary responsibility for providing warning and instructions to residents on how and where to evacuate. Timely and effective evacuation requires close coordination and cooperation between fire and law enforcement agencies.

# CHAPTER 7

## EDUCATION AND COMMUNITY OUTREACH



Hoodland Fire Chief, Dave Olson, helped citizens identify and map community values at one of five community meetings held in the spring of 2005.

## **CHAPTER 7: EDUCATION AND COMMUNITY OUTREACH**

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### **Clackamas County Fire Prevention Cooperative**

The Clackamas County Fire Prevention Cooperative is a consortium of structural and wildland fire agencies, as well as other public interest groups with a vested interest in fire prevention. The Clackamas County Fire Co-op was established in 1982, with the primary purpose of enhancing fire prevention efforts in Clackamas County by sharing resources and information. The Clackamas County Fire Co-op addresses both structural and wildland fire prevention, and has incorporated the CCWPP educational and outreach effort into its program.

#### **Clackamas Fire Co-op Members include:**

Canby Fire District	Lake Oswego Fire Dept.
Clackamas County Fire District #1	Molalla Fire Department
Clackamas County Emergency Management	Monitor RFD #58
Colton Fire District	Mt. Hood National Forest
Estacada Fire District	Oregon Department of Forestry
Gladstone Fire Department	Sandy/Boring Fire Prevention Office
Hoodland Fire District	Tualatin Valley Fire and Rescue

#### **Other potential members/ stakeholders include:**

Keep Oregon Green	Molalla Communities that Care
Soil and Water Conservation Service	Clackamas Farm Forestry Association
Watershed Councils	Government Camp Tax Increment Financing Group
Community Planning Organizations	

### **Clackamas County Fire Prevention Co-op Mission Statement**

To increase cooperative fire prevention and safety efforts throughout Clackamas County.

### **Clackamas County Fire Prevention Co-op Objectives**

- I. To unite those agencies engaged in fire prevention, safety, and public education in the Clackamas County area.
- II. To promote an interagency exchange of ideas, programs, and resources in the area of fire prevention, safety, and public education.
- III. To promote, coordinate, and actively support interagency participation in fire prevention activities.
- IV. To act as a point of contact for the exchange of professional information among its members and the public.
- V. To promote a reduction in the number of human-caused fires and preventable injuries within the jurisdiction of the Co-op through a program of public education.

## **Current Activities**

The members of the Fire Co-op participate in a variety of prevention activities each year. In an effort to organize the Co-op activities and develop a more function-based program, the Co-op took an inventory of all fire prevention activities that are currently being implemented by all of the member agencies. The following inventory provides a consolidated listing of all current fire prevention activities, participants, and timelines.

Table 7-1 Current Clackamas Fire Prevention Co-op Activities

Current Activities	Participants	Effectiveness	Cause Type
<b>All Year</b>			
Burn Permitting	Fire Co-op	High	Debris Burning
Daily or Weekly Patrols	ODF	High	Debris Burning
Daily and Weekly Patrols	ODF	High	Equipment Use
Raids on Smokeshops /Retail Stores	Fire Co-op	High	Smoking
Daily and Weekly Patrols	ODF	High	Smoking
Education Events with Grade School	Canby	High	Juveniles
Safety Fairs	Fire Co-op	High	General
CERT Highschool Curriculum	Estacada	High	General
Sparky's Hazard House	Fire Co-op	High	General
IAAI	Fire Co-op	High	Arson
Hand Outs	ODF	Moderate	Smoking
Distribute Info Flyer Upon Inspection	Canby	Moderate	Debris Burning
Defensible Space Presentations	ODF	Moderate	General
Wood Cutter Program	Mollala, ODF	Moderate	Equipment Use
Molalla Communities that Care	Molalla Fire (Jasmine Freeze)	Moderate	Juveniles
Juvenile Fire Setter Intervention Network	Clackamas County	Moderate	Juveniles
HO- Proper lighting	Fire Co-op	Low	Arson
Respond to burn complaints	Fire Co-op	Low	Recreation
<b>Spring</b>			
3rd Graders Visit Station Fire Prevention Week	Canby	High	Juveniles
Magic Puppet Show	Molalla	High	Juveniles
Tree School	ODF	High	General
K-12 Team Teaching North & South	Fire Co-op	High	General
1st Grade School Program	USFS	High	General
Canby Fire Annual Newsletter	Canby	High	General
Spark Arrester	Fire Co-op	High	Equipment Use
Station Tours and Pub Ed Requests	Canby	Moderate	Juveniles
PNW Sportsman Show	USFS	Moderate	Recreation
Molalla Sportsman Show	ODF	Moderate	Recreation
Annual ODF operators dinner industrial fire	ODF	Moderate	Equipment Use
Molalla Buckaroo Kids Parade	ODF USFS	Moderate	General
Articles in local papers	Canby	Moderate	General
School Arson Prevention Program	Fire Co-op	Moderate	Arson
<b>Summer</b>			
Patrol, Post Signs	ODF	High	Recreation
RUCP Articles in news paper	ODF	High	Equipment Use
Fly-in Cruise-in	ODF	Moderate	General
<b>Fall</b>			
PTA and Grades K-2, Smokey Back Pack Prevention Program	Fire Co-op	High	Juveniles
	Gladstone	High	Juveniles
World Forestry Center	USFS, ODF	High	General

## Education and Outreach Action Items

The Fire Co-op developed a complete listing of activities that could be implemented when time and resources are available. The activities were prioritized based on cause type, percentage of population that would benefit, ease of implementation, staffing/volunteers needed, time for project development, local political support, cost, and consistency with community environmental goals (See Table 7-2). The Fire Co-op has selected the following four high priority action items for implementation in the first year. A Title III grant was submitted in June 2005 to assist in funding the activities.

### 1.) Develop and Distribute Wildland Urban Interface Packet

- a. Include a WUI brochure detailing the Clackamas Community Wildfire Protection Plan, defensible space guidelines, and fire apparatus ingress and egress requirements.
- b. Include other educational materials such as a Wildfire Prevention DVD. This should be distributed to developers during the land use application process and mailed to residents in the WUI.

Timeline:	March-May, 2006
Lead:	Fire Co-op
Partners:	Clackamas County
Priority:	High
Progress:	Clackamas County and Oregon Department of Forestry are in the process of developing a brochure.

### 2.) Install Fire Danger Rating Boards

- a. Place the boards in strategic locations in the WUI and recreation corridors in forested lands to ensure that people are aware of fire danger.
- b. Utilize ODF summer crews for assembling the boards.

Timeline:	March-May, 2006
Lead:	Fire Co-op
Partners:	Clackamas County
Priority:	High
Progress:	ODF is researching the possibility of using adhesive labels for the boards.

### 3.) Develop and Distribute Burn Permitting and Fire Restrictions Brochure

- a. Outline burn permit procedures, relevant agency contact information, Regulated Use Closure Proclamation instructions, and other restrictions associated with fire severity.

Timeline:	March-May, 2006
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Lead:	Fire Co-op
Partners:	Clackamas County
Priority:	High
Progress:	ODF is in the process of developing a brochure.

4.) **Fire-Safety Messages on Safeway Grocery Bags**

- a. Co-op will develop and design fire prevention graphics and messages that will be printed on paper bags at participating County Safeway grocery stores.

Timeline:	March-May, 2006
Lead:	Fire Co-op
Partners:	Clackamas County
Priority:	High
Progress:	Safeway has agreed to be a partner in this effort.

Table 7-2 Clackamas County Fire Prevention Cooperative Activities

Cause	Proposed Activities	Rank	Resources Needed	Potential Funding/Resource Sources	Lead Agency	Timeline	Schedule for Distribution	Cost Estimate
Debris Burning	Develop a mechanism for disseminating information regarding burn permits and <del>prevention burn</del>	1	Coordination	None Needed	Fire Co-op (with direction from Fire Defense Board)	Long-Term Ongoing	Spring/Fall	\$25,000
Debris Burning	Develop and promote "Burn Barrel" program	2	Coordination, Staffing, Funding	NFP, Title III, other grant sources, Fire Districts	Fire Co-op	Short-Term Ongoing	All Year	\$500
Recreation	Use a Firewise commercial targetted at local areas.	1	Coordination, Funding	NFP, Title III, other grant sources; Interagency Fire Coordination Center in Boise	Fire Co-op	Short-Term Ongoing	Could use different vidoes throughout the year . Could use County Cable, Canby cable, and others.	FREE!
Recreation	ATV Club- Incorporate burn message in annual meetings	2	Coordination	No funding needed; DMV has listing of ATV clubs.	Fire Co-op	Short-Term Ongoing	Forest Service will get annual meeting schedule	NA
Recreation	Distribute garbage bags with fire safety message	3	Funding and Staffing	NFP, Title III, other grant sources	ODF, USFS, Mid-Columbia Co-op, Hood River & Wasco County Co-op	Short-Term	Summer: Zig Zag & Clackamas Ranger Station and ODF in	\$5,000
Recreation	Utilize Oregon Equestrian Trail Club Association for Public Outreach	4	Coordination	USFS will provide coordination	Fire Co-op	Ongoing	All Year	NA
Recreation	Distribute buckets with fire safety message	5	Funding and Staffing	NFP, Title III, other grant sources	ODF, USFS, Mid-Columbia Co-op, Hood River & Wasco County Co-op	Short-Term	Summer: Zig Zag & Clackamas Ranger Station and ODF in	\$3,000
Recreation	Purchase contact information for all licensed hunters from USFW, and provide fire safety information to them via targeted mailing.	6	Funding	NFP, Title III, other grant sources	ODF, USFS	Short-Term Ongoing	August & Winter	\$20,000?
Arson	JFIN explanatory hand out	1	Funding	NFP, Title III, other grant sources	Fire Co-op	Short-Term Ongoing	Use current hand out	
Smoking	Distribute smoking-related fire prevention materials.	1	Coordination, Funding	NFP, Title III, other grant sources	Fire Co-op	Short-Term Ongoing	All Year	\$5,000
Smoking	Work with State (Judy Okulitch) for retail brochure and distribute to major retailers.	2	Coordination, Funding	NFP	Fire Co-op	Short-Term Ongoing	Annually	\$1,000
Juveniles	Encourage "Keep Oregon Green" to be more involved in poster and other programs.	3	Coordination	USFS will speak with KOG to request a speaker (and potential member) for the co-op	Fire Co-op	Short-Term Ongoing	NA	NA
Juveniles	Provide handouts to teachers and parents regarding "first signs of fire interest"; learning to respect fire (Judy Okulitch)	4	Coordination, Funding	NFP, other grant sources,	Fire Co-op	Short-Term Ongoing	Begginning of school year	\$5,000
Juveniles	Obtain middle school fire prevention cirriculum and train instructors. (Judy Occuladge)	5	Coordination, Staffing, Funding	NFP, Title III, other grant sources, Fire Districts	Fire Co-op	Short-Term Ongoing	Annually	\$1,000
Juveniles	Purchase and implement \$900 Puppet Program	6	Funding and Staffing	NFP, Title III, other grant sources, Fire Districts	Fire Co-op	Short-Term Ongoing	All Year	\$900
Juveniles	Promote high school participation in teaching younger students-use OC High School Drama Team performances for Middle Schools as a model.	7	Coordination, Staffing, Funding	NFP, Title III, other grant sources, Fire Districts; SFMO has free materials that could be used	Fire Co-op	Ongoing	All Year	NA

Cause	Proposed Activities	Score	Resources Needed	Potential Funding/Resource Sources	Lead Agency	Timeline	Schedule for Distribution	Cost Estimate
General	Purchase Fire Rating Signs for all Fire Stations	1	Funding	NFP, Title III, other grant sources, Fire Districts	Fire Co-op	Short-Term	All Year	Materials: \$150 each Labor: ODF-FREE!
General	mechanism for disseminating Regulated Use Closure Proclamations (e.g. flyers-mailings, PSAs, or a hotline)	2	Coordination, Staffing, Funding	NFP, Title III, other grant sources	Fire Co-op	Short-Term Ongoing	Nased on proclamation/ Spring	\$5,000
General	Provide a targetted fire-safety mailing to all residents in the WUI.	3	Coordination, Funding	NFP, Title III, other grant sources	Fire Co-op	Short-Term Ongoing	Fall/Winter	\$25,000
General	Partner with Safeway and other grocery stores to provide fire safety message on grocery bags (and perhaps Pepsi for cups) .	4	Coordination, Funding	NFP, Title III, other grant sources	Fire Co-op	Ongoing	6 month lead time needed for printing. Provide a list of safety messages that could be used every month.	USFS can design the messages
General	Collect all brochures, handouts, videos; selct most effective ones, purchase new materials where needed.	5	Coordination, Staffing, Funding	NFP, Title III, other grant sources	Fire Co-op	Short-Term	NA	Not sure
General	Support home spinkler campaign	6	Coordination, Staffing, Funding	Fire Districts	Fire Co-op	Short-Term Ongoing	All Year: It is a Kit that Co-op agencies can share	\$2,000
General	Develop and Implement a firework safety program.	7	Funding and Staffing	NFP, Title III, other grant sources	Fire Co-op	Short-Term Ongoing	Spring/Summer	\$30,000
General	Organize statistics to track effectiveness of meetings.	8	Coordination, Staffing	None Needed	Fire Co-op	Short-Term Ongoing	All Year	NA
General	Promote CERT in schools or other programs that incorporate fire safety into school cirriculum such as health and PE classes (example Estacada and	9	Coordination, Staffing, Funding	NFP, Title III, other grant sources, Fire Districts	Fire Co-op	Short-Term Ongoing	All Year	Staff \$5,000-\$10,000

## **Fire Prevention Resources**

The Clackamas County Fire Prevention Cooperative members have an extensive library of media (brochures, books, booklets, videos, DVDs, and posters) regarding fire safety including defensible space, fire resistant landscaping, water supply, mapping, outdoor recreation fire safety, historical fire causes, and emergency preparedness. The Co-op is currently composing an inventory to ensure that all participating agencies are using the most up-to-date information for community outreach and prevention activities.

The Co-op members jointly own and operate a large, state-of-the-art fire prevention trailer. The trailer is used to instruct all ages on cooking safety and safe fire evacuation procedures, and emphasizes the importance of a home sprinkler system.

The trailer is complete with tiered seating for video presentations, working smoke alarms, a door that heats (simulating a fire in the hallway), a smoke machine which allows a realistic environment for “crawl – low and go,” and a fire escape ladder from the window leading to a safe meeting place.

The sprinklers are fully functional, and firefighters may activate the sprinklers by igniting a curtain or sheet, dramatically presenting the effectiveness of a home sprinkler system. The trailer is available to all fire agencies in Clackamas County and has an instruction booklet for the control room, which manages its many simulation pieces. The trailer is also equipped with video cameras throughout its entirety so prevention activities can be recorded and used in other fire prevention programs.

A “Hazard House” is also jointly operated by the Fire Prevention Co-op. It is a portable fire and injury hazard special effects simulator that has been designed to be used as an educational tool. The simulator encompasses all components of NFPA's acclaimed Risk Watch Program. Groups ranging from 5-year-olds to senior citizens have all benefited from its engaging and dynamic characteristics.

In addition to the items above, the following are also available for use as fire and life safety tools: Sparky the Fire Dog Puppet, display boards and brochure racks, a Jeopardy Board and light bar, and laminated photographs depicting “lessons learned”/fire and life safety scenes/fire and life safety posters.

## **Fire Prevention Programs**

Each year all the agency representatives and Co-op members cooperate to provide fire prevention messages for the majority of Clackamas County schools in a program known as Team Teaching. Through Team Teaching, each school receives a fire prevention and fire safety presentation and a visit from Smokey the Bear and Sparky the fire prevention Dog. This program is essential for the education of young people regarding fire safety. This program has been in place for many years and is measured in the decreasing number of Juvenile Fire Starts statistics. In addition, many school-aged children bring the messages home to their families.

# CHAPTER 8

## STRUCTURAL IGNITABILITY POLICIES AND PROGRAMS



A wildfire in Cascade Locks came close to burning many structures, including homes, in 2003.

## **CHAPTER 8: STRUCTURAL IGNITABILITY POLICIES AND PROGRAMS**

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### **Structural Ignitability Policies and Programs Committee (SIPP)**

The Structural Ignitability Policies and Programs (SIPP) committee is charged with reducing structural vulnerability by reviewing all local and state regulatory and non-regulatory standards relating to development and making recommendations to enhance fire safety. The subcommittee includes diverse members, and many of the meetings provided valuable education regarding County development codes and ordinances, and state fire code guidelines, as well as local interpretations of the state fire codes and other Fire Defense Board policies relating to structural ignitability. The action items developed by the SIPP provide recommendations for improving coordination among County Building, County Planning, fire agencies, and the State Fire Marshal's Office to promote fire-safe development practices in Clackamas County.

### **CCWPP Structural Ignitability Policies and Programs Committee Members**

Ginny Van Loo, BCC Office	Ken Cushman, Oregon Department of Forestry
Doug McClain, Clackamas County Planning	Ted Megert, State Fire Marshal's Office
John Borge, Clackamas County Planning	Scott Weninger, Clackamas Fire District #1
Dick Polson, Clackamas County Building	Grant Brough Clackamas Fire District #1
Molly McKnight, Clackamas County Forestry	Ed Bonollo, Tualatin Valley Fire and Rescue
Cindy Kolomechuk, Clackamas County Emergency Management	Carl West, Bureau of Land Management
Ted Kunze, Clackamas District Fire Defense Board Chief	Reggie Huston, United States Forest Service

### **Structural Ignitability Objectives**

- I. Review rules/laws/guidance pertaining to wildfire planning, prevention, protection, and develop recommendations for improvements.
- II. Coordinate and facilitate communication between County Planning and Building and the fire districts.
- III. Identify incentives for property owners to participate in fire prevention activities, including maintenance of defensible space, use of fire-resistant building materials, etc.
- IV. Inform public about codes and ordinances related to wildfire prevention and solicit feedback from the public regarding recommended improvements.

### **Structural Ignitability Action Items**

1. **Improve upon current procedures for integrating fire codes into the regulatory process.**
  - a. All county fire agencies should come to consensus on the minimum fire code standards they will be enforcing and gain approval from the jurisdiction in which they serve.

- b. Continue to make improvements on the Permits Plus Program to ensure that conditions for fire code compliance are translated from land use planning to building permitting.
- c. Encourage any fire district that “adopts” amendments to the State Fire Code to gain approval from the Board of Clackamas County Commissioners.

Timeline:	a) January '05	b) November '05	c) Ongoing
Lead:	a) FDB	b) County DTD	c) FDB
Partners:	a) BCC SFMO	b) County Engineering, IS	c) BCC, City Councils
Priority:	High	High	High
Progress:	Clackamas County FDB is in the process of accepting the Metro Code Application Guide by resolution, which will be taken to the BCC for approval.	County DTD is currently evaluating the system to identify issues and develop solutions.	Currently, TVF&R is the only fire agency that has adopted amendments to the State Fire Code. The FDB will recommend that TVF&R gain BCC approval.

**2. Encourage use of fire-resistant construction materials, compliance with access requirements, adequate water supply, and incorporation of fuel breaks into new and existing development within the designated Wildland Urban Interface areas.**

- a. Consider flagging the lots that are in the designated WUI in the Permits Plus Program and provide recommendations for construction materials, access, water supply, and fuel breaks (incorporate SB360 requirements) during the land use and building permitting process.
- b. Consider flagging the lots that are in unprotected areas to educate the property owners about the lack of structural protection and provide options for enhancing structural protection.
- c. Consider developing and adopting codes and/or ordinances that promote fire safe construction practices and defensible space in high-risk areas.

Timeline:	a) 1-2 years	b) Long-Term
Lead:	a) County DTD	b) County DTD, SIPP
Partners:	a) County GIS, DTD Comp. Users Group	b) FDB, SIPP
Priority:	a) High	b) Moderate
Progress:	Permits Plus is currently being updated. Once the system is working more effectively, the SIPP can continue to enhance the capabilities of the program.	SIPP will continue to review ordinances and codes that have been adopted by other jurisdictions in an effort to reduce the wildfire hazard.

**3. Develop and provide educational materials to developers/builders and homeowners regarding fire code standards for access, water supply, fuel breaks and vegetation in the wildland interface/forest designated areas.**

- a. Develop and provide an educational packet to all WUI applicants (potentially identified in the Permits Plus Program) that includes suggestions for fire-safe construction materials, access, water supply, and fuel breaks.
- b. Develop and provide a residential construction checklist to identify those projects with access and water supply challenges.
- c. Make the fire-safe construction educational materials readily available to Clackamas County residents.
  - ✓ Utilize local media such as the Clackamas Review for promoting fire safe building practices.
  - ✓ Keep fire-safe educational materials at the front counter of DTD.
  - ✓ Provide fire-safe educational materials at the Building Services information kiosk starting in October 2005.

Timeline:	a) April/May '06	b) Complete	c) Ongoing (April/May)
Lead:	a) SIPP, DTD	b) SIPP, DTD	c) SIPP
Partners:	a) Fire Co-op	b) Fire Co-op	c) Fire Co-op
Priority:	a) High	b) High	c) High
Progress:	The SIPP is currently working with the Fire Co-op to develop a WUI packet.	The checklist is complete and will be provided by DTD during the permit application process.	Currently, DTD provides wildfire pamphlets at the front counter.

**4. Continue to enhance coordination among Clackamas Fire Districts and County DTD.**

- a. Continue to train fire districts on the Velocity Hall System
- b. Promote an open dialogue between County DTD and fire districts by utilizing the current coordination tools such as the DTD website and the monthly emails sent from County Building to the fire districts to alert them of new, pending, and approved building permits.

Timeline:	a) Ongoing	b) Ongoing
Lead:	a) County Building Dept.	b) County Building Dept.
Partners:	a) SFMO	b) Fire Districts
Priority:	a) High	b) High
Progress:	State Fire Marshal has been working with the fire districts to train them on using the Velocity Hall System.	County Building currently maintains a website housing all applied for, pending, and approved building permits. They also send monthly emails to fire districts with this information.

**5. Research incentives for improving maintenance of fire breaks and reducing hazardous vegetation.**

- a. Consider potential resources and incentives associated with SB 360 implementation.

- b. Work with insurance providers to encourage homeowners to be proactive in maintaining fire safe vegetation and reducing hazardous fuels.

Timeline:	a) Long Term	b) Ongoing
Lead:	a) SIPP	b) SIPP
Partners:	a) ODF, WFPEC	b) Fire Districts, Insurance Providers
Priority:	a) Moderate	b) Moderate

**6. Work with insurance providers to improve their criteria to adequately represent level of structural fire protection in residential structures, especially in high-risk areas.**

- a. Ensure that homes in rural settings have adequate access and water supply when considering insurance eligibility; especially homes > 3,600 ft<sup>2</sup>
- b. Expand criteria used by insurance providers to include fire breaks, fuels reductions, and fire prevention activities.
- c. Provide an educational component to developers/builders regarding fire insurance considerations of homes built without adequate access and water supply.

Timeline:	a) Ongoing	b) Ongoing	c) Ongoing
Lead:	a) FDB, SFMO, Insurance Providers	b) FDB, SFMO, Insurance Providers	c) FDB, SFMO, Insurance Providers
Partners:	a) Fire Co-op	b) Fire Co-op	c) Fire Co-op
Priority:	a) Moderate	b) Moderate	c) Moderate
Progress:	Local insurance providers plan to hold a summit to begin these discussions on Nov. 1, 2005.		

**7. Enhance structural protection in unprotected areas and comply with the Governor's policy in unprotected areas to be eligible for conflagration resources.**

- a. Support ODF in working with the County Tax Assessor to change the language on property tax statements for ODF assessment from "fire protection" to ODF "non-structural fire suppression" so homeowners and insurers are not led to believe they have structural fire protection.
- b. Inform homeowners in unprotected areas of their unprotected status (using mailings) and provide them with information about options for enhancing structural protection, including but not limited to:
  - ✓ Annexation to nearest fire district
  - ✓ Establish fee-for-service structure
  - ✓ Contract with private agency
  - ✓ Form local protection agency
  - ✓ Perform SFMO-approved mitigation to meet conflagration (but structural protection may not be provided)
- c. Encourage communities in unprotected areas to develop local community wildfire protection plans.
- d. Research opportunity to provide disclosure of unprotected status on lots through deed restrictions.
- e. Research feasibility of "zone 2" classifications for enhancing structural protection in unprotected lands.

Timeline:	a) Sept. 2005	b) Ongoing	c) 1 Year	d) 1 Year	e) 1 Year
Lead:	a) SIPP	b) WFPEC	c) County	d) County	e) SIPP, BCC
Partners:	a) County Tax Assessor	b) Fire Co-op, Adjacent Landowners	c) ODF	d) SIPP	e) FDB, Landowners in Unprotected Areas
Priority:	a) High	b) High	c) High	d) High	e) Medium
Progress:	ODF, USFS, and Hoodland Fire have provided assistance to Wapanitia, an unprotected area in the Mt Hood National Forest. ODF will be providing assistance to this neighborhood to develop a detailed CWPP.				

## Structural Ignitability Current Policies and Programs

The Structural Ignitability Current Policies and Programs (SIPP) Committee reviewed many of the State of Oregon codes, rules, and laws pertaining to wildfire prevention, protection, and suppression during the course of their discussions. Following are brief summaries of some of the primary ones that were reviewed by the SIPP Committee while developing their recommendations and actions.

**Oregon Administrative Rule 837, Division 40** adopts the Oregon Fire Code. The 2004 Oregon Fire Code (based on the 2003 International Fire Code with Oregon Amendments) became effective October 1, 2004. The Oregon Fire Code is a statewide minimum fire code. Local jurisdictions may adopt and amend the state code as long as modifications are more stringent. It establishes minimum requirements consistent with nationally recognized practices for providing a reasonable level of life safety and property protection as well as providing for the safety of firefighters and emergency responders during emergency operations.

**Oregon Revised Statute 476 “State Fire Marshal; Protection from Fire Generally”** establishes the office of State Fire Marshal and authorizes rulemaking for protection from fire. It address issues including investigation and reporting of fires, fighting fires, and recovery of firefighting costs in unprotected areas, establishes the Conflagration Act, establishes the Governor’s Fire Service Policy Council, and establishes a fire protection equipment loan fund, along with other miscellaneous provisions.

**Oregon Revised Statute 477 “Fire Protection of Forests and Vegetation”** covers the responsibilities of the state for wildland fire prevention and protection operations, primarily through the Oregon Department of Forestry. It establishes forest protection districts for lands where ODF provides wildfire protection and explains what that protection entails, including declaration and enforcement of fire season, restrictions and requirements for use of machinery, disposal of slash, smoke management, and other issues. It also implements the Oregon Forestland-Urban Interface Fire Protection Act of 1997 (Senate Bill 360), ratifies the Northwest Fire Protection Agreement for mutual aid and interagency cooperation, outlines procedures for establishing cooperative contracts or agreements with private entities for providing fire protection, and establishes the Oregon Forest Land Protection Fund to pay for wildfire suppression.

**Oregon Revised Statute 478 “Rural Fire Protection Districts”** covers all aspects of rural fire protection districts, from their formation, powers and duties, benefits for employees and volunteers,

revenues and finances, fire prevention code and permits, district identification, and penalties for violation.

### **Oregon Statewide Land Use Planning Goals**

Please refer to Chapter 1 of this document for a discussion of Goal 4: Forest Lands and Goal 7: Areas Subject to Natural Hazards. Clackamas County has adopted both Goal 4 and Goal 7, and they have been integrated into the Clackamas Comprehensive Plan.

### **Senate Bill 360: The Oregon Forestland-Urban Fire Protection Act of 1997**

Please refer to Chapter 1 of this document for a discussion of Senate Bill 360. The SIPP Committee acknowledged that while SB 360 is not currently being implemented in Clackamas County, efforts should be made to incorporate SB 360 requirements where possible into wildfire prevention educational materials and guidelines in anticipation of future implementation.

### **The Conflagration Act**

The Conflagration Act (ORS 476.510) was developed in 1940 as a civil defense measure and can be invoked only by the Governor. The act allows the State Fire Marshal to mobilize firefighters and equipment from around the state and provides for the funding of resources through state funds. The Conflagration Act is only used for fires that involve or threaten life and structures. While it has not been invoked in recent years within Clackamas County, it has been invoked more frequently in other areas of the state due to the increase of wildfires in urban and rural interface areas. More information about the Conflagration Act can be found at [http://egov.oregon.gov/OOHS/SFM/Emergency\\_mobilization.shtml](http://egov.oregon.gov/OOHS/SFM/Emergency_mobilization.shtml).

### **Unprotected Areas Policy**

In 2004, the Governor's Fire Service Policy Council convened a task force to discuss the issue of areas that are vulnerable to wildfire but are without publicly-funded protection. State firefighting actions on these lands are made possible only after the Governor invokes the Conflagration Act. The task force agreed that protection should be provided only if the county is 1) completing a community wildfire protection plan; 2) has adopted the Department of Land Conservation and Development's Goal 4 requiring fire defense standards for new construction in forest zones; and 3) is changing property tax statement language for ODF assessment from "fire protection" to ODF "non-structural fire suppression" so homeowners and insurers are not lead to believe they have structural fire protection.

Although there are approximately 724,368 acres of structurally unprotected lands in Clackamas County, the majority of these acres are in the eastern part of the county and are Mount Hood National Forest land, private industrial forest land, or undeveloped land. Some small pockets of land do contain a few residences. One of the largest of these is the Wapinitia development, containing approximately 40 homes, which lies in the Mt. Hood National Forest along Highway 26 south of Government Camp. Homeowners in Wapanitia are aware of their unprotected status. The Mt. Hood National Forest and ODF have been working with these homeowners to encourage them to take more fire prevention measures such as creating defensible space around homes and planning for wildfire emergency measures such as evacuation routes. For a more complete description of completed and proposed wildfire mitigation strategies implemented in Wapanitia, please refer to Chapter 5.

## **Clackamas County Land Use Planning**

The Clackamas County Zoning and Development Ordinance (ZDO) was enacted to implement the goals and policies of the Clackamas County Comprehensive Plan. The provisions of the ZDO govern development within the county.

### **Existing development**

- While there are many existing home sites and other developments at risk from wildfire, planning regulations do not apply to existing situations. State law prohibits enactment of retroactive ordinances, making it doubtful that a county could adopt planning regulations affecting existing development.

### **Development of an existing lot**

- Generally, there are no planning regulations relating to fire prevention applied to new development of existing lots. The exception is for development of lots zoned Timber (“TBR”) or Agricultural/Forest (“AG/FOREST”). Development in the TBR and AG/FOREST districts is subject to specific land use review, including siting standards designed to minimize wildfire hazards. These standards include requirements for a fire retardant roof, spark arresters on chimneys, prohibition of dwellings on slopes greater than 40 percent, access to required water supplies, and fuel breaks. Sections 406.09 and 407.09 of the ZDO set forth these standards. These regulations have been acknowledged by the Oregon Land Conservation and Development Commission and therefore comply with Goal 4 and Oregon Administrative Rule 660-006-0029 and Oregon Revised Statute 215.730 “Additional Criteria for Forestland Dwellings.

### **Development where approval of a land division or other land use application is required**

ZDO section 1003.05 provides standards for development in areas with the potential for forest or brush fires. This development shall be designed:

1. To provide adequate water storage and pressure for purposes of maintaining minimum flows for fire protection.
2. To provide, in cooperation with local fire districts, fire hydrants appropriate to the intensity and type of development.
3. So that dwellings are not sited in areas subject to extreme fire hazard, such as areas of heavy fuel concentrations, draws, etc.
4. To provide for other methods of fire protection and prevention appropriate to the location and type of development, utilizing techniques recommended by the Oregon State Forestry Department.

Partitions and subdivisions require review of a land use application, and involve several planning regulations related to fire protection. To begin with, local fire districts are notified of partition and subdivision applications and offered the opportunity to comment. Efforts are currently underway to integrate a system into the Permits Plus program for tracking conditions for fire code compliance from land use planning through the building permitting process. Building design and fuel breaks are not topics reviewed in an application for a lot division. Road design and access are important issues for partitions and subdivisions. ZDO Section 1007.02 states that “the location, alignment, grade, width, and capacity of all road, circulation and parking systems...shall be established so as to protect the public health and safety through functional, efficiently designed improvements...” Other provisions of the ZDO prescribe specific road widths, require connectivity, and tie road design to

the County's Road Standards Ordinance. These regulations do not address residential driveway design, but are effective in assuring new roads are developed according to specific standards that account for emergency vehicle access.

Water availability also is an issue addressed to some extent during review of partitions and subdivisions. Where public water is available, new development in urban areas must be served by the public system. Connection to a public water system is discretionary in rural areas. ZDO Section 1006.02B requires written certification from the service provider stating that potable water is available sufficient for year-round use. For areas outside of a water district, the final plat recording the lot divisions must contain a statement that public water is not available.

### **Clackamas County Building Services**

Clackamas County enforces building codes as adopted by the State of Oregon and contained in the Oregon Revised Statutes Chapter 455 – Building Codes and Chapter 918 of the Oregon Administrative Rules. The codes do address some issues related to fire, for example requiring spark arrestors on homes built in forest zones, but they do not address issues relative to water supply for fire suppression or driveway access for firefighting equipment, nor do they address issues relative to vegetation management around building sites. Some of these items may be addressed in the State Fire Code, but authority to enforce that code is vested in the fire districts, not the county.

Building Services has a system in place to notify fire districts of building permits that have been applied for and issued. A monthly update is sent to the fire districts, and fire districts have access to the Velocity Hall online permits system on the county web site. Fire districts may access this system and find out which building permits have been applied for and issued within their fire district. Ted Megert, the Deputy State Fire Marshal for Clackamas County, worked with the fire districts in fall, winter, and spring of 2004-2005 to ensure they are able to use the Velocity Hall system.

Building Services will distribute a checklist to residential construction permit applicants to identify those projects with access and water supply challenges. They will soon provide an educational packet to all permit applicants for construction in the WUI that includes suggestions for fire-safe construction materials, access, water supply, and fuel breaks. Building Services is also developing an information kiosk for their lobby that will contain fire-safe construction and fire prevention educational materials.

### **Data Collection and Assessment of Structural Ignitability (Map #12)**

Two projects are currently underway to improve the mapping of structures and other features important for wildland firefighting within the five independent Rural Fire Protection Districts of Colton, Estacada, Hoodland, Molalla, and Sandy. Clackamas County, ODF, and the Mt. Hood National Forest are also project partners who will benefit from the information obtained from these projects.

These projects are aimed at improving current information and mapping of structures, roads, water sources, and other terrain features in these more rural east county areas. In the first project, digital color orthophotography at a two-foot resolution is being acquired that will cover about 770 square miles of rural wildfire hazard zones. It is estimated that 90% of the structures within these east county rural fire protection districts will be captured and mapped using GIS in this digital orthophotography project. This process is estimated to be at least three times more cost effective than ground survey methods. The orthophotography portion of this mapping effort is being paid for by a grant from FEMA that is being administered by the Hoodland Fire District.

The second project is focused on capturing accurate location data for the remaining estimated 10% of structures that are hidden by the forest canopy using two Global Positioning System (GPS) units purchased by County GIS using Title III grant funds. This process was started in summer of 2005. The majority of these hidden structures are in the Summer Home Area in the Hoodland Fire District, but other hidden structures in other areas are also being surveyed. A County GIS intern will visit each structure, digitize the location in the GPS unit, and use a software program to conduct a structural triage to evaluate the structure for its vulnerability to loss from wildfire. Each structure will be assigned a triage score from this process. The information obtained was downloaded into county GIS to update the master address list. More detailed information on these structures will aid the local fire agencies in tactical planning in the event of a wildfire. This data can also be used to improve the structural vulnerability dataset for future iterations of the Risk Assessment. The two GPS units may be used in the future to locate features important for firefighting, including water sources, safety zones, evacuation routes, and other terrain features. These GPS units will be available to fire agencies for use to continue to gather information about structures in other areas of the county.

Structural triage information is currently only being collected for the structures that are hidden from aerial photography by forest canopy. Local agencies may want to consider using the GPS units and the structural triage software to evaluate additional structures in their jurisdictions.

In summary, this project will provide firefighters with maps of structures and a database that will provide strategic and tactical firefighting information during wildfire events. It will bolster local fire prevention efforts by providing a tool to target particularly vulnerable communities. In addition to providing better fire protection service, this project will provide the residents that live within high hazard wildfire zones better information about the risks that confront them and guidance for mitigating wildfire hazards. This will be accomplished by providing accurate information about the location of all structures, terrain features, and roads that provide or prevent access and escape from the area, and the identification of firefighting resources such as water supply sources and homes that have adequate defensible space for firefighting.

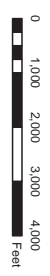


# Hoodland Summer Home Inventory

## Legend

- Hazard Level**
- Extreme
  - High
  - Moderate

Map #12



DEPARTMENT OF COMMUNITY DEVELOPMENT SERVICES  
 10000 NE MULTNOMAH AVENUE, SUITE 100  
 CLACKAMAS, OREGON 97015  
 (503) 653-2200  
 www.clackamas.gov

# CHAPTER 9

## SUSTAINING EFFORTS, MONITORING AND EVALUATION

“Additional consideration should be given to establishing an assessment strategy for the CWPP to ensure that the document maintains its relevance and effectiveness over the long term.”

*-Preparing a Community Wildfire Protection Plan, HFRA*

## **CHAPTER 9: SUSTAINING EFFORTS, MONITORING AND EVALUATION**

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### **Sustaining Fire Plan Efforts**

The development of the Clackamas Community Wildfire Protection Plan has been a strategic planning effort involving over thirty different agencies. Although the planning effort was complex, implementing and sustaining these efforts will be even more challenging. Building a collaborative and cooperative environment between community-based organizations, fire districts, local government, and the public land management agencies has been the first step in identifying and prioritizing measures to reduce the risk of wildland fire. Maintaining this cooperation with the public is a long-term effort that requires commitment of all partners involved.

The purpose of this CCWPP monitoring plan is to track implementation of activities and evaluate how well the goals of the CCWPP are being met over time. Monitoring measures progress over time in order to determine how well objectives are being met. The data collected will provide information on the status and trends of the CCWPP. The monitoring strategy provides a way for the County to be accountable to the public for the outcomes of the CCWPP<sup>11</sup>. The Plan identifies needs and implements strategies to strengthen Clackamas County's resilience to fire in five different areas, including:

1. Fuels Reduction/ Biomass Utilization
2. Education and Outreach
3. Emergency Management
4. Risk Assessment
5. Structural Ignitability Policies and Programs

### **CCWPP Monitoring**

Monitoring is the regular collection and analysis of information to assist with decision-making, ensure accountability, and provide the basis for evaluation and learning. It is a continual process that uses the methodical collection of data to provide project managers and stakeholders with early indications of a program or project's progress and the achievement of objectives. The WFPEC will engage in the following types of monitoring to ensure that the CCWPP is being implemented effectively:

- **Implementation Monitoring:** Evaluates whether we have been successful in implementing our program. Questions we might ask are: Was the fuels reduction program carried out according to specifications?
- **Effectiveness Monitoring:** Evaluates whether our actions are helping us to meet our objectives. This monitoring is specifically designed to answer the questions: Did the fuels reduction treatment provide the planned protection? Have the objectives of CCWPP been met and if not, why? Is the CCWPP effective in achieving its goals?
- **Verification Monitoring:** Evaluates whether our objectives helped to meet broad CCWPP goals. Did our actions lead to the outcomes we expected?

## Adaptive Management

Adaptive management is a process of learning from our management actions. As applied to the CCWPP, it involves implementing an approach to current projects, monitoring and analyzing the effects of that approach, and then incorporating these findings into the next round of projects. At the end of each project (or monitoring period), the following questions will be asked:

- Were the mitigation measures implemented as planned?
- What went right and what went wrong?
- Are there opportunities for improvement?
- Were objectives met?
- Were the mitigation measures effective at protecting the resources?
- If the mitigation measures successfully protected the resources, were they overprotective and did they place unnecessary constraints on the ability to accomplish project objectives?

## CCWPP Adoption

In accordance with the Healthy Forest Restoration Act, the CCWPP must be approved by the local fire agencies (the Fire Defense Board), governing body (the Board of County Commissioners), and agencies responsible for forest management (USFS, BLM, ODF). On October 13<sup>th</sup>, the Clackamas Community Wildfire Protection Plan was signed by the Board of Clackamas County Commissioners, the Clackamas Fire Defense Board Chief, the United States Forest Service, and the Oregon Department of Forestry.

## CCWPP Oversight: Wildfire Planning Executive Committee

The Wildfire Planning Executive Committee will continue to provide guidance for all elements of planning, implementation, and monitoring. The transition from planning to implementation will require commitment from all WFPEC members to integrate wildfire mitigation into their daily activities. The WFPEC will elect a representative to serve on the Hazard Mitigation Advisory Committee to ensure that all wildfire mitigation activities are in accordance with the overall hazard reduction priorities of the County.

The Oregon Department of Forestry National Fire Plan Coordinator requested that the WFPEC serve as an Oregon Local Coordinating Group (OLCG) in order to provide a more regional approach to wildfire project prioritization and implementation in Clackamas County. As an OLCG, the WFPEC will have the opportunity to review National Fire Plan Grant applications and assist in allocating funding to effectively and efficiently implement projects that achieve the goals and objectives set forth in community wildfire protection plans. By participating in the development of local community wildfire plans and providing direction in project implementation, the WFPEC will share information and technology with local communities and communicate local perspectives to state and federal agencies.

- **Facilitation:** Clackamas County Emergency Management will continue to serve as the facilitator for the WFPEC.
  - ✓ Responsibilities: convene the committee, develop agendas, coordinate subcommittee participation, act as a liaison for fire districts, facilitate the annual review

- **Administration:** Clackamas County Forestry will continue to provide administrative support.
  - ✓ Responsibilities: schedule meeting times and locations, take minutes and provide updates, assist in updating the CCWPP.
- **Membership:** The current member agencies will continue to serve on the committee and will extend membership to other agencies that have a vested interest in wildfire mitigation, such as insurance agencies and businesses.
  - ✓ Responsibilities: attend regularly scheduled meetings (or find a replacement), participate in plan review and evaluation, work with other agencies to implement the action items in an effort to meet CCWPP goals.
- **Meeting Schedule:** The WFPEC will meet on an as-needed basis, with meetings occurring at least quarterly.

### **Subcommittee Coordination**

The technical subcommittees of the WFPEC will meet as needed, with meetings occurring at least quarterly. Subcommittee chairpersons will serve on the WFPEC and will provide quarterly progress reports. In addition, the subcommittee will provide an annual evaluation of project implementation using the adaptive management model to ensure that projects are effectively meeting the goals and objectives of the subcommittees.

### **CCWPP Evaluation**

In an effort to ensure that the CCWPP remains a relative and dynamic document, the WFPEC will review and evaluate the plan on an annual basis. The review will include documentation of completed projects, lessons learned from project implementation, revisions of each section submitted by subcommittees, and any other changes that are deemed necessary. Throughout plan implementation, the CCWPP may be amended to reflect new information that can assist in project prioritization and more effective implementation strategies. In addition, the annual review will provide updates on local district planning efforts and will include local fire district plans as addenda to the County Plan.

### **Continued Fire District and Community Involvement**

The WFPEC is committed to supporting fire districts in local plan development by participating and publicizing community meetings, providing a template to use for plan development, and providing technical assistance as needed. The Fire Co-op will coordinate public outreach efforts with prospective CWPP participants to assist in gaining participation and promoting wildfire mitigation. Community outreach efforts will be focused in the areas that are at highest risk from wildfire. Completed fire district and community wildfire protection plans will be included as addenda to the County Plan.

In addition, the WFPEC will provide a copy of the CCWPP as well as current project information on the [www.healthyforest.info](http://www.healthyforest.info) web site. The WFPEC will also work with the Communities-at-Risk to complete the rapid risk assessment located on this website in an effort to highlight the needs and potential projects in the communities.

## **Plan Distribution**

The CCWPP will be available for download from Clackamas County ([www.clackamas.or.us](http://www.clackamas.or.us)), Clackamas Fire Defense Board ([www.cdfdb.com](http://www.cdfdb.com)), Oregon Department of Forestry (<http://www.oregon.gov/ODF/FIELD/MOLALLA/aboutus.shtml>), and the Mount Hood National Forest ([www.fs.fed.us/r6/mthood/](http://www.fs.fed.us/r6/mthood/)). Hard copies of the CCWPP will be provided for each fire district, the County BCC, and each member of the WFPEC and subcommittees. Plan recipients will receive notifications of updates that can be downloaded from the websites listed above.

# CHAPTER 10

## FIRE DISTRICTS IN CLACKAMAS COUNTY


The Fire Break - Summer 2005
3

# Wildfire





## Community Wildfire Protection Plan



**Your input is appreciated.**  
**Participants study aerial photos of area.**

One of the main steps toward the creation of our local Community Wildfire Protection Plan has been completed. Many of you joined Boring Fire District during our recent meeting and assisted in developing a "Community Values" map for our area -- Thank You!

Work is currently being done to complete additional elements of the Community Wildfire Plan which include: Fuels Reduction, Biomass Utilization, Economic Development, Fire Operations, Community Education and Outreach, Regulatory Standards, and Risk Assessment.

The County Wide Plan will be used to develop our more localized Wildfire Protection Plan. Upon completion, in addition to increasing our level of preparedness, this plan will also qualify Boring Fire District to apply for federal and state grants to assist in mitigating hazards in the Boring Fire District.

To participate in this process, to set up a Wildfire Educational Presentation, or for more information on this topic, contact [slc22nsd@borenet.com](mailto:slc22nsd@borenet.com).

The FIRE BREAK is published four times a year to keep patrons of the Boring Fire District informed of current fire events.

## **CHAPTER 10. FIRE DISTRICTS IN CLACKAMAS COUNTY**

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There are 14 local fire districts and departments in Clackamas County. They provide essential public services in the communities they serve, and their duties go beyond extinguishing fires. Most also provide emergency medical services (EMS), search and rescue, and fire prevention education. Following are brief descriptions of each of the 14 local fire departments and districts providing services in Clackamas County. The information was provided by each fire department or district.

### **Aurora Fire District #63**

**Address:** 21390 Main Street, Aurora, Oregon 97002

**Phone:** (503) 678-5966

**Website:** [www.ci.aurora.or.us/AFD/fire.htm](http://www.ci.aurora.or.us/AFD/fire.htm)

**Area and Population Served:** Serving 5,500 people within 64 square miles

**Number of Paid Staff, Number of Volunteers:** 2 paid staff, 45 volunteers

**Number of Fire Stations:** 2

**Service Provided:** Fire Suppression, Fire Prevention, and EMS

**Volunteer Programs:** Most fire and EMS services are provided by volunteers.

### **Boring Fire District #59**

**Address:** PO Box 85, 28655 SE Hwy 212, Boring Oregon 97009-0085

**Phone:** (503) 663-4638

**Website:** [www.boringfire.com](http://www.boringfire.com)

**Area and Population Served:** Serving over 20,000 people within 64 square miles

**Number of Paid Staff, Number of Volunteers:** 18.25 FTE paid staff, 60-80 volunteers

**Number of Fire Stations:** 3

**Service Provided:** Fire Response (structural and wildland), EMS, Public Education and Information, CERT, Explorer Program, Specialty Rescue, Free Blood Pressure Checks, Rural Address Sign Post Program, Chimney Brush Check out, Host for Car Seat Safety Inspections, Fire and Life Safety – video and book loaning program, Bike/Ski/Skate reduced price helmet sale program (in cooperation with OHSU and Legacy Emanuel), Fire Inspections & Consultations, Fire Cause Determination/Investigations, Plans review, Disaster Planning, Fire Extinguisher Use & Proper Smoke Alarm Placement classes, Community Emergency Response Team Training, Emergency Management, School & Community Public Education, CPR/First Aid classes, Juvenile Firesetter Intervention Program, Blood Drives, Station Tours and a Christmas Basket Program. Participating member in many collaborative groups, including but not limited to: Clackamas County Citizen Corps Council, Clackamas County Fire Prevention Co-operative, East Clackamas County Emergency Medical Services Association and many others in an effort to increase efficiency and reduce duplication.

**Volunteer Programs:** Many of the programs listed above and: MDA Fundraising, Community and Special Events Participation, Safety Committee, Community Assistance program, and a Scholarship program.

### **Canby Fire District #62**

**Address:** 221 South Pine Street, Canby, Oregon 97013

**Phone:** (503) 266-5851

**Website:** [www.canbyfire.org](http://www.canbyfire.org)

**Area and Population Served:** Serving 30,000 people within 54 square miles  
**Number of Paid Staff, Number of Volunteers:** 18 paid staff, 35 volunteers  
**Number of Fire Stations:** 2  
**Service Provided:** Fire Suppression, Fire Prevention, Public Safety Education, Emergency Ambulance and Rescue, Emergency Management for Canby area.  
**Volunteer Programs:** Fire Suppression, EMS, CERT, Emergency Incident Rehabilitation, Public Education

### **Clackamas Co. Fire District #1**

**Address:** 11300 S.E. Fuller Road, Milwaukie, Oregon 97222

**Phone:** (503) 742-2600

**Website:** [www.clackamasfire1.com](http://www.clackamasfire1.com)

**Area and Population Served:** Serving over 179,000 people within 194 square miles  
**Number of Paid Staff, Number of Volunteers:** 164 paid staff, 60 volunteers  
**Number of Fire Stations:** 15 currently; Pleasant Valley Station to be constructed in 2006  
**Service Provided:** Fire Suppression, Advanced Life Support EMS, Swiftwater Rescue, Rope Rescue, Confined Space Rescue, Collapse/USAR Rescue, Heavy Rescue and Extrication, Full-service Fire Prevention and Education Service, Plans Review, Emergency Management and Disaster Planning.  
**Volunteer Programs:** Both combat and non-combat volunteer opportunities. Combat volunteers serve as either community or resident volunteers, responding to a wide variety of emergencies. The non-combat volunteers serve in a variety of capacities, including rehabilitation volunteers, chaplains, public education and relations events, RSVP (office assistants), etc.

### **Colton Fire District #70**

**Address:** P.O. Box 71, Colton, Oregon 97017

**Phone:** (503) 824-2545

**Email:** [Crfpd70@colton.com](mailto:Crfpd70@colton.com)

**Area and Population Served:** Serving 5,000 people within 46 square miles  
**Number of Paid Staff, Number of Volunteers:** 1 paid staff, 25-30 volunteers  
**Number of Fire Stations:** 2  
**Service Provided:** Fire Suppression, Fire Prevention, EMS, Community First Aid and CPR Classes  
**Volunteer Programs:** In addition to the fire and EMS volunteer training, we give each citizen of the month for each grade school class a ride to school in the fire engine.

### **Estacada Fire District #69**

**Address:** P.O. Box 608, 261 S.E. Fifth Avenue, Estacada, Oregon 97023-0608

**Phone:** (503) 630-7712

**Website:** [www.estacadafire.com](http://www.estacadafire.com)

**Area and Population Served:** Serving 18,000 people within 88 square miles  
**Number of Paid Staff, Number of Volunteers:** 10 paid staff, 40 volunteers, 15 Fire Corp members  
**Number of Fire Stations:** 2, and property for 2 future stations  
**Service Provided:** Fire Suppression (structural and wildland), Fire Prevention, Fire and Life Safety Services (code enforcement, plans review, etc.), Water/Rope Rescue, First Response EMS, Hazardous Materials, and Address Marking Program.

**Volunteer Programs:** Volunteer fire/EMS personnel, student/intern personnel, and Fire Corp members. All three categories have training and response requirements. Volunteer fire/EMS personnel train every Wednesday and respond to emergency incidents whenever they are available. Student/intern personnel work a 24/48 shift schedule, like a career person. They train on shift, can come to the Wednesday drill, and respond to calls on shift and whenever they are available off shift. Fire Corp members are our support personnel and include chaplains, photographers, rehabilitation personnel, traffic control, and other support functions.

### **Gladstone Fire Department**

**Address:** 555 Portland Avenue, Gladstone, Oregon 97027

**Phone:** (503) 557-2775

**Website:** [www.ci.gladstone.or.us/fire.html](http://www.ci.gladstone.or.us/fire.html)

**Area and Population Served:** Serving 12,000 people within 4 square miles

**Number of Paid Staff, Number of Volunteers:** 2 paid staff, 37 volunteers

**Number of Fire Stations:** 1

**Service Provided:** Fire Suppression, Investigation, and Public Education. EMS at the EMT-1 level, Water/Rope Rescue

**Volunteer Programs:** All volunteers are NFPA certified firefighters. No non-combat personnel.

### **Hoodland Fire District #74**

**Address:** 69634 E. Hwy. 26, Welches, Oregon 97067

**Phone:** (503) 622-3256

**Website:** [www.hoodlandfire.org](http://www.hoodlandfire.org)

**Area and Population Served:** Serving 5,000-10,000 people (population fluctuates with winter ski season and summer camping season) within 56 square miles

**Number of Paid Staff, Number of Volunteers:** 8 paid staff, 51 volunteers, over 150 HEART team members

**Number of Fire Stations:** 3

**Service Provided:** Fire Response, EMS, Public Education in Fire Prevention, CPR/First Aid Classes, Chimney Brush Loan Program, Free Smoke Detector and Bike Helmet Programs, Address Marking Program

**Volunteer Programs:** In addition to firefighting volunteers, we have a support group that provides firefighters with meals and support at emergency events. We have over 150 CERT (we call them HEART) members that the district trains and supports, and we have a Fire Explorer Post.

### **Lake Oswego Fire Department**

**Address:** P.O. Box 369, 300 B Avenue, Lake Oswego, Oregon 97034

**Phone:** (503) 635-0275

**Website:** [www.ci.oswego.or.us/fire](http://www.ci.oswego.or.us/fire)

**Area and Population Served:** Serving 50,000 people within 14 square miles

**Number of Paid Staff, Number of Volunteers:** 52 paid staff, 0 volunteers

**Number of Fire Stations:** 4

**Service Provided:** Fire Suppression, Fire Prevention, Fire Investigation, Advanced Life Support EMS, Water Rescue, Hazardous Materials Response, Fire Inspection and Code Enforcement, Public Safety Education including: CPR Training, Fire Extinguisher Use,

Residential Safety Surveys, Home Fire Escape Planning, Emergency and Disaster Preparedness Planning and Training for Citizens (CERT), and Fire and Life Safety Education in Lake Oswego Schools.

**Volunteer Programs:** CERT Program and Amateur Radio Emergency Services (ARES) Program.

### **Molalla Fire District #73**

**Address:** P.O. Box 655, 320 N. Molalla Avenue, Molalla, Oregon 97038

**Phone:** (503) 829-2200

**Website:** [www.molallafire.org](http://www.molallafire.org)

**Area and Population Served:** Serving 18,000 people within 110 square miles

**Number of Paid Staff, Number of Volunteers:** 7 paid staff, 60 volunteers

**Number of Fire Stations:** 3

**Service Provided:** Fire Suppression, Fire Prevention and Public Education, Advanced Life Support EMS, Ambulance Service, Medium Rescue and Extrication, Rope Rescue, Juvenile Fire-Setter Intervention, Child Safety Seat Inspections, First Aid and CPR Training, Free Blood Pressure Checks and Free Smoke Detector Checks and Installation (for people of need).

**Volunteer Programs:** We are currently initiating a student/resident program and recently started a Cadet program. We support many community fund raising events.

### **Monitor Fire District #58**

**Address:** 15240 Woodburn-Monitor Road, Woodburn, Oregon 97071

**Phone:** (503) 634-2570

**Email:** [firemedic9841@hotmail.com](mailto:firemedic9841@hotmail.com)

**Area and Population Served:** Serving 3,000 people within 35 square miles

**Number of Paid Staff, Number of Volunteers:** 0 paid staff, 30 volunteers

**Number of Fire Stations:** 2

**Service Provided:** Fire Suppression, Fire Prevention and Public Education, EMS

**Volunteer Programs:** We participate in many community events, including hosting an annual fundraising pancake breakfast, an annual community open house, and a community Halloween party. We also display equipment at the Wooden Shoe Tulip Festival.

### **Sandy Fire District #72**

**Address:** 17460 Bruns Ave, Sandy, Oregon 97055

**Phone:** (503) 668-8093

**Website:** [www.sandyfire.com](http://www.sandyfire.com)

**Area and Population Served:** Serving 17,000+ people and 77 square miles

**Number of Paid Staff, Number of Volunteers:** 13.75 FTE paid staff, 60 volunteers

**Number of Fire Stations:** 3

**Service Provided:** Fire Response (structural and wildland), EMS, Public Education and Information, CERT, Explorer Program, Specialty Rescue (including high angle rope rescue, heavy rescue & extrication and swift water rescue), Advanced Life Support, Free Blood Pressure Checks, Rural Address Sign Post Program, Chimney Brush Check out, Host for Car Seat Safety Inspections, Fire and Life Safety – video and book loaning program, Bike/Ski/Skate reduced price helmet sale program (in cooperation with OHSU and Legacy Emanuel), Fire Inspections & Consultations, Fire Cause Determination/Investigations, Plans review, Disaster Planning, Fire Extinguisher Use & Proper Smoke Alarm Placement classes, Community Emergency Response Team Training, Emergency Management, School

& Community Public Education, CPR/First Aid classes, Juvenile Firesetter Intervention Program, Critical Incident Stress Management, Blood Drives, Station Tours and a Christmas Basket Program. Participating member in many collaborative groups, including but not limited to: Clackamas County Citizen Corps Council, Clackamas County Fire Prevention Cooperative, East Clackamas County Emergency Medical Services Association and many others in an effort to increase efficiency and reduce duplication.

**Volunteer Programs:** Many of the programs listed above and: MDA Fundraising, Community and Special Events Participation, Safety Committee, Community Assistance program, and a Scholarship program.

### **Silverton Fire District #2**

**Address:** 819 Rail Way N.E., Silverton, Oregon 97381

**Phone:** (503) 873-5328

**Website:** [www.silvertonfire.com](http://www.silvertonfire.com)

**Area and Population Served:** Serving over 18,000 people within 106 square miles

**Number of Paid Staff, Number of Volunteers:** 6.75 FTE paid staff, 75 volunteers

**Number of Fire Stations:** 5

**Service Provided:** Fire Suppression, Fire Prevention, Investigation, EMS as First Responders, Rescue, Assist Silverton NET Teams, Monthly Community CPR Training, Community Emergency Management Committee, Full In-house Training

**Volunteer Programs:** Two Volunteer Associations, Fund Raising for Volunteer Museum and Thermal Imaging Camera

### **Tualatin Valley Fire & Rescue**

**Address:** 20665 SW Blanton Street, Aloha, Oregon 97007

**Phone:** (503) 649-8577

**Website:** [www.tvfr.com](http://www.tvfr.com)

**Area and Population Served:** Serving over 418,000 people within 210 square miles

**Number of Paid Staff, Number of Volunteers:** 398 paid staff, 125 volunteers

**Number of Fire Stations:** 22

**Service Provided:** Fire Suppression, Fire Prevention, Investigation, EMS, Water and Technical Rescue, Hazardous Materials Regional Response Team, Emergency Management, Community Assistance Program for People In Need, CPR/First Aid Instruction, Fire and Life Safety Education, Juvenile Fire-setter Intervention, Residential Smoke Alarm Program, Rural Address Sign Program, Toy and Joy Program

**Volunteer Programs:** Tualatin Valley Fire & Rescue's Volunteer Association is the largest volunteer contingent in Oregon. There are currently 100 active combat volunteers based at several fire stations. TVF&R also has a large number of non-combat support volunteers who participate in community events, public education, volunteer training, and support emergency services

## **RESOURCE A: ACRONYM LIST, DEFINITIONS, AND POLICIES**

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### **Acronym List**

ARC	American Red Cross
BCC	Board of County Commissioners
BLM	Bureau of Land Management
CERT	Community Emergency Response Team
CWPP	Community Wildfire Protection Plan (Healthy Forests Restoration Act)
CCWPP	Clackamas Community Wildfire Protection Plan
CFOG	Clackamas Fire Operations Group
CWOG	Clackamas Wildland Operations Group
DEQ	Department of Environmental Quality
DLCD	Department of Land Conservation & Development (State)
DOGAMI	Department of Geology and Mineral Industries (State)
DTD	Department of Transportation and Development (County)
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
FDB	Clackamas Fire Defense Board
FOC	Fire Operations Center
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act
ICS	Incident Command System
ISO	Insurance Services Office (Fire Hazard Rating)
NFP	National Fire Plan
NHMP	Natural Hazards Mitigation Plan
ODF	Oregon Department of Forestry
OEM	Office of Emergency Management (State)
PDM	Pre-Disaster Mitigation Program (FEMA)
SAR	Search and Rescue
USFS	United States Forest Service
WFPEC	Wildfire Planning Executive Committee

## Definitions

This section provides a summary of policies and definitions of Communities-at-Risk, wildland urban interface, and defensible space.

### Wildfire Risk Assessment

Policy/Source	Definition
Josephine County Integrated Fire Plan	<p><i>Risk</i>: the potential and frequency for wildfire ignitions (based on past occurrences)</p> <p><i>Hazard</i>: the conditions that may contribute to wildfire (fuels, slope, aspect, elevation and weather)</p> <p><i>Values</i>: the people, property, natural resources and other resources that could suffer losses in a wildfire event.</p> <p><i>Protection Capability</i>: the ability to mitigate losses, prepare for, respond to and suppress wildland and structural fires.</p> <p><i>Structural Vulnerability</i>: 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.)</p>

### Communities-at-Risk

Policy/Source	Definition
Healthy Forests Restoration Act	<p>Title I – Hazardous Fuel Reduction on Federal Land, SEC. 101. Definitions:</p> <p>(1) AT-RISK COMMUNITY.—The term “at-risk community” means an area—</p> <p>(A) that is comprised of— (i) an interface community as defined in the notice entitled “Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire” issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with title IV of the Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001); or (ii) a group of homes and other structures with basic infrastructure and services within or adjacent to Federal land;</p> <p>(B) in which conditions are conducive to a large-scale wildland fire disturbance event;</p> <p>(C) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event.</p>
National Association of State Foresters Identifying and Prioritizing Communities-at-Risk	<p>In June 2003, the National Association of State Foresters developed criteria for identifying and prioritizing Communities-at-Risk. Their purpose was to provide national, uniform guidance for implementing the provisions of the “Collaborative Fuels Treatment Program.” The intent was to establish broad, nationally compatible standards for identifying and prioritizing Communities-at-Risk, while allowing for maximum flexibility at the state and regional level.</p> <p>NASF defines ‘Community at Risk’ as “a group of people living in the same locality and under the same government” (<i>The American Heritage Dictionary of the English Language</i>, 1969). They also state that ‘a community is considered at risk from wildland fire if it lies within the wildland/urban interface as defined in the federal register (<i>FR Vol. 66, No. 3, Pages 751-154, January 4, 2001</i>).’</p> <p>NASF suggests identifying Communities-at-Risk on a state-by-state basis with the involvement of all organizations with wildland fire protection responsibilities (state, local, tribal, and federal) along with other interested cooperators, partners, and stakeholders. They suggest using the 2000 census data (or other suitable means) identify all communities in the state that are in the wildland urban interface and that are at risk from wildland fire, regardless of their proximity to federal lands.</p>

**Communities-at-Risk (continued)**

Policy/Source	Definition
<p>Federal Register /Vol.66, No.160 /Friday, August 17, 2001 /Notices</p>	<p>In January 2001, then Agriculture Secretary Dan Glickman and Interior Secretary Bruce Babbitt released a proposed list of communities eligible for enhanced federal wildfire prevention assistance. The preliminary list of over 4000 communities included many that are near public lands managed by the federal government.</p> <p>The initial definition of urban wildland interface and the descriptive categories used in this notice are modified from "A Report to the Council of Western State Foresters—Fire in the West—The Wildland/Urban Interface Fire Problem" dated September 18, 2000. Under this definition, "the urban wildland interface community exists where humans and their development meet or intermix with wildland fuel."</p> <p>There are three categories of communities that meet this description. Generally, the Federal agencies will focus on communities that are described under categories 1 and 2. For purposes of applying these categories and the subsequent criteria for evaluating risk to individual communities, a structure is understood to be either a residence or a business facility, including Federal, State, and local government facilities. Structures do not include small improvements such as fences and wildlife watering devices.</p> <p><b>Category 1. Interface Community:</b>  The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between residential, business, and public structures and wildland fuels. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually 3 or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile.</p> <p><b>Category 2. Intermix Community:</b>  The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres. Fire protection districts funded by various taxing authorities normally provide life and property fire protection and may also have wildland fire protection responsibilities. An alternative definition of intermix community emphasizes a population density of between 28–250 people per square mile.</p> <p><b>Category 3. Occluded Community:</b>  The Occluded Community generally exists in a situation, often within a city, where structures abut an island of wildland fuels (e.g., park or open space). There is a clear line of demarcation between structures and wildland fuels. The development density for an occluded community is usually similar to those found in the interface community, but the occluded area is usually less than 1,000 acres in size. Fire protection is normally provided by local government fire depts.</p>

**Communities-at-Risk (continued)**

Policy/Source	Definition
<p>A Definition of Community, James A. Kent / Kevin Preister</p>	<p>"A community is a geographic place that is characterized by natural systems such as watersheds, cultural attachment and human geographic boundaries. Physical, biological, social, cultural, and economic forces create natural boundaries that distinguish one community from another. The importance is in recognizing the unique beliefs, traditions, and stories that tie people to a specific place, to land and to social/kinship networks. It is a naturally defined human geographic area within which humans and nature rely on shared resources. People from outside this place can effectively contribute to its stewardship by providing relevant information and/or participating through relating their own values associated with geographic place.</p> <p>Community is defined by the informal systems and to the degree the formal systems are tied to the informal it becomes part of a community definition. Both have a distinct function. Informal systems are horizontal. They maintain culture, take care of people and are concerned with survival. They thrive on openness, honesty, and the idea that people want to do what is right for each other and the broader society. Formal systems are vertical and they serve centralized political, ideological, and economic functions. They contribute resources and legal structure to community change. Formal meetings alone do not constitute community communication or decision making functions." <a href="http://www.ntc.blm.gov/partner/community.html">http://www.ntc.blm.gov/partner/community.html</a></p>
<p>Firewise Definition of Community</p>	<p>"According to Webster's dictionary, a community is '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'. Homeowner associations and similar entities are the most appropriate venue for the Firewise Communities/USA recognition program. These smaller areas within the wildland/urban interface offer the best opportunities for active individual homeowner commitment and participation, which are vital to achieving and maintaining recognition status." <a href="http://www.firewise.org/usa/">http://www.firewise.org/usa/</a></p>
<p>Executive Order NO. 04- 04 Oregon Office of Rural Policy and Rural Policy Advisory Committee</p>	<p>Office of Rural Policy and Rural Policy Advisory Committee</p> <p><i>Frontier Rural</i> – A geographic area that is at least 75 miles by road from a community of less than 2000 individuals. It is characterized by an absence of densely populated areas, small communities, individuals working in their communities, an economy dominated by natural resources and agricultural activities, and a few paved streets or roads.</p> <p><i>Isolated Rural</i> – A geographic area that is at least 100 miles by road from a community of 3000 or more individuals. It is characterized by low population density (fewer than five people per square mile), an economy of natural resources and agricultural activity, large areas of land owned by the state or federal government and predominately unpaved streets.</p> <p><i>Rural</i> – A geographic area that is at least 30 miles by road from an urban community (50,000 or more). It is characterized by some commercial business, two or fewer densely populated areas in a county, an economy changing from a natural resource base to more commercial interests and reasonable, but not immediate access to health care.</p> <p><i>Urban Rural</i> – A geographic area that is at least 10 miles by road from an urban community. It is characterized by many individuals community to an urban area to work or shop, an economy with few natural resource and agricultural activities, easy and immediate access to health care services and numerous paved streets and roads.</p> <p><a href="http://governor.oregon.gov/Gov/pdf/ExecutiveOrder04-04.pdf">http://governor.oregon.gov/Gov/pdf/ExecutiveOrder04-04.pdf</a></p>

## Wildland Urban Interface

Policy/Source	Definition
Federal Register /Vol.66, No.160 /Friday, August 17,2001 /Notices	The Federal Register states, "the urban-wildland interface community exists where humans and their development meet or intermix with wildland fuel." This definition is found in the Federal Register Vol.66, Thursday, January 4, 2001, Notices; and in "Fire in the West, the Wildland/Urban Interface Fire Problem", A Report for the Western States Fire Managers, September 18, 2000.
10-Year Comprehensive Strategy	A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy (August 2001) "The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels" (Glossary of Wildland Fire Terminology, 1996). <a href="http://www.fireplan.gov/content/reports/?LanguageID=1">http://www.fireplan.gov/content/reports/?LanguageID=1</a>
Senate Bill 360:	Senate Bill 360: Forestland Urban Interface Protection Act of 1997. Forestland Urban Interface 477.015 Definitions. (1) As used in ORS 477.015 to 477.061, unless the context otherwise requires, "forestland-urban interface" means a geographic area of forestland inside a forest protection district where there exists a concentration of structures in an urban or suburban setting.
NFPA 1144	NFPA 1144: Standard for Protection of Life and Property from Wildfire 2002 Edition Wildland/Urban Interface is an area where improved property and wildland fuels meet at a well-defined boundary. Wildland/urban intermix is an area where improved property and wildland fuels meet with no clearly defined boundary. <a href="http://www.nfpa.org/catalog/home/OnlineAccess/1144/1144.asp">http://www.nfpa.org/catalog/home/OnlineAccess/1144/1144.asp</a>

## Defensible/Survivable Space

Policy/Source	Definition
Home Ignition Zones – "Wildland-Urban Fire—A different approach"	Recent research focuses on indications that the potential for home ignitions during wildfires including those of high intensity principally depends on a home's fuel characteristics and the heat sources within 100-200 feet adjacent to a home (Cohen 1995; Cohen 2000; Cohen and Butler 1998). This relatively limited area that determines home ignition potential can be called the <i>home ignition zone</i> . <a href="http://firelab.org/fbp/fbresearch/wui/pubs.htm">http://firelab.org/fbp/fbresearch/wui/pubs.htm</a> (Jack D. Cohen)
NFPA 1144	NFPA Publication 1411 defines defensible space as "An area as defined by the AHJ (typically with a width of 9.14 m (30 ft) or more) between an improved property and a potential wildland fire where combustible materials and vegetation have been removed or modified to reduce the potential for fire on improved property spreading to wildland fuels or to provide a safe working area for fire fighters protecting life and improved property from wildland fire.

**Defensible Space (continued)**

Policy/Source	Definition												
<p>Josephine County Article 76 – Fire Safety Standards</p>	<p>Note: These are the not up-dated standards which are under development through a Planning Commission Review.</p> <p>A fire safety zone is a fuel break designed to slow the speed and intensity of fire to or from structures, and to create an area in which fire suppression operations may more safely and effectively occur. There shall be two types of fire safety zones, designated as the primary safety zone and the secondary safety zone. In all cases the primary safety zone shall be developed for a distance of 100' in all directions from structures as measured along the ground from the farthest extension of the structure, to include attached carports, decks or eaves. A secondary safety zone shall be established around the primary safety zone and the size of the zone shall increase in relationship to the severity of slope, as shown in the following table.</p> <table border="1" data-bbox="500 678 1378 940"> <thead> <tr> <th colspan="2">SECONDARY SAFETY ZONE % OF SLOPE SIZE</th> </tr> </thead> <tbody> <tr> <td>0 - 9%</td> <td>0'</td> </tr> <tr> <td>10 - 19%</td> <td>50'</td> </tr> <tr> <td>20 - 24%</td> <td>75'</td> </tr> <tr> <td>25 - 39%</td> <td>100'</td> </tr> <tr> <td>40% or greater</td> <td>150'</td> </tr> </tbody> </table>	SECONDARY SAFETY ZONE % OF SLOPE SIZE		0 - 9%	0'	10 - 19%	50'	20 - 24%	75'	25 - 39%	100'	40% or greater	150'
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40% or greater	150'												
<p>OAR 629-044-1085: Fuel Break Requirements</p>	<p>(1) The purpose of a fuel break is to: (a) Slow the rate of spread and the intensity of an advancing wildfire; and (b) Create an area in which fire suppression operations may more safely occur.</p> <p>(2) A fuel break shall be a natural or a human-made area where material capable of allowing a wildfire to spread: (a) Does not exist; or (b) Has been cleared, modified, or treated in such a way that the rate of spread and the intensity of an advancing wildfire will be significantly reduced.</p> <p>(3) A primary fuel break shall be comprised of one or more of the following: (a) An area of substantially non-flammable ground cover. Examples include asphalt, bare soil, clover, concrete, green grass, ivy, mulches, rock, succulent ground cover, or wildflowers. (b) An area of dry grass which is maintained to an average height of less than four inches. (c) An area of cut grass, leaves, needles, twigs, and other similar flammable materials, provided such materials do not create a continuous fuel bed and are in compliance with the intent of subsections 1 and 2 of this rule. (d) An area of single specimens or isolated groupings of ornamental shrubbery, native trees, or other plants, provided they are: (A) Maintained in a green condition; (B) Maintained substantially free of dead plant material; (C) Maintained free of ladder fuel; (D) Arranged and maintained in such a way that minimizes the possibility a wildfire can spread to adjacent vegetation; and (E) In compliance with the intent of subsections (1) and (2) of this rule.</p> <p>(4) A secondary fuel break shall be comprised of single specimens or isolated groupings of ornamental shrubbery, native trees, or other plants, provided they are: (a) Maintained in a green condition; (b) Maintained substantially free of dead plant material; (c) Maintained free of ladder fuel; (d) Arranged and maintained in such a way that minimizes the possibility a wildfire can spread to adjacent vegetation; (e) In compliance with the intent of subsections 1 &amp; 2 of this rule.</p> <p><a href="http://arcweb.sos.state.or.us/rules/1102_Bulletin/1102_ch629_bulletin.html">http://arcweb.sos.state.or.us/rules/1102_Bulletin/1102_ch629_bulletin.html</a></p>												

**Defensible Space (continued)**

Policy/Source	Definition		
Senate Bill 360: Forestland Urban Interface Protection Act of 1997. Fuel Break Distance			Total Fuel Break Distance
	Classification	Fire Resistant Roofing	Non-Fire Resistant Roofing
	LOW	No Requirement	No Requirement
	MODERATE	30 feet	30 feet
	HIGH	30 feet	50 feet
	Extreme & High Density Extreme	50 feet	100 feet
Is Your Home Protected from Wildfire Disaster? A Homeowner's Guide to Wildfire Retrofit, Institute for Business and Home Safety	<p>A survivable space is an area of reduced fuels between your home and the untouched wildland. This provides enough distance between the home and a wildfire to ensure that the home can survive without extensive effort from either you or the fire department. One of the easiest ways to establish a survivable space is to use the zone concept.</p> <p>Zone 1: Establish a well-irrigated area around your home. In a low hazard area, it should extend a minimum of 30 feet from your home on all sides. As your hazard risk increases, a clearance of between 50 and 100 feet or more may be necessary, especially on any downhill sides of the lot. Plantings should be limited to carefully spaced indigenous species.</p> <p>Zone 2: Place low-growing plants, shrubs and carefully spaced trees in this area. Maintain a reduced amount of vegetation. Your irrigation system should also extend into this area. Trees should be at least 10 feet apart, and all dead or dying limbs should be trimmed. For trees taller than 18 feet, prune lower branches within six feet of the ground. No tree limbs should come within 10 feet of your home.</p> <p>Zone 3: This furthest zone from your home is a slightly modified natural area. Thin selected trees and remove highly flammable vegetation such as dead or dying trees and shrubs.</p> <p>How far Zones 2 and 3 extend depends upon your risk and your property's boundaries. In a low hazard area, these two zones should extend another 20 feet or so beyond the 30 feet in Zone 1. This creates a modified landscape of over 50 feet total. In a moderate hazard area, these two zones should extend at least another 50 feet beyond the 50 feet in Zone 1. This would create a modified landscape of over 100 feet total. In a high hazard area, these two zones should extend at least another 100 feet beyond the 100 feet in Zone 1. This would create a modified landscape of over 200 feet total. <a href="http://www.ibhs.org/publications/view.asp?id=130">http://www.ibhs.org/publications/view.asp?id=130</a></p>		

### Defensible Space (continued)

Policy/Source	Definition																
<p>Living with Fire: A Guide for the Homeowner</p>	<p>This guide, distributed in Oregon through the Pacific Northwest Wildfire Coordinating Group, provides information on creating effective defensible space and guidelines illustrated below.</p> <p style="text-align: center;">Defensible Space Recommended Distances – Steepness of Slope</p> <table border="1" data-bbox="764 499 1377 976"> <thead> <tr> <th data-bbox="764 499 1000 598"></th> <th data-bbox="1000 499 1221 598">Flat to Gently Sloping 0 to 20%</th> <th data-bbox="1221 499 1377 598">Moderately Steep 21% to 40%</th> <th data-bbox="1377 499 1421 598">Very Steep +40%</th> </tr> </thead> <tbody> <tr> <td data-bbox="764 598 1000 751">Grass: Wildland grasses (such as cheatgrass, weeds, and widely scattered shrubs with grass understory)</td> <td data-bbox="1000 598 1221 751">30 feet</td> <td data-bbox="1221 598 1377 751">100 feet</td> <td data-bbox="1377 598 1421 751">100 feet</td> </tr> <tr> <td data-bbox="764 751 1000 825">Shrubs: Includes shrub dominant areas</td> <td data-bbox="1000 751 1221 825">100 feet</td> <td data-bbox="1221 751 1377 825">200 feet</td> <td data-bbox="1377 751 1421 825">200 feet</td> </tr> <tr> <td data-bbox="764 825 1000 976">Trees: Includes forested areas. If substantial grass or shrub understory is present use those values shown above</td> <td data-bbox="1000 825 1221 976">30 feet</td> <td data-bbox="1221 825 1377 976">100 feet</td> <td data-bbox="1377 825 1421 976">200 feet</td> </tr> </tbody> </table>		Flat to Gently Sloping 0 to 20%	Moderately Steep 21% to 40%	Very Steep +40%	Grass: Wildland grasses (such as cheatgrass, weeds, and widely scattered shrubs with grass understory)	30 feet	100 feet	100 feet	Shrubs: Includes shrub dominant areas	100 feet	200 feet	200 feet	Trees: Includes forested areas. If substantial grass or shrub understory is present use those values shown above	30 feet	100 feet	200 feet
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<p>Fire Free</p>	<p>A buffer zone -- a minimum 30-foot fire-resistive area around a house that reduces the risk of a wildfire from starting or spreading to the home. Although a 30-foot distance is standard, additional clearance as great as 100 feet may be necessary as the slope of your lot increases.  <a href="http://www.firefree.org/ffrenew/subpages/gitz.htm">http://www.firefree.org/ffrenew/subpages/gitz.htm</a>.</p>																

## Policies

### Clackamas County Fire Danger Criteria

May 5<sup>th</sup>, 2005

#### PURPOSE:

This document is intended to be used as a guide for Clackamas County Fire Departments to suggest increases in staffing and equipment response during high fire danger periods, and to clarify fire danger terminology.

Based on the daily fire severity information distributed by the Department of Agriculture, moderate, high, and extreme fire danger categories will be used as a standard for Clackamas County. Nothing precludes local departments from using additional information such as Portland Fire Weather and Oregon Department of Forestry recommendations to increase staffing & response levels for their agency depending on local conditions.

MODERATE FIRE DANGER - Flame Spread Index 75 -84; Haines Index 3  
Temperature < 85 degrees Humidity > 25%  
Wind < 10 MPH

#### Recommendations:

Suggest each agency consider elevated staffing and responses to initial attack Incident.

HIGH FIRE DANGER  
(Industrial Level 2-3)  
(CC Burning Level C-D)

Flame Spread Index 85 – 94; Haines Index 4-5  
Temperature > 85 degrees; Humidity < 25%;  
Wind > 10 MPH;  
Energy Release Component, Ignition Component,  
and Fuel Moisture  
Web references: ( ODF Weather Station @ Eagle  
Creek, [www.odf.state.or.us](http://www.odf.state.or.us) and  
[www.met.utah.edu/roman/gacc/nwcc\\_frame.html](http://www.met.utah.edu/roman/gacc/nwcc_frame.html)  
<http://fire.boi.noaa.gov/FIREWX/PDXFWPQR.html>

#### Recommendations:

Additional Staffing and elevated response to initial attack Incident.

CCFOC Page to Notify all Duty Officer's

EXTREME FIRE DANGER Flame Spread Index 95 – 100,

(Industrial Level D–E)  
(CC Burning Level D-E)

Haines Index 5 -6, Temperature > 90 degrees  
Humidity 20% or less; Sustained Winds > 10 MPH;  
Energy Release Component, Ignition Component,  
and Fuel Moisture.

Web references: (From ODF Weather Station  
[www.odf.state.or.us](http://www.odf.state.or.us) and  
[www.met.utah.edu/roman/gacc/nwcc\\_frame.html](http://www.met.utah.edu/roman/gacc/nwcc_frame.html)  
<http://fire.boi.noaa.gov/FIREWX/PDXFWPQR.html>

Recommendations:

Elevated Staffing & Responses to all initial attack Incidents.

.Consider Inter-County Strike Team Response.

Staff Fire Operations Center or Fire Dispatch Liaison Position's.

Notification of Fire Defense Chief or his Designee and CCFOC page to notify all  
Duty Officer's

RED FLAG Warnings may be declared by Clackamas County Fire Defense Chief or his authorized Representative. Agencies will refrain from using Red Flag terminology unless declared by CCFDB. Portland Fire Weather and ODF Red Flag Warnings shall be used as recommendations to assist CCFDB in Determining a Red Flag declaration.

Red Flag declaration by CC Fire Defense Chief puts all Clackamas County Fire Agencies at the Extreme Danger Level.

Adopted 5 May 2005

Clackamas District Fire Defense Board

## **RESOURCE B: SUMMARY OF THE SPRING 2005 COMMUNITY OUTREACH EVENTS**

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Clackamas County coordinated a series of five pilot public outreach events between March and May 2005 in coordination with the County Wildfire Protection Plan. The fire departments and fire planning partners identified the five communities targeted for the pilot public outreach events and also received community outreach training and “a community outreach tool kit” of support materials during workshops lead by Resource Innovations in December, February and May 2005. Drawing on the perspectives shared and skills developed during the pilot phases, the fire plan partners will continue the public outreach effort, holding events in additional fire districts throughout the County.

### **Purpose of Community Outreach Events:**

The community meetings provide partners involved with the Clackamas County Wildfire Protection Plan an opportunity to gather input from community members about their perceptions of wildfire risk, community priorities and resources residents want to protect from wildfire. Outcomes of the meeting include the identification of opportunities to reduce wildfire risk, increased education for residents about living with wildfire and creating defensible space, and increased support for and awareness of the CCWP and fire departments protection services.

### **Spring 2005 Community Meetings Series and Attendance:**

<b>Date</b>	<b>Time</b>	<b>Purpose</b>	<b>Location</b>	<b>Attendance</b>
3/25/05	7:00 pm - 9:00 pm	Government Camp Meeting	Cascade Ski Club	81
4/11/05	7:00 pm - 9:00 pm	Hoodland Meeting	Resort at the Mountain	50
4/16/05	9:00 am - 1:00 pm	Sandy and Boring Meeting	US Forest Service Head Quarters	36
5/7/05	10:00 am - 2:00 pm	Estacada Open House	Estacada Fire Station	65
5/14/05	10:00 am - 2:00 pm	Canby Open House	Canby Fire Station	171
Total Attendance:				403

### **Public Outreach Strategy:**

Clackamas County initiated the five pilot public outreach events as part of the Clackamas County Wildfire Protection Planning (CCWPP) process. The events (held as either formal meetings or open houses) had two primary objectives: to gather information from the public about their wildfire concerns and to share information about the fire plan and living with wildfire. Partners involved in coordinating the events included the fire departments, County Emergency Management, Oregon Department of Forestry (ODF) and US Forest Service (USFS). Clackamas County contracted with Resource Innovations at the University of Oregon to assist with the facilitation and coordination of the events. The partners cooperated to identify the five communities for the pilot events and to

outline the purpose and content. Advertisements for the events included an article in the County newsletter, announcements and feature stories in local newspapers, sign boards, flyers posted at local nurseries and community hubs and networking with the Government Camp CPO, Hoodland HEART and the Sandy, Boring, Estacada and Canby CERTs. More than 400 individuals (not including the partners involved with coordination) participated in the meetings.

Resource Innovations gathered photos of the events and documented the content of the public input during questions, discussions and the mapping exercise. The themes raised during the meeting series are distilled and presented here along with potential next steps for action and partners to help implement those actions.

### **Event Content:**

The public events provided staff of the fire departments, County Emergency Management, ODF, USFS and Resource Innovations an opportunity to present information about living with wildfire, wildfire risk, protection capability, creating defensible space and an overview of the Clackamas County Wildfire Protection Plan.

Each event also emphasized the opportunity for the public to provide their feedback about wildfire concerns relevant to the fire plan. The mapping exercise, completed at all five events, was designed to glean local knowledge from residents about the community values they want to protect from wildfire, perceptions of risk and opportunities to reduce threats from wildfire.

For the meetings held in Government Camp, Welches and Sandy/Boring the first half of the event included formal presentations by staff about living with wildfire, wildfire risk, protection capability, creating defensible space and an overview of the Clackamas County Wildfire Protection Plan. The second half of the event was dedicated to the mapping activity. At the open houses in Estacada and Canby, ODF provided a “sand-table” that illustrated good and bad examples of defensible space and fire safe homes and served as the focal points for starting discussions with visitors about wildfire issues. Visitors to the open houses also had an opportunity to mark their residence on maps and talk with fire district or agency representatives to identify values, resources or threats they perceive to be at risk to wildfire. In addition, the open houses also included a noontime “mini-presentation” touching on the same messages included in presentation at the formal meetings. Both public agendas and detailed facilitators’ agendas from the meeting series are included in the appendix.

### **Issues Identified at Community Events and Next Steps:**

Primary objectives of the events included engaging residents and providing them with an opportunity to demonstrate their awareness of wildfire risk and express their concerns about wildfire topics related to the Clackamas County Wildfire Protection Plan.

The issues most frequently mentioned during the public events are listed in the following table. Each issue is followed by a brief description of the types of comments expressed by participants and a list of proposed actions, including potential implementation partners. While the proposed actions included here are not exhaustive, they are intended to provide partners with a summary of alternatives for moving forward and addressing community needs at the county and local level.

## Topics and Issues Raised at Community Outreach Events

Topic	Government Camp	Welches	Sandy/Boring	Estacada	Canby
1. Evacuation, Emergency Response and Local Ingress and Egress	high	high	med	high	low
2. Protection Capabilities	high	high	high	med	n/a
3. Hazardous Fuels	med	low	med	med	med
4. Community Values and Resources	med	med	high	low	med
5. Unmanaged Recreation and Illegal Dumping	low	med	med	med	low
6. Concerns about Adjacent Public Lands	high	low	low	low	n/a
7. Concerns about Neighboring Private Property	med	low	low	low	n/a

\* Number of times mentioned on maps and flip charts: low 1-3, med 4-6, high 7+

### 1. Evacuation, Emergency Response and Local Ingress and Egress

*Comments from Meetings:* Meeting participants at all five events expressed concern about areas with limited access for residents to safely evacuate. Specific areas mentioned include neighborhoods where Highway 26 is the sole artery or areas where there are clusters of houses on dead end roads systems (one-way-in/one-way-out.) Additional concerns include new subdivisions or developments that might impede evacuation routes and place even larger numbers of people at risk. Participants discussed the need to consider visitors (outdoor recreators, tourists, etc) and homeless camps when creating evacuation plans. Participants also noted specific impediments to evacuation and emergency response by marking roads too narrow for emergency vehicles, inadequate bridges and blind corners on major roads. Finally, participants identified areas that could be used as safety zones and opportunities for HEART and CERTs groups to play a role in helping draft evacuation plans and educate community members.

Participants highlighted poor ingress and egress for individual residences and mentioned overgrown vegetation around driveways, poor signage and fuels in close proximity to structures as conditions they observed in their neighborhoods.

Proposed Actions	Potential Partners
Create local evacuation plans and safety zones in high risk neighborhoods	Neighborhood Associations, Fire Departments (including CERTs and HEART), Traffic Agencies and County Emergency Management
Prioritize neighborhood fuels reduction projects in areas with limited access and high fuels hazards	Homeowners, Neighborhood Associations and CCWPP Risk Assessment Committee
Educate homeowners on the need for proper ingress and egress for emergency response equipment	Fire Department, Fire Defense Board and Homeowners
Advertise availability of ODF and Fire Department staff to do site visits and outline a prescription for creating defensible space	Fire Department, Fire Defense Board and Oregon Department of Forestry
Ascertain the standards State Farm Insurance use when conducting home assessments and make this	Fire Defense Board and CCWPP Partners

information available to the public. Cross-reference insurance standards, SB 360 and local policies.	
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## 2. Protection Capability

*Comments from Meetings:* Participants at the events were eager to point out potential new water sources for fire fighting and indicated their support for inventorying and developing new water sources. They also noted a lack of fire hydrants in certain neighborhoods. Calls for more fire hydrants were especially prevalent at the Welches meeting. At the Sandy and Boring meeting, a resident suggested inventorying local resources and expertise relevant to fighting wildfire, such as residents with heavy equipment or wildfire fighting experience.

Fire department staff and meeting participants also observed several errors on the county maps, such as streets that do not exist, two streets with the same name or misplaced buildings (such as a church shown at the site of a private residence.) Residents were concerned that inaccuracies on maps could potentially delay emergency responders. Locked gates, such as leading onto industrial timber ground, were also noted as an impediment to emergency responders.

Proposed Actions	Potential Partners
Expand or create a list of water sources in the district, Develop new water sources where appropriate	Fire Departments, Mutual Aid Partners and Residents
Evaluate benefits of adding fire hydrants in prioritized neighborhoods and near important community structures	Fire Departments
Establish a system for correcting discrepancy between county GIS records and on the ground observations	County GIS, Fire Departments and Residents
Expanded Knox box use by homeowners with locking gates, as well as small woodland owners and industrial forest managers	Fire Departments and property owners

## 3. Hazardous Fuels

*Comments from Meetings:* Participants at all five meetings identified hazardous fuels in the wildland-urban interface, on both public and private lands, as a concern. Residents identified specific locations with fuels loads that caused them concern, including areas around schools, recreation areas, and along evacuation corridors. Residents in Government Camp were particularly concerned about hazardous fuels on adjacent USFS managed land and were eager to see more progress in creating strategic fuels breaks. Other communities expressed concern about slash left after timber harvesting operations.

Proposed Actions	Potential Partners
Encourage private landowners to reduce hazardous fuels on their property	Fire Departments and ODF
Continue efforts to implements hazardous fuels breaks around communities in high risk wildland-urban interface areas and pursue neighborhood fuels reduction projects that span public and private land boundaries.	Homeowners, Neighborhood Associations, Fire Departments, ODF and USFS

## 4. Community Values and Resources

*Comments from Meetings:* Participants identified values and resources to protect from wildfire at all of the events. The most frequently cited resources to protect from wildfire included parks and natural areas used for recreation, especially parks with river and lake views or access. Ski areas and viewsheds on Mt. Hood were pointed out as something that is important to protect in order to safeguard the economic base of communities on the mountain. Water sources that originate on public lands and provided water to cities and smaller communities were also named as a value to protect.

Structures community members identified as important to protect from wildfire included historic buildings, such as historic schools and historic homes, contemporary schools, youth summer camps, assisted living facilities and community centers.

Proposed Actions	Potential Partners
Assist neighborhoods in identifying and planning defensible space around community buildings, historic structures, summer youth camps and residences of the special needs population	Neighborhood Associations, Neighborhood Fuels Reduction Coordinators, Camp Facility Managers, Social Service Providers and Technical Advisers (Fire Department, ODF, etc.)
Provide information about locations of historic structures, home schools, summer camps and adult care facilities to County GIS database and 3emergency responders	County GIS, Neighborhood Associations, Neighborhood Fuels Reduction Coordinators, Social Service and Education Administrators

## 5. Illegal Dumping and Unmanaged Public Use

*Comments from Meetings:* Participants mentioned illegal dumping at all of the meetings. Residents described household garbage, old appliances and refuse from illegal drug production dumped along forested roads and in wildlife areas. In addition to being unsightly and a public health risk, participants considered the garbage to be an addition to the hazardous fuel load and also a possible ignition source.

Unmanaged public uses identified at the meetings included use of off road vehicle use in undesignated areas, bonfires of youths partying on isolated roads, target shooting and homeless encampments. Community members cited these activities as potential ignition sources. In the case of homeless encampments, participants also expressed concerned about how occupants could be included in evacuation efforts in the event of an emergency.

Proposed Actions	Potential Partners
Coordinate with neighborhood groups to promptly detect illegal dump sites and initiate clean-up	Public and Private Land Managers, Homeowners and Neighborhood Associations
Explore opportunities to expand wildfire awareness and prevention campaigns to outdoor recreators and youth of all ages (including high schoolers)	Fire Departments and Fire Defense Board

## 6. Concerns about Adjacent Public Lands

*Comments from Meetings:* Participants at the Government Camp meeting had the most concern about wildfire risk on adjacent public lands. Although the issue was brought at other meetings as well, it was mentioned less frequently at events in communities further down the mountain further away

from large public land management units. Residents in Government Camp were particularly concerned about fuels on USFS managed land in immediate proximity to the community and within the zone of defensible space for private structures. The influence of a new wilderness boundary on the ability of the USFS to treat fuels in the WUI was also a concern to residents.

Meeting participants in Government Camp were also concerned about potential ignition risk from, and safety of, the high number of campers and other outdoor recreators who used public lands in the immediate vicinity of the Government Camp community.

<b>Proposed Actions</b>	<b>Potential Partners</b>
Involve community members in planning a neighborhood fuels reduction project to bridge public and private land boundaries and treats fuels on multiple ownerships	USFS and other public land managers, Homeowners, Neighborhood Associations, Fire Departments and ODF
Recruit residents and merchants to distribute wildfire prevention and education materials to recreators	Fire Departments, Residents, Merchants and Recreators

## 7. Concerns about Neighboring Private Property

*Comments from Meetings:* Participants had a modest degree of concern about the effect of adjacent private land management on wildfire risk. Some participants were concerned about the risk to their own property and community because a neighbor had not yet created defensible space. Some meeting participants remarked that it is challenging to identify and contact owners of overgrown vacant lots. Other residents reported that it is sometimes difficult to contact absentee owners and encourage them to do defensible space treatments. Meeting participant also suggested that industrial timberland owners in the area be included in the fire planning effort. Other residents were concerned about adding new development to adjacent lands and ensuring that existing infrastructure was adequate or expanded to meet the needs of new development.

<b>Proposed Actions</b>	<b>Potential Partners</b>
Continued to educate residents about living with wildfire and adopting fire safe practices	Fire Departments and CCWPP
Organize neighborhood fuels reduction projects (with or with out a reimbursement component)	Neighborhood Groups, Homeowners, BLM, ODF and community organizations
Use existing and developing tools such as SB 360 and local ordinances to encourage WUI residents to complete a specified level of fuels reduction	Homeowners, County and Technical Advisers (Fire Departments, ODF, etc.)
Involve non-residential landowners (timberland, agricultural operators, resorts, etc.) in county and local fire planning efforts	CWPP partners and Landowners
Develop a recognition program to reward property owners who have completed defensible space and motivate others to follow suit	Fire Defense Board and Fire Departments

## RESOURCE C: INDIVIDUAL COMMUNITY MEETING SUMMARIES

### Government Camp Community Meeting

**Date:** March 25<sup>th</sup>, 2005 beginning at 7:00 PM

**Location:** Cascade Ski Club and Lodge 30510 E Blossom, Government Camp

**Attendance:** Eighty-one attendees signed-in, representing approximately 69 households.

**Facilitators:**

- **Hoodland Fire Department:** Chief Dave Olson, Scott Kline and others
- **USFS:** Jim Wrightson and Len Diaz
- **ODF:** Ken Cushman & Erin Spens
- **Clackamas County:** Cindy Kolomechuk and Molly McKnight
- **RI:** Jenny Hawkins and Kathy Lynn

#### Meeting description:

This event was conducted in the form of an evening meeting and hosted by the Government Camp CPO during their monthly meeting time. Chief Dave Olson opened the meeting and provided introductions. Ken Cushman and Jim Wrightson described the role of ODF and the USFS in wildfire protection. Scott Kline spoke about creating defensible space around homes and Cindy Kolomechuk provided an overview of the Clackamas County Fire Planning process. Jenny Hawkins and Kathy Lynn helped facilitate the meeting and mapping exercise that followed the presentations.

#### Information Gleaned from Community

**Flip Chart Notes**

- Concerned about planned development and USFS boundary
- Making defensible space on USFS land
- Campfires on USFS land (unregulated uses – homeless population)
- Protect water source for Govie on USFS
- Summit Meadows Development Rd access – dirt, narrow
- More info on county bridges
- More info on how lots are taxed and relationship to protection

**Needs**

- Education for absentee landowners
- Need a structure / body to take things on if you want to take action as a community
- Can dollars be redirect to the FD to protect forested areas in the community?

**Actions and Questions**

- Evacuation Plans

- Community Organization/Structure
- FS protection/ campfires
- Structural protection
- People using the surrounding forest

***Values:***

- Museum/ historical homes
- Cascade ski lodge/ Charlie's – social hubs
- Defensible space around/ behind Glade Trail

***Issues:***

- Absentee landowners/ vacant lots
- Folks who don't do defensible space and endanger neighbors
- Price of water for watering fire resistant plants & sewer bills that follow
- Southside Evacuation constrained by bridge
- One way in/one way out
- Evacuation plans
- Still Creek development – concerned about implications of 600 new units
- Concern about the number of people during an evacuation
- Extend firebreak around the entire village

***Themes illustrated on maps:***

- Campers
- Proposed wilderness boundary
- Ski lifts – economic activity
- 100,000 gallon tank
- Proposed land trade
- Gov't Camp water source
- Only have one way into this area over bridge
- Complete Odell Lane fuels reduction work
- Ingress/egress – not plowed
- No turnaround on dead end streets
- Historic buildings

## **Welches Community Meeting**

**Date:** April 11<sup>th</sup>, 2005 beginning at 7:00 PM

**Location:** Resort at the Mountain, 68010 E. Fairway Avenue, Welches

**Attendance:** Fifty attendees signed-in, representing approximately 47 households.

### **Facilitators:**

- **Hoodland Fire Department:** Chief Dave Olsen, Scott Kline and others
- **USFS:** Jim Wrightson, Len Diaz and Reggie Huston
- **ODF:** Ken Cushman & Erin Spens
- **Clackamas County:** Cindy Kolomechuk and Molly McKnight
- **RI:** Jenny Hawkins
- **WRTC:** Marcus Kauffman

## **Meeting Description**

Very similar to the Government Camp meetings, this event was conducted in as an evening meeting. Chief Dave Olsen opened the meeting and provided introductions. Ken Cushman and Jim Wrightson described the role of ODF and the USFS in wildfire protection. Scott Kline spoke about creating defensible space around homes and Cindy Kolomechuk provided an overview of the Clackamas County Fire Planning process. Marcus Kauffman and Jenny Hawkins helped facilitate the meeting and the mapping exercise that followed the presentations.

## **Information Gleaned from Community**

### **Flipchart notes:**

#### **Brightwood-Cherryville Area:**

- Question- will wildland (ODF, USFS) hook up the fire department connections for automated sprinklers?
- Access – roads (not enough turnouts, width, signage) are an issue
- Brightwood Tavern, Old Fire Station and Post Office important to community – put fire hydrants here?
- No hydrants in most of Brightwood
- Brightwood needs an alternative evacuation route
- Weigh stations on Hwy 26 and Brightwood Quarry could be safety zones/staging areas
- Some timber thinning is occurring on county property off Country Club – thin more timber!
- Water sources (ponds) marked on maps
- Barlow Trail Rd – trees all along – important for evacuation of many inhabited areas
- Concern of use of county land by Barlow Trail Rd by off roaders – fire start hazard

#### **Welches Area:**

- Illegal dumping of woody debris & household garbage in wildlife area
- Hazardous fuels on adjacent private lands

- Vacant lots with accumulated fuels
- Roads with no turn around/outlet
- Wildwood Recreation Area is a value to protect
- Concerned about fuel on Huckleberry Mt
- Priority to protect Wanna Camp
- Dead end roads
- Opportunity for HEART to plan neighborhood triage
- Where would we go/gather (safety zone) in the event of a fire?
- Evacuating special needs population – can handicap use the Red Cross shelter?
- New hydrants at key locations
- Updating maps with new river channels (post '96 floods)

***Themes illustrated on maps:***

- Wildwood Park valued by community
- Illegal dump site off Welches Rd
- Evacuation plan for school
- Area of dead and dying vegetation off Welches Rd
- Need turnaround, water supply for East Autumn Lane
- Brush and sharp corners make Faubion Rd subdivision (on both sides of Hwy) difficult to access
- Potential water source along Woodmere Rd
- Community Center! Valued community asset
- Fire hydrants needed along Barlow Rd
- OHV users using Barlow Rd to access off limit lands for recreation – ignition hazard
- Evacuation Route – alternative to Hwy 26
- Poor ingress/egress to individual houses
- Dead end roads

## **Sandy and Boring Fire Districts Community Meeting**

**Date:** April 16<sup>th</sup>, 2005 beginning at 9:00 AM

**Location:** US Forest Service Headquarters, 16400 Champion Way, Sandy

**Attendance:** Thirty-six attendees signed-in, representing approximately 30 households.

### **Facilitators:**

- **Sandy and Boring Fire Departments:** Chief McQueen, Chief Branch and Alice Lasher
- **USFS:** Jim Wrightson, Len Diaz, Reggie Huston and others
- **ODF:** Ken Cushman & Erin Spens
- **Clackamas County:** Cindy Kolomechuk
- **RI:** Jenny Hawkins
- **WRTC:** Marcus Kauffman

### **Meeting Description**

The Sandy and Boring Fire Departments jointly hosted this event, held on a Saturday morning at the US Forest Service's Visitors Center. Presentations on wildfire risk, fire protection, defensible space and the County's fire planning effort were provided by fire department, ODF, USFS and county staff. The mapping exercise followed the presentations. More than thirty of the thirty-six attendees stayed through the entire mapping exercise.

### **Information Gleaned from Community**

#### **Flipchart Notes**

##### **Eagle Creek:**

- Potential landing strips on BLM land just east of Eagle Creek and also off Heiple Rd
- Wildcat Mountain:
- Dowling Rd mis-represented on map
- Cleaning-up slash post harvest
- Water sources (creating and verifying a list, developing and creating access for new water sources)
- Invite Longview Fiber to next meeting
- Meth labs and pot growing operations on National Forest land are a hazard for fire fighters
- Creating evacuation routes
- No back door – one way in one way out neighborhoods
- Use by visitors- kids partying, camping, illegal dumping

##### **Roslyn Lake:**

- Protect - the several camps
- Protect - lake as recreational / wildlife area
- Protect - Dodge Park
- Protect – Airport and private air fields
- Problem Area – Area off Hogbone – possible haz mat, clean up after campers

- Problem Area – Aimes Church area (off power line, snags, contractor refuse, old rails/ties)

**Sandy:**

- Ignition starts – homeless camps
- Dead ends – one way in one way out
- Need to “locate” watersheds
- Who is coordinating evacuation? CERT with law enforcement?
- Where are water sources, id ponds water sources and develop, inventory private dozers, water trucks, people with fire training

**Damascus / Boring:**

- Hayfields in late summer not cut or waiting to be cut
- Dead ends – evacuation on timbered slopes and lava domes
- Illegal burning and escaped fires
- Historic buildings, old school houses

***Themes illustrated on maps***

- Two historic school houses on 242 Ave (at Union and Hillsvie) and a third in Damascus on Anderson Rd as well as the Pioneer Museum on Bull Run Rd
- Summer camps and Campfire property used for groups of kids should be marked
- Sebartell Rd – dead ends, too narrow for fire truck
- Fuels – Shorty’s corner, along Bluff Rd, Boitano Rd, Allgeier Rd, Judds Dr,
- Save Roslyn Lake!
- Save the lake on Ten Eyck Rd for people
- Kleinsmith Rd as potential evacuation route
- One way in / one way out – Wildcat, Deborah, Eastmont, Tower, Kelso, Peterson, Wally, Fairmont roads and Wooded Hills Drive
- Dead end Roads – limited access
- On county map Dowling Rd shown to exist where it doesn’t
- County Rd shows a non-existent street between Tower Rd and 252<sup>nd</sup>
- Bridge at Kelso & Tickle needs work
- Gate access issue on private timber lands
- Pond on Dowty Rd as potential water source, another near Gunderson Rd another off Eaden
- Garbage dumped off forested roads
- Contractor debris

## **Estacada Community Meeting**

**Date:** May 7<sup>th</sup>, 2005 beginning at 10:00 AM

**Location:** Estacada Fire Station, 445 SE Currin St., Estacada

**Attendance:** Sixty-five attendees signed at the wildfire room, representing approximately 61 households.

### **Facilitators:**

- **Estacada Fire Department:** Chief Alan Hull, Bob Morrisey and others
- **ODF:** Ken Cushman, Erin Spens, Jesse Batson and David Grim
- **USFS:** Len Diaz, Reggie Huston and Rebecca Hollen
- **Clackamas County:** Cindy Kolomecuk and Molly McKnight
- **Resource Innovations:** Jenny Hawkins and Kathy Lynn

## **Meeting Description**

The Estacada Fire Department chose to hold their outreach event in form of an all day Saturday open house. The wildfire component was a central piece of the event, which also included tours of the station, fire truck rides, equipment demonstrations and educational displays and activities such as the hazard house and safety trailer. Upon arriving at the station visitors were directed to the wildfire room where they were able to view and interact with the ODF sand table, ask questions of fire professionals and learn about defensible space. The maps were in the same room. Visitors were invited to locate their home on the maps and then provide feedback about wildfire risk they saw in their community, values to protect from wildfire and opportunities to improve wildfire safety. The day also included a free pizza lunch and noontime presentation by the Chief, ODF, USFS, county and RI staff.

## **Information Gleaned from Community**

### **Flipchart notes:**

- Drive ways overgrown and barely passable by car
- People using (w/out permission) forest (private) for dumping and target practice
- Illegal dumping (household and meth materials)
- Kids partying and bonfires on forestland
- Need for better access and fuel breaks around private timberlands
- Private driveways in terrible condition
- Whispering Pines Assisted Living Center- frequent fire occurrences
- Tall grass, blackberries on adjacent PGE and city lands well as on vacant private lots
- New construction has less access
- Locked gates onto Longview Fiber – does FD have keys?

### **Themes illustrated on maps:**

- Ladee Flats: lots OHV of use, unregulated camping, burning of stolen cars

- Home on Bowman Rd was mislabeled at the Mennonite Church (actual church site on Potter Rd unmarked)
- Limited evacuation routes for homes on Potter Rd
- Heavy vegetation along Potter Rd
- Dayhill Rd very narrow
- Milo McIver Park, Metzler Park, Park on EagleFern Rd, valued community resource for day use, ridding and camping also artifacts found near Dam
- Abandoned (but covered) mine shaft off Norfolk Rd
- Gates onto private timber ground (such as off Clausen Rd, Cadonau Rd) emergency responders need keys
- Bridge near Market and Jannsen Rds needs work
- Limited access along Eagle Cr
- Limited access and fuels loading along Faraday Rd, also illegal camping and illegal fires here
- Fuels on Redland Rd and Fellows Rd
- Limited ingress/egress to individual homes, private driveways

## **Canby Community Meeting**

**Date:** May 14<sup>th</sup>, 2005 beginning at 10:00 AM

**Location:** Canby Fire Station, 221 South Pine Street, Canby

**Attendance:** 171 attendees signed at the wildfire room, representing approximately 30 households. An even larger number of people attended the overall Canby Fire Station Open House

### **Facilitators:**

- **Canby FD:** Chief Ted Kunze, Darryl Krupicka and Kylie Javins
- **ODF:** Ken Cushman, Erin Spens and David Grim
- **USFS:** Len Diaz
- **Clackamas County:** Cindy Kolomechuk
- **Resource Innovations:** Jenny Hawkins

## **Meeting Description**

The wildfire Outreach event was held in conjunction with Canby FD's annual open house. The wildfire room included information about living with wildfire, the defensible space demonstration, picture board showcasing poor and better accesses, driveways, and signage. The mapping activity was in the same room. Raffle tickets were given to each person who signed in at the wildfire room when they entered and were greeted. At noon the Chief kicked off a short presentation in the main bay where the largest crowd was gathered for lunch. The chief described the role of the fire department and its capabilities, Cindy Kolomechuk gave a brief summary of the Clackamas CWPP, Ken Cushman outlined the role of wildfire in forests and the role of ODF in providing wildfire protection. Len Diaz also remarked on the role of the USFS in providing wildfire protection. Jenny Hawkins gave a short take on how the public could be involved by participating in the mapping activity and doing defensible space around their homes. The Chief then emceed the raffle.

## **Information Gleaned from Community**

### **Flipchart notes**

- Logging Trail Rd
  - ✓ "My favorite place," used by many locals for walking, etc.
  - ✓ Overgrown vegetation,
  - ✓ Access could be better
- Illegal Burning in City Limits
- Molalla State Park – An Asset!

### **Themes illustrated on maps**

- Historic grange on South Mark Rd
- Highlighted parks along the Willamette as favorite recreation areas, and parks on tributaries
- Noted fuels on Molalla Forest Rd, on right of way from Territorial Rd to the River, around the new middle school on Township Rd
- On Hwy 99 as it follows the river East of town,
- Marked individual residences with poor ingress/egress
- Assisted living center
- Poor road conditions on Critfser Rd
- Corners with poor visibility (Township & Redwood)
- Old Christmas tree farm – overgrown (off Township Rd)

## END NOTES

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<sup>1</sup> Greater Sisters Country Community Wildfire Protection Plan. Watershed Research and Training Center (June 2005) [www.sistersfire.com](http://www.sistersfire.com).

<sup>2</sup> IBID.

<sup>3</sup> All Hazard Mitigation Plan Clackamas County, Oregon. G&E Engineering Systems Report 32.07.01, Revision. September 23, 1998.

<sup>4</sup> Oregon Department of Forestry. (August, 2002) <http://www.odf.state.or.us/>

<sup>5</sup> <http://www.fs.fed.us/r6/rogue-siskiyou/biscuit-fire/index.shtml/>

<sup>6</sup> *Planning for Natural Hazards: The Oregon Technical Resource Guide*, (July 2000), Department of Land Conservation and Development, Ch. 7.

<sup>7</sup> Wilkinson, Todd. "Prometheus Unbound," (May/June 2001), Nature Conservancy.

<sup>8</sup> National Interagency Fire Center, *National Register of Urban Wildland Interface Communities Within the Vicinity of Federal Lands that are at High Risk from Wildfire*. (May 2001) <http://www.nifc.gov>.

<sup>9</sup> Josephine County Integrated Fire Plan. Resource Innovations. November 8, 2005 <http://www.co.josephine.or.us>.

<sup>10</sup> 2005 Fire Operations Plan: North Cascade District Oregon Department of Forestry General File #1-2-2-100.

<sup>11</sup> Josephine County Integrated Fire Plan. Resource Innovations. November 8, 2005, <http://www.co.josephine.or.us>.