



# Linn County Community Wildfire Protection Plan

**Prepared for Linn County  
by ECONorthwest**

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Photos courtesy of Mike Price and  
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# Executive Summary

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This plan describes Linn County's risk from wildfires as well as the specific steps that it will take to reduce that risk now and in the future. It is a Community Wildfire Protection Plan (CWPP), a collaborative effort to reduce the potential for future loss of life and property resulting from wildfire.

## WHY DEVELOP A MITIGATION PLAN?

Wildfire hazard mitigation is a system for permanently reducing or alleviating the losses of life, property, and injuries resulting from wildfire through long and short-term strategies. The plan and the strategies in it recognize that it is impossible to predict exactly when a wildfire will occur, or the extent to which it will affect Linn County's communities. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens throughout the County, it is possible to minimize the losses that can result from Wildland Urban Interface (WUI) fire events.

This CWPP is intended to assist Linn County in reducing its risk from WUI wildfire hazards by identifying resources, information, and strategies for risk reduction. It will also help to guide and coordinate mitigation activities throughout the County.

## HOW IS THE PLAN ORGANIZED?

The Linn County Community Wildfire Protection Plan follows the guidelines established by HFRA (Healthy Forest Restoration Act, 2003) and has the following components:

- **Section 1: Introduction.** Describes the purpose and process of Linn County's CWPP
- **Section 2: Community Profile.** Determines the boundaries of the Plan's implementation and describes the communities that fall within that boundary in terms of their relative risk and preparedness for a wildfire event. Discusses the conditions for community participation and outreach.
- **Section 3: Risk Assessment.** Ranks communities at risk for wildfire in Linn County and provides a series of maps that pinpoint areas of Extreme, High, Moderate, and Low risk in Linn County's Wildland Urban Interface.
- **Section 4: Community Outreach.** Details the process by which community participation and input was gathered through FireWise workshops and agency surveys. Establishes the basis for future collaborative efforts.

- **Section 5: Action Plan.** Sets forth the five Goals of Linn County’s CWPP, and establishes Action Items that will further the County toward it’s wildfire mitigation Goals. Each action is assigned to a participating agency. The Action Items are set forth in detail in an attachment to the Plan.
- **Section 6: Implementation and Maintenance.** Discusses the future of Linn County’s CWPP and offers suggestions for keeping the Plan a “living”, relevant, and up-to-date document that can be utilized throughout the County for years to come.

## WHO PARTICIPATED IN DEVELOPING THE PLAN?

Linn County’s Community Wildfire Protection Plan is the result of the collaborative efforts of the following agencies:

- Oregon Department of Forestry
- Bureau of Land Management, Salem Office
- Linn County Planning and Building Department
- Linn County Fire Defense Board
- Willamette National Forest and Bureau of Land Management, Eugene Office
- Linn County Emergency Services

In addition, the CWPP draws upon the input and feedback provided by members of the public and other stakeholders who participated in a FireWise workshop.

## WHAT IS THE PLAN’S MISSION?

The mission of the Linn County CWPP aligns with the mission for the Linn County Natural Hazard Mitigation Plan. The mission is:

*To reduce the impact of natural hazards on the community through planning, communication, coordination and partnership development.*

## WHAT ARE THE PLAN GOALS?

The participants in this collaborative process identified five County-wide goals that could be effectively addressed by a CWPP. These goals are the product of input from community members through the FireWise workshop, and are also coordinated with the County’s Natural Hazard Mitigation Plan.

- **Goal #1:** Enhance wildfire response capabilities
- **Goal #2:** Increase stakeholder knowledge about wildfire risk through education and outreach

- **Goal #3:** Encourage the treatment of structural ignitability
- **Goal #4:** Prioritize fuel reduction projects
- **Goal #5:** Increase opportunities for collaboration and coordination to implement wildfire projects.

## HOW ARE THE ACTION ITEMS ORGANIZED?

Each goal has been assigned action items that were agreed upon through the collaborative process. Action items have been grouped according to the goal which they are meant to support. Each item has been assigned to a participating agency for continuing oversight and “ownership”. In addition, the committee has suggested potential partners in carrying out the action. Partnerships can be formed with a variety of agencies, entities, and organizations, and have been split into two basic groups: Internal and External Partners.

- Internal Partners are organizations that have been involved with the construction of the County’s CWPP. The Bureau of Land Management might serve as an internal partner to the Oregon Department of Forestry in the implementation of action item 4.3, for example.
- External Partners are organizations, agencies, and companies that can provide support in implementing the action items through various activities. An example might be the help of insurance or real estate agencies in disseminating information about maintaining defensible space around a person’s property.

Below is the Linn County Community Wildfire Protection Plan Action Item Matrix. This matrix allows for a quick overview of each goal and it’s corresponding action items. These items can be updated as needed by participating agencies.

## Linn County Community Wildfire Protection Plan Action Item Matrix

Goals	Action Item:			
<b>GOAL 1: Enhance wildfire response capabilities</b>				
		Time Line	Lead Organization	Internal/External Partners
	<b>Action 1.1</b> Assess and address deficiencies in equipment and resources available for wildland fire fighting for rural fire departments.	Ongoing	Fire Defense Board	Roads Department, Emergency Management, Power Companies, Hospitals, and Private Contractors, ODF
	<b>Action 1.2</b> Inventory alternative firefighting water sources in Wildland Urban Interface, including helicopter dip sites	1-2 years	Oregon Department of Forestry	Rural Fire Protection Districts, United States Forest Service, Small Woodlands Association, and Oregon Civil Air Patrol, Industrial land owners, Water Master
	<b>Action 1.3</b> Improve addressing and visibility in rural areas	3-5 years	Linn County Sheriff - Dispatch and the Fire Defense Board	Building Department, Fire Defense Board, Linn County GIS
	<b>Action 1.4</b> Enhance interoperable communications by addressing communication deficiencies	3-5 years	Linn County Sheriff - Dispatch	Rural Fire Protection Districts, Oregon Department of Forestry
	<b>Action 1.5</b> Develop evacuation plans and procedures for high-risk WUI areas	Ongoing	County Emergency Management	Roads Department, Linn County GIS, Oregon Department of Forestry, US Forest Service
	<b>Action 1.6</b> Augment volunteer fire fighter training to improve response capabilities, especially in rural fire districts	Ongoing	Linn County Fire Training Council	Emergency Management
	<b>Action 1.7</b> Seek funding to build a smaller secondary substation on the east side of the Harrisburg District	3-5 years	Harrisburg Rural Fire Protection District	Linn County Emergency Management

**GOAL 2: Protect life, the built environment and natural systems through County policies, procedures and services**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 2.1</b> Collaborate with developers/builders, fire protection agencies, and relevant County agencies to collect and distribute educational materials regarding fire-resistant construction materials, fire code standards for access, water supply, fuel breaks and fire-resistant vegetation in the wildland interface/forest designated areas	Ongoing	Planning Department	Oregon Department of Forestry, Office of State Fire Marshal, County Planning and Building, Insurance Companies, Banks, Community Emergency Response Teams, Neighborhood Watch Groups, Senior Citizen Groups, OSU extension
<b>Action 2.2</b> Work with local nurseries and the extension service's Master Gardeners program to promote firewise landscaping	1-3 years	Oregon State University Extension Service	Linn County Fairgrounds, Oregon Gardens Nursery, Master Gardeners, Oregon Nursery Association, Oregon Department of Forestry, 4-H Clubs, Boy Scouts, High School Forestry Clubs
<b>Action 2.3</b> Continue to educate the public about campfire safety	Ongoing	US Forest Service, Bureau of Land Management, Oregon Department of Forestry	County Sheriff, Rural Fire Protection Districts, Oregon State Police, Sporting Goods Stores
<b>Action 2.4</b> Continue supporting and expanding the Smokey Bear Fire Prevention Programs in schools	Ongoing	US Forest Service, ODF	Oregon State Parks, School Districts
<b>Action 2.5</b> Integrate wildfire hazards and safety programs into educational curriculum	Ongoing	Fire Defense Board	Office of State Fire Marshal, School Districts, Colleges
<b>Action 2.6</b> Create an "Extreme Home Make-over" contest to highlight the need for firewise landscaping	1-3 years	Linn County Planning, Oregon Department of Forestry	Media, Hardware and supply stores

**GOAL 3: Encourage the treatment of structural ignitability**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 3.1</b> Identify incentives for improving maintenance of fire breaks and reducing hazardous vegetation	Ongoing	Oregon Department of Forestry	Fire Defense Board, Insurance Agencies, Small Woodlands Association, Industrial land owners
<b>Action 3.2</b> Work with insurance providers to improve their criteria to adequately represent level of structural fire protection in residential structures, especially in high-risk areas.	Ongoing	State Insurance Commissioner's Office	Fire Districts, Office of State Fire Marshal, Insurance Companies, Oregon Department of Forestry
<b>Action 3.3</b> Enhance structural protection in structurally unprotected areas and comply with the Governor's policy in unprotected areas to be eligible for conflagration resources.	Ongoing	Linn County Planning	Fire Districts, Land Owners
<b>Action 3.4</b> Complete the fire structural risk assessments in Brownsville, Lebanon, and Sweet Home fire districts, and utilize this as a model program for other Linn County fire districts	1-3 years	Fire Defense Board, Oregon Department of Forestry	Retired professionals, Universities, Neighborhood Associations, CERT Teams, Watershed Councils
<b>Action 3.5</b> Develop processes and standards for the implementation of Oregon Senate Bill 360: Oregon Forestland Urban Interface Fire Protection Act	1-3 years	County Planning and Building	Board of County Commissioners, Oregon Department of Forestry, Bureau of Land Management, US Forest Service

**GOAL 4: Prioritize fuel reduction projects**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 4.1</b> Incorporate, maintain, and update Linn County's Wildland-Urban Interface Risk Assessment and GIS data elements, and develop and maintain an inventory of potential fuels reduction projects in high-risk areas, silvicultural prescriptions, and list of prioritized fuel projects	Ongoing	ODF, Linn County Planning, and Linn County GIS	US Forest Service, Bureau of Land Management, United States Forest Service
<b>Action 4.2</b> Develop educational materials designed to educate property owners about the benefits of sustained fuel reduction efforts	Ongoing	Fire Defense Board	Linn County Planning, Linn County Sheriff, Oregon Department of Forestry, Bureau of Land Management, United States Forest Service, Oregon State University Extension Service, 4-H programs, Boy Scouts, Neighborhood Watch Programs, Small Woodland Association
<b>Action 4.3</b> Develop a resource guide to assist private landowners on how to complete risk assessments and determine appropriate fuel reduction strategies	1-3 years	Oregon Department of Forestry	Fire Defense Board, Oregon State University Master Woodland Manager Program, Association of Oregon Loggers, Society of American Foresters
<b>Action 4.4</b> Identify opportunities to assist vulnerable populations (i.e., elderly, disabled, etc.) who request assistance in creating defensible space around homes and communities	1-3 years	Oregon Department of Forestry	Fire Defense Board, Linn County Planning, Oregon State University Extension Service, Northwest Youth Corps, social services organizations
<b>Action 4.5</b> Explore and promote opportunities for small diameter biomass utilization and marketing	1-3 years	CWPP Committee	Linn County Planning, Oregon State University Extension Service, Small Woodlands Association, Bureau of Land Management, US Forest Service, Association of Oregon Loggers
<b>Action 4.6</b> Explore the development of a Linn County Fuels Management Cooperative through the Small Woodland Association for sustaining fuels management within the WUI	1-3 years	Fire Defense Board, Oregon Department of Forestry	Small Woodlands Association, Bureau of Land Management, US Forest Service, Association of Oregon Loggers
<b>Action 4.7</b> Work with forestland managers and watershed managers to protect water quality in high risk areas while reducing wildfire hazards	1-3 years	ODF	Oregon Department of Forestry, Watershed Councils, Soil and Water Conservation District, US Forest Service, Private Timber Companies, Department of Environmental Quality, Bureau of Land Management
<b>Action 4.8</b> Work with County Roads Department and ODOT to reduce hazardous vegetation in Right of Ways to enhance access and create fuel breaks, and to keep County/access roads large enough for fire vehicle passage.	Ongoing	County Roads Department	Linn County Planning, Oregon Department of Forestry, Bureau of Land Management, US Forest Service
<b>Action 4.9</b> Support creation of fire buffers around agricultural land	Ongoing	Linn County Planning	Fire Defense Board, Cities, Rural Fire Protection Districts, Oregon Department of Forestry, Department of Agriculture

**GOAL 5: Increase opportunities for collaboration and coordination to implement wildfire projects**

	Time Line	Lead Organization	Internal/External Partners
<p><b>Action 5.1</b> Create and formalize a CWPP Advisory Committee to oversee implementation, identify and coordinate funding opportunities, and sustain the Linn County Community Wildfire Protection Plan</p>	1 year	County Commission, County Planning and Building	Committee representatives
<p><b>Action 5.2</b> Establish a sub-committee or a Fire Prevention Cooperative to coordinate and sustain effective countywide public education and outreach activities</p>	1-3 years	CWPP Advisory Committee, Fire Defense Board	Oregon State University Extension Service, Soil and Water Conservation District, Keep Oregon Green



## **PLAN ADOPTION & IMPLEMENTATION**

The Healthy Forest Restoration Act requires that the Linn County Board of Commissioners, the Linn County Fire Defense Board, and the Oregon Department of Forestry all agree to the final contents of the County's CWPP. The Plan will be adopted by resolution by the Board of Commissioners, and acknowledged by the Fire Defense Board and the Oregon Department of Forestry in order to meet HFRA and FEMA requirements. Because of the non-regulatory nature of the CWPP, the relevance and effectiveness of the Plan will rely upon the implementation efforts of each of the agencies and organizations involved.

The Plan's Advisory Committee (the Committee) will oversee implementation efforts, identify and coordinate funding, and serve as a centralized resource for wildfire risk reduction efforts for all of Linn County. As such, the Advisory Committee will prioritize and recommend funding for projects, document the successes and lessons learned from those projects, and evaluate and update the CWPP as needed.

Many of the action items set out in the CWPP address the issue of continuing support for wildfire risk mitigation projects. By actively pursuing funding for projects, staying informed and in contact with one another, and updating the CWPP regularly so that it remains a "living" document, the partner organizations have committed to continuing their involvement. Because the CWPP will be integrated into the wildfire annex of the Linn County Natural Hazard Mitigation Plan, the CWPP will be completely updated on a five-year basis, along with the rest of the County's Natural Hazards Plan.

Additional semi-annual meetings will serve as an opportunity for the committee to determine which action items to prioritize for implementation, to suggest additional action items that may have been missed, and to prioritize potential mitigation projects through a four-step prioritization process. The annual meetings will provide an opportunity to focus the committee's efforts on Risk Assessment data and new findings, determining ways to encourage continued public involvement, and document actions accomplished during the year.



# Introduction

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The Linn County Community Wildfire Protection Plan (CWPP) identifies strategies and priorities for the protection of life, property, and infrastructure in Linn County and its Wildland Urban Interface (WUI). The CWPP is a shared plan administered jointly by the Linn County Board of Commissioners, the Oregon Department of Forestry, the Linn County Fire Defense Board, and the US Forest Service and Bureau of Land Management; the contents of this plan were mutually agreed upon by all five entities.

This section of the CWPP introduces the important elements of the plan. It has the following parts:

- **Plan purpose** describes why Linn County needs a CWPP and how the document will help to reduce wildfire risk in the County now and into the future.
- **Planning process and methods** describes how the plan was created.
- **Plan organization** describes each of the sections in the remainder of the plan.

## PLAN PURPOSE

As human development continues to spread into agricultural and forestlands, the risk of Wildland Urban Interface fire escalates. Linn County's diverse geography, population, and land ownership patterns create challenges to reducing the County's risk of wildfire. At the same time, these are important County assets that should be protected from wildfire.

The CWPP is an action plan for reducing risk that depends upon people and collaborative partnerships to carry it forward. It updates and builds upon the wildfire section of Linn County's Natural Hazard Mitigation Plan to provide a more detailed description of wildfire risk and to outline agreed-upon risk reduction activities. The purpose of the CWPP is to provide the following:

- A foundation for communication, coordination and collaboration among agencies and the public in Linn County to reduce risk of wildfire
- An assessment and map of the Wildland Urban Interface (WUI) in Linn County
- Identification and prioritization of areas for hazardous fuel reduction projects
- A set of recommended actions homeowners and local communities can take to reduce the ignitability of their buildings and structures
- A framework to support the development of local community fire plans within the County

The plan also provides assistance in meeting federal and state planning requirements and qualifying for assistance programs.

## WHY DEVELOP A COMMUNITY WILDFIRE PROTECTION PLAN?

The development of structures in and near forestlands exposes greater numbers of people and property to wildfire hazard. In 2002, one of the worst fire seasons in recent history, wildfires burned nearly seven million acres and 2,000 buildings across the United States. In 2003, wildfires destroyed 4,090 homes, primarily in California.<sup>1</sup>

According to the Oregon State Natural Hazards Mitigation Plan, “over 41 million acres of forest and rangeland in Oregon are susceptible to wildfire.”<sup>2</sup> The Wildland Urban Interface—the area where human development mixes with forestland—is growing in many Oregon communities. According to the State Natural Hazards Risk Assessment, Linn County has a high probability of and moderate vulnerability to WUI fire.<sup>3</sup> The risk assessment in this document supports that assessment.

The destruction caused by fire in recent seasons illustrates that fire response and emergency management efforts alone are not enough to prevent losses. Reducing a community’s risk to wildfire is a shared responsibility that requires the participation of federal, state, and local government agencies, the private sector, and citizens. Ultimately, however, risk reduction strategies are most effective when organized at the local level. Through community-based fire planning, it is possible to address the specific values and needs of a local community and to build citizen awareness of the dangers of living in a fire prone area.

The dramatic losses during the 2002 and 2003 fire seasons increased public awareness of wildfire risk and contributed to the Federal government’s adoption of the National Fire Plan and the Healthy Forests Restoration Act of 2003 (HFRA). This legislation encourages improved intergovernmental collaboration and increased partnerships between public and private entities to implement vegetative fuel reduction projects and activities aimed at reducing structural ignitibility in at-risk communities. HFRA also encourages local communities to create their own strategies for wildfire mitigation through development of a Community Wildfire Protection Plan.

Linn County recognizes that reducing the potential impacts of Wildland Urban Interface fire requires a proactive approach that reaches across jurisdictional boundaries, public and private lands, and the diverse geographic regions of the County. The development of a Community Wildfire Protection Plan creates an opportunity to encourage communication between agencies and stakeholders, identify and prioritize community values, assess wildfire risk areas, and increase education and awareness of communities and homeowners.

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<sup>1</sup> National Interagency Fire Center. 2005. <<http://www.nifc.gov>>.

<sup>2</sup> Community Service Center. 2003. *Wildfire Chapter: State of Oregon Natural Hazard Mitigation Plan*. State Natural Hazard Mitigation Plan. <<http://www.deq.state.or.us/aq/docs/neap/appendixD.pdf>>

<sup>3</sup> Community Service Center. 2003. *Region 3: Mid/Southern Willamette Valley Hazards Assessment*. State Natural Hazard Mitigation Plan. <[http://csc.uoregon.edu/PDR\\_website/projects/state/snhra/snha\\_pdf/](http://csc.uoregon.edu/PDR_website/projects/state/snhra/snha_pdf/)>.

In February of 2007, Linn County began to work collaboratively with fire protection districts and federal and state agencies to develop a Community Wildfire Protection Plan. The planning process was designed to result in a plan that meets the funding eligibility requirements of the National Fire Plan, the HFRA of 2003, and the Pre-Disaster Mitigation Program of the Federal Emergency Management Agency.

The Linn County CWPP focuses on achieving and exceeding the three minimum requirements for Community Wildfire Protection Plans described by the HFRA:

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

## WHAT AREA WILL THE CWPP AFFECT?

The Linn County Natural Hazard Mitigation Plan defines wildfire as an uncontrolled burning of wildlands (forest, brush, or grassland). Although fire is a natural part of forest and grassland ecosystems in Linn County, wildfire can pose a significant risk to life and property in Wildland Urban Interface (WUI) areas. The WUI is the “borderlands” at the edges of urban development, where homes and other structures are built into a forested or natural landscape. If left unchecked, fires in these areas can threaten lives and property.

Over 900,000 acres, or nearly 65% of Linn County, is forested.<sup>4</sup> These forested lands play a critical role in the economic, environmental, and social vitality of the County. Wildfire poses a serious threat to economic activity, recreation, life, and property in forested areas. Thirty-five percent of Linn County’s population resides outside of cities. Wildfire poses a threat to rural communities, rural residential areas, and other rural home sites located throughout the County.

Linn County’s climate is characterized by warm dry summers. During the summer fire season, the danger of fire in the County’s forests and grasslands increases as vegetation dries and increases the potential for fire ignition and spread. The forest lands in eastern Linn County are subject to small to moderate

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<sup>4</sup> Linn County Comprehensive Plan, LCC 905.200(C), pp. 905-6

fires annually, but the increase in ladder fuels—in other words, places where grasses and shrubs act the first rung of the ‘ladder,’ smaller trees and outbuildings create the next rung, and the tree canopy creates the top rung--coupled with the increase in potential ignition sources from WUI development results in the potential for larger, more devastating wildfires.

The Linn County CWPP identifies risk reduction activities and takes into consideration the County’s diverse geography, population, and land management authorities. The plan identifies general areas with high wildfire risk and provides a framework of technical support and guidance that can assist local communities in developing and refining their own Community Wildfire Protection Plans and risk assessments. The CWPP does not have authority over incorporated communities within the County, but seeks to develop strategies for sharing information and resources between the County and local communities.

## **PLANNING PROCESS AND METHODS**

Linn County hired ECONorthwest to design and implement the Linn County CWPP planning process based upon the requirements of the HFRA, the Pre-Disaster Mitigation program, and the guidelines in the *Preparing a Community Wildfire Protection Plan*<sup>5</sup> handbook.

The planning process for the Linn County CWPP reflects the collaborative emphasis required by HFRA (Healthy Forests Restoration Act): in developing this plan, the County’s stakeholders came together to address a problem by identifying common goals and gaining consensus on potential solutions. A collaborative plan recognizes that the implementation process is more successful when it draws on a broad base of resources. This process ensures that the final document reflects the community’s highest priorities and that the plan can be implemented to effectively reduce risk.

There were six steps in the County’s planning process, described in detail below.

### **STEP I. CONVENE STEERING COMMITTEE AND ENGAGE FEDERAL PARTNERS**

Linn County Planning & Building Department convened a steering committee to oversee and guide the development of the Linn County CWPP. The steering committee is a collaborative group responsible for making decisions and agreeing upon the final contents of the plan. The members of the steering committee included representatives of the following agencies:

- Oregon Department of Forestry

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<sup>5</sup> National Association of Foresters, Western Governors Association, National Association of Counties, and Society of American Foresters. 2004. *Preparing a Community Wildfire Protection Plan*. <<http://www.stateforesters.org/pubs/cwpphandbook.pdf>>.

- Bureau of Land Management, Salem Office
- Linn County Planning and Building Department
- Linn County Fire Defense Board
- Willamette National Forest and Bureau of Land Management, Eugene Office
- Linn County Emergency Services

## **STEP II. RESEARCH EXISTING WILDFIRE RESOURCES, PLANS, AND POLICIES**

Background research was conducted prior to beginning the planning process for the Linn County CWPP. ECONorthwest reviewed existing federal, state, and local policies and plans related to wildfire planning, protection, or mitigation, as well as recent community wildfire plans from across the nation. Other background information included recent research by the U.S. Forest Service and other literature on Wildland Urban Interface fire prevention.

## **STEP III. ENGAGE INTERESTED PARTIES AND STAKEHOLDERS**

The steering committee used a five-tiered process to engage stakeholders in the development of the Linn County CWPP:

1. **Fire district survey** - A scoping survey was administered to all Linn County fire districts and the Oregon Department of Forestry. The survey tool helped focus the efforts of the project team to streamline the planning process. Information gathered by the survey was used to:
  - Assess fire agency capacity and needs
  - Identify critical issues to be addressed in the plan
  - Inventory existing prevention and education resources
  - Identify a history of wildfire occurrence and district responses
  - Identify wildfire risk factors in each district
  - Gather preliminary actions for wildfire mitigation
2. **Project website** – A project website was developed to provide current information about wildfire prevention including defensible space around homes and fire resistant vegetation for landscaping. The website describes the purpose and content of the CWPP for a general audience and highlights current project events. The site also allows the public to provide input, identify wildfire issues, and suggest mitigation actions throughout the planning process.
3. **Stakeholder interviews** - ECONorthwest conducted phone interviews with key stakeholders to gain information about important issues, concerns, and current activities related to the Linn County CWPP

objectives of collaboration, prioritization of fuel reduction projects, and treatment of structural ignitability.

4. **FireWise workshop** - Oregon Department of Forestry and Linn County Planning Department invited stakeholders such as agency staff, planners, developers, realtors, insurers, utility providers, and non-profit organizations to attend a FireWise Communities workshop. The workshop sought stakeholder participation in identifying obstacles and opportunities to reducing wildfire risk in Linn County.

## **STEP IV. DEVELOP A COMMUNITY BASE MAP AND WILDFIRE RISK ASSESSMENT:**

Linn County's risk assessment identifies communities at risk and establishes preliminary designation of the County's Wildland Urban Interface (WUI) zone. To do this, Linn County acquired and evaluated community data—including electronic mapping data compatible with geographic information systems software and the results of the surveys and interviews described earlier; reviewed the data; created a risk assessment model and analysis methodology; conducted the analysis; verified the results with wildfire professionals and with field visits to on-the-ground locations in the WUI; and produced final maps of the area and analysis outputs.

ECO used the study maps to develop a draft risk assessment that identifies major risk factors and describes the history of wildfire occurrences.

## **STEP V. DEVELOP AN ACTION PLAN AND PROJECT PRIORITIZATION METHOD:**

The findings from the wildfire risk assessment and the input from stakeholders were used to create an action plan for the Linn County CWPP. The action plan identifies the goals, objectives, and action items for carrying out wildfire risk reduction strategies in the County. The action plan also establishes roles and responsibilities, funding, and timetables for implementing action items.

Based on the risk assessment and other factors, the steering committee developed a process for prioritizing community hazard reduction projects. Hazard reduction projects must be prioritized to ensure that mitigation funding is used efficiently and effectively.

## **STEP VI. FINALIZE COMMUNITY WILDFIRE PROTECTION PLAN:**

ECONorthwest presented a draft CWPP to the steering committee on September 12, 2007 for review and comment. The steering committee-approved document was presented to the Linn County Board of County Commissioners on **XXX** and was adopted by resolution.

The following entities approved the final document, pursuant to the HFRA:

1. Linn County Board of Commissioners
2. Linn County Fire Defense Board
3. Oregon Department of Forestry

## PLAN ORGANIZATION

The remainder of the Linn County CWPP is organized into the following sections and appendices:

- **Section 2: Linn County Community profile** presents information on Linn County's demographic make-up and serves as the basis for identifying wildfire vulnerability.
- **Section 3: Risk assessment** presents the findings from the Linn County Wildfire Risk Assessment, including the methods used to develop the assessment, limitations, ideas for long-term assessment updates and maintenance, and key findings.
- **Section 4: Community outreach and collaboration** presents the findings from the three outreach efforts, which include the rural fire protection district survey, stakeholder interviews, the FireWise Workshop, and stakeholder workshop. The section concludes with a summary of the key issues identified through these community outreach efforts.
- **Section 5: Action plan** describes the framework and methods used to develop the goals, objectives, and action items that make up the Action Plan.
- **Section 6: Plan implementation and maintenance** describes the methods for implementing the Action Plan, the process for prioritizing projects, and a schedule for updating and maintaining the plan.
- *Appendix A: Action Item Worksheets* describes in a worksheet, the key issues addressed, ideas for implementation, coordination and partner organizations, timeline, and plan goals addressed.
- *Appendix B: Implementation and maintenance documentation* documents the agendas, meeting minutes, and other outcomes of the CWPP Advisory Committee meetings.
- *Appendix C: Risk Assessment methods* documents the process used to develop the Risk Assessment maps and conclusions.
- *Appendix D: Fuel treatment types for Linn County* describes and analyzes potential fuel treatment types available for use in Linn County.
- *Appendix E: Stakeholder interview summary* describes the purpose, methods and findings of stakeholder interviews.
- *Appendix F: Firewise Workshop summary* describes the purpose, methods and findings of the FireWise workshop.
- *Appendix G: Wildfire Resources* documents existing wildfire resources.
- *Appendix H: Glossary of Terms* provides definitions of terms used throughout the Linn County CWPP.



# Linn County Community Profile

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## Section 2

A community profile is an important part of the Community Wildfire Protection Plan, because it describes the amount and type of land, the characteristics of the population, and the built infrastructure that is at risk from wildfire events. Linn County's diverse geography, population, and land ownership patterns create challenges to reducing the County's risk of wildfire, but also represent key County assets that should be protected from wildfire. This section describes some of the characteristics of Linn County that contribute to its wildfire vulnerability.

Linn County's Natural Hazard Mitigation Plan contains a detailed community profile. This section of the CWPP updates the community profile as it relates to wildfire, and describes the amount and location of land at risk, the population growth expected in that land, and the resources that could be affected by wildfires.

This section provides an overview of the community's wildfire characteristics. It has the following parts:

- **Community and Wildland Urban Interface area description** describes Linn County's forest characteristics
- **Wildfire history** describes the previous occurrences of wildfire in Linn County
- **Linn County communities at risk** describes the communities in the County identified as being particularly at risk to wildland fire
- **Current wildfire protection framework** describes the wildfire protection roles and responsibilities of the various agencies in Linn County
- **Existing plans and policies** describes the plans and policies that Linn County already has in place that will assist in addressing wildfire risk

## COMMUNITY AND WILDLAND URBAN INTERFACE AREA DESCRIPTION

### FOREST CHARACTERISTICS

Historic wildfire regimes helped to shape the forest landscape of Linn County. Natural cycles of fire disturbance influence all facets of ecosystem dynamics, from structure and composition to wildlife habitat and nutrient cycling. Fire suppression, timber harvesting, the introduction of exotic species, and other human factors have disturbed natural fire cycles. West of the Cascade Mountains,

fire frequency and severity depend upon environmental variables, such as temperature, moisture, ignitions, and broad, fire-driving winds.<sup>6</sup>

Linn County is composed of two distinct ecoregions with differing vegetative, geographic, and fire regime characteristics.<sup>7</sup> These ecoregions are described below:

- Willamette Valley: The Valley landforms include floodplains and terraces that are interlaced with surrounding rolling hills. The natural vegetation includes Cottonwood, Alder, Oregon Ash, and Big Leaf Maple. Douglas Fir and Western Red Cedar occur in moister areas. The Valley has lower precipitation, warmer temperatures, and fire regimes of higher frequency and lower severity than the adjacent Cascade Range.
- Western Cascades: This ecoregion is characterized by ridge crests at similar elevations, separated by steep valleys. The natural vegetation consists of forests of Douglas Fir and Western Hemlock at lower elevations and Silver Fir and Mountain Hemlock at higher elevations.

Throughout Linn County, Douglas Fir and Western Hemlock are the predominant forest types.<sup>8</sup> Fire regimes in moist Douglas-fir habitat types are mixed, ranging from low to moderate severity surface fires at relatively frequent intervals (7 to 20 years) to severe crown fires at long intervals (50 to 400 years).<sup>9</sup> Significant annual precipitation and low occurrence of lightning throughout much of Linn County contribute to a low probability of natural fire ignitions in many areas. However, once ignited, the high vegetative fuel loads are vulnerable to catastrophic fires - those that “burn more intensely than the natural or historical range of variability, thereby fundamentally changing the ecosystem, destroying communities and/or rare or threatened species/habitat, or causing unacceptable erosion.”<sup>10</sup>

## WILDFIRE HISTORY

Wildfire plays a critical ecological role in many ecosystems across the country, including those in Linn County. Native Americans annually burned large areas of the Willamette Valley and coastal valleys to help maintain grasslands and

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<sup>6</sup> Pacific Northwest Research Station, and the USDA Forest Service. 2002. When the Forest Burns: Making Sense of Fire History West of the Cascades. *Science Findings* (46).

<sup>7</sup> Loy, William et al. 2001. *Atlas of Oregon*.

<sup>8</sup> Ibid

<sup>9</sup> USDA Forest Service. 2004. *Healthy Forests Pacific Northwest – Fire & Ecosystems in the Pacific Northwest*. <[www.fs.fed.us/r6/colville/hfi/ecosystems/index.shtml](http://www.fs.fed.us/r6/colville/hfi/ecosystems/index.shtml)>.

<sup>10</sup> National Fire Plan. 2001. *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Strategy*.

savannahs.<sup>11</sup> Forest fires were relatively infrequent, although their size and severity were often great.

The disruption of natural fire cycles over the last century has created dangerous vegetative fuel loads and forests vulnerable to catastrophic wildfires. Logging came to the region in the early twentieth century, and, combined with fire, changed the landscape of the western Cascades.<sup>12</sup> During and after World War II, an emphasis on better wildland fire suppression and fire prevention dramatically reduced damage caused by wildfires. More people moved into suburban areas during this same period, increasing the size of the Wildland Urban Interface and the number of homes and businesses within it.<sup>13</sup> Oregon Department of Forestry statistics indicate that the trend in the number of wildfires is decreasing, but the number of acres and structures burned by the remaining fires is growing.<sup>14</sup>

In 2006, the Santiam Unit of the Oregon Department of Forestry recorded a total of 16 fires, which burned only 9.73 acres. The main cause of these fires was debris burning. In that same time period in the Sweet Home Unit, a total of 51 fires burned 1,181 acres. Lightning was the greatest cause of fire within the Sweet Home Unit. The largest single fire was the Middle Fork Fire, which burned 1,070 acres in September of 2006.

## CURRENT WILDFIRE PROTECTION FRAMEWORK

Several agencies share responsibility for fire protection in Linn County; these roles are described in the Linn County Emergency Operations Plan.

In addition to response capabilities, many fire agencies in Linn County play a role in education and outreach. The Oregon State Fire Marshal provides technical assistance to rural fire protection districts and unprotected areas in the Wildland Urban Interface. The Oregon Department of Forestry has received funding through National Fire Plan grants for fuel reduction projects and community-level fire protection plans. Table 2-1 portrays the current wildfire protection framework for Linn County, including the roles and responsibilities of federal, state, and local fire protection agencies

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<sup>11</sup> Oregon Department of Forestry. 2001. *Northwest Oregon State Forests Management Plan: Final Plan*.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> State of Oregon. 2003. *Emergency Management Plan, Natural Hazards Mitigation Plan*.

**Table 2-1. Current wildfire protection framework**

Federal	State	Municipal	County
<p><b>US Forest Service (USFS) and Bureau of Land Management (BLM)</b></p> <p>Manages the majority of Linn County’s 552,000 acres of FCM zoned forestlands.</p> <p>USFS participates in first response and co-op agreements with Oregon Department of Forestry.</p> <p>BLM contracts with Oregon Department of Forestry for wildland protection on lands within ODF district boundaries.</p>	<p><b>Oregon Department of Forestry</b></p> <p>Provides wildland protection on 578,000 acres in Linn County on state owned and state protected lands within district boundaries (includes BLM lands).</p> <p>Contracts with private landowners to provide wildland fire protection outside of district boundaries.</p> <p>Participates in first-response agreements with all adjoining counties and in co-op agreements with USFS.</p> <p>Provides protection by contract to BLM lands within district boundaries.</p> <p>Promotes education, outreach, and prevention activities.</p> <p><b>Oregon State Fire Marshal</b></p> <p>Provides technical assistance to local fire departments and unprotected areas.</p> <p>Promotes education and outreach in the Wildland Urban Interface.</p> <p>Adopted the Oregon Fire Service Mobilization Plan.</p>	<p><b>City Fire Departments</b></p> <p>Provide structural fire protection within city limits.</p> <p>The cities of Albany, Brownsville, Stayton, Sweet Home, Tangent, Lebanon, and Harrisburg provide fire services inside their own city limits, and in some cases in the surrounding unincorporated areas.</p>	<p><b>Rural Fire Districts</b></p> <p>5 Rural Fire Districts within Linn County (Lyons, Scio, Jefferson, Mill City, and Halsey-Shedd).</p> <p>Provide structural fire protection within district boundaries throughout the county.</p> <p><b>Linn County Fire Defense Board</b></p> <p>Manages mutual aid agreements among the 5 rural fire protection agencies and the 7 municipal fire agencies in the County and Oregon Department of Forestry.</p> <p>Focuses on the operational side of fire response.</p>

## EXISTING PLANS AND POLICIES

The CWPP is non-regulatory in nature, meaning that it does not set forth any new policy. The plan does provide (1) a foundation for increased communication, coordination and collaboration among agencies and the public in Linn County, (2) identification and prioritization of areas for hazardous fuel reduction projects and other mitigation activities, and (3) assistance meeting federal and state planning requirements and qualifying for assistance programs. The CWPP works in conjunction with other County plans and programs including but not limited to the Natural Hazards Mitigation Plan, the Comprehensive Plan, and the Emergency Operations Plan. These plans are briefly described below:

- **Linn County Natural Hazards Mitigation Plan** was adopted in 2006 and was intended to assist Linn County in reducing its risk from natural hazards by identifying resources, information, partnerships, and strategies for addressing risk. The plan is designed to meet the requirements for mitigation planning as set forth in the Disaster Mitigation Act of 2000. The CWPP will serve as the wildfire annex for the County's Natural Hazards Mitigation Plan.
- **Linn County Comprehensive Plan** serves to address a wide range of concerns such as the best use of air, land and water resources, as well as the delivery of public services. The comprehensive plan changes when the needs and desires of the public change, when development occurs at a different rate than predicted, and when corrections or revisions are needed. It contains an element that specifically addresses natural hazards, as required by Oregon's State Land Use Planning Goal 7. The plan is reviewed and updated three years after its initial adoption. The Linn County Comprehensive Plan was last updated in May 2004.
- **Linn County Emergency Operations Plan** is maintained by the Linn County Sheriff's Department. The EOP was last updated in 1997. The purpose of the Emergency Operations Plan is to provide a central location that describes in detail all necessary components of support and procedure in an emergency situation. The EOP maintains and updates emergency services systems to prevent or reduce the impact of injuries in the case of an emergency.

## POLICY FRAMEWORK

The Linn County CWPP addresses the requirements for a Community Wildfire Protection Plan provided in Title III of the Healthy Forests Restoration Act (HFRA), and also meets the guidelines and requirements of other state and federal programs. Table 2-2 briefly describes policies relevant to the creation and implementation of Linn County's CWPP.

**Table 2-2. Policy Framework for Wildland Urban Interface Fire in Oregon**

Policy	Requirements	How the CWPP Addresses Policy
<p><b>Healthy Forests Restoration Act (HFRA):</b> Congress adopted HFRA in 2003 to assist community, state, and federal land managers in the prevention of catastrophic wildfire on public lands through fuels reduction activities. The Act requires that 50% of appropriated fuel treatment funding through HFRA be used in the Wildland Urban Interface protection zone and give priority funding to communities with a Community Wildfire Protection Plan in place.</p>	<ul style="list-style-type: none"> <li>• Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.</li> <li>• Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.</li> <li>• Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.</li> <li>• Three entities must mutually agree to the final contents of a CWPP: the applicable local government; the local fire departments; and the state entity responsible for forest management.</li> </ul>	<ul style="list-style-type: none"> <li>• The CWPP was collaboratively developed by a steering committee representing local, state, and federal agencies. The plan conducted outreach activities to gain input from public and private stakeholders.</li> <li>• The CWPP includes an assessment of wildfire risk in Linn County and a process for prioritizing fuel reduction projects. The plan also includes a table identifying appropriate fuel treatment methods for Linn County.</li> <li>• The CWPP recommends actions for promoting risk reduction activities on private and public lands in Linn County.</li> <li>• The Linn County Board of Commissioners, the Linn County Fire Defense Board, and the Oregon Department of Forestry approved the Linn County CWPP.</li> </ul>
<p><b>National Fire Plan 10-Year Comprehensive Strategy:</b> The National Fire Plan was developed in 2000, following a landmark wildfire season, to actively respond to severe wildfires and their impacts on communities, while ensuring sufficient firefighting capacity for the future.</p>	<p>The National Fire Plan addresses five key points:</p> <ol style="list-style-type: none"> <li>1. Firefighting,</li> <li>2. Rehabilitation,</li> <li>3. Hazardous Fuels Reduction,</li> <li>4. Community Assistance, and</li> <li>5. Accountability.</li> </ol>	<ul style="list-style-type: none"> <li>• The CWPP will aid in effectively implementing National Fire Plan goals by providing a collaborative framework for reducing wildfire risk to communities in Linn County.</li> <li>• The advisory committee responsible for coordinating the CWPP will also serve as the local coordinating body for National Fire Plan projects.</li> </ul>

Policy	Requirements	How the CWPP Addresses Policy
<p><b>Disaster Mitigation Act of 2000:</b> The Act emphasizes mitigation planning and establishes a pre-disaster hazard mitigation program.</p>	<p>Requires state and local governments to have an approved natural hazard mitigation plan in place to qualify for post-disaster Hazard Mitigation Grant Program funds.</p>	<p>The CWPP will serve as the Wildfire Annex for the Linn County Natural Hazard Mitigation Plan adopted in 2006.</p>
<p><b>Oregon Statewide Land Use Goal 7 Areas Subject to Natural Hazards:</b> Goal 7 requires local governments to adopt measures in their comprehensive plans to reduce risk to people and property from natural hazards.</p>	<p>The Goal Requires that local governments complete and Federal and state land managers coordinate natural hazard inventories, and local land managers alter land use designations to minimize risk to people and property from natural hazards.</p>	<p>The CWPP includes a wildfire risk assessment for Linn County, which may be used as new wildfire hazard inventory information in the Linn County Comprehensive Plan.</p>
<p><b>Oregon Forestland Dwelling Units Statute, ORS 215.730:</b> The statute provides criteria for approving dwellings located on lands zoned for forest and mixed agriculture/forest use.</p>	<p>The Statute directs county governments to require, as a condition of approval, that single family dwellings on lands zoned as forestland meet requirements for construction materials, fuel breaks, water supply, and location in fire protection districts.</p>	<p>The Linn County Code and Comprehensive Plan currently meet requirements of the state statute for dwellings on lands zoned as forestlands.</p>
<p><b>Oregon Forestland-Urban Interface Fire Protection Act of 1997 (Senate Bill 360):</b> Promotes the creation of a comprehensive Wildland Urban Interface fire protection system in Oregon.</p>	<p>The Act contains provisions for county governing bodies to:</p> <ol style="list-style-type: none"> <li>1. Establish a forestland-urban interface classification committee</li> <li>2. Establish a forestland-urban interface criteria and classification program</li> <li>3. Encourage landowner forestland-urban interface fire mitigation actions</li> </ol>	<p>The advisory committee convened to coordinate the CWPP may also serve as the forestland-urban interface classification committee.</p> <p>The CWPP includes a risk assessment and maps that designates a Wildland Urban Interface in Linn County that may be used in the criteria and classification program required by Senate Bill 360.</p> <p>The CWPP identifies actions to promote landowner education and outreach strategies for the treatment of structural ignitability.</p>

## SUMMARY

As human development continues to spread into forestlands, the risk of Wildland Urban Interface fire escalates. Linn County's diverse geography, population, and land ownership patterns create further challenges to reducing the County's risk of wildfire. Many entities and programs aimed at wildfire risk

response, reduction, and education exist, but efforts to share resources and information are limited. The risk assessment and action plan of the Linn County CWPP create opportunities to improve collaboration, enhance wildfire mitigation efforts, and reduce the County's overall risk of wildfire.

# Risk Assessment

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Wildfire risk to forest lands and homes is inseparable. Forest fires can endanger and burn homes, while fires that start as structural fires can spread to the forest. One of the core elements of the Linn County CWPP is the risk assessment, which describes the risk and potential losses to life, property, and natural resources from wildfire based on best available science and data. Its purpose is to identify and implement the most effective strategies for preventing losses from fire. The assessment is organized into the following parts:

- **Purpose and methods** provides an overview of the goals and objectives of the analysis and briefly describes the methods used to evaluate wildfire risks in Linn County. Detailed methodology notes are included in *Appendix C: Risk Assessment Methods*.
- **Risk assessment findings** presents the findings of the risk analysis, which are broken into five assessment areas and displayed in a series of map panels. Communities at-risk and areas of concern within each assessment area are identified.

## PURPOSE AND METHODS

This assessment broadly identifies communities and areas within Linn County that are at risk. Information gathered through this assessment is intended to help emergency managers and fire-fighting professionals prioritize areas of concern for further analysis and mitigation activities.

The purpose of the assessment is to:

1. Determine the potential risk of interface fires for Linn County communities through a collaborative effort that incorporates local, on-the-ground knowledge with the best available data and geographic analysis.
2. Establish a community base map and identify and create digital data layers that describe Linn County's risk, as described later in this section.
3. Begin to identify areas that require more refined analysis, and conduct neighborhood assessments.
4. Provide insight for the prioritization of hazardous fuel treatment projects.
5. Meet the guidelines described by the Oregon Department of Forestry for completing a risk assessment.

## ASSESSMENT APPROACH

Several communities across the nation have completed, or are currently engaged in, wildfire planning efforts. In the process, they have developed numerous models in an attempt to understand the risks posed by Wildland Urban

Interface fires. The assessment techniques used in these models differ widely in both content and detail of analysis. For the Linn County Wildfire Risk Assessment, the steering committee elected to follow the broad assessment process outlined in the guidance document, *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities*<sup>15</sup>.

This handbook, developed through a partnership of national and regional agencies, contains recommendations and guidelines that conform closely to requirements of the Healthy Forest Restoration Act of 2003. The handbook broadly outlines an assessment framework and identifies key risk factors communities should evaluate within their plans. Under this framework, individual communities have considerable autonomy to choose assessment methods that are appropriate to the scale of the community.

To evaluate the Wildland Urban Interface fire risks within Linn County, the risk assessment team adopted methods based on a model developed by the Oregon Department of Forestry (ODF) entitled *Identifying and Assessment of Communities at Risk in Oregon*.<sup>16</sup> The methodology originally assessed wildfire hazards at the statewide level for use in the Oregon Natural Hazards Mitigation Plan. However, the process and data sets used in the methodology enable a tiered approach that is appropriate at several scales: including county, city, or neighborhood-level assessments.

## HOW THE LINN COUNTY ASSESSMENT EVALUATES RISK

This assessment evaluates Wildland Urban Interface fire risk by analyzing five key data “layers” of wildfire information, as suggested in the ODF methodology described above. These layers are:

- **Risk:** the potential and frequency with which wildfire ignitions might occur, based on historic fires, foreseeable conditions, the density of homes within the WUI boundary, and other factors
- **Hazard:** the natural conditions—vegetative fuels, weather, topographic features—that may contribute to and affect the behavior of wildfire
- **Protection capability:** the community’s ability to plan and prepare for, as well as respond to and suppress, structural and wildland fires
- **Values protected:** a measure of the people, property, and essential infrastructure that may suffer losses in a wildfire event
- **Structural vulnerability:** a measure of the capacity of structures in the County’s Wildland Urban Interface areas to resist wildfires if they occur, based on an assessment recently completed by the Oregon Department of Forestry

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<sup>15</sup> National Association of Foresters, Western Governors Association, National Association of Counties, and Society of American Foresters. 2004. *Preparing a Community Wildfire Protection Plan*. <<http://www.stateforesters.org/pubs/cwpphandbook.pdf>>

<sup>16</sup> Oregon Department of Forestry. 2004. *Identifying and Assessment of Communities at Risk in Oregon*. <<http://egov.oregon.gov/ODF/FIRE/docs/WildfireRiskAssessment.pdf>>.

Each of these layers is developed by compiling and analyzing one or more related factors that can lead to, aggravate, or mitigate a wildland urban-interface fire. The ODF methodology assigns a point value to each layer, and provides a process for determining total risk based on the relative weight of each layer and the sum of the point values across all layers.

These data layers are analyzed and displayed using a type of computer mapping software known as a Geographic Information System, or GIS, to arrive at a composite risk score. GIS is an extremely helpful tool for evaluating wildfire risk. This assessment uses GIS to perform a number of spatial analyses and to manage, store, and display wildfire information. The output of this analysis is a series of map layers, each layer displaying a separate yet interconnected piece of wildfire risk information. Through comparison and analysis of these layers, this assessment indicates areas that express **extreme, high, moderate, and low** potential risk of experiencing a Wildland Urban Interface fire.

Linn County maintains much of the data necessary for this type of analysis, but this information was supplemented with data from Oregon Department of Forestry, the U.S. Census, the U.S. Geological Survey, and data from field surveys.

In addition to GIS analysis, this assessment relies heavily on input provided by federal, state, and local fire protection professionals. Local fire district representatives are familiar with the threats within their protection areas. Mapping and documenting the areas at risk identified by these professionals, and comparing this information with data gathered through GIS analysis, creates a more accurate understanding of wildfire risk and provides a rough method of truth-checking the GIS outputs.

Mike Price of Entrada Inc., San Juan, together with other members of the ECONorthwest team, conducted most of the research for the risk assessment. In addition to GIS analysis, they interviewed representatives from the Linn County Fire Defense Board, the Oregon Department of Forestry, the Bureau of Land Management, and the US Forest Service. Input and assistance from these agencies helped direct and shape the assessment process. Detailed methods and data used within the assessment can be found in Appendix C.

## ASSESSMENT FINDINGS

The first five maps at the end of this section provide the layers that together define Linn County's risk and vulnerability to wildfires—risk, hazards, protection capabilities, values protected, and structural vulnerability. The final map shows how these layers come together to show the areas that are most vulnerable to wildfire. These six maps are the key output of this risk assessment.

### MAP 1: RISK

*Risk* is defined broadly as the likelihood that a fire will occur in a given geographic location. *Historic fire occurrence* and *ignition risk* are the two

components of risk that are measured to determine a rating associated with this category.

## **HISTORIC FIRE OCCURRENCE**

The key component of risk is historic fire occurrence. Data to measure historic fires was available from ODF; the dataset provided geographic information about the location of fire origins rather than fire extent.

Between 1996-2005, many fires have originated in areas in or near the Wildland Urban Interface zone. Cities that have had numerous nearby wildfires are those located where agricultural land meets land with high levels of vulnerable fuel-types, including Sweet Home, Sodaville, Waterloo, Mill City and Gates. Fires have also traditionally occurred near Green Peter and Foster Reservoirs, where a high human presence is likely.

## **IGNITION RISK**

Another component of the risk category is ignition risk. Broadly, ignition risk quantifies the potential sources of ignition for fires in interface areas. In this risk assessment, the density of homes in interface areas is an important component of ignition risk. Higher density areas have a higher ignition risk. The Albany, Lebanon and Sweet Home areas pose the greatest ignition risk in the County.

Other factors also contribute to ignition risk. These might include the presence of transmission power lines, power substations, active logging, construction, dispersed camping, fireworks, woodcutting, target shooting, arson, railroad, etc. These factors are gridded, counted, and scored to add to the point total associated with the broad category of risk. Fire risks from other factors are highest in more densely developed interface areas. Risk is also greater near Foster and Green Peter Reservoirs where camping and recreation sites are situated.

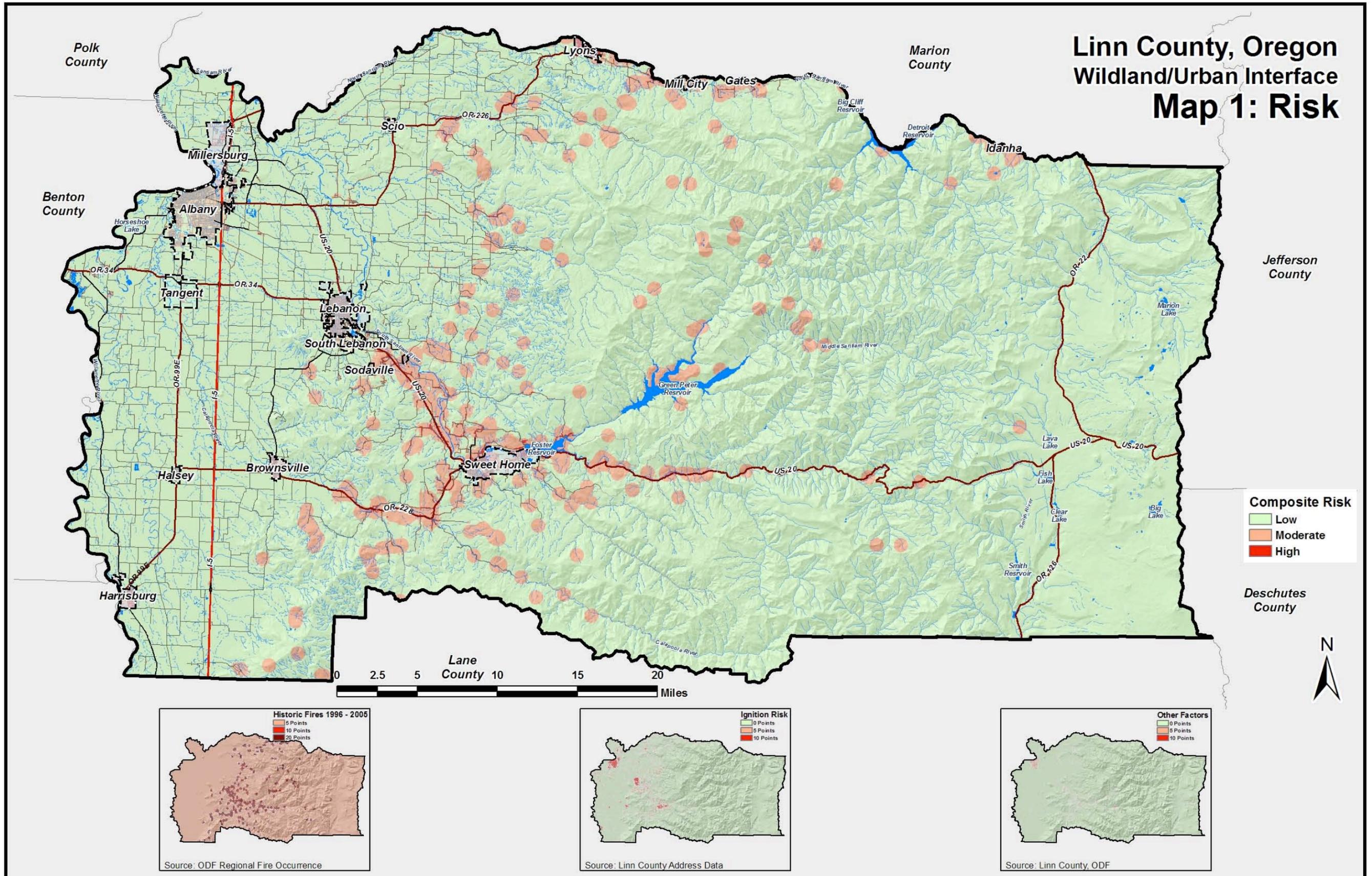
Ignition risk in forested and sparsely or undeveloped areas varies with the time of year. The ignition risk in these regions can be high from June through October, and is usually low from November through May each year.

## **CONCLUSIONS AND RECOMMENDATIONS**

The map shows that the majority of the County has a low risk, with some pockets of moderate risk along Highway 20 and at recreation areas and historic sites in the Cascade Mountains. Ignition risk is highest in areas surrounding Lebanon, Sweet Home, Brownsville, and in the North Santiam River canyon. There are no areas of high risk.

Some types of information could improve the County's understanding of risk in the future. More detailed data about historical fires that describes fire cause, point of origin, fire perimeter, and post-fire restoration could refine this assessment's conclusions regarding level of risk, and help the County plan risk-reduction activities.

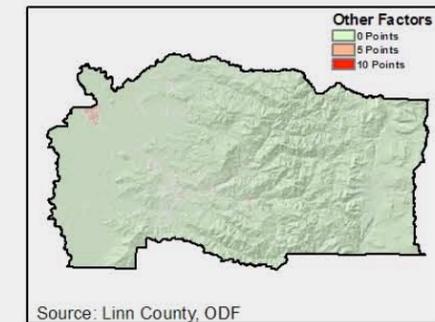
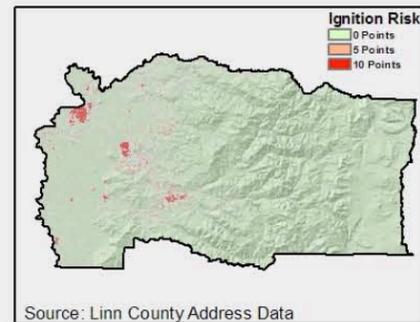
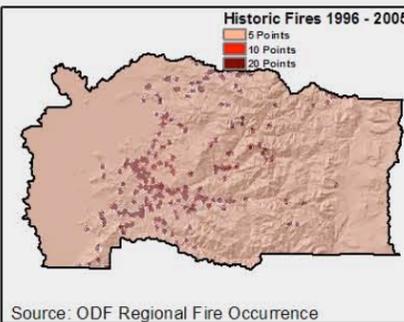
# Linn County, Oregon Wildland/Urban Interface Map 1: Risk



**Composite Risk**

- Low
- Moderate
- High

Deschutes County





## MAP 2: HAZARD

*Hazard* can be broadly defined as the physical aspects of Linn County's landscape that adversely affect wildfire suppression efforts. Hazard is one of the most important categories of risk. The components of hazard that are quantified here are *weather*, *elevation*, *topography*, and *fuel*.

### WEATHER

*Weather* is measured as the number of days per fire season that forest fuels are capable of producing a significant fire event. The risk score is defined in Oregon's state statutes<sup>17</sup> based on data developed by ODF following an analysis of daily wildfire danger rating indices in each regulated area of use. All of Linn County's forested areas fall into Area 2, which scores 20 points out of 40 possible for weather. As Map 2 shows, non-forested areas are not scored.

Linn County contains several Remote Automated Weather Station (RAWS) sites, at Brush Creek, Yellowstone, and Stayton, as well as stations located nearby the County that are used as backup.

### TOPOGRAPHY

For the purposes of this risk assessment, there are three elements associated with *topography* as a risk category: elevation, slope, and aspect. All of these affect the intensity and rate of spread of a wildfire.

- *Elevation* affects the type of vegetation and length of the season, as well as the prevailing weather patterns and rainfall. Risk is highest in areas of lower elevation. The western portion of the County, which is made up largely of low-lying forest and agriculture land has the highest risk of an elevation related fire event.
- *Slope* is measured by percent; higher points are assigned to steeper (higher percentage) slopes. In Linn County, interface areas with steep slopes are located near Green Peter and Detroit Reservoirs in the mid-to-eastern portion of the County. These forested lands are also the most mountainous.
- *Aspect* is most simply defined as the direction of exposure. Slopes that face south, southeast, and southwest, are more exposed to the sun, which affects the type of vegetation that grows as well as the speed with which water transpires from that vegetation and the ground during the fire season. Aspect-related risk is distributed throughout the entire County. However, it is greatest in mountainous areas, where a larger portion of land is facing south due to steep slopes.

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<sup>17</sup> OAR 629-044-0230

## VEGETATION/FUEL

*Vegetation* is the primary factor affecting the intensity of the fire. The quantity of undergrowth, presence of ladder fuels (which contribute to the more-difficult-to-contain crown fires), and other vegetative characteristics all contribute greatly to fire behavior. To measure vegetative fuels, this analysis used satellite imagery of Linn County's forested areas.

Another critical component measured in this analysis is the potential for *crown fire*. Crown fires occur when fires spread to the tops of trees and spread through the canopy. On a windy day, a crown fire can spread extremely quickly and be very difficult to contain. The type of vegetation present is critical to determining the likelihood that a crown fire could occur. Crown fire potential is mapped as moderate throughout central and eastern Linn County

For this analysis, the Oregon statewide fuel model was used to classify fuel types, and point totals were assigned based on State legislation.<sup>18</sup> Much of the eastern portion of the County has moderate to high risk from the presence of vegetative fuels. Only agricultural lands in the western portion of the County have low fire risk due to vegetative fuel.

## CONCLUSIONS AND RECOMMENDATIONS

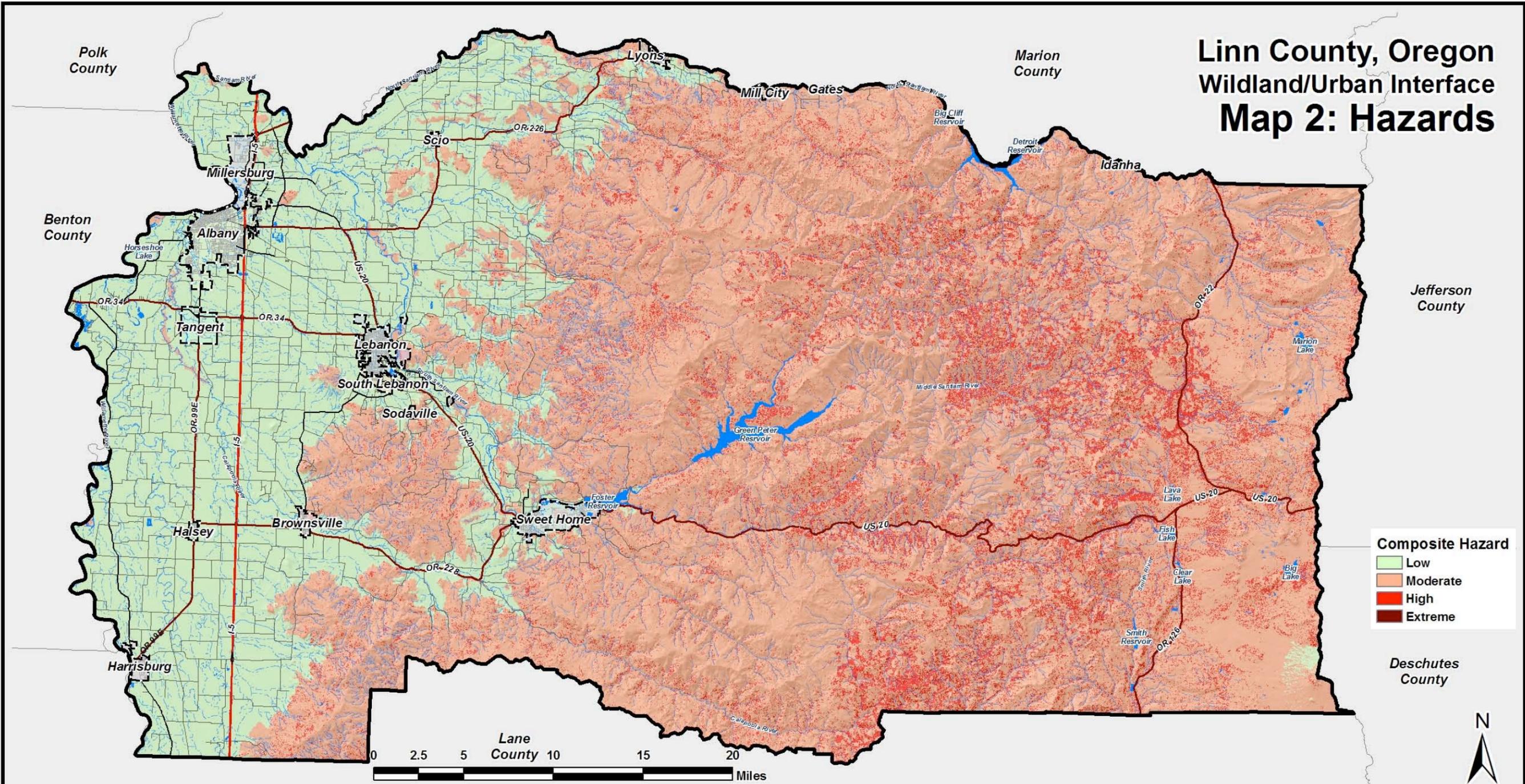
Map 2 shows that the hazard of wildfire occurrence is moderate to high in most of the forested areas in Linn County, with pockets of highest hazard along Highway 22.

Future risk assessment updates could improve the analysis of wildfire hazard with more detailed weather and vegetation data. This data may be especially appropriate to gather in areas of highest risk and vulnerability, to assure that the most appropriate mitigation, preparation, and response actions are taken.

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<sup>18</sup> Oregon Forestland Urban Interface Fire Protection Act of 1997 (often referred to as Senate Bill 360)

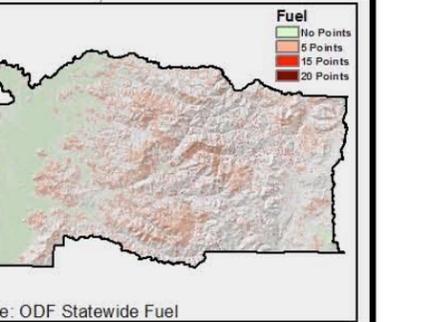
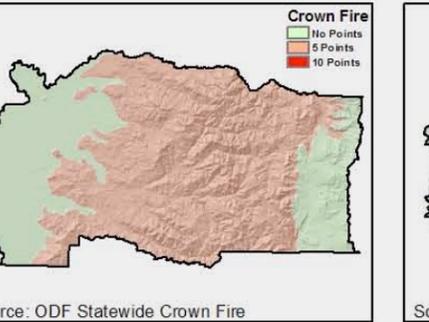
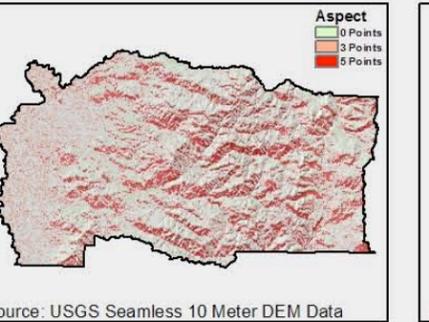
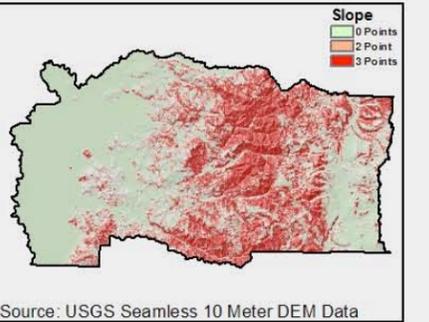
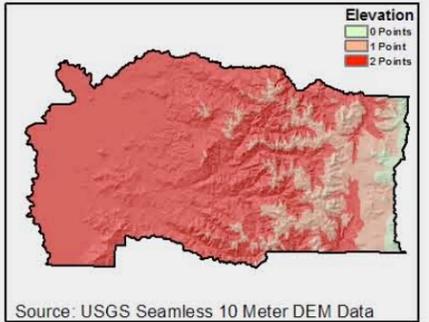
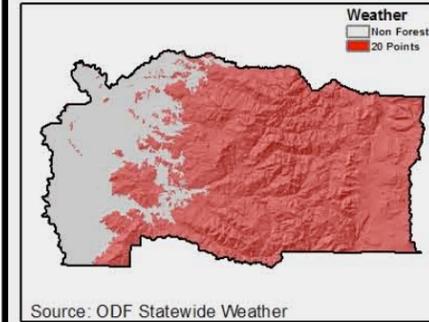
# Linn County, Oregon Wildland/Urban Interface Map 2: Hazards



**Composite Hazard**

- Low
- Moderate
- High
- Extreme

Deschutes County





## MAP 3: PROTECTION CAPABILITY

The *protection capability* map shows the boundaries of all fire districts in the County, the location of fire stations, and an assessment of the ability of those fire districts to respond to wildfires that occur within their boundaries. To determine protection capability, this risk assessment measures two components: *protection* and *preparedness*.

### PROTECTION

To measure protection, this assessment used GIS software to model response times from each fire station to all areas within the district boundary, and then assigned a risk rating based on those response times. More specifically, it assigns the following ratings:

- No risk to areas where organized structural response is available in less than 10 minutes
- Low risk to areas inside a fire district, but where structural response will require more than 10 minutes
- Moderate risk to areas where no structural protection is available, and wildland response requires less than 20 minutes
- High risk to areas without structural protection that require more than 20 minutes for wildland response

The map shows that the Linn County road network provides reasonable access to most structures in the County, for both emergency ingress and evacuation, but that most of the County remains at high risk from a protection standpoint. Not surprisingly, more densely developed and agriculture lands in the western portion of the County are at low risk. Forested and mountainous regions in central and eastern Linn County have low protection and are at greater risk.

### PREPAREDNESS

Another important component of protection capabilities is *preparedness*, or a measure of the efforts that the community has taken to prepare for potential wildfire events. Risk is mitigated in areas with agency efforts, a community fire plan and organized stakeholder groups. While preparedness is important, it carries less weight in the ODF methodology than protection.

While forested and mountainous regions in central and eastern Linn County have low to zero preparedness and are at greater risk from wildfires, they also have lower population levels.

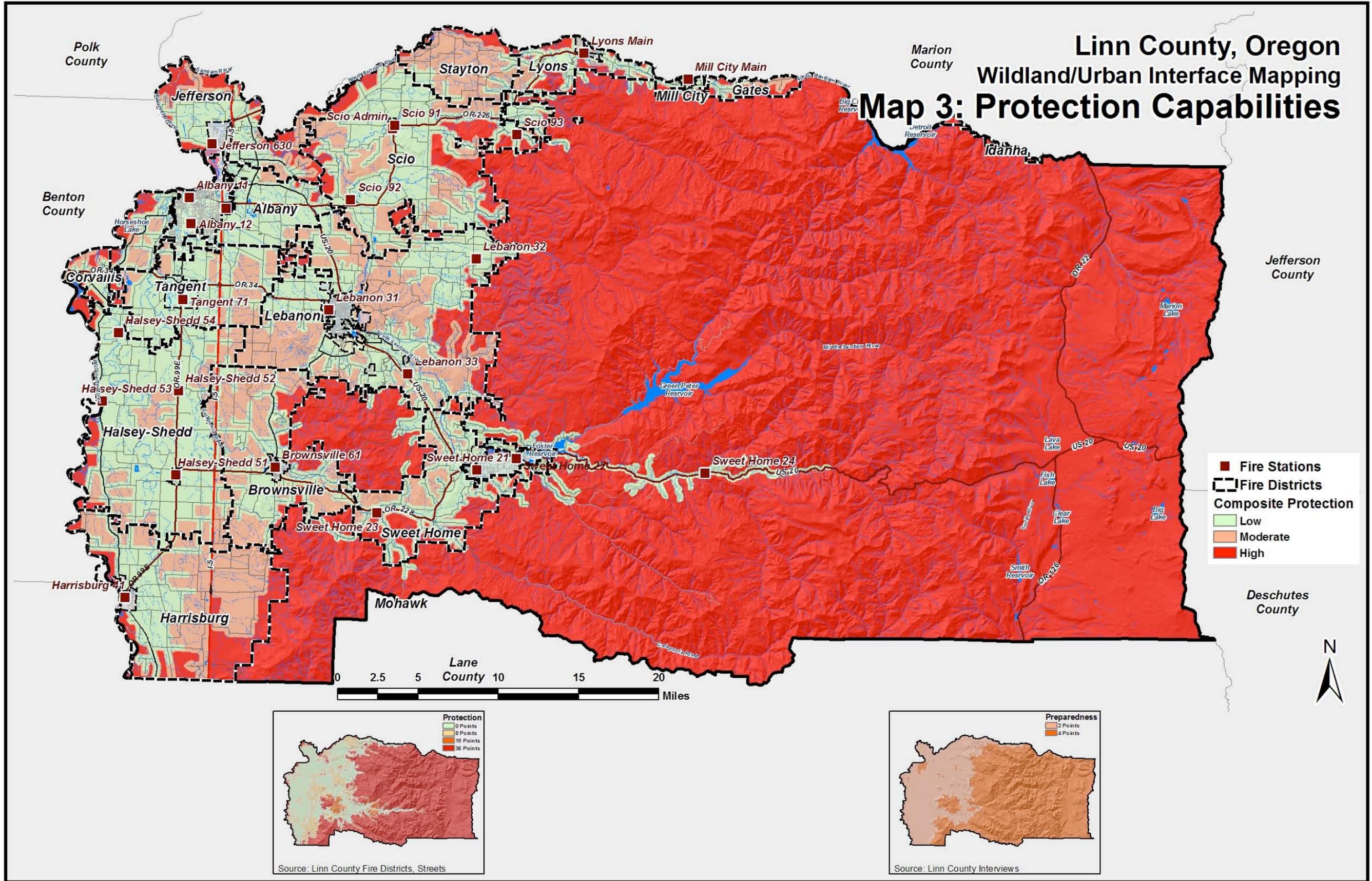
## CONCLUSIONS AND RECOMMENDATIONS

In all of eastern Linn County, there is high wildfire risk resulting from the combination of long response times and low levels of preparedness. On the western side of the Cascades, risk is generally moderate to low, with pockets of high risk around Brownsville and Sweet Home, and along the western border of the County. These areas are generally difficult to reach because of the structure of their road networks.

This assessment did not take into consideration the need to evacuate the more vulnerable populations in Linn County: the elderly, poor, or non-English speaking residents who many not have the physical or financial resources for preparedness and evacuation activities. Especially for the areas that are at the greatest risk from wildfire, this will be an important consideration in the future. In addition, the response time assessment only includes an assessment of travel time to a fire and not the time to assemble fire fighters. The majority of fire districts are primarily staffed by volunteers who may work in other communities during the day. In the interviews, fire fighting agencies indicated that one of the greatest barriers to effective fire fighting was availability of personnel due to the district's volunteer structure.

Linn County, Oregon  
Wildland/Urban Interface Mapping

Map 3: Protection Capabilities





## MAP 4: VALUES PROTECTED

To measure *values protected*, this risk assessment considers the density of homes in the County's interface areas as well as the public infrastructure that makes the County function.

### HOME DENSITY

*Home density* creates greater wildfire risk because it increases the dollar value of property and the number of lives in the path of wildfires. To measure home density, this assessment used address point data and GIS software to determine how many homes were present in each 10 acre grid in the interface area. The ODF methodology assigns the following risk ratings to home density measures:

- 0 to 1 home per 10 acres: low risk
- 1 to 5 homes per 10 acres: moderate risk
- More than 5 homes per 10 acres: high risk

The map shows that the risk incurred from home density is greatest in the areas surrounding Albany, Lebanon, and Sweet Home.

### COMMUNITY INFRASTRUCTURE

In addition to the private property values modeled in measures of home density, this assessment considers the value of the public and *community infrastructure* that could be affected by wildfires. This includes airstrips, fire stations, hospitals, parks, police stations, roads, railroads, schools, electrical transmission stations, and other assets.

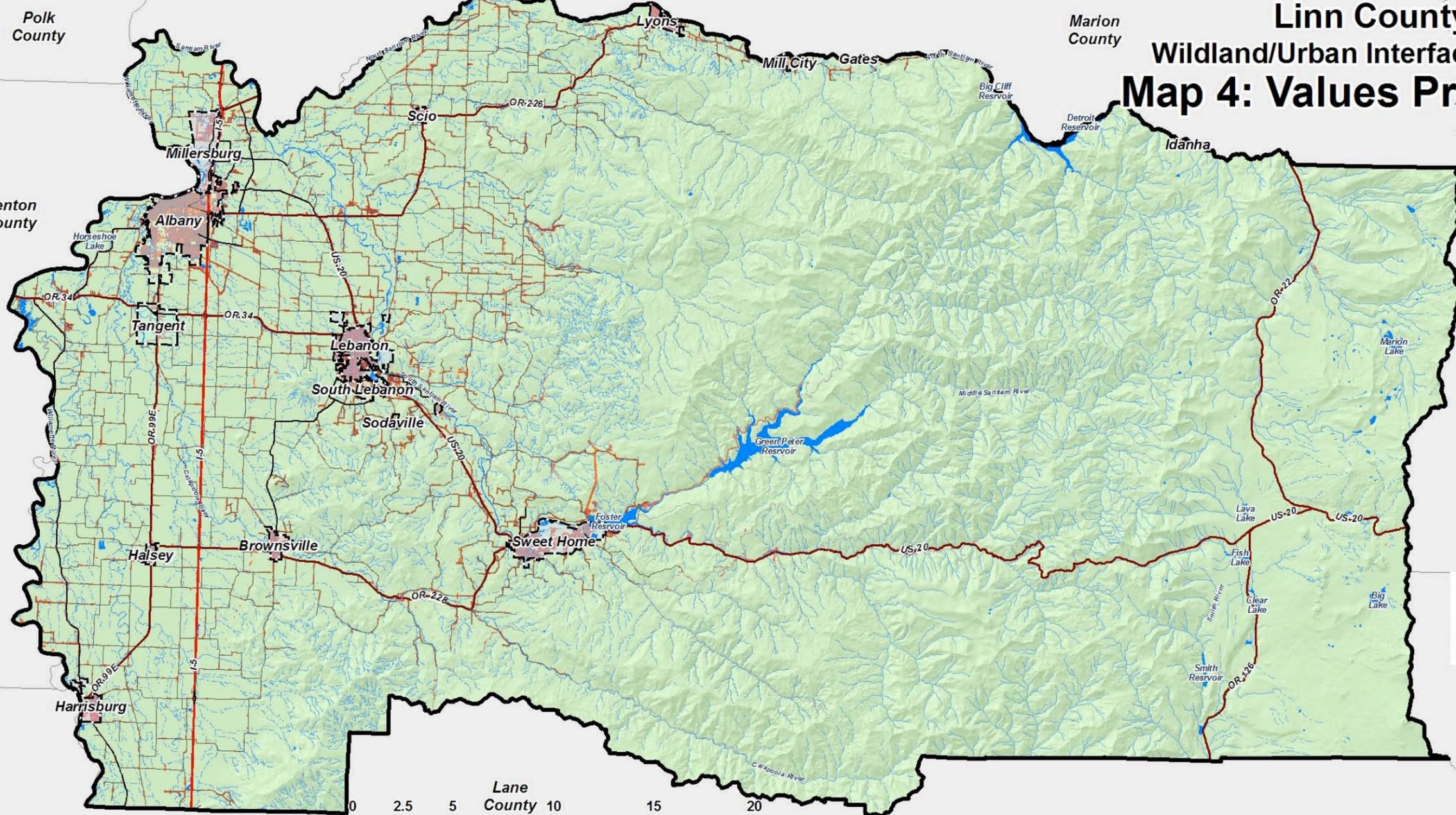
Not surprisingly, the highest value community infrastructure is located in the western portion of the County nearest to population centers.

### CONCLUSIONS AND RECOMMENDATIONS

The values protected map shows that the most important public and private assets are concentrated in the areas nearest to population centers: Albany, Lebanon, and Sweet Home, and along the 1-5 corridor. These also are the areas that have the greatest protection capability (see Map 3).

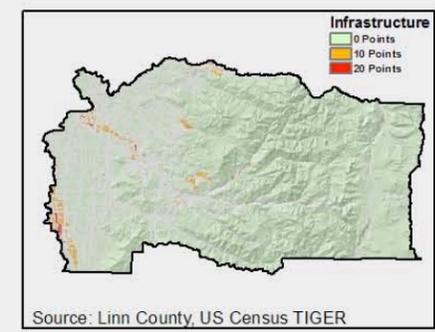
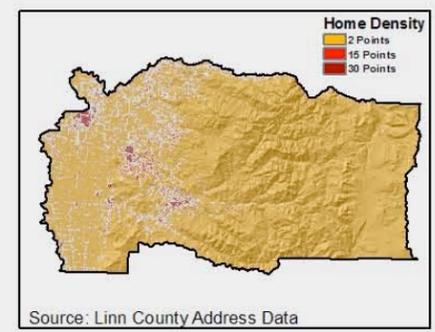


# Linn County, Oregon Wildland/Urban Interface Mapping Map 4: Values Protected



**Composite Values**

- Low
- Moderate
- High





## MAP 5: STRUCTURAL VULNERABILITY

The final category that contributes to total risk and vulnerability is *structural vulnerability*, or a measure of the likelihood that structures will be destroyed by wildfire. While risk, hazard, and protection capabilities together account for 90% of the likelihood that a wildfire event will threaten life and property, factors controlled by interface landowners account for 90% of the likelihood that a wildfire will destroy structures.<sup>19</sup> The risk is highest where flammable roofing and building materials have traditionally been used. Other factors included in this assessment are defensible space, building setbacks and separation of adjacent homes.

ODF staff are conducting field assessments of interface properties in their district (South Cascade Sweet Home) to assess the characteristics of those properties that increase or mitigate their wildfire risk. While these data are not available in all of Linn County, they are a very valuable component of this risk assessment as they serve as an indicator of structural vulnerability throughout the County. They show that, among the homes and structures assessed, most have a moderate vulnerability to wildfire, and some have a high vulnerability.

## CONCLUSIONS AND RECOMMENDATIONS

Fire related events related to these risks are highest in the interface areas with high structural vulnerability: Sweet Home, Sodaville, and Waterloo. The issue of structural vulnerability was raised by nearly all the fire fighting agencies interviewed as one of the greatest wildfire threats the County faces. It will be important for ODF to maintain the database that they have developed that contributed to this assessment, and, if possible, to assess and map structures in the North Cascade Santiam District. If other districts are interested in conducting a similar assessment, they should use the same methodology so that data will be consistent for a County-wide assessment.

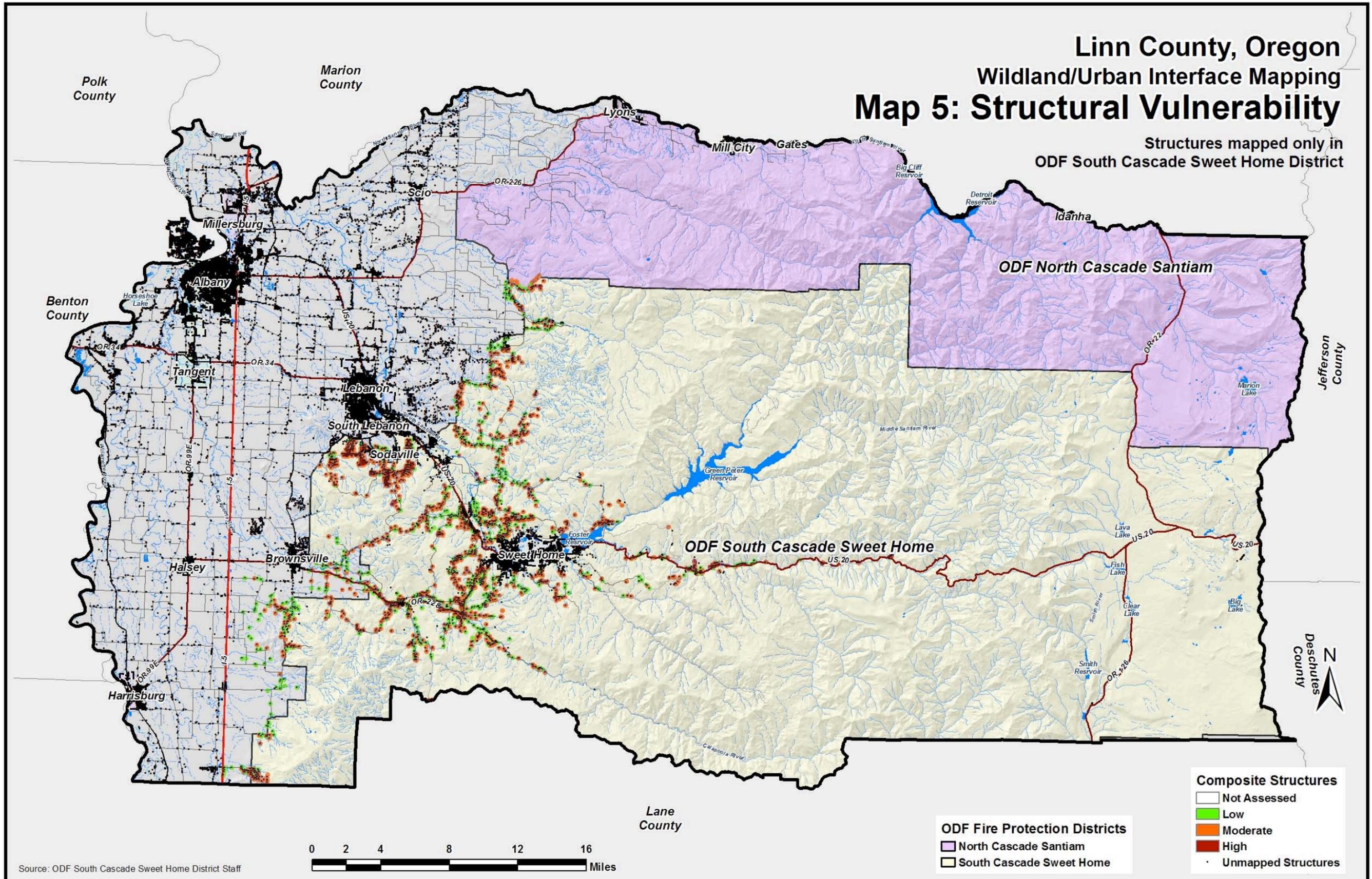
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<sup>19</sup> Oregon Department of Forestry. 2004. *Identifying and Assessment of Communities at Risk in Oregon*. <<http://egov.oregon.gov/ODF/FIRE/docs/WildfireRiskAssessment.pdf>>.



# Linn County, Oregon Wildland/Urban Interface Mapping Map 5: Structural Vulnerability

Structures mapped only in  
ODF South Cascade Sweet Home District



Source: ODF South Cascade Sweet Home District Staff



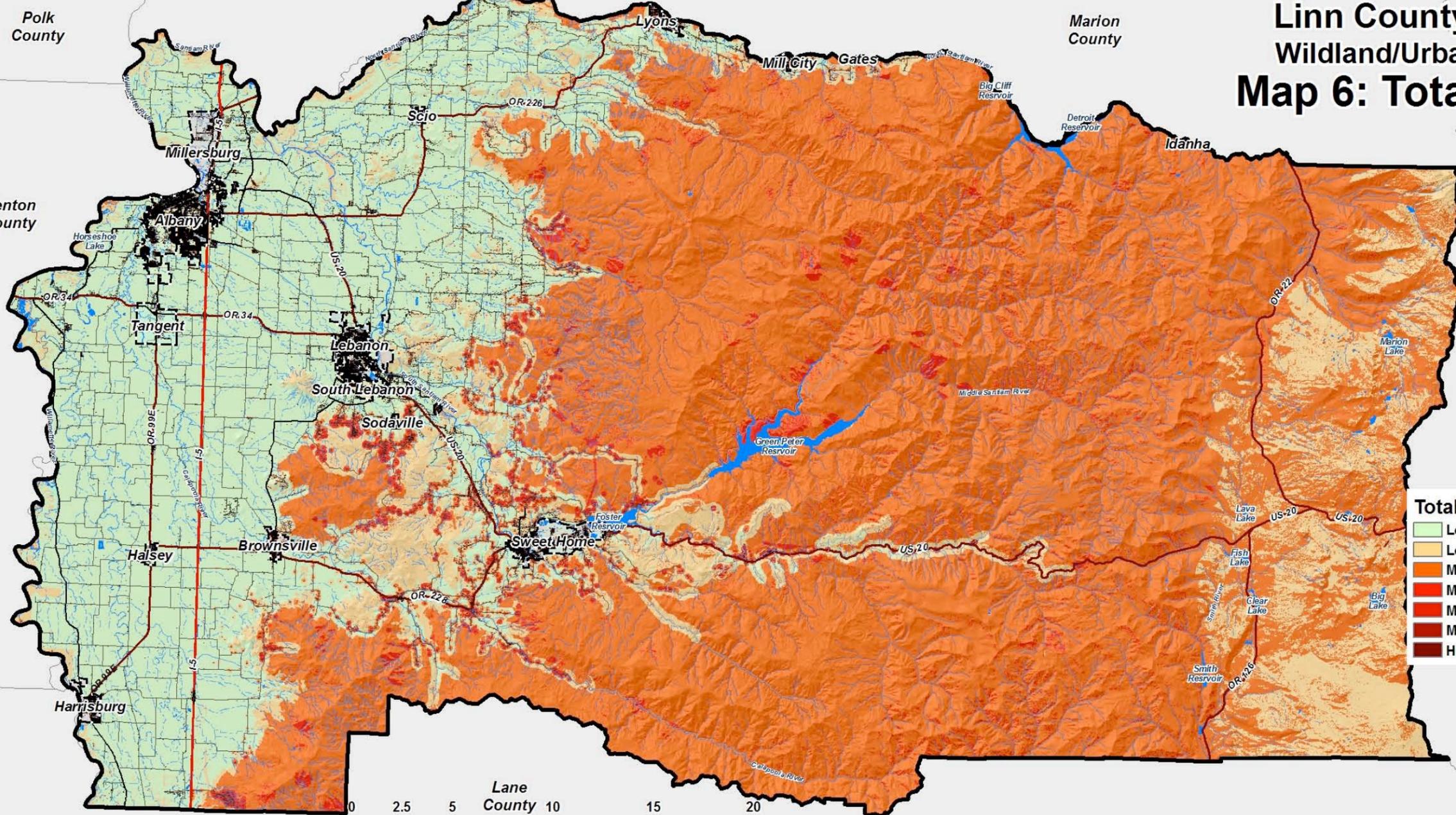
## **MAP 6: TOTAL VULNERABILITY**

The final map combines the risk scores from the previous maps (risk, hazards, protection capabilities, values protected, and structural vulnerability) to provide a combined risk and vulnerability assessment for Linn County. It weights the various components of risk based on the criteria outlined in the ODF methodology: risk, 13%; hazard, 26%; protection capability, 13%; values at risk, 17%; structural vulnerability, 30%.

Most of the County is moderately vulnerable to wildfires. The areas of highest risk are in the interface areas around Sweet Home, the Sodaville area, to the northeast of Brownsville, and around Green Peter Reservoir. The foothills of the cascades have some areas of high vulnerability. These are areas that require more careful planning and targeted outreach and education efforts.

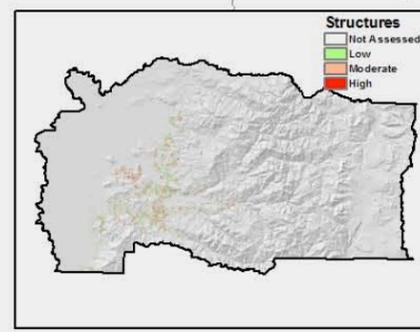
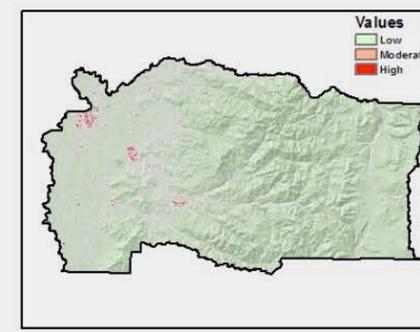
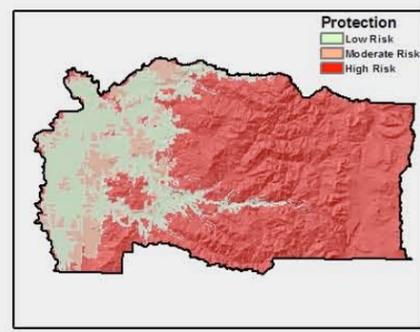
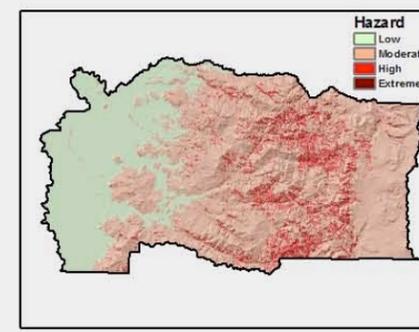
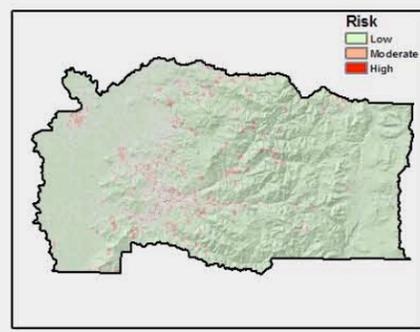


# Linn County, Oregon Wildland/Urban Interface Map 6: Total Score



**Total Score, Detail**

Low, 0 - 50 Points
Low, 50 - 76 Points
Moderate, 76 - 100 Points
Moderate, 100 - 125 Points
Moderate, 125 - 150 Points
Moderate, 150 - 173 Points
High, Over 173 Points





# LINN COUNTY COMMUNITIES AT RISK FOR WILDFIRE

To help states and counties identify at-risk communities within their borders, various state and federal agencies collaborated to update a nationwide list called “Communities in the Vicinity of Federal Lands at Risk from Wildfire”.<sup>x</sup> To identify at-risk communities, state agencies use a process created by a national interagency group; it describes the factors associated with at-risk communities.<sup>xi</sup> The updated list of at-risk communities across the country was published in the Federal Register on August 17, 2001. The at-risk communities within Linn County, as identified by the Federal Register, include the following:

- Albany
- Brownsville
- Clear Lake Resort
- Crowfoot
- Gates
- Harrisburg
- Idanha
- Lebanon
- Lyons
- Marion Forks
- Mill City
- Scio
- Sweet Home East
- Sweet Home West

Another list of Oregon Communities at Risk, published by the ODF in April 2006 lists Albany, Brownsville, Corvallis, Gates, Halsey, Harrisburg, Idanha, Detroit, Jefferson, Lebanon, Lyons, Mill City, Millersburg, Scio, Sodaville, Stayton, Sweet Home, Tangent, and Waterloo as communities at risk.

This risk assessment begins with the Federal Register and ODF lists above, and then based on the results of the analysis described in this section, refines the list to create a localized risk assessment that can assist with prioritizing projects for implementation.

As is evident in Map 6 above, none of the communities in Linn County are at high risk from wildfire, but many of them have a moderate to moderate/high risk. This risk assessment finds that the communities below are at risk, and that mitigation projects near them should be prioritized:

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<sup>x</sup> Ibid

<sup>xi</sup> Linn County Planning and Building Department. 2005. Linn County Natural Hazard Mitigation Plan.

**Communities at risk based on localized data assessment:**

Albany	Marion Forks
Brownsville	Mill City
Clear Lake Resort	New Idanha
Crowfoot	Scio
Gates	Sweet Home East and West
Harrisburg	Waterloo
Lebanon	Sodaville
Lyons	Various home clusters and subdivisions in the WUI

The other rural residential areas in Linn County that may be subject to wildfire hazards because of their location in forested areas or on steep dry slopes. Examples of such rural residential areas include: Bartel's Canyon Estates, Cascadia, Middle Ridge, Mountain Home Drive, Mt. Tom/Wildwood Estates, Northernwood Drive, Powell Hills, Rodger's Mountain, Washburn Heights, the Upper Calapooia, and others.<sup>xii</sup>

# Community Outreach and Collaboration

## Section 4

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A key function of community fire planning is the meaningful discussion it promotes among community members. A plan that accurately reflects the community's interests and priorities will have greater legitimacy and success in implementing recommendations.

This section outlines the outreach strategy used to engage interested parties in the CWPP development process as well as the findings of the outreach efforts. It has the following parts:

- **Stakeholder interviews** describes the findings from a series of stakeholder interviews conducted with Rural Fire Protection Districts and State and Federal agencies in Linn County
- **FireWise community workshop** describes the purpose, methods, and findings of the community workshop

## STAKEHOLDER INTERVIEWS

### PURPOSE

The purpose of this section is to highlight the findings of a series of stakeholder interviews conducted with the Rural Fire Protection Districts in Linn County as well as the Oregon Department of Forestry, the Linn County representative from the Office of the State Fire Marshal, the Bureau of Land Management, and the United States Forest Service. The interviews were conducted to gather background information on the Community Wildfire Protection Plan process and provide insight on potential mitigation measures. What follows is a summary of the discussions from those interviews; they reflect the perceptions of the fire protection stakeholders.

### METHODS

ECONorthwest developed and distributed a survey to Linn County's Rural Fire Protection Districts (RFPD) in April 2007. A similar survey was developed for the Oregon Department of Forestry, Office of the State Fire Marshal, Bureau of Land Management, and US Forest Service.

ECO staff followed up with representatives from each of the RFPDs and agencies and gathered their survey responses via telephone interviews. Each district or agency was asked a series of questions that addressed the following:

- History of wildfire occurrence and response
- Wildfire risk factors

- Capacity and needs
- Prevention and education resources
- Ideas for mitigation.

This section will present and discuss District responses first, and then address State and Federal agency responses.

## RURAL FIRE PROTECTION DISTRICT RESPONSES

The following Rural Fire Protection Districts responded the survey: Brownsville, Sweet Home, Halsey, Albany, Jefferson, Scio, Lebanon, Mill City, Tangent, Stayton, Harrisburg, and Lyons. Table 4-1 highlights key issues that Rural Fire Protection Districts identified during the interview process.

**Table 4-1. Rural Fire Protection District Findings**

	Brownsville	Sweet Home	Halsey	Albany	Jefferson	Scio	Lebanon	Mill City	Tangent	Stayton	Harrisburg	Lyons
Historical WUI Fires	•	•				•	•	•		•		
Primary Response Issues Identified												
Personnel	•	•				•		•		•	•	
Non-Wildland Fires			•						•			
Access				•			•				•	
Communications					•							
Conducted Fuel Reduction			•					•		•	•	
Conducted Structural Ignitability	•		•				•	•		•	•	
Primary Structural Ignitability Issues Identified												
Defensible Space	•	•		•	•		•			•	•	
Access	•	•					•	•				
Construction Methods				•						•	•	
Unprotected Areas Outside District	•					•		•		•		
Fire Evacuation Plans in Place				•								
Fire Assistance Agreements in Place	•	•	•	•	•	•	•	•	•	•	•	
Conducted Education & Outreach	•	•	•		•		•	•	•	•	•	

## HISTORY OF WILDFIRE OCCURRENCE AND RESPONSE

When asked if any wildfires had occurred within the Wildland Urban Interface, responses varied based on district's location within the County. RFPDs located on the east side of the County reported having multiple events over several years, but only two of the fires mentioned threatened structures. Several districts indicated that they had had small fires that had the potential to grow out of control and threaten structures, but that those fires were brought under control. RFPDs located on the west side of the County indicated that they didn't have true WUI areas, but did have grass fires that had impacted traffic on Interstate 5.

Districts were asked to indicate how many wildfires they typically respond to in a given year. Responses ranged from only 1-2 fires per year to up to 40-60 fires. All the districts indicated that they typically respond in a mutual aid capacity at least once a year, with one district responding on up to 20 mutual aid events.

RFPDs were asked to identify the primary issues the district faces for effective wildfire response. Many of the districts identified several issues. By far, issues related to personnel were mentioned the most.

The following were provided as primary issues:

- Getting volunteer fire fighters during the work week
- Protecting farms and smoke issues on the interstate
- Interface areas in North Albany with steep slope issues
- Communication system not linked with rest of County
- Training volunteers
- Distances necessary to travel within district
- Personnel
- Field and industrial fires spreading to fields
- Development standards in the WUI
- Defensible space

## **WILDFIRE RISK FACTORS**

Each district was asked to identify the most vulnerable areas within their district. These responses were specific to each of the districts and can be found in the district specific write-ups in appendix E. Districts were also asked if there were areas that are likely to become more vulnerable in the future either due to development or lack of wildland fire protection. For the most part, districts indicated that the areas identified as being vulnerable were the areas prone to become more and more vulnerable as more development takes place.

Districts were asked to indicate whether or not they had engaged in any fuel reduction efforts in the past. Very few of the districts indicated that they had implemented fuel reduction projects in the past. For the most part, districts indicated that their primary activities had been focused on education around structural ignitability rather than fuel reduction. Brownsville, Lebanon, Mill City, and Harrisburg had all implemented projects to reduce the structural ignitability of homes in their district. In 2002, several districts partnered with ODF to complete 'Knock and Talks' with homeowners to discuss wildfire issues and potential mitigation measures the homeowners could take to reduce their risk.

RFPD were asked to identify any issues they face related to response times. The majority of districts indicated that the availability of volunteer staff, especially during the day, was the biggest issue around response times. In addition, some districts mentioned that some private industrial land owners having locked gates posed a barrier to quicker response times.

Districts were asked to identify the primary issues their district faces in terms of structural ignitability. By far, most districts that indicated that they had structural ignitability issues mentioned that a lack of defensible space was the

biggest issue. A second issue that was raised often was lack of access because of narrow, steep driveways.

## **CAPACITY AND NEED**

RFPDs were asked whether or not they felt that the district had an adequate number of fire fighters. Only one district indicated that they had enough staff resources. Several districts mentioned that they might have adequate resources depending on the time of day because a majority of their volunteers work outside the community. Districts in Linn County have varying numbers of full time and volunteer fire fighters. Staff range from 1 to 65 full time employees, and 0 to 60 volunteers. Almost all of the districts indicated that they felt they had the capacity to apply for grants to implement wildfire mitigation projects, however, they also indicated that they lacked the people to implement those projects if funded.

Districts were asked to list the fire fighting apparatus that is currently available and what apparatus they would like to add to their fleets. Those results can be found in the district summaries located at the end of this appendix.

All the RFPDs indicated that they had some sort of fire assistance agreements with other districts or state agencies. For the most part, these agreements are in the form of mutual aid. Districts that have overlapping boundaries with Oregon Department of Forestry also have assistance agreements with that agency. In addition, the Halsey district has an agreement in place with the Oregon Department of Fish and Wildlife for areas along the Willamette River.

## **PREVENTION AND EDUCATION RESOURCES**

RFPDs were asked whether or not they had participated in education and outreach activities related to wildfire issues. All of the districts on the extreme east side of the County have participated with the Oregon Department of Forestry to educate homeowners on structural ignitability issues and potential hazard mitigation activities. Most districts also indicated that they have a variety of information in the form of fliers and brochures that are always available to residents. When asked about what future education and outreach campaigns the districts would like to see, the majority indicated that something around defensible space, access, and construction materials would be beneficial.

## **IDEAS FOR MITIGATION**

Districts were asked what type of fuel reduction and structural ignitability projects they would like to see implemented in interface areas. Overall, most of the projects mentioned would be classified as structural ignitability projects. The ideas for projects included:

- Making chippers available for fuel reduction
- More homeowner education and outreach
- Working with developers on fire resistant materials and vegetation

- Use of inmate work crews to do fuel reduction
- Legislation, zoning, and ordinances to ban cedar shake roofs
- Fuel reduction programs to help elderly residents who might not be able to do the physical labor themselves
- Improved construction and design standards in wildland areas

## STATE AND FEDERAL AGENCY RESPONSES

The following state and federal agencies were interviewed: Office of State Fire Marshal (OSFM), Oregon Department of Forestry (ODF), United States Forest Service (USFS), and the Bureau of Land Management (BLM). In addition to responding to questions about wildfire risk factors, capacity and needs, prevention and education resources, and ideas for mitigation, these agencies also addressed the following issues:

- Agency roles and responsibilities
- Wildfire response
- Wildfire vulnerability
- Fuels reduction efforts
- Structural Ignitability

Table 4-2 highlights key issues that the agencies identified in the interview process.

**Table 4-2. State and Federal agency findings**

	OSFM	ODF	USFS	BLM
Primary Response Issues Identified				
Access	N/A	•	•	•
Resources			•	
Conducted Fuel Reduction		•	•	•
Conducted Structural Ignitability	•	•	•	
Primary Structural Ignitability Issues Identified				
Defensible Space		•	•	
Access	•			
Homeowner Education				•
Fire Assistance Agreements in Place		•	•	•
Conducted Education & Outreach	•	•	•	•

## AGENCY ROLES & RESPONSIBILITIES

State and federal agencies were asked to describe their roles in wildfire response, planning or protection activities. Their responses are summarized below.

- The Office of the State Fire Marshal oversees the Conflagration Act. When there is a wildfire in the interface that exceeds local capacity,

OSFM is asked to invoke the Act. The request goes to the Governor to declare a Conflagration, which provides resources from across the state. OSFM doesn't provide direct response to wildfires. On the planning side, they also manage the State Fire Defense Board, made up of the heads of all the County Fire Defense Boards. The State Fire Defense Board is the manager of the state's mobilization plan. Local plans are written to dovetail with state plan.

- The Oregon Department of Forestry provides fire protection for private land owners and also is the contracted fire fighting organization for the BLM. Landowners pay an assessment to ODF for fire protection. ODF is active in fuels management. They typically provide fuel reduction recommendations to land owners through the fire assistance program. Landowners are responsible for implementing measures.
- The United State Forest Service is responsible for the protection of the national forest, not private lands. USFS has mutual aid agreements with locals to protect private lands, but these agreements are only valid for 24 hours. In the preseason USFS works with partners on pre-attack planning, (i.e., designating helispots). USFS doesn't take the lead in planning processes like CWPP processes, but are there to participate and facilitate.
- The Bureau of Land Management contracts with ODF for fire protection activities. If ODF needs additional assistance, BLM can provide some staff resources. BLM manages the Northwest Oregon Fire Management Plan, which covers response activities and cooperation between wildfire partners.

## **WILDFIRE RESPONSE**

The agencies cited the following points when asked to discuss their their concerns regarding wildfire response.

- Accessibility and concerns with future of ability to slash burn. With current efforts to end grass seed burning, see that slash burning is probably next to go. Without the ability to burn slash, it creates greater risk because of the build up of fuels
- Lack of resources and poor access
- Lack of defensible space
- Privately owned bridges with no weight ratings
- Communication with ODF is good, but don't have all the frequencies for locals

## **WILDFIRE VULNERABILITY**

Different agencies had some differing views on the factors that contribute to community vulnerability. There was greater consistency, however, in response to questions about geographic areas that are more vulnerable, including a concern about the valley floor, and regarding specific communities located within Linn County:

- The OSFM identified that they are concerned about interface areas on the periphery of valley floor where ODF and RFPDs overlap. Also isolate islands of interface like in Albany where there is a subdivision on a butte that has wildlands, but no ODF responsibility. It is solely in Albany's response area.
- ODF identified the following areas of concern: Washburn Heights, Mt. Tom, new development on NE end of Brownsville, Middle Ridge, Sodaville, Knox Butte (Albany, not ODF), Ridgeway Butte (proposed in Lebanon). All of these areas were also identified by the local protection districts as well.
- USFS identified the following areas of concern: Marion Forks, Hwy 20 corridor between Linn/Deschutes County border and Sweet Home, and Quartzville (upper end only, have mutual aid for lower).
- BLM identified the following areas of concern: urban interface areas closer to the valley floor and those high value areas.

Agencies were then asked to identify those areas that are likely to become more vulnerable in the future. The areas/issues of concern include:

- Periphery of valley floors as more people move out into steeper slopes.
- There is a growing concern in many areas because Linn County is a relatively inexpensive place to live, so growth demand will most likely continue. Also, the number of measure 37 claims currently filed in the County may lead to a large number of new subdivisions in potential wildland areas.
- Sweet Home is becoming a bedroom community for Albany and Eugene and is the gateway to the cascades. Future growth there may encroach on wildlands.
- Areas around Foster Reservoir.
- Another big concern is timber companies selling off land to developers because the land is worth more in real estate than it is in timber.
- Mostly private forested lands that are protected by ODF. Logging operations create risk.
- Private industrial landowners who don't clean up slash after thinning operations.

## **FUEL REDUCTION EFFORTS**

Agencies identified their fuel reduction efforts and programs:

- OSFM has not been directly involved in fuel reduction, but has staff that provides training to Rural Fire Protection Districts to write wildland related grants.
- ODF frequently works with landowners to assist in fuel reduction on privately-owned forest lands through National Fire Plan grants. The agency also participates indirectly in fuels reduction by loaning equipment to homeowners in the WUI.

- USFS conducts brush disposal after timber sales to clean up logging slash by collecting and burning slash piles.
- BLM does fuels reduction in association with timber sales.

## **STRUCTURAL IGNITABILITY**

By building to specific standards, creating defensible space by clearing brush and dry wood, and updating homes to reflect new standards, homeowners can help to mitigate potential risk to their homes and other structures on their properties. Projects the State and Federal agencies are or have been involved in include:

- OSFM works with the Building Codes Division to ensure that building codes reflect adequate wildfire mitigation measures.
- ODF through the Fire Defense Board and mutual aid agreements provides brochures to Planning departments on construction standards for wildfire including access issues. ODF utilized an NFP grant to educate landowners on what they can do to mitigate fire hazard. ODF has completed 3,000 home assessments using Trimble GPS units.
- Both the USFS and BLM typically engage in structural ignitability projects, but have not completed any in Linn County.

The main concerns regarding ignitable structures were:

- All agencies identified both defensible space and fire fighter access as primary issues when dealing with wildfire.
- Landowner awareness was also listed as an issue.

## **WILDFIRE RESPONSE**

Issues that State and Federal agencies highlighted:

- As population continues to rise, more people will require evacuation, making it harder get in to fight fires.
- Private homeowners with locked or security gates also create an issue, however, state law gives [RFPDs] permission to go through any locked areas, this just takes time. Industrial forest owners have typically given ODF keys to their gates, but when RFPD respond on mutual aid, they don't have these keys.
- For the USFS, response times in general are long. On federal lands, budgets are decreasing for road maintenance which means access is reduced and slower response times are being seen.
- Marion Forks is an issue because it is somewhat isolated from the rest of the County and isn't in a RFPD.

## **CAPACITY AND NEEDS**

The State and Federal agencies were asked to identify any fire assistance agreements they may have in place. The Oregon Department of Forestry indicated

that they have County-wide agreements in place in Linn and Benton Counties and with the BLM. They also have a “closest forces” and a “reciprocal agreement” with the US Forest Service. The USFS has a “mutual aid” agreement with the state.

Agencies were asked to identify the most important need they face for effective wildfire response, and/or mitigation. The following are their responses:

- The State Fire Marshal indicated the issue for the rural fire protection districts is identifying what the real hazard is and what the actual problems are so that their response plans can focus activities around education and mitigation in those problem areas.
- ODF indicated that the issue is public education on how to make structures survive. ODF is not paid to protect structures. They also indicated that it is important to maintain good relationships with partners – local and federal fire agencies. They have good working relationships now and are constantly interfacing. Need to keep up those relationships in the future as well. Another issue is the ever changing command staff and the need for all partners to be knowledgeable about roles and connections. CWPP is also an opportunity for County Commissioners to make wildfire issues a priority and pass that along to County departments like GIS and planning.
- The USFS can’t do fuels treatments like they would want to. USFS gets money for fuel treatment from national analysis, where this forest doesn’t rank especially high. They rely on fuel reduction after timber sales, which aren’t always the most at risk areas.
- The BLM indicated that they haven’t had very many fires on lands in their jurisdiction, but when they do issues do come up. This particular district hasn’t had any major fires in 15 years, but the potential is there. Sometimes there are differences of opinion between what is best for the natural resources (BLM) and what is best for fire fighting (ODF).

## **PREVENTION AND EDUCATION RESOURCES**

Each of the State and Federal agencies are involved in education and outreach programs at some level. While some may be implementing the programs, others play a supporting role:

- OSFM support local education and outreach programs by providing materials and training.
- ODF typically provides information on structural ignitability, including efforts during Fire Awareness Week with Lebanon Fire for Fireman Safety Day. They have displays on defensible space and National Fire Plan brochures. In 2002, ODF received the National Fire Plan grant. The grant allowed ODF and the Harrisburg RFPD to go door to door in Mt. Tom to educate homeowners on structural ignitability.

- The USFS works with the State to do education and outreach in Sweet Home, Albany, and Lebanon. They also administer the Smokey (the Bear) School program focusing on kids and the proper use of matches. Other education efforts includes signage in the forest. The USFS's prevention officer is interested in expanding their program to Salem, Albany, and Corvallis in an effort to educate National Forest visitors about fire before they visit the forest.

## **IDEAS FOR MITIGATION**

Each of the agencies provided suggestions that, if implemented, could reduce wildfire risk in the WUI. More detailed actions are described later in this plan; the following is a brief overview.

- Develop educational programs on defensible space and access.
- Complete fire assessments in stands to identify potential fuel reduction strategies and to educate landowners on what to do with fuels and the threat from neighboring landowners.
- Increase partnership efforts among local, State, and Federal entities to complete fuel reduction projects on adjacent lands and to create fuel breaks.
- Clear roads that have slash piles to create access and create fuel breaks to protect private landowners.
- Undertake defensible space education specifically in the Marion Forks area, which does not fall within the jurisdiction of any fire protection district.
- Complete home assessments and identify areas where lack of water supply could hamper a fire repression efforts.
- Strengthen wildfire related codes.
- Undertake fuel reduction efforts through the marketing of small diameter biomass.

## **FIREWISE COMMUNITIES WORKSHOP**

The National Wildland Urban Interface Fire Protection Program developed FireWise Communities Workshops in 2000 to address the Wildland Urban Interface fire problem at a community level. The workshops have three main goals:

1. Improve safety in the Wildland Urban Interface by identifying opportunities to share responsibility
2. Create and nurture local partnerships for improved decisions in communities
3. Encourage the integration of FireWise concepts into community and disaster mitigation planning

These goals are consistent with the collaborative emphasis of legislation guiding the CWPP planning process. Workshop participants worked in small groups to evaluate interactive scenarios designed to assess and reduce the wildfire risk of a fictional community.

## PURPOSE

ECONorthwest and the Oregon Department of Forestry conducted a FireWise Communities Workshop on June 7<sup>th</sup>, 2007 at the Linn County Fair and Expo Center. The workshop included an educational element to assist participants in identifying wildfire-related issues in their communities. Through this exercise, ECO obtained feedback regarding the public's priorities for wildfire protection in Linn County. The results of the workshop will assist the County and fire districts in developing local priorities for project implementation.

Participants in the workshop included representatives of federal and state fire and forestry agencies, rural fire protection districts, local planning and emergency management departments, utility providers, the private forestry industry, the real estate industry, watershed councils, and elected officials, among others. For more information about the FireWise Workshop see *Appendix F: FireWise Workshop Summary*.

## METHODS

Prior to the workshop, stakeholders had been asked to identify major areas of concern regarding wildfire in Linn County. They identified the following five areas:

- Emergency response
- Education and outreach
- Structural ignitability
- Fuel reduction
- Collaboration, coordination, and implementation

During the workshop, facilitators asked participants to group their suggestions and concerns under these five categories, using a worksheet created and provided by ECONorthwest. Participants were given an opportunity to review and comment on the wildfire mitigation strategies already identified through the stakeholder interviews and survey. The small groups were asked to discuss each strategy, identify ideas for implementation, designate a lead agency, and brainstorm potential partners that could assist in implementation.

The participants discussed their ideas in small groups and shared these results with the entire group at the end of the workshop. ECONorthwest analyzed the worksheets to develop a more refined list of mitigation strategies, including new actions identified by participants.

# FINDINGS

## EMERGENCY RESPONSE

Improving efficiency in wildfire response efforts is essential in protecting the residents and property in Linn County from potentially devastating wildland fires. Workshop participants were asked to identify issues regarding emergency response and comment on the mitigation strategies developed through the stakeholder interviews and survey. The primary issues regarding emergency response are summarized below.

- There are deficiencies in resources available for wildland fire fighting.
- Water supply is limited in some of the County's more vulnerable areas.
- Water sources often improperly maintained for firefighting purposes.
- Rural addressing needs to be improved.
- There are interoperable communication issues between structural and wildland fire protection agencies.
- Many WUI areas have dead-end roads and only one ingress/egress route.
- Most of the rural fire protection districts are staffed mainly by volunteers, and need assistance in training for wildfire response.
- A smaller secondary substation on the east side of the Harrisburg District is needed.

## EDUCATION AND OUTREACH

Enhancing wildfire education and outreach is arguably one of the most important outcomes of the CWPP. Workshop participants were asked to identify issues regarding education and outreach and comment on the mitigation strategies developed through the stakeholder interviews and survey. The primary issues regarding education and outreach are summarized below.

- Though educational materials exist, there has not been a comprehensive and coordinated effort for distributing materials.
- Public education about development in areas subject to wildfires is needed.
- Campfires are an issue in dispersed camping areas and backyards (rather than in campgrounds).
- The Smokey Bear Fire Prevention Programs in schools are effective and should continue.
- Many fire districts need additional staff and resources to assist in fire prevention.

- Involving the media in a contest could improve visibility for the FireWise landscaping program and encourage neighbors to follow the examples of those in the community who are taking action on their properties.

## **TREATMENT OF STRUCTURAL IGNITABILITY**

A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures. Workshop participants were asked to identify issues regarding structural ignitability and comment on the mitigation strategies developed through the stakeholder interviews and survey. The primary issues regarding structural ignitability are summarized below:

- The criteria insurance providers use to assess fire insurance eligibility and premiums does not accurately portray the true fire hazard.
- There are many homes in structurally unprotected areas.
- County driveway and road standards do not match the International Building Code and the County does not require re-inspection after the development is complete. Fire departments do not inspect driveways in terms of the County standards.
- County GIS needs to be familiar with the risk assessment maps to ensure that the data can be updated.
- There is a lack of structural ignitability data.
- Processes and standards for the implementation of SB 360 need to be developed.

## **PRIORITIZED FUEL REDUCTION**

A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure. Participants were asked to identify issues regarding fuels reduction and comment on the mitigation strategies developed through the stakeholder interviews and survey. Participant's responses are summarized below:

- Fuel reduction efforts on the part of fire protection agencies should be coordinated.
- Education about risks and rewards of fuel reduction is needed.
- Homeowners need assistance with determining appropriate fuel reduction strategies.
- Funding for creating and sustaining fuels reduction projects is needed.
- Elderly or disabled homeowners need assistance in doing the physical labor associated with fuel reduction.
- Biomass utilization and marketing could be a method for paying for fuel reduction efforts.

- Homeowners need incentives and resources for continuing fuels reduction efforts.
- Slash piles located close to roads could hinder evacuation, and would serve to promote the spread of fire from one side of the road to the other.
- Homeowners need resources for assessing and addressing fuels management.
- Agricultural lands need to be protected from wildfires.

## **COLLABORATION**

A CWPP must be collaboratively developed using a process that involves local and state government representatives, in consultation with federal agencies and other interested parties. Participants were asked to identify issues regarding structural ignitability and comment on the mitigation strategies developed through the stakeholder interviews and survey . Participant's responses are summarized below:

- Formalizing an Advisory Committee will assist in implementing the Linn County Community Wildfire Protection Plan.
- A sub-committee or Fire Prevention Cooperative is needed to coordinate and sustain effective countywide public education and outreach activities.

## **CONCLUSION**

The results of the workshop were threefold. First, the mock planning exercise gave participants the perspective and motivation to identify and resolve potential wildfire-related issues for their community. This group of educated stakeholders can be catalysts for community action. Second, it provided a forum for fostering partnerships among stakeholders that have a vested interest in reducing wildfire hazards. These relationships will serve as the foundation for coordinated implementation of the CWPP. And finally, the discussion and review of the action items included in the CWPP results in a comprehensive action plan that will guide Linn County in reducing the threat of potentially devastating wildfires.

# Action Plan

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The action plan section of this document details the goals and action items that guide the implementation of the Linn County Community Wildfire Protection Plan. The goals and action items are vital components of the CWPP and serve as a roadmap for plan implementation. It has the following parts:

- **Action plan framework** describes the overall framework for the Linn County CWPP
- **Action plan methods** describes how the mission, goals and objectives were developed
- **Plan mission** describes the mission statement of the Linn County CWPP
- **Plan goals** describes goals of the Linn County CWPP
- **Plan action items** describes wildfire mitigation strategies identified through the Linn County CWPP planning process
- **Action plan matrix** documents the action items in relation to the plan goals

## ACTION PLAN FRAMEWORK

This section provides information on the process used to develop the goals, objectives, and action items in the Linn County CWPP. It also presents the Action Plan matrix, which is the overall framework for wildfire mitigation strategies. The framework consists of three parts—Mission, Goals, and Action Items:

- **The mission statement** is a philosophical or value statement that answers the question “Why develop a plan?” In short, the mission states the purpose and defines the primary function of the County’s Community Wildfire Protection Plan. The mission is an action-oriented statement of the plan’s reason to exist. It is broad enough that it need not change unless the community environment changes.
- **Goals** are intended to represent the general ends toward which the Linn County CWPP is directed. Goals identify how the area intends to work toward mitigating the risk of Wildland Urban Interface fire. They do not specify how Linn County is to achieve a given level of performance. The goals are guiding principles for the specific recommendations outlined in the action items.
- **Action items** are detailed recommendations for activities that local departments, citizens and others could engage in to reduce Wildland Urban Interface fire risk.

## ACTION PLAN METHODS

The Action Plan was developed through an analysis of the issues identified in the risk assessment, Rural Fire Protection District interviews, and the FireWise Workshop, as well as through background research on the Wildland Urban Interface and a review of other Community Wildfire Protection Plans. The mission and goals for the Linn County CWPP were taken from the existing Linn County Natural Hazard Mitigation Plan, approved in March 2006.

The Steering Committee reviewed and approved mission, goals, and action items on September 12, 2007. Committee members and the agencies they represent were assigned responsibility for the implementation of individual action items.

## PLAN MISSION

The mission of the Linn County CWPP aligns with the mission for the Linn County Natural Hazard Mitigation Plan. The mission is :

*To reduce the impact of natural hazards on the community through planning, communication, coordination and partnership development.*

## PLAN GOALS

Plan goals help to guide the direction of future activities aimed at reducing risk and preventing losses from wildfire. The goals listed here serve as the guiding principles for agencies and organizations as they begin implementing action items. The Linn County CWPP goals are based on the concepts presented during the FireWise Community Workshop.

- **Goal #1:** Enhance wildfire response capabilities
- **Goal #2:** Increase stakeholder knowledge about wildfire risk through education and outreach
- **Goal #3:** Encourage the treatment of structural ignitability
- **Goal #4:** Prioritize fuel reduction projects
- **Goal #5:** Increase opportunities for collaboration and coordination to implement wildfire projects.

## PLAN ACTION ITEMS

The plan identifies action items developed through various plan inputs and data collection and research. CWPP activities may be eligible for funding through state and federal grant programs, including the National Fire Plan or Pre-Disaster Mitigation.

To facilitate implementation, each action item is described in a worksheet, Table 5.1, which includes information on key issues addressed, ideas for

implementation, coordinating and partner organizations, timeline, and plan goals addressed.

## **KEY ISSUES ADDRESSED**

Each action item includes a list of the key issues that the activity will address. Action items should be fact based and tied directly to issues or needs identified through the planning process. Action items can be developed from a number of sources, including input from participants in the planning process, noted deficiencies in local capabilities, or issues identified through the risk assessment.

## **IDEAS FOR IMPLEMENTATION**

Each action item includes ideas for implementation and potential resources. This information offers a transition from theory to practice. The ideas for implementation serve as a starting point for this plan. This component is dynamic in nature, as some ideas may be not feasible and new ideas may be added during the plan maintenance process. (For more information on how this plan will be implemented and evaluated, refer to Section 5 of the CWPP).

Action items are suggestions about how to implement plan goals. These include elements such as collaboration with relevant organizations, grant programs, tax incentives, human resources, education and outreach, research, and physical manipulation of buildings and infrastructure. A list of potential resources outlines which organization or agency would be most qualified and capable of performing the implementation strategy. Potential resources often include utility companies, non-profits, schools, and other community organizations.

## **COORDINATING ORGANIZATION**

The coordinating organization is the organization that is willing and able to organize resources, find appropriate funding, and oversee activity implementation, monitoring, and evaluation.

## **INTERNAL PARTNERS**

Internal partners are members of the CWPP advisory committee and may be able to assist in the implementation of action items by providing relevant resources to the coordinating organization.

## **EXTERNAL PARTNERS**

External partner organizations can assist the coordinating organization in implementing the action items in various ways. Partners may include local, regional, state, or federal agencies, as well as local and regional public and private sector entities. The internal and external partner organizations listed in the CWPP are potential partners recommended by the project steering committee, but were not necessarily contacted during the development of the plan. The coordinating

organization should contact the identified partner organizations to see if they are capable of and willing to participate. This initial contact also provides an opportunity to gain a commitment of time and/or resources toward completion of the action items.

## **TIMELINE**

Action items include both short and long-term activities. Each action item contains an estimated timeline for implementation. Short-term action items are activities that may be implemented with existing resources and authorities within one to two years. Long-term action items may require new or additional resources and/or authorities, and may take from one to five years to implement.

## **ACTION PLAN MATRIX**

The Action Plan matrix portrays the overall framework and links between the goals, objectives and action items of the Linn County CWPP. The matrix is modeled after one developed by the National Committee on Wildland Urban Interface Fire. The matrix links the action items to the three HFRA requirements that they address: collaboration, prioritized fuel reduction, and treatment of structural ignitability. Each action item has a corresponding action item worksheet describing the project, identifying the rationale for the project, potential ideas for implementation, and assigning coordinating and supporting organizations. These action item forms are located in Appendix A: Action Item Worksheets.

## Linn County Community Wildfire Protection Plan Action Item Matrix

Goals	Action Item:			
<b>GOAL 1: Enhance wildfire response capabilities</b>				
		Time Line	Lead Organization	Internal/External Partners
	<b>Action 1.1</b> Assess and address deficiencies in equipment and resources available for wildland fire fighting for rural fire departments.	Ongoing	Fire Defense Board	Roads Department, Emergency Management, Power Companies, Hospitals, and Private Contractors, ODF
	<b>Action 1.2</b> Inventory alternative firefighting water sources in Wildland Urban Interface, including helicopter dip sites	1-2 years	Oregon Department of Forestry	Rural Fire Protection Districts, United States Forest Service, Small Woodlands Association, and Oregon Civil Air Patrol, Industrial land owners, Water Master
	<b>Action 1.3</b> Improve addressing and visibility in rural areas	3-5 years	Linn County Sheriff - Dispatch and the Fire Defense Board	Building Department, Fire Defense Board, Linn County GIS
	<b>Action 1.4</b> Enhance interoperable communications by addressing communication deficiencies	3-5 years	Linn County Sheriff - Dispatch	Rural Fire Protection Districts, Oregon Department of Forestry
	<b>Action 1.5</b> Develop evacuation plans and procedures for high-risk WUI areas	Ongoing	County Emergency Management	Roads Department, Linn County GIS, Oregon Department of Forestry, US Forest Service
	<b>Action 1.6</b> Augment volunteer fire fighter training to improve response capabilities, especially in rural fire districts	Ongoing	Linn County Fire Training Council	Emergency Management
	<b>Action 1.7</b> Seek funding to build a smaller secondary substation on the east side of the Harrisburg District	3-5 years	Harrisburg Rural Fire Protection District	Linn County Emergency Management

**GOAL 2: Protect life, the built environment and natural systems through County policies, procedures and services**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 2.1</b> Collaborate with developers/builders, fire protection agencies, and relevant County agencies to collect and distribute educational materials regarding fire-resistant construction materials, fire code standards for access, water supply, fuel breaks and fire-resistant vegetation in the wildland interface/forest designated areas	Ongoing	Planning Department	Oregon Department of Forestry, Office of State Fire Marshal, County Planning and Building, Insurance Companies, Banks, Community Emergency Response Teams, Neighborhood Watch Groups, Senior Citizen Groups, OSU extension
<b>Action 2.2</b> Work with local nurseries and the extension service's Master Gardeners program to promote firewise landscaping	1-3 years	Oregon State University Extension Service	Linn County Fairgrounds, Oregon Gardens Nursery, Master Gardeners, Oregon Nursery Association, Oregon Department of Forestry, 4-H Clubs, Boy Scouts, High School Forestry Clubs
<b>Action 2.3</b> Continue to educate the public about campfire safety	Ongoing	US Forest Service, Bureau of Land Management, Oregon Department of Forestry	County Sheriff, Rural Fire Protection Districts, Oregon State Police, Sporting Goods Stores
<b>Action 2.4</b> Continue supporting and expanding the Smokey Bear Fire Prevention Programs in schools	Ongoing	US Forest Service, ODF	Oregon State Parks, School Districts
<b>Action 2.5</b> Integrate wildfire hazards and safety programs into educational curriculum	Ongoing	Fire Defense Board	Office of State Fire Marshal, School Districts, Colleges
<b>Action 2.6</b> Create an "Extreme Home Make-over" contest to highlight the need for firewise landscaping	1-3 years	Linn County Planning, Oregon Department of Forestry	Media, Hardware and supply stores

**GOAL 3: Encourage the treatment of structural ignitability**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 3.1</b> Identify incentives for improving maintenance of fire breaks and reducing hazardous vegetation	Ongoing	Oregon Department of Forestry	Fire Defense Board, Insurance Agencies, Small Woodlands Association, Industrial land owners
<b>Action 3.2</b> Work with insurance providers to improve their criteria to adequately represent level of structural fire protection in residential structures, especially in high-risk areas.	Ongoing	State Insurance Commissioner's Office	Fire Districts, Office of State Fire Marshal, Insurance Companies, Oregon Department of Forestry
<b>Action 3.3</b> Enhance structural protection in structurally unprotected areas and comply with the Governor's policy in unprotected areas to be eligible for conflagration resources.	Ongoing	Linn County Planning	Fire Districts, Land Owners
<b>Action 3.4</b> Complete the fire structural risk assessments in Brownsville, Lebanon, and Sweet Home fire districts, and utilize this as a model program for other Linn County fire districts	1-3 years	Fire Defense Board, Oregon Department of Forestry	Retired professionals, Universities, Neighborhood Associations, CERT Teams, Watershed Councils
<b>Action 3.5</b> Develop processes and standards for the implementation of Oregon Senate Bill 360: Oregon Forestland Urban Interface Fire Protection Act	1-3 years	County Planning and Building	Board of County Commissioners, Oregon Department of Forestry, Bureau of Land Management, US Forest Service

**GOAL 4: Prioritize fuel reduction projects**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 4.1</b> Incorporate, maintain, and update Linn County's Wildland-Urban Interface Risk Assessment and GIS data elements, and develop and maintain an inventory of potential fuels reduction projects in high-risk areas, silvicultural prescriptions, and list of prioritized fuel projects	Ongoing	ODF, Linn County Planning, and Linn County GIS	US Forest Service, Bureau of Land Management, United States Forest Service
<b>Action 4.2</b> Develop educational materials designed to educate property owners about the benefits of sustained fuel reduction efforts	Ongoing	Fire Defense Board	Linn County Planning, Linn County Sheriff, Oregon Department of Forestry, Bureau of Land Management, United States Forest Service, Oregon State University Extension Service, 4-H programs, Boy Scouts, Neighborhood Watch Programs, Small Woodland Association
<b>Action 4.3</b> Develop a resource guide to assist private landowners on how to complete risk assessments and determine appropriate fuel reduction strategies	1-3 years	Oregon Department of Forestry	Fire Defense Board, Oregon State University Master Woodland Manager Program, Association of Oregon Loggers, Society of American Foresters
<b>Action 4.4</b> Identify opportunities to assist vulnerable populations (i.e., elderly, disabled, etc.) who request assistance in creating defensible space around homes and communities	1-3 years	Oregon Department of Forestry	Fire Defense Board, Linn County Planning, Oregon State University Extension Service, Northwest Youth Corps, social services organizations
<b>Action 4.5</b> Explore and promote opportunities for small diameter biomass utilization and marketing	1-3 years	CWPP Committee	Linn County Planning, Oregon State University Extension Service, Small Woodlands Association, Bureau of Land Management, US Forest Service, Association of Oregon Loggers
<b>Action 4.6</b> Explore the development of a Linn County Fuels Management Cooperative through the Small Woodland Association for sustaining fuels management within the WUI	1-3 years	Fire Defense Board, Oregon Department of Forestry	Small Woodlands Association, Bureau of Land Management, US Forest Service, Association of Oregon Loggers
<b>Action 4.7</b> Work with forestland managers and watershed managers to protect water quality in high risk areas while reducing wildfire hazards	1-3 years	ODF	Oregon Department of Forestry, Watershed Councils, Soil and Water Conservation District, US Forest Service, Private Timber Companies, Department of Environmental Quality, Bureau of Land Management
<b>Action 4.8</b> Work with County Roads Department and ODOT to reduce hazardous vegetation in Right of Ways to enhance access and create fuel breaks, and to keep County/access roads large enough for fire vehicle passage.	Ongoing	County Roads Department	Linn County Planning, Oregon Department of Forestry, Bureau of Land Management, US Forest Service
<b>Action 4.9</b> Support creation of fire buffers around agricultural land	Ongoing	Linn County Planning	Fire Defense Board, Cities, Rural Fire Protection Districts, Oregon Department of Forestry, Department of Agriculture

**GOAL 5: Increase opportunities for collaboration and coordination to implement wildfire projects**

	Time Line	Lead Organization	Internal/External Partners
<b>Action 5.1</b> Create and formalize a CWPP Advisory Committee to oversee implementation, identify and coordinate funding opportunities, and sustain the Linn County Community Wildfire Protection Plan	1 year	County Commission, County Planning and Building	Committee representatives
<b>Action 5.2</b> Establish a sub-committee or a Fire Prevention Cooperative to coordinate and sustain effective countywide public education and outreach activities	1-3 years	CWPP Advisory Committee, Fire Defense Board	Oregon State University Extension Service, Soil and Water Conservation District, Keep Oregon Green

# Plan Implementation and Maintenance

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The plan implementation and maintenance section of this document details the formal process that will ensure that the Linn County Community Wildfire Protection Plan (CWPP) remains a relevant document and that the actions in it are implemented. This section provides the foundation for the formation of the Linn County's CWPP Advisory Committee, referred to as *the Committee*.

This section of the CWPP outlines the methods by which the Linn County CWPP will be implemented, maintained, and updated. It has the following parts:

- **Plan implementation** describes how the Linn County will be implemented and includes a discussion of the plan's convener, advisory committee, and committee membership;
- **Plan maintenance** describes how the plan will be maintained and updated and includes a discussion on the annual and semi-annual meetings as well as the project prioritization process; and
- **Five-year review of plan** describes the methods in which the plan will be updated on a 5 year basis.

## PLAN IMPLEMENTATION

It is critical that Linn County have a "living document" that is consistently updated to reflect current needs and priorities. The plan's format allows the Committee to review and update sections as new data becomes available. New data can be easily incorporated, resulting in a Community Wildfire Protection Plan that remains current and relevant to Linn County and to all the CWPP partners. The benefits of a current and relevant CWPP include:

- Allowing communities to identify local priorities and shape management decisions affecting public lands around them
- Building community partnerships and collaboration between fire districts, fire departments, local/state/federal governments, and private landowners
- Identifying a variety of funding sources and opportunities available to communities
- Facilitating fuels reduction and forest health treatments across landscapes, in accordance with the goals of the Healthy Forest Restoration Act (HFRA) and Healthy Forests Initiative

The Healthy Forest Restoration Act (HFRA) requires that three entities must mutually agree on the final contents of a CWPP:

- Linn County Board of Commissioners
- Linn County Fire Defense Board

- Oregon Department of Forestry

The Linn County CWPP is a shared plan and was developed and implemented based upon a collaborative process. The plan will be adopted by resolution by the Linn County Board of Commissioners and acknowledged by the Linn County Fire Defense Board and Oregon Department of Forestry in order to meet HFRA and Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation requirements. The effectiveness of the Linn County non-regulatory CWPP will be contingent upon the implementation of the plan and action items identified therein. The action items provide a framework for building and sustaining partnerships to support wildfire risk reduction projects.

## **CONVENER**

The Linn County Planning and Building Department will serve as the convener and will oversee the plan's implementation and maintenance. The Department will chair the CWPP advisory committee and fulfill the chair's responsibilities. This entity will be responsible for calling meetings to order at scheduled times or when issues arise, (e.g., when funding becomes available or following a major wildfire event).

The convener's key roles are:

- Coordinate Committee meeting dates, times, locations, agendas, and member notification
- Document outcomes of Committee meetings in Appendix B: Implementation and Maintenance Documentation
- Serve as a communication conduit between the Committee and key plan stakeholders, (e.g., monthly meetings of the Fire Defense Board)
- Identify emergency management related funding sources for wildfire mitigation projects
- Serve as gatekeeper to the project prioritization process
- Use the Linn County Wildland Urban Interface Risk Assessment as a tool for prioritizing proposed fuel reduction projects.

## **ADVISORY COMMITTEE**

The plan development steering committee will become the advisory committee (the Committee) and will oversee implementation, identify and coordinate funding opportunities and sustain the CWPP. The Committee will act as the coordinating body and serve as a centralized resource for wildfire risk reduction and Wildland Urban Interface issues in Linn County. Additional roles and responsibilities of the committee include:

- Serving as the local evaluation committee for wildfire funding programs such as National Fire Plan grants, Senate Bill 360, and the Pre-Disaster Mitigation program

- Developing and coordinating ad hoc and/or standing subcommittees as needed
- Prioritizing and recommending funding of wildfire risk reduction projects
- Documenting successes and lessons learned
- Evaluating and updating the CWPP in accordance with the prescribed maintenance schedule

## **MEMBERS**

The following organizations were represented and served on the Committee during the development of the CWPP. These groups will continue to be members of the Committee during the implementation and maintenance phases of the CWPP.

- Oregon Department of Forestry
- Bureau of Land Management, Salem Office
- Linn County Planning and Building Department
- Linn County Fire Defense Board
- Willamette National Forest and Bureau of Land Management, Eugene Office
- Linn County Emergency Services

Because of the importance that the CWPP planning process places on collaboration and the fact that wildfire mitigation is a shared responsibility among a number of diverse stakeholders, the Committee may look to expand current membership on the Committee. Potential future committee members may include:

- Calapooia, North Santiam and South Santiam Watershed Councils
- Home Builders Association
- Insurance representatives
- Citizen representatives
- Local elected officials

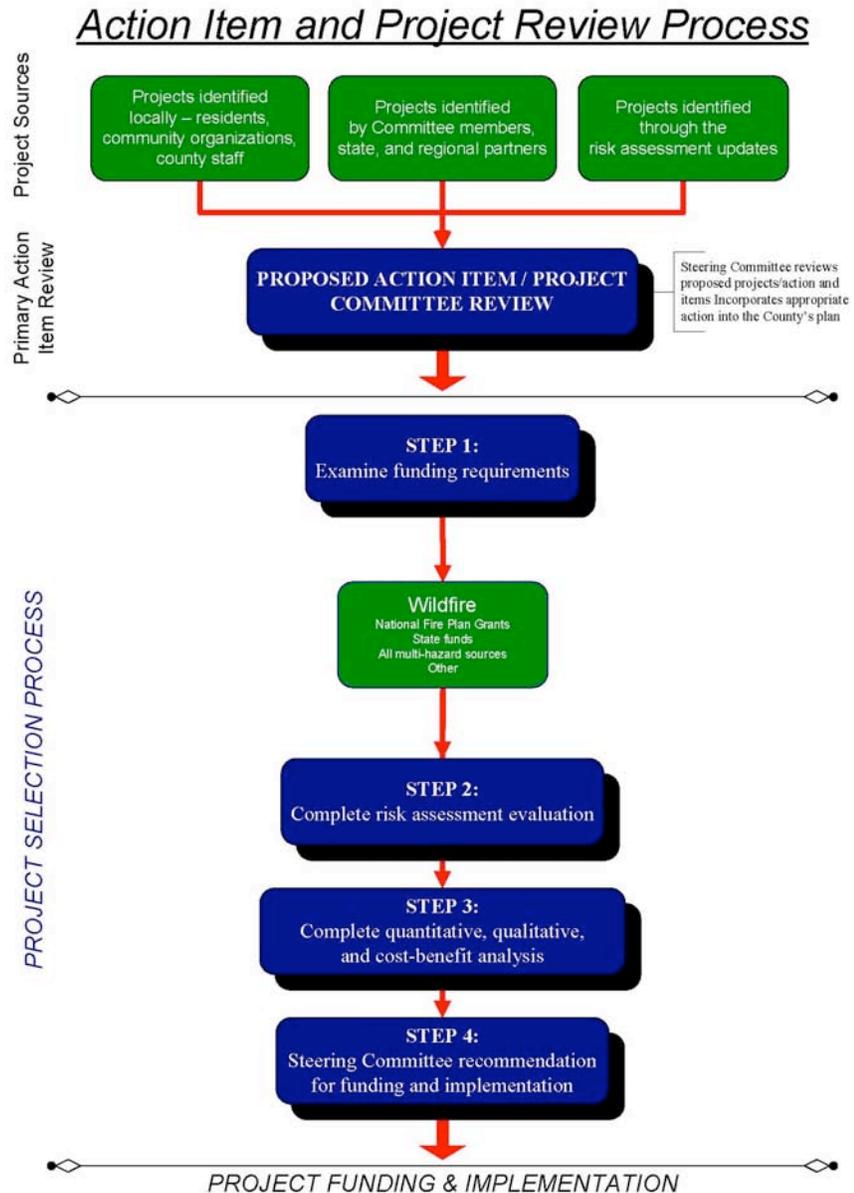
## PROJECT PRIORITIZATION PROCESS

The requirements of HFRA state that the CWPP Advisory Committee must establish community hazard reduction priorities to determine the order of project implementation. The CWPP Advisory Committee will support and prioritize wildfire risk reduction projects within Linn County. Hazard reduction projects will be identified; however, the Committee and the County cannot ensure they will be undertaken. Completion of projects will be dependent upon the availability of funding and adequate staffing. Funding to undertake hazard mitigation projects must also provide for administration costs and staff.

The projects that are presented to the CWPP Advisory Committee will often come from a variety of sources; therefore the project prioritization process needs to be flexible. Examples of means by which projects may be identified include: Committee members, local fire districts or professionals, or the Risk Assessment itself. Depending on the potential project's intent and implementation methods, several funding sources may be available and appropriate. Examples of wildfire mitigation funding sources include: National Fire Plan, and Pre-Disaster Mitigation grants.

The subsections that follow detail the specific steps that the Committee will take to prioritize projects. Figure 6-1 provides an overview.

**Figure 6-1. Overview of project prioritization process, Linn County Community Wildfire Protection Plan**



Source: Oregon Natural Hazards Workgroup, 2007

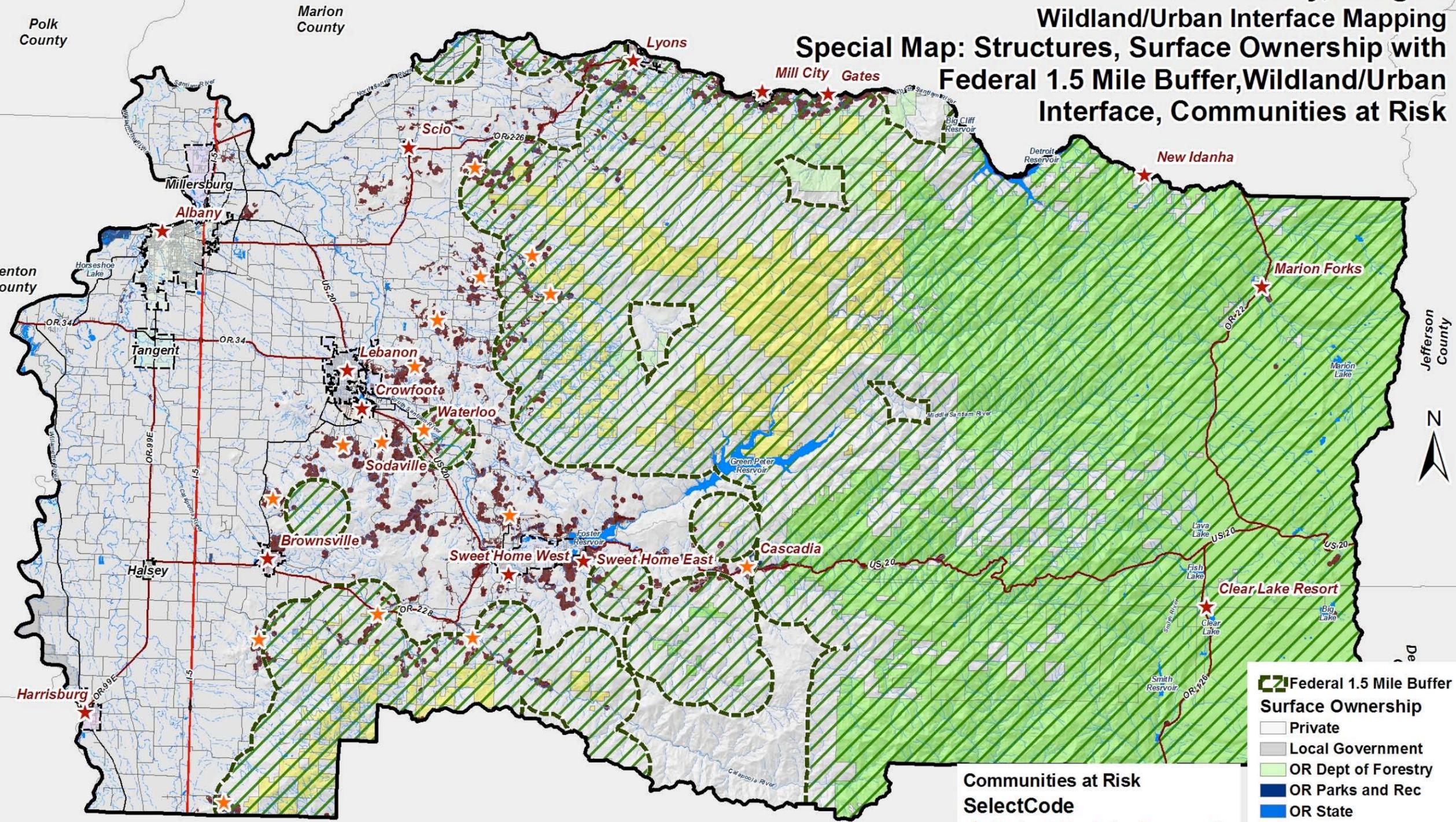
## **STEP 1: EXAMINE FUNDING REQUIREMENTS**

The Steering Committee will identify how best to implement individual actions within the appropriate existing plan, policy, or program. The Committee will examine the selected funding stream's requirements to ensure that the mitigation activity would be eligible through the funding source. The Committee may consult with the funding entity, Oregon Emergency Management, Oregon

Department of Forestry or other appropriate state or regional organizations about the project's eligibility.

The following map may be useful in the federal grant application process. It shows the outputs of the risk assessment in this document (localized communities-at-risk) and the WUI as defined in federal legislation. It also shows surface ownership of land (especially BLM and ODF) to determine which partnerships will be most critical to a successful grant application. The GIS data files produced as part of this planning process are housed at the County, and County GIS staff are trained to produce additional documentation if it is required.

# Linn County, Oregon Wildland/Urban Interface Mapping Special Map: Structures, Surface Ownership with Federal 1.5 Mile Buffer, Wildland/Urban Interface, Communities at Risk



Structures mapped only in ODF  
South Cascade Sweet Home District

Source: ODF South Cascade Sweet Home District Staff



**Communities at Risk  
SelectCode**  
 ★ Federal Register Community  
 ★ Other Community  
**Wildland Urban Interface**  
 ■ WUI, 40 Ac Definition

**Federal 1.5 Mile Buffer**  
**Surface Ownership**  
 □ Private  
 □ Local Government  
 □ OR Dept of Forestry  
 □ OR Parks and Rec  
 □ OR State  
 □ OR State Lands  
 □ US BLM  
 □ US Forest Service  
 □ US Corps of Engineers



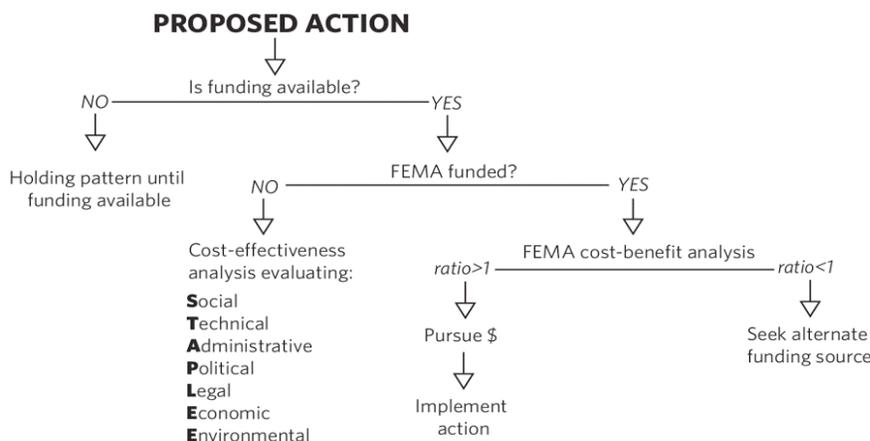
## **STEP 2: COMPLETE RISK ASSESSMENT EVALUATION**

The second step in prioritizing the plan's action items is to examine the wildfire risk associated with the proposed action. The Committee will determine whether or not the plan's risk assessment supports the implementation of the mitigation activity. This determination will be based on the location of the potential activity and the proximity to areas of high wildfire hazard areas, historic hazard occurrence, vulnerable community assets at risk, and the probability of future occurrence documented in the Plan.

## **STEP 3: COMPLETE QUANTITATIVE AND QUALITATIVE ASSESSMENT, AND ECONOMIC ANALYSIS**

The third step is to identify the costs and benefits associated with natural hazard mitigation strategies, measures, or projects. Two categories of analysis that are used in this step are: (1) benefit/cost analysis, and (2) cost-effectiveness analysis. Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later. Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating natural hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects. Figure 6-2 shows decision criteria for selecting the method of analysis.

**Figure 6-2. Benefit Cost Process Overview**



Source: Community Service Center’s Oregon Natural Hazards Workgroup at the University of Oregon, 2006.

If the activity requires federal funding for a structural project, the Committee will use a Federal Emergency Management Agency-approved cost-benefit analysis tool to evaluate the appropriateness of the activity. A project must have a benefit/cost ratio of greater than one in order to be eligible for FEMA grant funding.

For non-federally funded or nonstructural projects, a qualitative assessment will be completed to determine the project’s cost effectiveness. The committee will use a multivariable assessment technique called STAPLE/E to prioritize these actions. STAPLE/E stands for Social, Technical, Administrative, Political, Legal, Economic, and Environmental. Assessing projects based upon these seven variables can help define a project’s qualitative cost effectiveness. The STAPLE/E technique has been tailored for use in natural hazard action item prioritization by the Oregon Natural Hazards Workgroup at the University of Oregon’s Community Service Center. See Economic Analysis of Natural Hazard Mitigation Projects Appendix for a description of the STAPLE/E evaluation methodology.

**STEP 4: COMMITTEE RECOMMENDATION**

Based on the steps above, the committee will recommend whether or not the mitigation activity should be moved forward. If the committee decides to move forward with the action, the coordinating organization designated on the action item form will be responsible for taking further action and documenting success upon project completion. The Committee will convene a meeting to review the issues surrounding grant applications and to share knowledge and/or resources. This process will afford greater coordination and less competition for limited

funds. When the Committee selects a project for inclusion in the plan, a letter of support will be signed by all members of the Committee. This letter can be utilized in grant applications to show community support for the mitigation action.

The Committee and the community’s leadership have the option to implement any of the action items at any time, (regardless of the prioritized order). This allows the committee to consider mitigation strategies as new opportunities arise, such as funding for action items that may not be of the highest priority. This methodology is used by the Committee to prioritize the plan’s action items during the annual review and update process.

## PLAN MAINTENANCE

Plan maintenance is a critical component of the CWPP plan. Proper maintenance of the CWPP will ensure that this plan supports the County’s efforts to reduce risk in the Wildland Urban Interface. Linn County and CWPP partners have developed a method to ensure that regular review and updating of the CWPP occurs. The Committee is responsible for maintaining and updating the CWPP through a series of meetings outlined in Table 6-1.

**Table 6-1. Plan Maintenance Meeting Schedule**

<b>Semi-Annual Meeting</b>	<b>Annual Meeting</b>	<b>Five-Year Review</b>
Review Current Actions	Update Risk Assessment Data and Findings	Review plan update questions
Identify New Issues and Needs	Discussion of Methods of Continued Public Involvement	Update plan sections as necessary
Prioritize Potential Projects	Documenting Successes and Lessons Learned	

### SEMI-ANNUAL MEETING

The Committee will meet on a semi-annual basis to:

- Review existing action items to determine ‘ripeness’
- Identify issues that may not have been pinpointed when the plan was developed
- Prioritize potential wildfire mitigation projects

Linn County Planning and Building will be responsible for documenting the outcome of the semi-annual meetings. The process the Committee will use to prioritize all projects, including fuel reduction projects, is detailed in the section below.

### ANNUAL MEETING

The Committee will meet annually to review updates of the Risk Assessment data and findings, get updates on local CWPP planning efforts, discuss methods

of continued public involvement, and document successes and lessons learned based on actions that were accomplished during the past year.

On an annual basis, Linn County Planning and Building will complete the following tasks in an effort to incorporate, maintain, and update Linn County's Wildland Urban Interface Risk Assessment GIS data elements.

- Meet semi-annually with rural fire protection district boards and fire department representatives to update community maps and digitize local data as appropriate to the RFPD and FD needs;
- Update the Risk Assessment GIS data layers on a timely basis as new Oregon Department of Forestry, U.S. Forest Service and Bureau of Land Management studies or assessments become available;
- Integrate local CWPP assessments and mapping, when available, into the Linn County CWPP;
- Update local and regional CWPP websites with information provided by the Linn County Fire Defense Board;
- Support community efforts in the drafting of local CWPPs by providing access to the Risk Assessment GIS data; and
- Assist local community efforts in identifying potential fuels reduction projects and drafting grant applications.

Linn County Planning and Building will be responsible for documenting the outcomes of the annual meetings, as indicated in Appendix B: Implementation and Maintenance Documentation.

## **FIVE-YEAR REVIEW OF PLAN**

Because the CWPP will be integrated into the wildfire annex of the Linn County Natural Hazard Mitigation Plan, complete plan updates will be set at five-year intervals to meet the requirements of the Disaster Mitigation Act of 2000. During these plan updates, the following questions should be asked to determine what actions are necessary to update the plan. Linn County Planning and Building will be responsible for documenting the outcomes of the five-year plan review, using the Appendix B: Implementation and Maintenance Documentation. Table 6-2 provides a list of questions that can be used by the Committee to update the CWPP.

## Table 6-2. Five-year plan review questions

### 5-year Plan Review Questions

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#### *Background Data - Section 1*

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Has the wildfire protection framework at the local, state, or federal level changed?  
Have responsibilities of partner agencies changed?  
Has recent fire occurrence been accurately reflected in the plan?

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#### *Risk Assessment Data - Section 2*

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Has the wildfire risk across the County changed?  
Have new tools emerged to better evaluate the wildfire hazard?  
Have local communities developed plans and implemented activities that might change the County's overall risk?

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#### *Outreach Data - Section 3*

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Are there new players that should be brought to the table?

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#### *Action Plan Data - Section 4*

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Do the CWPP goals, objectives and actions address current or expected conditions?  
Have actions been effectively implemented?  
Are there new funding sources available to address the wildfire hazard?  
Are there new actions that should be added to action plan matrix?

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#### *Plan Implementation Data - Section 5*

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Are the structures and methods established for implementing the plan still relevant?  
Have there been any lessons learned documented from significant wildfires in other parts of the state that might be applicable to Linn County?  
Has implementation occurred as anticipated?  
What obstacles and challenges have arisen that have prevented or delayed implementation?  
Legal? Financial? Institutional?  
What opportunities have arisen that could accelerate implementation?



# Action Item Worksheet

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Action Item worksheets were generated as a guide for the Matrix, further explaining the action items listed there. Each worksheet describes one action item, the rationale behind that item, and the steps that could be taken to implement it.



# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 1

<b>Proposed Action Item:</b>	
Assess and address deficiencies in equipment and resources available for wildland fire fighting for rural fire departments.	
<b>Rationale for Proposed Action Item:</b>	
Linn County Rural Fire Protection Districts identified the following equipment needs: <ul style="list-style-type: none"> <li>• Brownsville - 1,000 gallon water tender</li> <li>• Sweet Home – type 3 engine</li> <li>• Albany - additional tender capacity and a type 3 brush unit</li> <li>• Jefferson - replace 2 type 6 engines with 2 new type 6 engines.</li> <li>• Scio - 2 or 3 new Forestry brush units</li> <li>• Lebanon - 2 3,000 gallon tenders with off road capabilities</li> <li>• Mill City - new tanker</li> <li>• Stayton - new type 5 or type 6 engine</li> <li>• Harrisburg - small type 3 engine, relocation of station to more central location</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Seek funding to acquire identified fire fighting equipment</li> <li>• Must secure personnel to staff additional equipment and train them</li> <li>• Determine availability of private contractor equipment (tenders, dozers, hand crews, engines)</li> <li>• Develop informal agreements between private contractors to make equipment available in times of need.</li> <li>• Explore the opportunity to use Op-Center for resource tracking.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Fire Defense Board</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Roads Department (to move water and supply flaggers)</li> <li>▪ Emergency Management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Power Companies</li> <li>▪ Hospitals</li> <li>▪ Private Contractors</li> <li>▪ ODF</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 2

<b>Proposed Action Item:</b>	
Inventory alternative firefighting water sources in the Wildland Urban Interface, including helicopter dip sites.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to address issues of water supply in Wildland Urban Interface areas.</li> <li>• ODF has undertaken a portion of this action by identifying water sources within the Wildland Urban Interface.</li> <li>• Water supply is a critical factor in an agency's ability to fight fire.</li> <li>• Older, established water sources often lack proper maintenance to keep them being viable water sources.</li> <li>• Lack of maintenance of dip sites</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Continue to inventory and assess areas where water sources are needed</li> <li>• Conduct maintenance on existing sites</li> <li>• Secure funding to develop new sites and provide for long-term maintenance</li> <li>• Utilize Oregon Civil Air Patrol for aerial photography</li> <li>• Focus efforts on smaller, private land owners</li> </ul>	
<b>Coordinating Organization:</b>	<b>Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Rural Fire Protection Districts	<ul style="list-style-type: none"> <li>▪ United States Forest Service</li> <li>▪ Small Woodlands Association</li> <li>▪ Oregon Civil Air Patrol</li> <li>▪ Industrial land owners</li> <li>▪ Water Master</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 3

<b>Proposed Action Item:</b>	
Improve addressing in rural areas.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to improve rural addressing.</li> <li>• Some fire districts have received grant funding to provide fire resistant signage</li> <li>• County 911 system is working with GIS to produce better maps</li> <li>• Get the lanes named</li> <li>• Ensure that residences adhere to building code</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Continue with efforts around driveway signage</li> <li>• Make sure homes have address number visible at the home</li> <li>• Addressing posts need to be fire resistant</li> <li>• Clarify where new developments go to get addresses – County Planning or Post Office</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Sheriff - Dispatch</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Building Department</li> <li>▪ Fire Defense Board</li> <li>▪ Linn County GIS</li> </ul>	

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 4

<b>Proposed Action Item:</b>	
Enhance interoperable communications by addressing communication deficiencies.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to improve communication in order to improve response coordination.</li> <li>• Eventually, all radio frequencies will have to be “narrow band” by 2013.</li> <li>• Communication issues arise when responders come from other areas.</li> <li>• Gates, Lyons, and Mill City are on a separate 911 dispatch system.</li> <li>• Idhana and Detroit are on a separate dispatch system, as are Gates and Santiam</li> <li>• The Jefferson/Staton area is also on a separate dispatch</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Identify funding to upgrade radios for fire departments and repeater sites</li> <li>• Utilize local tactical radio frequencies so different partners can talk to each other</li> <li>• Establish a radio cache with portable radios and mobile repeaters to be used in an emergency</li> <li>• Utilize compatible radio systems</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Sheriff – Dispatch (County Emergency Management)</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Rural Fire Protection Districts Fire Defense Board	Oregon Department of Forestry US Forest Service Bureau of Land Management

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 5

<b>Proposed Action Item:</b>	
Develop evacuation plans and procedures for high-risk WUI areas.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Rural county includes a number of areas that include dead-end roads and forest ground, making evacuation more difficult.</li> <li>• Washburn Heights, Mt. Tom, Ty Valley and Marion Forks are particularly in need of evacuation planning</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Develop a task force to assess the high risk communities and look at options for access/evacuation</li> <li>• Secondary plan to evacuate pets/livestock</li> <li>• Review Camp Sherman evacuation plan and determine applicability as a template</li> <li>• Review and incorporate County's existing mandatory evacuation codes</li> <li>• Develop and inventory of locked gates and work with property owners to gain access during emergency events.</li> <li>• Work with larger landholders to identify private logging roads that could be used for evacuation.</li> </ul>	
<b>Coordinating Organization:</b>	<b>County Emergency Management</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Roads Department</li> <li>▪ Linn County GIS</li> </ul>	<ul style="list-style-type: none"> <li>▪ Oregon Department of Forestry</li> <li>▪ United States Forest Service</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 6

<b>Proposed Action Item:</b>	
Augment volunteer fire fighter training to improve response capabilities, especially in rural fire districts.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Most of the rural fire protection districts are staffed mainly by volunteers.</li> <li>• Some districts utilize local Community Emergency Response Team (CERT) as recruitment tool for volunteers</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Develop a regional volunteer training program that utilizes personnel and support from all participating fire districts.</li> <li>• ODF can provide wildland fire training to volunteer departments</li> <li>• Develop program for training on the Incident Command System (NIMS)</li> <li>• Utilize the Linn County Fire Training Council more effectively</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Fire Training Council</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Emergency Management	

# Linn County Community Wildfire Protection Plan Actions

## Enhance Wildfire Response Capabilities # 7

<b>Proposed Action Item:</b>	
Seek funding to build a smaller secondary substation on the east side of the Harrisburg District	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• According to a stakeholder interview with the Harrisburg District, time is an issue. The district is 86 square miles with the station positioned in the western most part. In some areas response times can be between 15 and 20 minutes.</li> <li>• This station would significantly reduce response times to the district's Wildland Interface areas and could save property owners considerable amount of money in reduced insurance premiums with better rates by virtue of a fire station located in the area.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Explore funding options including federal grants and state and local funds.</li> </ul>	
<b>Coordinating Organization:</b>	Harrisburg Rural Fire Protection District
<b>Internal Partners:</b>	<b>External Partners:</b>

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach # 1

### **Proposed Action Item:**

Collaborate with developers/builders, fire protection agencies, and relevant County agencies to collect and distribute educational materials regarding fire-resistant construction materials, fire code standards for access, water supply, fuel breaks and fire-resistant vegetation in the wildland interface/forest designated areas.

### **Rationale for Proposed Action Item:**

- Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to maintain and enhance public communication about development in areas subject to wildfires.
- Though educational materials exist, there has not been a comprehensive and coordinated effort for distribution of materials.
- Interface residents need frequent reminders of the importance of reducing wildfire hazards around homes.

### **Ideas for Implementation:**

- Develop and provide an educational packet to all WUI residents that includes suggestions for fire-safe construction materials, access, water supply, and fuel breaks (Some materials are available through the Missoula TDC).
- Encourage distribution educational materials through individual contact with residents in high hazard areas.
  - ✓ Fire personnel could perform “knock and talks” to educate the homeowners about the limitations of fire protection for homes without defensible space
  - ✓ Provide materials to CERT teams and neighborhood watch committees to promote neighbor-to-neighbor discussions.
- Make fire-safe construction educational materials readily available to Linn County residents at the following venues:
  - ✓ County Building and Planning when permits are acquired, County Community Development Counter, and other public offices
  - ✓ Banks (to be given to people financing or refinancing their properties)
  - ✓ Insurance companies

(these two bullets were discussed as potentially another action item)

Utilize local media for promoting fire safe building practices.

- Maintain a website to promote Linn County’s Community Wildfire Protection Plan. Billboards will also be useful during the fire season to reach a wide audience that includes those coming in from more urban areas.
- Work with insurance companies to distribute educational materials to interface

# Linn County Community Wildfire Protection Plan Actions

policyholders, and identify incentives for reducing wildfire hazards.	
<b>Coordinating Organization:</b>	<b>Fire Districts (Fire Prevention Officers) and Linn County Planning Department</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Oregon Department of Forestry</li> <li>▪ Office State Fire Marshall</li> <li>▪ County Planning and Building Department</li> </ul>	<ul style="list-style-type: none"> <li>▪ Insurance companies</li> <li>▪ Banks</li> <li>▪ Community Emergency Response Teams</li> <li>▪ Neighborhood watch groups</li> <li>▪ Senior citizen groups</li> <li>▪ OSU extension</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach # 2

<b>Proposed Action Item:</b>	
Work with local nurseries and the extension service's Master Gardeners program to promote firewise landscaping.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to promote the use of firewise landscaping practices.</li> <li>The need for this type of educational program was also discussed at the Firewise Workshop held June 7<sup>th</sup>, 2007.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Partner with Oregon Gardens and the Master Gardeners to create firewise landscaping exhibitions. On possible place for a demonstration garden is at the Linn County Expo Center and Fairgrounds. 4-H and/or Boy Scouts could assist with initial landscaping and on-going maintenance.</li> <li>Add a "Firewise" tag to plants at nurseries that are on the approved landscaping list.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Oregon State University Extension Service</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Linn County Fairgrounds	<ul style="list-style-type: none"> <li>Oregon Gardens Nursery</li> <li>Master Gardners</li> <li>Oregon Nursery Association</li> <li>Oregon Department of Forestry</li> <li>4-H clubs</li> <li>Boy scouts</li> <li>High school Forestry Clubs</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach # 3

<b>Proposed Action Item:</b>	
Continue to educate the public about the campfire safety.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need to maintain and enhance public communication about fire safety in the woods.</li> <li>Educational programs exist, but participants in the Firewise Workshop noted that funding is scarce and the budget for patrolling has been reduced. Further, because new residents are moving into the area or are visiting campgrounds, ongoing educational efforts are necessary.</li> <li>This problem is greatest in dispersed camping areas and backyards (rather than in campgrounds), which makes enforcement difficult.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Provide public service announcements using local media</li> <li>Develop and install signs with campfire safety tips</li> <li>Educate people about the use of retail campfire rings, which are not legal containment mechanisms (although they are marketed as such).</li> <li>Place garbage bags and buckets for water with fire safety messages at campsites.</li> <li>Target areas of high-use such as the Quartzville area.</li> <li>Encourage collaboration among ODF, USFS, BLM, local sheriff's office, and others to help to improve enforcement.</li> <li>Target residents in urban areas by providing educational materials at sporting goods stores and other the population centers.</li> </ul>	
<b>Coordinating Organization:</b>	<ul style="list-style-type: none"> <li>United States Forest Service</li> <li>Bureau of Land Management</li> <li>Oregon Department of Forestry</li> </ul>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>County Sheriff's Office</li> <li>Rural Fire Protection Districts</li> </ul>	<ul style="list-style-type: none"> <li>Oregon State Police</li> <li>Sporting goods stores</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach # 4

<b>Proposed Action Item:</b>	
Continue supporting and expand the Smokey Bear Fire Prevention Programs in schools.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that districts in the County had been continually involved in the Smokey Bear Fire Prevention Program.</li> <li>The Smokey the Bear campaign has been particularly successful because: (1) reaching children is a good way to reach parents, and (2) the campaign promotes a fire prevention message that stays with children long into their adult lives.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>The Smokey the Bear program can incorporate other educational campaign, such as the “Stop, Drop, and Roll” campaign.</li> <li>Build partnerships with the school districts, boy scouts, girl scouts, churches, and other organizations that serve children to implement it.</li> </ul>	
<b>Coordinating Organization:</b>	<ul style="list-style-type: none"> <li>United States Forest Service</li> <li>ODF</li> </ul>
<b>Internal Partners:</b>	<b>External Partners:</b>
	Oregon State Parks School Districts

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach #5

<b>Proposed Action Item:</b>	
Integrate wildfire hazards and safety programs into educational curriculum.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that many fire districts need additional staff and resources to assist in fire prevention.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Work with Colleges to develop fire fighter training courses</li> <li>Support service learning programs by utilizing students for conducting hazard assessments and as a labor force for fuels reduction.</li> <li>Utilize SFMO wildfire education curriculum in middle-schools, and encourage students to take an active role in reducing wildfire hazards around their homes.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Fire Defense Board</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>Office of State Fire Marshall</li> <li>School Districts</li> <li>Colleges</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Education and Outreach #6

<b>Proposed Action Item:</b>	
Create an “Extreme Home Make-over” contest to highlight the need for firewise landscaping.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Reducing fuel loads around interface structures was identified as a key means for reducing structural ignitability.</li> <li>• Involving the media in a contest of this sort could improve visibility for the Firewise landscaping program and encourage neighbors to follow the examples of those in the community who are taking action on their properties.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Washington County recently partnered with ODF to complete a program like this that would be an excellent model.</li> <li>• Ongoing upkeep and maintenance of the landscaping is an important issue that should be addressed during the contest.</li> </ul>	
<b>Coordinating Organization:</b>	<ul style="list-style-type: none"> <li>▪ Linn County Planning and Building Departments</li> <li>▪ Oregon Department of Forestry</li> </ul>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>▪ Media</li> <li>▪ Hardware and supply stores</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 1

<b>Proposed Action Item:</b>	
Identify incentives for improving maintenance of fire breaks and reducing hazardous vegetation.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that maintenance of fuels reduction activities is difficult to track and enforce.</li> <li>• Rural Fire Protection Districts and state and federal agencies may assist in initial fuels reduction programs, but homeowners need to be responsible for maintenance.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Consider potential resources and incentives associated with SB 360 implementation.</li> <li>• Work with insurance providers to encourage homeowners to be proactive in maintaining fire safe vegetation and reducing hazardous fuels.</li> <li>• Develop incentives for land owners adjacent to forested areas to reduce risk of fire spread from developed to undeveloped areas</li> <li>• Develop fire district incentives (such as cost-share programs) for maintenance of hazardous vegetation.</li> </ul>	
<b>Coordinating Organization:</b>	Oregon Department of Forestry
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Defense Board	<ul style="list-style-type: none"> <li>▪ Insurance agencies (to hand out information)</li> <li>▪ Small Woodlands Association</li> <li>▪ Industrial land owners</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 2

<b>Proposed Action Item:</b>	
Work with insurance providers to improve their criteria to adequately represent level of structural fire protection in residential structures, especially in high-risk areas.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that the criteria insurance providers use to designate assess fire insurance eligibility and premiums does not accurately portray the true fire hazard.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Encourage insurance companies to work with local fire agencies to develop regional criteria (to include fire breaks, fuels reductions, access, water supply and fire prevention activities) for determining fire insurance eligibility and premiums to encourage accurate and consistent assessments.</li> <li>Encourage insurance companies to lower premiums for homeowners that reduce wildfire hazards.</li> <li>Encourage annual inspections of homes to encourage maintenance of hazardous vegetation.</li> <li>Provide an educational component to developers/builders regarding fire insurance considerations of homes built without adequate access and water supply.</li> </ul>	
<b>Coordinating Organization:</b>	<b>State Insurance Commissioner's Office</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Districts	<ul style="list-style-type: none"> <li>Office of State Fire Marshall</li> <li>Insurance Companies</li> <li>Oregon Department of Forestry</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 3

<b>Proposed Action Item:</b>	
Enhance structural protection in structurally unprotected areas and comply with the Governor’s policy in unprotected areas to be eligible for conflagration resources.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that there are many homes in unprotected areas.</li> <li>County Land Use Planning identified unprotected areas as a major issue, and recently conducted a mailing to property owners in unprotected areas to make them aware of the lack of structural fire protection, and provide them with options for enhancing structural protection.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>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.</li> <li>Continue to inform homeowners in unprotected areas of their unprotected status (using mailings and/or 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.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Planning Department</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Districts	Land owners

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 4

<b>Proposed Action Item:</b>	
Incorporate, maintain, and update Linn County's Wildland-Urban Interface Risk Assessment and GIS data elements.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Incorporating the wildland urban interface risk assessment GIS elements into the County's GIS system will help ensure that the County is able to incorporate new data, when available.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Develop an interactive website tool so that homeowners can see their level of fire hazard.</li> <li>Update hazard assessment every five years and update information on the website.</li> <li>Utilize the risk assessment to target areas for education and outreach as well as fuels reduction programs.</li> <li>Utilize GPS data to enhance and ground-truth hazard information.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County GIS</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Defense Board	<ul style="list-style-type: none"> <li>Oregon Department of Forestry</li> <li>United State Forest Service</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 5

<b>Proposed Action Item:</b>	
Complete the fire structural risk assessments in Brownsville, Lebanon, and Sweet Home fire districts, and utilize this as a model program for the other Linn County fire districts.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that one of the most pressing wildfire related issues is the lack of structural ignitability data.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Build upon Oregon Department of Forestry efforts that have completed over 2,000 home site assessments using GPS.</li> <li>Develop fire risk assessments on the watershed level (North Santiam, South Santiam and the Calapooia watersheds).</li> <li>Obtain grant funds to assist in assessments.</li> <li>Acquire additional GPS units for structural triage.</li> <li>Provide GPS training to fire staff, citizen volunteers, and students that could assist in data acquisition.</li> </ul>	
<b>Coordinating Organization:</b>	<ul style="list-style-type: none"> <li><b>Fire Defense Board</b></li> <li><b>Oregon Department of Forestry</b></li> </ul>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>Retired professionals</li> <li>Universities</li> <li>Neighborhood associations</li> <li>CERT teams</li> <li>Watershed councils</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Structural Ignitability # 6

<b>Proposed Action Item:</b>	
Develop processes and standards for the implementation of SB 360.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>The Oregon Forestland-Urban Interface Fire Protection Act of 1997 (often referred to as Senate Bill 360) enlists the aid of property owners toward the goal of turning fire-vulnerable urban and suburban properties into less-volatile zones where firefighters may more safely and effectively defend homes from wildfires. The law requires property owners in identified forestland-urban interface areas to reduce excess vegetation, which may fuel a fire, around structures and along driveways, or compensate the County for some of the cost of fighting interface fires when they occur. In some cases, it is also necessary to create fuel breaks along property lines and roadsides.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Develop processes for implementing the SB 360 legislation – including educational outreach to interface property owners.</li> </ul>	
<b>Coordinating Organization:</b>	<b>ODF</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Board of Commissioners	<ul style="list-style-type: none"> <li>Oregon Department of Forestry</li> <li>Bureau of Land Management</li> <li>United States Forest Service</li> <li>County Planning and Building Departments</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #1

<b>Proposed Action Item:</b>	
Develop and maintain an inventory of potential fuels reduction projects in high-risk areas, prescriptions, and list of prioritized future projects.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with state and federal agencies indicated that fuel reduction efforts could be better coordinated.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Utilize county-wide risk assessment to identify the highest risk areas and potential fuels projects.</li> <li>Gather fire district priorities for fuels reduction annually.</li> <li>Utilize public outreach meetings to identify willing landowners, high hazard areas, and community priorities in order to develop a prescription.</li> <li>Establish a point agency that public and private companies could contact for project information and guidance on everything from assessment to project completion.</li> <li>Develop process to assure all potential and fuel reduction projects are considered regardless of ownership (Oregon Department of Forestry, Bureau of Land Management, Forest Service, County, Private, etc.)</li> <li>Incorporate potential project and track finished project in a publicly accessible Geographic Information System (GIS)</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Planning (GIS), Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Linn County GIS	<ul style="list-style-type: none"> <li>Fire Defense Board</li> <li>Bureau of Land Management</li> <li>United States Forest Service</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #2

<b>Proposed Action Item:</b>	
Develop educational materials designed to educate property owners about the benefits of sustained fuels reduction efforts.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that education was needed about fuel reduction including information on the importance of maintenance.</li> <li>• There is a need to inform private land owners on how to assess the risks and rewards of fuel reduction.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Focus on protection of structures.</li> <li>• Continue door to door canvassing efforts to educate landowner and homeowner on the benefits of individual fuel reduction and Firewise practices.</li> <li>• Provide Firewise information to homeowners when obtaining a building permit in WUI zone.</li> <li>• Provide information and resources at the Oregon Logging Conference</li> <li>• Develop outreach and awareness campaign in partnership with Arbor Day Foundation and local school</li> <li>• Develop and advertise incentives for maintenance of fuels reduction projects over time.</li> <li>• Work with insurance providers to provide incentives such as rebates for individuals who maintain defensible space.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Fire Defense Board</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Linn County Planning Department</li> <li>▪ Linn County Sheriff 's Office</li> </ul>	<ul style="list-style-type: none"> <li>▪ Oregon Department of Forestry</li> <li>▪ Bureau of Land Management</li> <li>▪ United States Forest Service Oregon State University Extension Service</li> <li>▪ 4-H programs</li> <li>▪ Boy Scouts</li> <li>▪ Neighborhood Watch Program</li> <li>▪ Small Woodland Association</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #3

<b>Proposed Action Item:</b>	
Develop a resource guide to assist private landowners on how to complete risk assessments and determine appropriate fuel reduction strategies.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that homeowner education was needed about fuel reduction.</li> <li>• Often is difficult and time consuming for private land owners to find the trusted resources related to risk assessment and best practices</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Develop a list of consultant foresters who are trained in WUI risk assessment methodology.</li> <li>▪ Provide training for consultant foresters on wild land fire issues</li> </ul>	
<b>Coordinating Organization:</b>	<b>Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Defense Board	<ul style="list-style-type: none"> <li>▪ Oregon State University Master Woodland Manager Program</li> <li>▪ Association of Oregon Loggers or small woodland owners</li> <li>▪ SAF-SOC. Of American Foresters</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #4

<b>Proposed Action Item:</b>	
Identify opportunities to assist vulnerable populations who request assistance (i.e. elderly, disabled, etc. in isolated areas) in creating defensible space around homes and communities.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that homeowner education was needed about fuel reduction.</li> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies also indicated that elderly or disabled homeowners typically require assistance in doing the physical labor associated with fuel reduction.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>▪ Work with social service providers to establish parameters for individuals to qualify for assistance.</li> <li>▪ Develop process for individuals to request assistance.</li> <li>▪ Establish a list of groups that could assist in fuels reduction projects( i.e. NW Youth Corp, 4H, Boy Scouts, contactors)</li> <li>▪ Seek grant funds to provide incentives and/or cover cost of completing the work.</li> <li>▪ Seek options utilizing inmate services/labor</li> </ul>	
<b>Coordinating Organization:</b>	<b>Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<ul style="list-style-type: none"> <li>▪ Fire Defense Board</li> <li>▪ Linn County Planning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Oregon State University Extension Service</li> <li>▪ Northwest Youth Corp</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #5

<b>Proposed Action Item:</b>	
Explore and promote opportunities for small diameter biomass utilization and marketing.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that biomass utilization and marketing might be a method for paying for fuel reduction efforts.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Work with Freres Lumber and Totmon Chipping/Grinding in Sweet Home to identify any partnership opportunities for utilizing biomass for the 10 MW biomass plant at Lyons.</li> </ul>	
<b>Coordinating Organization:</b>	CWPP Committee
<b>Internal Partners:</b>	<b>External Partners:</b>
Linn County Planning Department	<ul style="list-style-type: none"> <li>Oregon State University Extension Service</li> <li>Small Woodlands Association</li> <li>Bureau of Land Management</li> <li>United States Forest Service</li> <li>Association of Oregon Loggers</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #6

<b>Proposed Action Item:</b>	
Explore the development of a Linn County Fuels Management Cooperative through the Small Woodland Association for sustaining fuels management with the WUI	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that fuel reduction efforts are a financial burden for some homeowners.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Explore cost sharing opportunities designed to decrease the financial burden on the property owner for reducing hazardous fuels.</li> <li>Enhance and expand Oregon Department of Forestry chipper program.</li> <li>Consider utilizing inmate crews to assist in vegetation management</li> <li>Partner with Northwest Youth Corp to assist in vegetation management</li> </ul>	
<b>Coordinating Organization:</b>	<b>Fire Defense Board &amp; Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>Small Woodlands Association</li> <li>Bureau of Land Management</li> <li>United States Forest Service</li> <li>Association of Oregon Loggers</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #7

<b>Proposed Action Item:</b>	
Work with forestland managers and watershed managers to protect water quality in high risk areas while reducing wildfire hazards.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Wildfires can have significant impacts on watersheds and water quality.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Create multi-objective wildfire projects can help leverage limited resources while increasing water quality and decreasing wildfire risk.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Oregon Department of Forestry</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>Bureau of Land Management</li> <li>Watershed Councils</li> <li>Soil and Water Conservation District</li> <li>United States Forest Service</li> <li>Private Timber Companies,</li> <li>Department of Environmental Quality</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #8

<b>Proposed Action Item:</b>	
Work with County Roads Department and ODOT to reduce hazardous vegetation in Right of Ways to enhance access and create fuel breaks.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Slash piles located close to roads could hinder evacuation, and would serve to promote the spread of fire from one side of the road to the other. It is well-known that roads are important in wildfire defense, as they serve as evacuation routes, but sometimes even more importantly as fire breaks.</li> <li>• Consider developing and adopting codes and/or ordinances that promote fire safe construction practices and defensible space in high-risk areas.</li> <li>• Support development of codes/legislation to reduce the number of shake roofs on homes in WUI.</li> <li>• Consider flagging the lots that are in the designated WUI and provide recommendations for construction materials, access, water supply, and fuel breaks (incorporate SB360 requirements) during the land use and building permitting process.</li> <li>• Encourage Fire Defense Board to develop and adopt best practices guide that articulate minimum standards for access and water supply.             <ul style="list-style-type: none"> <li>• Make the guide available to the public on the County website</li> </ul> </li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>• Identify and prioritize roads for fuels reduction work.</li> <li>• Clear roads that have slash piles to create access and create fuel breaks around private landowners</li> </ul>	
<b>Coordinating Organization:</b>	<b>County Roads Department</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Linn County Planning Department Office of State Fire Marshall Fire Defense Board Board of County Commissioners	<ul style="list-style-type: none"> <li>▪ Oregon Department of Forestry</li> <li>▪ Bureau of Land Management</li> <li>▪ United States Forest Service</li> <li>▪ Media</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

## Fuel Reduction #9

<b>Proposed Action Item:</b>	
Support creation of fire buffers around agricultural land.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>• Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated the need for the creation and/or maintenance of fuel breaks surrounding valuable agricultural lands.</li> <li>• Housing developments are encroaching on agricultural lands.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>▪ Establish partnership with Agricultural industry to identify and address problem areas.</li> </ul>	
<b>Coordinating Organization:</b>	<b>Linn County Planning Department</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
Fire Defense Board	<ul style="list-style-type: none"> <li>▪ Cities</li> <li>▪ Rural Fire Districts</li> <li>▪ Oregon Department of Forestry</li> <li>▪ Department of Agriculture</li> </ul>

# Linn County Community Wildfire Protection Plan Actions

Collaboration, Coordination & Implementation #1

<b>Proposed Action Item:</b>	
Create and formalize a CWPP Advisory Committee to oversee implementation, identify and coordinate funding opportunities, and sustain the Linn County Community Wildfire Protection Plan.	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Formalizing an Advisory Committee that assist in implementing the Linn County Community Wildfire Protection Plan</li> </ul>	
<b>Ideas for Implementation:</b>	
<p>The Linn County Planning and Building Department will serve as the convener and will oversee the plan's implementation and maintenance.</p> <p>The plan development steering committee will become the advisory committee (the Committee) and will oversee implementation, identify and coordinate funding opportunities and sustain the CWPP.</p> <p>Some of the participating organizations and other stakeholders could also serve on subcommittees tasked with specific risk reduction activities.</p> <p>Potential future committee members may include:</p> <ul style="list-style-type: none"> <li>Calapooia, North Santiam and South Santiam Watershed Councils</li> <li>Home Builders Association</li> <li>Insurance representatives</li> <li>Citizen representatives</li> <li>Local elected officials</li> </ul>	
<b>Coordinating Organization:</b>	<b>County Commission, County Planning and Building</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
<b>Committee representatives</b>	

# Linn County Community Wildfire Protection Plan Actions

## Collaboration, Coordination & Implementation #2

<b>Proposed Action Item:</b>	
Establish a sub-committee or a Fire Prevention Cooperative to coordinate and sustain effective countywide public education and outreach activities	
<b>Rationale for Proposed Action Item:</b>	
<ul style="list-style-type: none"> <li>Stakeholder interviews with Rural Fire Protection Districts and state and federal agencies indicated that education and outreach efforts were critical in this plan. Creating a sub-committee will more effectively utilize limited human resources to address education and outreach issues.</li> </ul>	
<b>Ideas for Implementation:</b>	
<ul style="list-style-type: none"> <li>Encourage Fire Districts to form a Fire Prevention Cooperative that includes vested agencies, including a representative from the public affairs department.</li> </ul>	
<b>Coordinating Organization:</b>	<b>CWPP Steering Committee, Fire Defense Board</b>
<b>Internal Partners:</b>	<b>External Partners:</b>
	<ul style="list-style-type: none"> <li>Oregon State University Extension Service</li> <li>Soil and Water Conservation District</li> <li>Keep Oregon Green</li> </ul>

# Meeting and Interview Notes

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This appendix provides all documentation and notes from the following:

- FireWise community workshop
- Rural Fire Protection District interviews
- Fire Defense Board Meeting
- Two CWPP Steering Committee meetings
  - February 27<sup>th</sup>, 2007
  - September 12<sup>th</sup>, 2007

This appendix has been compiled in the order above.



# FIREWISE PARTICIPANTS

In August, 2005, a FireWise workshop was held in an effort to gain feedback and input from a wide array of stakeholders. The workshop was attended by members of various groups, agencies, and organizations, and their participation and insight led to the formation of five goals for Oregon's County Community Wildfire Protection Plans.

Participants included members from the following:

- Federal agencies, such as the US Forrest Service, the Bureau of Land Management, and the Army Corps of Engineers
- State agencies, such as Oregon Department of Transportation, the State Parks, and the Oregon State Fire Marshall
- County representatives from the Sheriff's office, Public Works, County Parks, and the Land Management Division
- Local Government representatives from various City and Parks districts.
- Fire Departments
- Water Districts
- Utilities
- Elected officials
- Watershed Councils
- Non-Profit organizations
- Neighborhood groups
- Area builders and developers
- Home inspectors
- Landscapers
- Representatives from the timber industry
- Other community organizations with a perceived interest, such as the Homebuilder's Association and the Chamber of Commerce.

**AGENDA**  
**FIREWISE COMMUNITIES WORKSHOP**  
**ALBANY, OR JUNE 7, 2007**

- 0800-0830 – Registration
- 0830-0915 – Welcome and Overview of Workshop – Lee Vaughn  
Firewise Communities Video  
ODF Perspective – Ann Walker  
Linn County Perspective – Commissioner Cliff Wooten  
– Steve Michaels  
– Chief Perry Palmer
- 0915-1015 – Introduction to Firewise Communities – Lena Tucker  
PowerPoint “Firewise Concepts”
- Introduction of the Falls County Simulation – Lena Tucker  
Falls County Wildland Fire Video  
What we learned from the Great Bend Fire video
- Issue ID Form Explanation – Krista Mitchell
- 1015-1030 – Break and convene to breakout groups
- 1030-1200 – Breakout group exercise – 90 minutes  
Task 1 – Determine the Wildfire Severity Rating for Bear Heights  
Task 2 – Develop Solutions for Reducing Fire Hazard in Bear Heights  
Task 3 – Identify Wildfire Issues and Solutions in Linn County - Krista Mitchell
- Discussion of the issues group members identified throughout the morning session
- 1200-1220 – Group Presentations for Task 1 and Task 2
- 1230-1330 – LUNCH  
“Wildfire – Preventing Home Ignitions Video”
- 1330-1345 – Discussion on Community Solutions – Krista Mitchell
- 1345-1500 – Breakout group Action Planning -EcoNorthwest  
Task 3 – Review and Refine Action Items for Linn County
- 1500-1530 – Breakout groups report on their action planning – Krista Mitchell
- 1530-1600 – Where do we go from here? – Cindy Kolomechuk  
Door prizes and Closeout Workshop

# Stakeholder Interview Results

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The purpose of this portion of the appendix is to highlight the findings of a series of stakeholder interviews conducted with the rural fire protection districts (RFPDs) in Linn County as well as the Oregon Department of Forestry (ODF), Linn County representative from the State Fire Marshal's Office, Bureau of Land Management (BLM), and United States Forest Services (USFS). The interviews were conducted to gather background information on the Community Wildfire Protection Plan process and provide insight on potential mitigation measures. This appendix has the following sections:

- **Overview of results** provides a summary of common issues and themes expressed in the interviews with the rural fire protection districts and with other stakeholders (ODF, BLM, USFS, and the State Fire Marshal's Office).
- **Detailed results** provides the more detailed results of interviews with each of the stakeholders.
- **Survey instrument** provides the list of questions asked of interview participants

The following people were interviewed:

Bob	Johnston	Lyons Rural Fire District
Dennis	Jarvis	Scio Rural Fire District
Don	Bemrose	Jefferson RFPD
Jack	Carriger	Stayton Fire District
Kevin	Rogers	Brownsville Fire District
Kevin	Kreitman	Albany Fire Department
Mike	Beaver	Sweet Home Fire Department
Mike	Purcell	Tangent Fire District
Perry	Palmer	Lebanon Fire District
Scott	Mitchell	Harrisburg Fire & Rescue
Skip	Smith	Halsey-Shedd RFPD
Leland	Ohrt	Mill City RFPD
Lee	Vaughn	ODF
Barbara	Raible	BLM
Jerry	VanDyne	USFS
Kevin	Crowell	ODF
Paul	Hiebert	USFS
George	Crosair	State Fire Marshall's Office

# OVERVIEW OF RESULTS

## RURAL FIRE PROTECTION DISTRICT RESPONSES

The Rural Fire Protection Districts were asked a series of questions that covered the following topics:

- History of wildfire occurrence and response
- Wildfire risk factors
- Capacity and needs
- Prevention and education resources
- Ideas for mitigation

The matrix in Table 1 highlights key issues that the RFPD’s identified in the interview process.

**Table X-1. Key issues mentioned in interview**

	Brownsville	Sweet Home	Halsey	Albany	Jefferson	Scio	Lebanon	Mill City	Tangent	Stayton	Harrisburg	Lyons	ODF	BLM	USFS	State Fire Marshal
Historical WUI Fires	•	•				•	•	•		•						
Primary Response Issues Identified																
Personnel	•	•				•		•		•	•					
Non-Wildland Fires			•						•							
Access				•			•				•					
Communications					•											
Conducted Fuel Reduction			•					•		•	•					
Conducted Structural Ignitability	•		•				•	•		•	•					
Primary Structural Ignitability Issues Identified																
Defensible Space	•	•		•	•		•			•	•					
Access	•	•					•	•								
Construction Methods				•						•	•					
Unprotected Areas Outside District	•					•		•		•						
Fire Evacuation Plans in Place				•												
Fire Assistance Agreements in Place	•	•	•	•	•	•	•	•	•	•	•					
Conducted Education & Outreach	•	•	•		•		•	•	•	•	•					

Source: Various stakeholder interviews as documented in this appendix

## HISTORY OF WILDFIRE OCCURRENCE AND RESPONSE

When asked if any wildfires had occurred within the wildland urban interface, responses varied based on district’s location within the County. RFPDs located on the east side of the County reported having multiple events over several years, but only two of the fires that were discussed threatened structures. Several districts indicated that they had had small fires that had the potential to grow out of control and threaten structures, but that those fires had been brought under control. RFPDs located on the west side of the County indicated that they didn’t have true wildland urban interface, but did have grass fires that had impacted traffic on Interstate 5.

Districts were asked to indicate how many wildfires they typically respond to in a given year. Responses ranged from only 1-2 fires per year to up to 40-60 fires. All the districts indicated that they typically respond in a mutual aid capacity at least once a year, with one district responding on up to 20 mutual aid events.

RFPDs were asked to identify the primary issues the district faces for effective wildfire response. Many of the districts identified several issues. The following were primary issues:

- Availability of volunteer fire fighters during the work week
- Protection of farms and smoke issues on the interstate
- Issues associated with steep slopes in interface areas in North Albany
- Lack of linkages in communication systems in the County
- Training for volunteers
- Distances necessary to travel within district
- Lack of personnel
- Concerns regarding field and industrial fires spreading to wildlands

By far, issues related to personnel were mentioned most frequently.

## **WILDFIRE RISK FACTORS**

Each district was asked to identify the most vulnerable areas within their districts. These responses were specific to each of the districts and can be found in the district specific write-ups located at the end of this appendix. Districts were also asked if there were areas that are likely to become more vulnerable in the future either due to development or unprotected areas. For the most part, districts indicated that the areas identified as being vulnerable were the areas prone to become more vulnerable as more development takes place.

Districts were asked to indicate whether or not they had engaged in any fuel reduction efforts in the past. Very few of the districts indicated that they had implemented fuel reduction projects in the past. For the most part, districts indicated that their primary activities had been focused on education around structural ignitability rather than fuel reduction. Brownsville, Lebanon, Mill City, and Harrisburg had all implemented projects to reduce the structural ignitability of homes in their district. In 2002, several districts partnered with ODF to complete 'Knock and Talks' with homeowners to discuss wildfire issues and potential mitigation measures the homeowners could take to reduce their risk.

RFPDs were asked to identify any issues they face related to response times. The majority of districts indicated that the availability of volunteer staff, especially during the day, was the biggest issue around response times.

In addition, some districts mentioned that some private industrial land owners having locked gates being a barrier to quicker response times.

Districts were asked to identify the primary issues their district faces in terms of structural ignitability. By far, most districts that indicated that they had structural ignitability issues mentioned that a lack of defensible space was the biggest issue. A second issue that was raised often was lack of access because of narrow, steep driveways.

## **CAPACITY AND NEED**

RFPDs were asked whether or not they felt that the district had an adequate number of fire fighters. Only one district indicated that they had enough staff resources. Several districts mentioned that they might have adequate resources depending on the time of day because a majority of their volunteers work outside the community. Districts in Linn County have varying numbers of full time and volunteer fire fighters. Staff range from 1 full time person to 65 and 0 to 60 volunteers. Almost all of the districts indicated that they felt they had the capacity to apply for grants to implement wildfire mitigation projects, however, they also indicated that what they lacked were the people to implement those projects if funded.

Districts were asked to list the fire fighting apparatus that is currently available and what apparatus they would like to add to their fleets. Those results can be found in the district summaries located at the end of this appendix.

All the RFPDs indicated that they had some sort of fire assistance agreements with other districts or state agencies. For the most part, these agreements are in the form of mutual aid. Districts that have overlapping boundaries with Oregon Department of Forestry also have agreements in place with that agency. In addition, the Halsey district has an agreement in place with the Oregon Department of Fish and Wildlife for areas along the Willamette River.

## **PREVENTION AND EDUCATION RESOURCES**

RFPDs were asked whether or not they had participated in education and outreach activities related to wildfire issues. All of the districts on the extreme east side of the County have participated with the Oregon Department of Forestry to educate homeowners on structural ignitability issues and potential hazard mitigation activities. Most districts also indicated that they have a variety of information in the form of fliers and brochures that are always available to residents. When asked about what future education and outreach campaigns the districts would like to see, the majority indicated that something around defensible space, access, and construction materials would be beneficial.

## **IDEAS FOR MITIGATION**

Districts were asked what type of fuel reduction and structural ignitability projects they would like to see implemented in interface areas. Overall, most of the projects mentioned would be classified as structural ignitability projects. The ideas for projects included:

- Making chippers available for fuel reduction
- More homeowner education and outreach
- Working with developers on fire resistant materials and vegetation
- Use of inmate work crews to do fuel reduction
- Legislation to ban cedar shake roofs
- Fuel reduction programs to help elderly residents who might not be able to do the physical labor themselves
- Improved construction and design standards in wildland areas

## **STATE AND FEDERAL AGENCY RESPONSES**

The following state and federal agencies were interviewed: Office of State Fire Marshal (OSFM), Oregon Department of Forestry (ODF), United States Forest Service (USFS), and the Bureau of Land Management (BLM). These entities were asked questions that fell into the following categories:

- Background questions
- Wildfire risk factors
- Capacity and needs
- Prevention and education resources
- Ideas for mitigation

## **BACKGROUND QUESTIONS**

State and federal agencies were asked to describe their roles in wildfire response, planning or protection activities. Their responses are summarized below.

- The Office of the State Fire Marshal oversees the Conflagration Act. When there is a wildfire in the interface that exceeds local capacity, OSFM is asked to invoke the Act. The request goes to the Governor to declare a Conflagration, which provides resources from across the state. OSFM doesn't provide direct response to wildfires. On the planning side, they also manage the State Fire Defense Board, made up of the heads of all the County Fire Defense Boards. The State Fire Defense Board is the manager of the state's mobilization plan. Local plans are written to dovetail with the state plan.
- The Oregon Department of Forestry provides fire protection for private land owners and also is the contracted fire fighting organization for the BLM. Landowners pay assessment to ODF for fire protection. ODF is

active in fuels management. They typically provide fuel reduction recommendations to land owners through the fire assistance program. Landowners are responsible for implementing measures.

- The United State Forest Service is responsible for the protection of the national forest, not private lands. USFS has mutual aid agreements with locals to protect private lands, but these agreements are only valid for 24 hours. In the preseason, USFS works with partners on pre-attack planning, (i.e., designating helispots). USFS doesn't take the lead in planning processes like CWPP processes, but are there to participate and facilitate.
- The Bureau of Land Management contracts with ODF for fire protection activities. If ODF needs additional assistance, BLM can provide some staff resources. BLM manages the Northwest Oregon Fire Management Plan which covers response activities and cooperation between wildfire partners.

Agencies were asked what their primary wildfire response issues were if they were involved in response activities. Their responses included the following:

- Accessibility and concerns with future of ability to slash burn. With current efforts to end grass seed burning, see that slash burning is probably next to go. Without the ability to burn slash, it creates greater risk because of the build up of fuels
- Lack of resources and poor access
- Lack of defensible space
- Lack of weight ratings on privately owned bridges
- Communication with ODF is good, but don't have all the frequencies for locals

All the interviewees were asked to identify areas within their jurisdiction that are particularly vulnerable to wildfire. The individual agency responses are provided below.

- The OSFM identified concerns about interface areas on the periphery of valley floor where ODF and RFPDs overlap. Also isolate islands of interface like in Albany where there is a subdivision on a butte that has wildlands, but no ODF responsibility. It is solely in Albany's response area.
- ODF identified the following areas of concern: Washburn Heights, Mt. Tom, new development on NE end of Brownsville, Middle Ridge, Sodaville, Knox Butte (Albany, not ODF), Ridgeway Butte (proposed in Lebanon). All of these areas were also identified by the local protection districts as well.
- USFS identified the following areas of concern: Marion Forks, Hwy 20 corridor between Linn/Deschutes County border and Sweet Homes, and Quartzville (upper end only, have mutual aid for lower).

- BLM identified the following areas of concern: urban interface areas closer to the valley floor and those high value areas.

Agencies were then asked to identify those areas that are likely to become more vulnerable in the future. The areas/issues of concern include:

- The periphery of valley floors are becoming areas of risk as more people move out into steeper slopes.
- There is a growing concern in many areas because Linn County is relatively inexpensive place to live, so growth demand will most likely continue.
- The number of measure 37 claims currently filed in the County may lead to a large number of new subdivisions in potential wildland areas.
- Sweet Home is becoming a bedroom community for Albany and Eugene and is the gateway to the cascades. Future growth there may encroach on wildlands.
- Areas around Foster Reservoir are becoming a larger concern.
- Another big concern is timber companies selling off land to developers because the land is worth more in real estate than it is in timber.
- Mostly private forested lands that are protected by ODF. Logging operations create wildfire risk.
- Private industrial landowners who don't clean up slash after thinning operations add to fuel loading and increase risk.

The following is a summary of the fuel reduction activities that state and federal agencies have engaged in the past.

- OSFM has not directly been involved in fuel reduction, but has staff that provides training for RFPD to write wildland related grants.
- ODF frequently works with landowners to assist in fuel reduction on industrial forest lands through National Fire Plan (NFP) grants. Also participated indirectly by loaning equipments to do fuel reduction.
- USFS conducts brush disposal after timber sales to clean up logging slash using primarily mechanical means and burning piles.
- BLM does do fuel reduction in association with timber sales.

The following is a summary of the structural ignitability projects and programs that the state and federal agencies participated in.

- OSFM works with the Building Codes Division to ensure that building codes reflect adequate wildfire mitigation measures.
- ODF through the Fire Defense Board and mutual aid agreements provides brochures to Planning departments on construction standards for wildfire including access issues. ODF utilized an NFP grant to educate landowners on what they can do to mitigate. Also completed home assessments on 2,300 homes using Trimble GPS units.

- Both the USFS and BLM typically engage in structural ignitability projects, but have not completed any in Linn County.

The Oregon Department of Forestry and United State Forest Service, the only entities interviewed with direct response authorities identified the following issues related to wildfire response:

- As population continues to rise, more people will require evacuation, making it harder to get in to fight fires.
- Private homeowners with locked or security gates also create an issue, however, state law gives them permission to go through any locked areas, this just takes time. Industrial forest owners have typically given ODF keys to their gates, but when RFPD respond on mutual aid, they don't have these keys.
- For the USFS, response times in general are long. On federal lands, budgets are decreasing for road maintenance which means access is reduced and slower response times are being seen.
- Marion Forks is an issue because it is a long way and isn't in a RFPD.

The agencies were asked to identify specific structural ignitability issues that they are concerned about in Linn County. All agencies identified both defensible space and access as the primary issues. Landowner awareness was also listed as an issue.

## **CAPACITY AND NEEDS**

The entities were asked to identify any fire assistance agreements they may have in place. The Oregon Department of Forestry indicated that they have countywide agreements in place in Linn and Benton Counties and with the BLM. They also have a closest forces and a reciprocal agreement with the Forest Service. The USFS has a mutual aid agreement with the state.

Agencies were asked to identify the most important need they face for effective wildfire response, mitigation and/or reduction. The following are their responses:

- The State Fire Marshal indicated the issue for the rural fire protection districts is knowing what the real hazard is and what the actual problems are so that their response plans can focus activities around education and mitigation in those problem areas.
- ODF indicated that the issue is public education on how to make structures survive. ODF is not paid to protect structures. They also indicated that it is important to maintain good relationships with partners – local and federal fire agencies. They have good working relationships now and are constantly interfacing. Need to keep up those relationships in the future as well. Another issue is the ever-changing command staff and the need for all partners to be knowledgeable about roles and connections The Community Wildfire Protection Plan (CWPP) is also an opportunity for

County Commissioners to make wildfire issues a priority and pass that along to county departments like GIS and planning.

- For the USFS, they can't do fuels treatments like they would want to. USFS gets money for fuel treatment from national analysis, where this forest doesn't rank especially high. They rely on fuel reduction after timber sales, which aren't always the most at risk areas.
- The BLM indicated that they haven't had very many fires, but when they do issues do come up. This particular district hasn't had any major fires in 15 years, but the potential is there. Sometimes there are differences of opinion between what is best for the natural resources (BLM) and what is best for fire fighting (ODF).

## **PREVENTION AND EDUCATION RESOURCES**

Agencies were asked to describe any education and outreach programs that they have implemented in the past. These programs are described below.

- OSFM support the locals doing education and outreach by providing materials and training.
- ODF typically provides information on structural ignitability, including efforts during Fire Awareness Week with Lebanon Fire for Fireman Safety Day. ODF has displays on defensible space and National Fire Plan brochures. The first National Fire Plan grant they received in 2002 in Harrisburg, allowed ODF and the district to go door to door in Mt. Tom to educate homeowners on structural ignitability.
- The USFS works with the state to do education in cities – Sweet Home, Albany, Lebanon. They also administer the Smokey School program focusing on kids and matches. Other education efforts include their signage in the forest. The USFS's prevention officer is interested in expanding the program to Salem, Albany, and Corvallis to educate Nation Forest visitors about fire before they visit the forest.

## **IDEAS FOR MITIGATION**

Finally, the agencies were asked to identify potential ideas for mitigation. The following is a general list of those ideas.

- Education on defensible space and access
- Complete fire assessments in stands to identify potential fuel reduction strategies and to educate landowners on what to do with fuels and the threat from neighboring landowners.
- Additional partnering between local, state and federal entities to do fuel reduction on adjacent lands to make fuel breaks.
- Clear roads that have slash piles to create access and create fuel breaks around private landowners
- Defensible space education specifically in the Marion Forks area
- Complete home assessments in terms of water supply issues.

- Stronger wildfire related codes.
- Fuel reduction through the marketing of small diameter biomass

## DETAILED RESULTS

### BROWNSVILLE RURAL FIRE PROTECTION DISTRICT

#### BACKGROUND

The Brownsville Rural Fire Protection District (RFPD) is located in the southwest corner of Linn County. The district has one full time fire fighter and 25 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a *four* for the City, an *eight* for areas within five miles, and a *ten* for areas greater than five miles. The district currently has the following wildland fire fighting apparatus available: 4 engines, 2 brush pick-up trucks, 2 water tenders, and 1 rescue vehicle.

#### WILDFIRE HISTORY

The district has not had wildland urban interface fires in the past two years, but in 2005, the district had twelve grass or grass to brush fires. On average the district responds to anywhere between five and 11 fires within the district and two to three mutual aid responses outside.

#### WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with all Linn and Benton County districts as well as with the Oregon Department of Forestry.
- The district has not engaged in any fuel reduction activities within the district.
- In 2002, the district did a door-to-door campaign providing fliers to homeowners about defensible space.
- The district has not engaged in any evacuation planning.
- The district is working with the Oregon Department of Forestry to GPS all structures in the district. This project includes completing a fire assessment on those structures.

#### WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The biggest issue is manpower during the day shift. Brownsville is a bedroom community so most volunteers work in Eugene, Springfield, or

Albany. Forty percent of the district is dual coverage with ODF. A daytime fire is automatically a mutual aid event.

- Several timber companies have land within the district with locked gates. The top end of the Mountain Home area contains steep roads with many switchbacks which makes quick response difficult.
- Brownsville has 12 residences in the district that weren't annexed, so there are unprotected structures within the district. Response activities in this area are charged for services according to the state's conflagration rates.
- Forty percent of the district is in WUI. Specific areas of concern include: Washburn Heights, Powell Hills, Courtney Creek, Cochran Creek, Mountain Home, Oakview and Pine View. The last two locations are one-way in, one-way out situations.
- Areas of future growth and perhaps increased risk include the northeast side of city limits where development is occurring on steep slopes with heavy fuels. There is also a 10-mile stretch on Middle Ridge Rd. between Brownsville & Lebanon that is unprotected and it is likely that development will take place there.
- The primary structural ignitability issue in Brownsville is the lack of defensible space and overgrown driveways.

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Obtaining an additional 1,000-gallon water tender would increase fire fighting capacity.
- Focus of education and outreach programs on defensible space and access issues.
- Enhancement of the Oregon Department of Forestry chipper program.
- Development of codes/legislation to ban cedar shake roofs

# **SWEET HOME RURAL FIRE PROTECTION DISTRICT**

## **BACKGROUND**

The Sweet Home Rural Fire Protection District (RFPD) is located in the southwest corner of Linn County along the Highway 20 corridor. The district has ten full time fire fighters and 50 to 60 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 4 for the city and an 8b for rural. The district currently has the following wildland fire fighting apparatus available: 4 type 6 engines, 1 type 3 engine, 1 type 1 structural, and 2 type 2 tenders.

## **WILDFIRE HISTORY**

The district hasn't had as many responses for small brush fires. They had at least 2 brush fires in the last two summers. A fire in the Marks Ridge area could have gotten much worse. An industrial fire did threaten an apartment complex. In 2005, a three-alarm fire in Sodaville/Mountain Home included response from ODF, Lebanon, Brownsville and Halsey. This fire was kept in check, but structures were threatened. Also in 2005, a three-alarm fire in the Brush Creek Road was caused by a downed power pole. A Weyerhaeuser helicopter was used to help fight the fire. On average the district responds to about 40-60 fires a year including those that fall under mutual aid.

## **WILDFIRE-RELATED ACTIVITIES**

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with all Linn County districts as well as with the Oregon Department of Forestry.
- The district has not engaged in any fuel reduction activities within the district.
- The district has not engaged in any evacuation planning.
- The district provides education on an on-going basis and provides residents with brochures and hosts open houses.
- Participated with Brownsville and the Oregon Department of Forestry in education and outreach efforts.
- The district is working with the Oregon Department of Forestry to GPS all structures in the district. This project includes completing a fire assessment on those structures.

## **WILDFIRE ISSUES**

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The biggest issue is personnel available during the day. The district has a small full time paid staff, the rest are volunteers who work outside the

community. The district doesn't have another district to its east to assist in response, so mutual aid response tends to take longer. On the positive side, Oregon Department of Forestry is located in Sweet Home.

- There are a handful of structures located outside the district.
- Specific areas of concern include: Marks Ridge (north of Sweet Home – lots of homes annexed in 2002 with narrow driveways and no turn-arounds), Riggs Hill (increase in expensive homes with no on-site water and access issues), Crawfordsville Dr. (homes abutting wildlands), Ames & Wylie Creek (new developments, one of which is sprinklering all new homes, but developments back right up against timber).
- The primary structural ignitability issue in Sweet Home is the lack of defensible space and narrow driveways. The Oregon Fire Code requires 20-foot driveways, Linn County only requires 12.

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Obtaining an additional type 3 engine would increase fire fighting capacity.
- Education and outreach programs focusing on structural preparedness including the risk associated with shake roofs, adequate driveway size and water supply.
- Working with developers to encourage: 1) use of fire resistant plants in new developments, 2) wider driveways, and 3) on-site water supplies.

# **HALSEY RURAL FIRE PROTECTION DISTRICT**

## **BACKGROUND**

The Halsey Rural Fire Protection District (RFPD) is located in the southwest corner of Linn County on the west side of Interstate 5. The district has two full time fire fighters and 30 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 6 district wide. The district currently has the following wildland fire fighting apparatus available: 4 - 3,200 gallon tenders, 2 - 6x6 1,000 gallon General Issue trucks, 5 - 1,000 gallon fire engines (pump and roll), and 2 type 6 quick attack trucks (150g and 300g each).

## **WILDFIRE HISTORY**

The district is located in prime rye grasslands and does not have any true interface issues. The only fires the district has are mainly grass fires. On average the district responds to one fire a year.

## **WILDFIRE-RELATED ACTIVITIES**

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with all Linn and Benton County districts. In addition, the district also has an agreement with the Oregon Department of Fish and Wildlife to protect areas around the Willamette River.
- The district's fuel reduction activities are related to the grass seed industry. Farmers bail grass after its been threshed, thus reducing the amount of fuel on the ground.
- The district promotes preparatory burns around farms. This provides protection from fires moving into farmer's fields.
- The district has not engaged in evacuation planning.
- The district provides education on an on-going basis. The district has a staff Captain who serves as a fire prevention officer. The district has several school programs where they talk to students about cooking safety, heating, fire alarms, and what to do when there is smoke. The district purchased with FEMA grant money, a 35-foot prevention trailer with demonstrations and information about fire safety. The trailer features a smoke machine to practice crawling under smoke and heated doors. This trailer is lent out to other districts.

## **WILDFIRE ISSUES**

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The district is composed of 77,000 acres of rye grass and is the biggest grass fire department in the state. The biggest issue is in protecting farms and smoke issues on the interstate.
- Lack of volunteer availability
- Areas adjacent to Interstate 5 are of particular concern due to smoke causing visibility issues.

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Implement backyard burning programs to allow residents to burn vegetation.
- Maintain farmer's ability to burn fields as it is a major fuel reduction activity that keeps fire from reaching farm dwellings and structures.

# ALBANY RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Albany Rural Fire Protection District (RFPD) is located in the northwest corner of Linn County along Interstate 5. The district has 65 full time fire fighters and no volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 3 for the city and an 8 for rural, although insurance providers are using the city's rating in most places. The district currently has the following wildland fire fighting apparatus available: 2 brush units, 6 type 1 engines, and 1 tender.

## WILDFIRE HISTORY

The district hasn't had any wildfires that have threatened homes in the last 25 years. On average the district responds to about ten fires a year including those that fall under mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with all Linn County districts.
- The district has not engaged in any fuel reduction activities within the district.
- The district has taken preliminary evacuation planning steps by completing pre-planning for wildland areas and has identified potential access routes.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The primary wildfire interface issue is located in North Albany and Knox Butte, both areas with steep slopes. Knox Butte is likely to continue to develop.

## POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Additional tender capacity and a type 3 brush unit would increase fire fighting capacity.
- Education and outreach programs focusing on defensible space and access.

- Enhancement of ODF chipping and fuel management programs.
- Planning regulations to address defensible space issues.

# JEFFERSON RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Jefferson Rural Fire Protection District (RFPD) is located in the northwest corner of Linn County and southwest corner of Marion County. The district has three full time fire fighters and 35 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 4 for the city and a 9 for rural (in 6 months rural should be an 8d). The district currently has the following wildland fire fighting apparatus available: 2 type 6 grass rigs, 2 multi-use tenders (2,500 gallons), and several tenders.

## WILDFIRE HISTORY

The district doesn't have any true interface areas in the Linn County portion of the district. On average the district responds to about four to six fires a year, but rarely is involved in mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with districts in Linn, Marion, Polk and Benton Counties.
- The district has not engaged in any fuel reduction activities within the district.
- The district has not engaged in any evacuation planning.
- The district provides education on an on-going basis and provides residents with fliers.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The biggest response issue is that the district utilizes a different dispatch system than the rest of the Linn County districts. This results in interoperability issues.
- The district lacks adequate apparatus to be able to fight fires along the river because of access issues. Boats have been used in the past to fight fires in this area.

## POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Replace 2 type 6 engines with 2 new type 6 engines.
- Focus education and outreach programs on defensible space and roof types.

# SCIO RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Scio Rural Fire Protection District (RFPD) is located in northwest Linn County east of the Interstate. The district has no full time fire fighters and 45 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 4 for the city and a 9 for rural. The district currently has the following wildland fire fighting apparatus available: 3 engines, 2 tenders, 3 brush / grass fire apparatus, 3 rescues, and several “support” vehicles.

## WILDFIRE HISTORY

The SRFD responds to several wildland / brush fires every fire season. These range from the small grass fires due to unattended burn piles to grass seed fields that for whatever reason are involved in fire. In 2006, Scio responded to 16 grass/wildland fires including those falling under mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with surrounding districts as well as with the Oregon Department of Forestry.
- The district has not engaged in any fuel reduction activities within the district.
- The district has not engaged in any evacuation planning.
- The district has adopted the Linn County Disaster Plan for large-scale emergencies.
- The district also has a new Citizen Emergency Response Team (CERT).

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The response issues the district faces include the loss of volunteers, the need for more training, and the lack of volunteers during the day time.
- There are a few unprotected areas that the district responds to.
- Scio has several large grass seed fields in the district, which seem to be the source of most of the problems during fire season. The residual grass hay bales have been a problem in the past, whether they are targeted or spontaneously ignite, the district has several haystack fires every year.
- Currently no development plans in potential interface areas.

## POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- The purchase of 2 or 3 new Forestry brush units would increase their capacity to more effectively fight fire.
- Identifying and implementing a burn restriction during wildland season. The SRFD Board of Directors (under the recommendation of the previous Fire Chief) have adopted a District policy of not enforcing the recommended burn bans outside of the areas protected by ODF, unless the State Fire Marshal imposes a state-wide burn ban. This is due to the sparse population in the outlying areas of the District, and difficulty in enforcing a burn restriction due to distances needed to travel to investigate any burn complaints. The Chief has tried to impress upon them the need to follow the recommended restrictions, and they are reviewing the current policy.

# LEBANON RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Lebanon Rural Fire Protection District (RFPD) is located in the western portion of Linn County east of the Interstate. The district has 26 full time fire fighters and 52 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 3 for the city and a 5-8 for rural. The district currently has the following wildland fire fighting apparatus available: a 4wd interface engine with 750 gallon tank, a pumper with 1,000 gallon tank, 2 type 6 engines, a brush tender with 2,000 gallon capacity, and a type 3 1,000 gallon engine.

## WILDFIRE HISTORY

The district responds to several wildland / brush fires every fire season. These range from the small grass fires due to unattended burn piles to grass seed fields that for whatever reason are involved in fire. In an average year, the district responds to around 35 grass or brush fires, about 6 of which fall under mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with all Linn County districts as well as with the Oregon Department of Forestry.
- The district has not engaged in any fuel reduction activities within the district.
- The district has not engaged in any formal evacuation planning, however, they have taken information to certain neighborhoods.
- The district has participated with neighboring districts and ODF in Knock and Talks with homeowners to educate them about defensible space.
- The district is working with ODF on a project to GPS all the structures in the district for pre-planning purposes.
- The district has worked with ODF in the past to provide chippers for fuel reduction for residents who may not be able to do the fuel reduction efforts themselves.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The response issues the district faces include the distances to travel, the lack of defensible space, and access to areas to fight fire.

- There is a lack of homeowner awareness of defensible space and navigable driveways.
- The district is bisected by a river, so access to certain points may take longer because of the need to cross the river.
- The district only faces unprotected area issues if they are on mutual aid with ODF.
- The district identified that the following areas are particularly vulnerable to wildfire. The south side of the district is a foothill range that spans the full length of the district. This area has 350 – 500 homes and 1,000 – 10,000 hour fuels. The second location is Golden Valley, which is northeast of town and north of the river with about 250 homes. This area is the most vulnerable because it has 1-10 hour flashy fuels and slope and wind issues create a bigger threat.
- The district identified the following areas as becoming more vulnerable in the future. Ridgeway Butte east of town has had several plans for developments of up to 300 homes on steep sloped and timber areas. However, the district has a good relationship with the City which helps ensure that developments that do get approved must incorporate wildfire safety measures like sprinklers, density, etc...

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Need for 2 3,000 gallon tenders with off road capabilities would increase their capacity to more effectively fight fire. The district is in the process of acquiring these resources.
- Education of homeowners about defensible space.
- Expansion of the ODF chipper program.
- Look into inmate work crews to do clean up work.

# MILL CITY RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Mill City Rural Fire Protection District (RFPD) is located on the northern border of Linn County along Highway 22. The district has 1 full time fire fighter and 18 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 5 for the city and a 4-8 for rural. The district currently has the following wildland fire fighting apparatus available: 1 brush truck and tankers.

## WILDFIRE HISTORY

The district has had a history of wildfire, but in the last couple years they haven't had any interface fires. This district did indicate that the potential was there. In an average year, the district responds to around one or two fires including mutual aid with Lyons or Gates.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response, and planning activities in the past.

- The district has automatic mutual aid agreements with Linn and Marion County districts.
- The district has engaged in any fuel reduction activities within the district by creating fire buffers between homes and wildland areas.
- The district provides homeowners with information and fliers about structural ignitability. The district also has articles in the local newspaper on a weekly basis.
- The district has not engaged in evacuation planning.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- Availability of personnel. They work closely with ODF, but it takes a long time for ODF to respond because of distances.
- Issues associated with defensible space, driveways, and access are also significant response issues.
- The district does typically respond to unprotected areas between Lyons and Mill City.
- Vulnerability to wildfire include the developments along the river on N. Santiam State Park Rd, DeWitt Lane, and Sitkum Lane (Marion County).

## POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Purchase of a new tanker would increase the capacity to more effectively fight fire. The district is in the process of acquiring these resources.
- Educate homeowners about access and fuel reduction issues.

# TANGENT RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Tangent Rural Fire Protection District (RFPD) is located on the western side of Linn County along Highway 34. The district has 2 full time fire fighters and 20 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is an 8 for the city and a 9 for rural. The district currently has the following wildland fire fighting apparatus available: 1 - 4wd unit 200 gallons and 3 – 3,000 gallon tenders (pump & roll).

## WILDFIRE HISTORY

The district doesn't have any wildland urban interface areas, mostly grasslands. Occasionally, a field fire may spread to the forest. In an average year, the district responds to one fire on mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response, and planning activities in the past.

- The district has automatic mutual aid agreements with Linn County districts as well as some in Benton and Marion Counties.
- The district has not engaged in evacuation planning.
- The district provides fire safety information to residents, but not focused on wildfire issues.
- The district has purchased wildland fire fighting equipment and trains personnel on wildland suppression for mutual aid.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The greatest response issue the district faces is field fires and industrial or commercial fires spreading into fields. The district includes 18,000 acres of flammable fuels.
- The only area in the district that has access issues is near the Calapooia River.
- There are unprotected areas outside the district that they typically respond to, but these are not wildland areas.
- A proposed development near North Lake Creek may present some wildfire issues, but the district is working with the developer to mitigation some of those issues before hand.

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Education of homeowners about field fires.
- Create more buffer zones around farms.

# STAYTON RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Stayton Rural Fire Protection District (RFPD) is located in northern Linn County just south of Highway 22. The district has 5 full time fire fighters and 55 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 5 for the city and a 5 for rural. The district currently has the following wildland fire fighting apparatus available: 1 type 6 engine, 3 type 3 engines, 3 combination 1,800 gallon tenders/initial attacks, and one four wheel drive vehicle.

## WILDFIRE HISTORY

The entire district is considered wildland urban interface. In an average year, the district responds to 20 fires within the district and 10 to 20 on mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with Linn County districts as well as ODF.
- The district has done projects around structural ignitability and hazard mitigation in the Elkhorn area.
- The district has not done any wildfire evacuation planning.
- The district has provided information on defensible spaces, vegetation, and construction materials to homeowners along with ODF. In addition, they also work with the South County Fire Chiefs group out of Marion County on wildfire issues.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The greatest response issue the district faces is availability of personnel.
- There are unprotected areas outside the district in the Elkhorn area.
- Stayton identified that the Elkhorn and Marion areas are particularly vulnerable to wildfire and Elkhorn is likely to become more so in the future. There is currently a plan for a destination resort in this area.
- Structural ignitability issues the district faces include space proximity between structures and construction methods and materials.

## **POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES**

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Purchase of a new type 5 or type 6 engine would increase their capacity to fight fire
- Educate homeowners about defensible space
- Address development codes and landscaping issues in Elkhorn area

# HARRISBURG RURAL FIRE PROTECTION DISTRICT

## BACKGROUND

The Harrisburg Rural Fire Protection District (RFPD) is located in southern Linn County, west of Interstate 5. The district has 1 full time and 2 part time fire fighters and 24 volunteer fire fighters. The current ISO Public Protection Capability Rating for the district is a 5 for the city, an 8b for less than 5 miles and a 10 for greater than 5 miles. The district currently has the following wildland fire fighting apparatus available: 3 type 1 engines and a 3,000 gallon tender.

## WILDFIRE HISTORY

The entire district does have fires, but they typically don't involve structures. There are wildland urban interface areas within the district. In an average year, the district responds to four fires within the district and three to four on mutual aid.

## WILDFIRE-RELATED ACTIVITIES

The district has been engaged in a number of wildfire related preparedness, response and planning activities in the past.

- The district has automatic mutual aid agreements with Linn County districts as well as ODF.
- Harrisburg has collaborated with ODF on a grant to do fuels reduction in a subdivision.
- The district has not done any wildfire evacuation planning.
- In 2003, the district partnered with ODF to provide public education on defensible space, fuel and access.

## WILDFIRE ISSUES

The district identified a number of wildfire related issues that it currently faces. They are documented below.

- The response issues the district faces include the availability of personnel and the location of the station.
- Time is an issue, the district is 86 square miles with the station positioned in the western most part. In some areas response times can be between 15 and 20 minutes.
- There are limited areas with access issues including some gated homes in Mount Tom.
- Areas that are particularly vulnerable include the Mount Tom subdivision and adjacent areas that are jointly protected by ODF and the east side of the district by Coburg Hills.

## POTENTIAL WILDFIRE PROJECTS AND ACTIVITIES

Each district was asked a series of questions that were designed to illicit ideas for potential mitigation actions or projects that could be implemented to assist the district mitigation or better respond to wildfires. The results are presented below:

- Purchase of a new small type 3 engine would increase their capacity to fight fire
- Educate homeowners about defensible space
- Additional fuel reduction projects around homes and driveways.





Linn County Fire Defense Board  
Thursday, April 26, 2007  
Harrisburg Fire

Minutes

**ATTENDANCE:**

Kevin Kreitman, Albany Fire  
Lorri Headrick, Albany Fire  
Kevin Rogers, Brownsville Fire  
Perry Palmer, Lebanon Fire  
Scott Mitchell, Harrisburg Fire  
Mike Beaver, Sweet Home Fire  
Stan Parker, Tangent Fire  
Tim Mueller, Linn County Sheriff

Jim Howell, Linn County Emerg. Mgmt.  
Steve Michaels, Linn County Planning/Bldg Dept.  
Kevin Crowell, Oregon Dept. of Forestry  
Lee Vaughn, Oregon Dept. of Forestry  
Krista Mitchell, ECONorthwest  
Lorelei Juntunen, ECONorthwest  
Mike Price, Entrada/San Juan, Inc.

**CALL TO ORDER:** Chief Kreitman called the meeting to order at 10:05 a.m.

**APPROVAL OF MINUTES:** Chief Beaver made a motion to approve minutes of the March 22, 2007, meeting as submitted; Chief Rogers seconded the motion; and the minutes were unanimously approved as written.

**REPORTS:**

**Linn-Benton Fire Training Council** – No report.

**Linn-Benton Fire Investigation Task Force** – Contact George Crosiar if you have any comments on the Bylaws that were shared at the last meeting.

**HazMat Team 5** – No report.

**Linn County Dispatch/User Board** – Sheriff Mueller spoke about a proposed addition to the jail, which would include new dispatch offices. The project would be at least two years out. Chief Kreitman mentioned that the County should consider the need to construct the addition with shelter-in-place in mind.

Reminder to please follow alarm assignments when additional equipment is needed, otherwise it creates problems later when you do request an additional alarm assignment and some of that equipment has already been individually assigned.

**Linn County Sheriff's Office** - Sheriff Burrig reported that SWAT is being covered by the Linn County Sheriff's Office and Albany Police. Benton County is unable to maintain their operating levy and dropped SWAT in August 2006.

**Linn County Emergency Management** – Jim Howell is working with the Linn County Commissioners to set up a one-day training event to cover Introduction to NIIMS, I-100, and I-200. Might be able to open the training up to other agencies as well. I-300 and I-400 will also be required next year for command staff and anyone at the Section Chief level.

Oregon Emergency Management Conference is May 5-7.

**Oregon State Fire Marshal's Office** – No report.

**Oregon Dept. of Forestry** – Kevin Crowell reported that their budget has been approved for next fiscal year. An additional firefighter has been added. The audit for last year's fires is being conducted on May 10, and they expect to see good results. Interviews are being held for three labor firefighters and a lookout firefighter at Green Peter.

**Oregon State Police** – No report.

**Reach** - No report.

**OLD BUSINESS:**

**Community Wildfire Protection Plan** - Krista Mitchell from ECONorthwest presented a PowerPoint slideshow on the findings from their interviews with Oregon Department of Forestry, Oregon State Fire Marshal's Office, Bureau of Land Management, United States Forest Service, and Linn County fire districts.

The issue of fuel reduction was discussed and suggestions for addressing this need. Kevin Crowell suggested that the ODF chipping equipment could be used outside their protection areas. They are also obtaining a commercial grade chipper which will be operated by ODF staff to aid landowners. The need to have a program in place to aid those who are unable to do the physical labor was identified.

Homeowner education and outreach should be focused on defensible space, to include brochures provided at the planning stage. Linn County already has something in place.

Encourage partnerships to address the high-risk areas for fuel reduction; focus on non-industrial lands next to BLM lands.

Consider use of inmate work crews

The possible need to address banning cedar shake roofs through legislation was considered. It appears that cost and education are already impacting a change toward non-shake roofing .

Improve construction and design standards in wildland areas.

Review and address water supply availability in interface areas.

Chief Beaver asked about road inspections and what is required of new roads. He explained that he has seen new roads in their district that are approved and then the road is drastically degraded during the project construction phase, making the roads nearly impassable for emergency traffic. Steve Michaels indicated that Linn County does not re-inspect after a road has already been approved.

Mike Price with Entrada/San Juan, Inc. presented a PowerPoint slideshow on Wildland/Urban Interface Mapping and Modeling.

**County Bridge/Access Update** - Tabled until May meeting.

**NEW BUSINESS:**

State Fire Defense Board Meeting - Chief Kreitman reviewed information that was shared at the State Fire Defense Board meeting. Concerning conflagrations, the following changes were discussed:

- Reimbursement for volunteers increased from \$12 to \$15/hour. Time over 40 hours/week will be paid at \$22.50/hour.

- Vehicle reimbursement rates will remain the same. Oregon is better in comparison to other states, especially portal to portal.
- Clarification on Type II to include 500 to 999 gallons.
- Urban structural firefighter standards require NFPA Firefighter I or equivalent.
- Engine Boss requires NFPA Firefighter II or equivalent.
- Fireground Leader will require I-100, I-200, I-700, & I-800.
- Vehicle Operator requires NFPA Pumper Operator or equivalent.

FireNet towers have been updated with narrowband capabilities (with exception of one in the northeast area). They will be testing, so if you hear this please respond to their inquiries.

The old hazmat unit has been set up as a communications unit with a cache of portable radios, with two mobile repeaters. This should allow for set up at any fire in the state.

**State Communication Project** - Jeff Johnson spoke at the State Fire Defense Board meeting about Oregon Wireless Interoperability Network. Local governments and agencies will see benefit to being on their system in lieu of maintaining their own system. It will affect the areas along the I-5 corridor from Portland, Oregon, to California and the Bend/Redmond area. Remainder of the state would be VHF. Targeted to have in place by 2011.

**GOOD OF THE ORDER:**

Kevin Crowell suggested discussion about burn ban and putting together Public Service Announcements at the next meeting. Kevin reported that ODF does not want to get involved at this time in the DEQ discussion of domestic burn banning. ODF has an abundance of bottled water available for use; contact Kevin if interested.

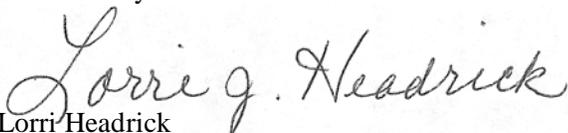
Chief Mitchell reported that Harrisburg is going out to Mississippi to inspect a 100-foot aerial ladder truck for possible purchase. Harrisburg will be hiring a new fulltime training officer.

**NEXT MEETING:**

The next meeting will be a joint meeting with the Benton County Fire Defense Board on Thursday, May 24, 2007, 10:00 a.m., at Halsey-Shedd Fire.

**ADJOURNMENT:** Meeting adjourned at 12:00 p.m.

Submitted by:

  
Lorri Headrick  
Secretary/Treasurer



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**1 March 2007**

**TO: Linn County CWPP Steering Committee**  
**FROM: Lorelei Juntunen**  
**SUBJECT: NOTES OF 2/27 STEERING COMMITTEE MEETING**

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This memorandum contains notes of the February 27, 2007 kick-off meeting for the Linn County Community Wildfire Protection Plan (CWPP). The notes are organized to reflect the agenda topics for the meeting, as follows:

- Overview of CWPP purpose and requirements
- Linn County process overview
- Outreach strategy
- Risk assessment approach
- Next steps

The following individuals attended the meeting:

- Kevin Crowell, Oregon Department of Forestry
- Paul Hiebert, US Forest Service
- Jim Howell, Lane County Emergency Management
- Kevin Kreitman, Fire Defense Board
- Steve Michaels, Linn County Planning and Building Department
- Barbara Raible, Bureau of Land Management
- Dick Slinger, Linn County
- Howard Strobel, Oregon Department of Forestry
- Lena Tucker, Oregon Department of Forestry
- Jerry VanDyne, US Forest Service
- Lee Vaughn, Oregon Department of Forestry

Andre LeDuc and Lorelei Juntunen from ECONorthwest facilitated the meeting.

## **OVERVIEW OF CWPP PURPOSE AND REQUIREMENTS**

Lena Tucker and Lee Vaughn from Oregon Department of Forestry (ODF) provided context for the Linn County planning process. Lena explained that many communities in Oregon have plans in place, especially those in the eastern and southern parts of the State. County plans tend to function as an umbrella plan, and some communities with higher risk producing their own plans.

The plans are designed to meet the requirements of the Healthy Forest Restoration Act (HFRA) and the National Fire Plan. One of the most important HFRA requirements is collaboration: the plans must involve local, state, and federal partners as well as members of the community (watershed councils, homeowners associations, etc.)

Lee described some ongoing projects in Linn County that are aimed at increasing wildfire resilience. ODF applied for and received a grant for fire education in the Mount Tom fire district, and are in the middle of a three-year process to implement education and outreach projects. They held a well-attended community meeting, and have been going door-to-door to discuss fuels treatments and debris removal with wildland-urban interface residents. Additionally, they have been completing site-specific assessments of properties for fire survivability and have so far assessed about 2300 homes. All assessment data has been logged in an updatable database.

Linn County's CWPP can build on the successes of projects like these.

## **LINN COUNTY PROCESS OVERVIEW**

Lorelei provided a brief overview of the steps that the planning team and Steering Committee would take to complete the Linn County CWPP. She emphasized that the goal is to create a plan that has specific, implementable action items that can reduce the County's risk of wildfire. The general steps are: (1) scoping survey of ODF and fire districts, (2) website for ongoing communication with a broad range of stakeholders, (3) risk assessment, (4) interviews with key stakeholders, (5) two outreach forums to identify wildfire risk factors and critical issues, and (6) plan development and promulgation.

The Steering Committee will be deeply involved throughout the whole process. They will meet as an official planning body twice: once at project kick-off (the February 27<sup>th</sup> meeting that these notes describe), and once toward the end of the project to finalize and prioritize action items., however. The planning team from ECO will keep in regular contact via email to request feedback on draft products. Additionally, Committee members will attend stakeholder forums and will provide input through key stakeholder interviews. This arrangement assures the Steering Committee members are constantly apprised of the progress toward creating a plan while recognizing the limitations of everyone's busy schedules. It also minimizes administrative costs associated with Steering Committee meetings.

## **OUTREACH STRATEGY**

The group discussed an outreach strategy for assuring that key stakeholders (including WUI landowners and residents, state and federal agency representatives, and others) provide input into the planning process. The outreach strategy (described in detail in a February 2007 memorandum regarding "Proposed outreach strategy for the Linn County Community Wildfire protection plan") has two major activities associated with it:

- Survey and follow-up interviews
- Stakeholder forums

The Committee discussed these activities and made the following suggestions:

- Targets for outreach should include builders associations, homeowners, neighborhood watch organizations, and insurance companies, along with watershed councils and soil and water conservation districts
- Marion County is also currently working toward a CWPP, and some fire districts cross County boundaries. There is an opportunity to coordinate with their planning team.
- The planning team should get on the agenda for the monthly Fire Defense Board. The group determined that it makes sense to administer a paper survey, and then present and ground-truth results at the Fire Defense Board meeting instead of doing individual phone-based interviews with Defense Board representatives. This will provide an opportunity for dialogue.
- Key issues that will probably arise in the planning process include:
  - Unprotected lands. There are probably 100 or more properties with structures on them that are not protected by any fire district. Most of these are residential, and many of these land owners probably do not realize that they do not have protection. The plan will probably need to have actions around education and limiting new development in these areas.
  - Access. Private bridges and gates as well as narrow roadways make it difficult to reach some areas that have high fire risk.
  - Staffing. Many of the fire districts are staffed almost entirely by volunteers. Additionally, it is difficult to meld the two types of groups that respond to wildfires: emergency services related response and the wildfire units that will stay on the scene much longer until the fire is out.
- One Steering Committee members stated that the most important outcome that can come from this planning process is outreach related: people who live and own property in WUI areas need to understand the realities of the risks they face and know what to do to reduce it. They need to know what to expect in terms of protection when wildfires occur.

## **RISK ASSESSMENT APPROACH**

The Committee discussed an approach to creating a meaningful risk assessment using the methodology developed by ODF. Andre explained that Mike Price will lead the process of creating the risk assessment, and is currently in the early stages of assessing the available data. Until we have a clearer picture of what data are available, it is difficult to describe exactly how the risk assessment development process will work, but we do know the general steps that will be taken and have a general understanding of the outputs. An ECONorthwest memorandum from February 2007 provides greater detail.

The Committee discussed the tasks described in this memorandum and made the following suggestions:

- *Scope of analysis.* Andre suggested that the results will be best presented by some smaller geography than the entire County. The risk assessment might contain maps by watershed or by fire district.
- *Data gathering.* The strength of the risk assessment rests on the strength of the data available. Mike will be gathering data over the next several weeks. Committee members suggested that he contact representatives from Alsea Geospatial, which is doing some mapping work in the area.
- *Weighting factors.* The ODF methodology suggests weighting factors for a number of wildfire risk factors that the County faces. These might require some tweaking to more accurately portray risk for Linn County. For example, “previous occurrences” of wildfires are heavily weighted when determining risk in the ODF methodology, and Linn has not had many previous occurrences. However, other factors suggest that risk in Linn County is growing: fuel loading is high and the WUI is experiencing population growth.
- *Evacuation modeling.* If appropriate data are available, Mike Price can do some modeling of evacuation routes. This would, among other outputs, identify pinchpoints where equipment may not be able to access the fire, especially while evacuation is underway. To do this, Mike will need speed limits and times on various transportation routes in the County.
- *Mapping session with the Fire Defense Board.* The Committee suggested a mapping session with the Fire Defense Board to ground-truth preliminary risk assessment maps.
- *NIMS compliance* is a concern for some on the Committee. Linn County’s Emergency Operations Plan is currently not NIMS compliant, but the County will participate in a regional EOP update process that should lead to NIMS compliance. Compliance and non-compliance do not directly impact the CWPP planning process.

## **NEXT STEPS**

The ECO team will remain in regular communication with the Steering Committee. The most immediate next step is developing and distributing a scoping survey based on the discussion at this meeting.

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**12 September 2007**

**TO: Linn County CWPP Steering Committee**  
**FROM: Katy Siepert and Lorelei Juntunen, ECONorthwest**  
**SUBJECT: NOTES OF 9/12/07 STEERING COMMITTEE MEETING**

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This memorandum contains notes of the September 12, 2007 meeting of the Steering Committee for the Linn County Community Wildfire Protection Plan (CWPP). The purpose of the meeting was to review a draft CWPP document and to review and prioritize action items for inclusion in the plan. The notes are organized to reflect the agenda topics and the areas of concern for the meeting, as follows:

- Draft CWPP: overview and orientation
- Risk assessment and maps discussion
- Action item discussion
- Plan maintenance and update
- Next steps

The following individuals attended the meeting:

- Kevin Crowell, Oregon Department of Forestry
- Steve Michaels, Linn County Planning and Building Department
- Anne Walker, Oregon Department of Forestry
- Robert Wheeldon, Linn County Planning and Building Department
- Howard Strobel, Oregon Department of Forestry
- Lena Tucker, Oregon Department of Forestry
- Lee Vaughn, Oregon Department of Forestry

Andre LeDuc and Krista Mitchell from ECONorthwest facilitated the meeting.

## **DRAFT CWPP: OVERVIEW AND ORIENTATION**

Krista Mitchell introduced the purpose of the CWPP and briefly discussed the stakeholder interviews and the results from the Firewise workshop that are included in Section 4. She highlighted the need for more specific information from individual groups regarding their particular policy framework and emergency operations. The mission statement in the draft CWPP is the same mission statement as the county's All-Hazards Plan mission statement, while

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Linn County CWPP

the goals and action items are wildfire specific, and refer to requirements in the Healthy Forest Restoration Act (HFRA) and the Firewise guidelines. This organization allows the County the option to integrate the CWPP into the County's all hazards plan.

## **RISK ASSESSMENT AND MAPS DISCUSSION**

Anne brought up the Communities At Risk portion of section 3 (Risk Assessment). She explained that the Federal Register list, as it currently exists in the Risk Assessment, is a good starting off point, but is not explicit enough and needs to be refined further.

Andre suggested that the committee consider a priority ranking scale for the communities included in the Communities At Risk list. He said that from a grant-writing standpoint, it is important to remember each community's political will and capability as well as the factual, science-based risk rating. Both reiterated that the Federal government puts a lot of weight on a community's capability to complete a mitigation project when determining where funding will go. Anne wants to ensure that the prioritization mechanism remains transparent, i.e. the STAPLE-E process outlined in the draft plan is described.

Howard brought up a question about point classifying communities. He asked if a point system is adopted, and wondered if communities that aren't listed as high risk or medium risk can still be eligible for funding? Lee reminded the committee that a "low" priority rank doesn't fall out of the running for consideration. These communities can still be considered for a grant, and they can still get money to move forward with mitigation projects. No community is risk-free, so no community would be dropped from the risk list.

The committee agreed that "high", "medium", "low" rating on the maps made more sense than a point system, although the rankings will be based on a point system, described in the appendix. Steve wants to see the high risk areas pop out more on the map. Areas where there is canopy, federal land adjacency, capacity, gravel roads, areas outside the fire districts: Steve had a concern that these aspects of Linn County communities was not fully expressed by the Total Risk map (#6). He also requested more detail regarding the weighting of risk factors. Andre explained that the more detailed discussion of the data and methodology for creation of the maps would be included in an appendix to the CWPP, so that the Plan itself would be easily digestible to the average reader. Areas where data is missing need to be identified on the map, and then acted upon as an implementation of the CWPP by the owners of that action item continuing to gather data for those areas.

## **ACTION ITEMS DISCUSSION**

The Committee clarified action items that were confusing, and suggested some changes for lead organizations and/or internal and external partners who will be likely support in implementing those action items. The updated Action Item Matrix reflects these changes (see attached).

Each lead organization will receive a memorandum outlining the action items over which they have "ownership", and a clear definition of what those items mean. These organizations will have an opportunity to review and finalize their action items before they are included in the final CWPP document.

## **PLAN MAINTENANCE AND UPDATE**

The committee discussed the concern that while the plan may be up and running now, who is going to keep it alive when the current members of the committee retire? “What if ownership doesn’t get passed on?” Some suggestions included:

- Assign the convener as an entire department, i.e. the Planning Department.
- Make plan maintenance part of a job description
- Establish an annual or semi-annual report to Commissioners
- Can adopt the plan via resolution, though doesn’t have the weight of law
- Establish co-conveners that will share the responsibility of keeping the plan a living document

While there is no guarantee that the plan will stay active, it is much more likely if it is established as a part of the All-hazards Plan, and if co-conveners share ownership. It was suggested that the co-conveners be the Planning and Building Dept. and the Fire Defense Board (which includes ODF and others). The question was brought up: “where is the Federal representation?”

## **NEXT STEPS**

- Mike Price (primary analyst on the risk assessment) will include a map that establishes risk as it is related to land class in order to see adjacency to Federal or State lands and the WUI boundaries on those lands
- Comments on the CWPP and on the Action Items due to Lorelei Juntunen [juntunen@portland.econw.com] by Sept 21<sup>st</sup>, 2007.
- Final Draft of the CWPP will be completed by the end of October, 2007.

# Risk Assessment Methods

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One of the core elements of the Linn County Community Wildfire Protection Plan (CWPP) is the risk assessment, which describes the risk and potential losses to life, property, and natural resources from wildfire based on best available science and data. The purpose of the risk assessment is to identify high risk areas and assist in the prioritization and implementation of strategies for preventing losses from fire. This appendix documents the methodology and process used to develop the Risk Assessment maps and conclusions. It has the following sections:

- **Overview.** Discusses the general methodology used for the Linn County CWPP Risk Assessment.
- **Risk.** What is the likelihood of a fire occurring?
- **Hazard.** What is the resistance to control once a wildfire starts, being the weather, topography and fuel that adversely affects suppression efforts?
- **Protection capability.** What are the risks associated with wildfire protection capabilities, including capacity and resources to undertake fire prevention measures?
- **Values at risk.** What are the human and economic values associated with communities or landscapes?
- **Structural vulnerability.** What is the likelihood that structures will be destroyed by wildfire?

## OVERVIEW

The risk assessment for the Linn County CWPP was conducted by Mike Price of Entrada San Juan LLC (Entrada), using the model described in *Identifying and Assessment of Communities at Risk in Oregon – Draft Version 4.0*, published by the Oregon Department of Forestry (ODF). The methodology outlined by the ODF uses five factors to determine wildfire risk. Points are assigned for each risk factor, with higher scores indicating higher risk. This point system was used for the Linn County CWPP Risk Assessment. ECONorthwest and Entrada also conducted field surveys and interviews with rural fire protection districts to ground truth the data and conclusions of the risk assessment.

Entrada relied on the computer mapping software known as Geographic Information System (GIS) to conduct the risk assessment. This assessment uses GIS to perform a number of spatial analyses and to manage, store, and display wildfire information. The output of this analysis is a series of map layers, each layer displaying a separate yet interconnected piece of wildfire risk information. Through comparison and analysis of these layers, this assessment indicates areas that express **high, moderate, and low** risk of experiencing a Wildland Urban Interface fire.

The County maintains much of the data necessary for this type of analysis, but this information was supplemented with data from Oregon Department of Forestry, the U.S. Census, the U.S. Geological Survey, and data from field surveys. Data sources will be discussed in greater detail for each component of the Linn County CWPP Risk Assessment.

## RISK

Risk measures the likelihood of a fire occurring. Two factors were used to measure risk for the Linn County CWPP Risk Assessment: historic fire occurrence, and ignition risk. The ODF scoring system allows a maximum of 40 points for risk, up to 13% of the total risk assessment score.

### HISTORIC FIRE OCCURENCE

Historic fire occurrence is a measurement of the number of fires that have occurred per 1,000 acres over a ten-year period. This information was obtained from the Oregon Department of Forestry Historic Fires database<sup>1</sup>. The data was filtered in ten-year intervals, and the most recent period (1996-2005) was selected. Points were assigned using the scoring system outlined in Table C-1. GIS was used to map the historic fire occurrence per 1,000 acres.

**Table C-1. Scoring historic fire occurrence**

Fire Occurrence - Per 1000 acres per 10 years	Points
0.0 to 0.1 Fires	5 pts.
0.1 to 1.1 Fires	10 pts.
Over 1.1 Fires	20 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

### IGNITION RISK

Ignition risk potential is a measurement of home density, as well as other risk factors. Home density is measured as the number of homes per 10 acres. Data for home density was obtained from Linn County Assessor Structure Point Database. Areas are sorted into three categories of density: rural, suburban, and urban. The scoring system for home density is summarized in Table C-2.

<sup>1</sup> <http://www.oregon.gov/ODF/GIS/datasets/stfires6205.zip>

**Table C-2. Scoring home density.**

Homes per 10 Acres	Points
Rural - 1 or less	0 pts.
Suburban - 1.0 to 5.0	5 pts.
Urban - 5.0 or over	10 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

Other risk factors are defined as the presence of other types of development that increase the risk for wildfires. For the Linn County CWPP Risk Assessment, other risk factors include roads, railroads, power transmission corridors, schools, camping/recreational sites, and historic fire ignitions. Data for other risk factors was obtained from Linn County GIS, US Census TIGER data, and other data as available. Using GIS, these factors were gridded, counted, and scored. The scoring system for other risk factors is summarized in Table C-3.

**Table C-3. Other risk factors**

Other risk factors present	Points
3 factors or less	0 pts.
4 to 6 factors	5 pts.
7 factors or more	10 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## HAZARD

Hazard is defined as the combination of factors that influence the ability to control a wildfire once it starts. These factors are weather, topography, natural vegetative fuel, and crown fire. The ODF scoring system allows a maximum of 80 points for hazard, up to 27% of the total risk assessment score.

## WEATHER

Weather hazard is defined by the Oregon Department of Forestry as the number of days per season that forest fuels are capable of producing a significant fire event. ODF provides statewide weather data<sup>2</sup>, which was developed following an analysis of daily wildfire danger rating indices in each area of the state. This data is described in Table 1 of OAR 629-044-0230. Linn County forested areas are entirely within Fire Weather area 2, and are scored at 20 points. Non-forest areas within Linn County receive 0 points. The scoring system for weather hazard is summarized in Table C-4.

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<sup>2</sup> <http://www.oregon.gov/ODF/GIS/datasets/fwz100k.zip>

**Table C-4. Weather**

Weather Classification	Points
Non Forest	0 pts.
Zone 1	0 pts.
Zone 2	20 pts.
Zone 3	40 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## TOPOGRAPHY

Topographic hazard is determined by the slope, aspect and elevation of the terrain. Slope and aspect affect the intensity and rate of spread of a wildfire. Elevation affects the type of vegetation present in the area, and the length of the wildfire season. Data for slope, aspect, and elevation was obtained from the US Geological Survey Seamless Data Distribution Site, and the National Elevation Dataset (NED) 1/3 Arc Second.<sup>3</sup> The scoring system for topography is summarized in Table C-5.

**Table C-5. Topography Hazard**

Topography	Points
Slope	
0-25%	0 pts.
26-40%	2 pts.
greater than 40%	3 pts.
Aspect	
N, NW, NE	0 pts.
W, E	3 pts.
S, SW, SE	5 pts.
Elevation	
Greater than 5,000 ft.	0 pts.
3,501 to 5,000 ft.	1 pts.
3,500 ft. or less	2 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## NATURAL VEGETATIVE FUEL AND CROWN FIRE

The Oregon Department of Forestry states that vegetation is the primary factor affecting the intensity of wildfires. It also affects the amount and travel distance of burning embers. For the Linn County CWPP Risk Assessment, the Oregon Statewide fuel model was used to classify fuel types, using the FBO 13 model.<sup>4</sup> In addition to vegetation types, ODF recommends using data on crown fire potential. Data for Linn County crown fire potential was obtained from ODF.<sup>5</sup> The potential for crown fires is greater in forest areas including insect infestation, disease, wind throw, and slash. The scoring system for vegetation and potential crown fire is summarized in Table C-6.

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<sup>3</sup> <http://seamless.usgs.gov>

<sup>4</sup> <http://www.gis.state.or.us/data/fuel.zip>

<sup>5</sup> <http://www.gis.state.or.us/data/crownfire.zip>

**Table C-6. Natural vegetative fuel and crown fire**

Hazard	Points
SB 360 - Natural Vegetative Fuel Hazard	
Non-forest	0 pts.
FBM 1,5, or 8-1	5 pts.
FBM 2,6, or 9-2	15 pts.
FBM 4, 10, or 11-3	20 pts.
Crown Fire Potential	
Passive - Low	0 pts.
Active - Moderate	5 pts.
Independent - High	10 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## PROTECTION CAPABILITY

Protection capability is a measure of the capacity and resources to undertake fire prevention measures. Fire protection agencies, local governments and community organizations all contribute to protection capability. The ODF scoring system allows a maximum of 40 points for protection capability. Higher scores represent higher risk. For the Linn County CWPP Risk Assessment, two factors were used to determine protection capability: fire response and community preparedness.

### FIRE RESPONSE

The presence of structural and wildland protection agencies, using structural fire district boundaries and wildland protection boundaries was used to evaluate fire response. Linn County provided information from their Roads Database, Fire Stations Database, Fire Districts Database, and Assessor Structure Point Database, in order to determine fire response times for areas both inside and outside of fire district and wildland protection boundaries. The scoring system for fire response is summarized in Table C-7.

**Table C-7. Fire response**

Fire Response	Points
Organized structural response < 10 min.	0 pts.
Inside fire district, but structural response > 10 min.	8 pts.
No structural protection, wildland response < 20 min.	15 pts.
No structural response & wildland protection > 20 min.	36 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## COMMUNITY PREPAREDNESS

Community interviews were conducted by ECONorthwest to identify and map community awareness and education programs, in an effort to identify and map factors that will increase or decrease the effectiveness of the fire protection system. Examples of community preparedness actions include planned escape routes, safety zones, and road brushing projects. The scoring system for community preparedness is summarized in Table C-8.

**Table C-8. Community preparedness**

Community Preparedness	Points
Organized stakeholder group, community fire plan, phone tree, mitigation efforts.	0 pts.
Primarily agency efforts (mailings, fire free, etc.)	2 pts.
No effort	4 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## VALUES PROTECTED

The Oregon Department of Forestry states that protection of life is the top priority for all agencies and levels of government performing wildfire risk assessments. In addition to the number of lives at risk, other important community assets are also identified, including community infrastructure and property. For the Linn County CWPP Risk Assessment, values protected is a factor of both homes density and community infrastructure. These factors combine for a maximum of 50 points of the total risk assessment score.

### HOME DENSITY

Home density is the measure of homes per 10 acres. Data was obtained from the Linn County Assessor Structure Point Database. Areas of higher homes density represent a greater concentration of population. These areas are a higher priority and receive higher scores in accordance with the ODF scoring system. The scoring system for homes density is summarized in Table C-9.

**Table C-9. Home density**

Home Density (Homes per 10 acres)	Points
Less than 1.0 (rural)	0 pts.
1.0 - 5.0 (suburban)	15 pts.
Greater than 5.0 (urban)	30 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

### COMMUNITY INFRASTRUCTURE

In addition to homes density, the identification and evaluation of additional human and economic values is needed for community fire planning. For the Linn County CWPP Risk Assessment, comprehensive values were obtained through local, state, and federal sources. Infrastructure values were validated through stakeholder interviews. A list of valued infrastructure and corresponding data sources is included in Table C-10.

**Table C-10. Infrastructure Data**

Infrastructure Type	Source	File
Airstrips	Linn County, US Census TIGER	AP_400
Cemetaries	Linn County, US Census TIGER	CE_500
Municipal Buildings	Linn County	CH_200
Fire Stations	Linn County	FS_300
Hospitals	Linn County	HO_300
Parks	Linn County	PK_300
Police Stations	Linn County	PS_200
Roads	Linn County	RD_200
Railroads	Linn County	RR_200
Schools	Linn County	SC_300
Transportation Terminals	US Census TIGER	TR_200
Electrical Transmission	US Census TIGER	UT_300
Watersheds	ODF	WA_000

Points are allocated based on the presence of identified community infrastructure. Areas with multiple infrastructure types are a higher priority and are allocated more points. The scoring system for community infrastructure is summarized in Table C-11.

**C-11. Community infrastructure**

Community Infrastructure	Points
None present	0 pts.
One present	10 pts.
Two or more present	20 pts.

Source: ODF Identifying and Assessment of Communities at Risk in Oregon - Draft Version 4.0

## STRUCTURAL VULNERABILITY

Structural vulnerability measures the likelihood that structures will be destroyed by wildfire. Structural vulnerability is determined by several factors and characteristics of individual structures. The results are displayed as points over the completed risk assessment. ODF recommends using methods defined by either local ordinances or the National Fire Protection Association's (NFPA). NFPA standards were used for the Linn County CWPP Risk Assessment. The scoring system for structural vulnerability is based on three major factors: structure, defensible space, and road access. These factors combine for a maximum of 90 pts. The scoring system for structural vulnerability is summarized in Table C-12.

**Table C-12. Structural vulnerability**

Structural Vulnerability	Points
Structure	
Flammable roofing	20 pts.
Building materials	10 pts.
ft.	5 pts.
Defensible Space	
Less than 30 ft.	25 pts.
Separation of adjacent homes	5 pts.
Fire Access	
Presence of ingress/egress	7 pts.
Road width less than 20 ft.	4 pts.
All-season road condition	4 pts.
than 300 ft. without turnaround)	5 pts.
Presence of street signs	5 pts.

Source: Entrada, adapted from NFPA 1144

# Fuel Treatment Types

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One of the minimum requirements for a Community Wildfire Protection Plan (CWPP) as described by the Healthy Forests Restoration Act is the identification of prioritized fuel reduction projects. A CWPP must identify and prioritize areas for hazardous fuel reduction treatments, as well as recommend appropriate treatment methods. Due to the diverse topography and eco-regions present in Lane County, the appropriate treatment methods vary considerably by vegetation type, annual precipitation, slope, aspect, and elevation.

The purpose of this appendix is to compare the common fuel treatment methods for each of the three eco-regions found in Lane County: the Coast Range, Willamette Valley, and Cascade Mountains. The following table provides information on the advantages, concerns, seasonality, application in the wildland-urban interface, and maintenance and scheduling for prescribed fire, mechanized thinning, and manual treatments across Lane County. The table only provides a general framework, and individual projects will need to be tailored to the conditions present in the local area. Local fuels specialists should be consulted in order to determine the most feasible array of fuels treatment options for a given geographical area.

## LINN COUNTY CONTACTS

Albany Fire Department  
333 Broadalbin St Sw  
Albany, OR 97321-0144

Brownsville Rural Fire District  
255 N Main Sq  
Brownsville, OR 97327

Halsey Shedd Fire Protection District  
740 W Second St  
Halsey, OR 97348-0409

Harrisburg Fire/ Rescue  
500 Smith St  
Harrisburg, OR 97446

Lebanon Fire District  
1050 W Oak St  
Lebanon, OR 97355

Lyons Rural Fire Protection District  
1114 Main St  
Lyons, OR 97358

Mill City Rural Fire Protection District  
400 S First Avenue Ave  
Mill City, OR 97360

Scio Rural Fire Protection District  
38975 Sw Sixth Ave  
Scio, OR 97374-0001

Sweet Home Fire & Ambulance District  
1099 Long Street  
Sweet Home, OR 97386-2118

Tangent Rural Fire Protection District  
32053 Birdfoot Dr  
Tangent, OR 97389

The structure of the table was adapted from the Florida Department of Community Affairs guide, *Wildfire Mitigation in Florida: Land Use Planning Strategies and Best Development Practices*. Bev Reed, fuels specialist at the Cottage Grove Ranger District of the U.S. Forest Service modified the table with information appropriate to Oregon.

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<sup>i</sup> State of Florida. 2004. *Wildfire Mitigation in Florida: Land Use Planning Strategies and Best Development Practices*. Florida Department of Community Affairs and Florida Department of Agriculture and Consumer Services.

**Table D.1: Comparison of Fuel Treatment Types**

<b>Coast Range</b>					
<b>Treatment Methods</b>	<b>Advantages</b>	<b>Concerns</b>	<b>Seasonality</b>	<b>Application in WUI</b>	<b>Maintenance &amp; Scheduling</b>
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> <li>- Encourages herbaceous growth and supports native species and ecosystems</li> <li>- Cost effective fuels treatment method in most cases</li> </ul>	<ul style="list-style-type: none"> <li>- Broadcast &amp; understory burning requires skilled application</li> <li>- Multiple entries may be required to achieve objectives</li> <li>- Re-burn potential in areas of heavy fuels or duff</li> </ul>	<ul style="list-style-type: none"> <li>- Broadcast &amp; understory burning constrained by weather, fuels characteristics, and smoke management constraints</li> <li>- Pile burning may be conducted under a broader range of conditions (i.e. less constraints)</li> </ul>	<ul style="list-style-type: none"> <li>- Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> </ul>
Mechanized (i.e. large equipment) Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Cost effective over larger areas</li> <li>- Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal</li> <li>- Can be followed by prescribed fire where needed</li> </ul>	<ul style="list-style-type: none"> <li>- Large equipment limited to gentler slopes</li> <li>- Potential “product” may be market-dependent</li> <li>- May be less economically feasible on small sites due to move-in/move-out costs</li> <li>- May create short-term increase in fire risk</li> </ul>	<ul style="list-style-type: none"> <li>- May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns</li> <li>- May be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Re-entry into thinning areas may be scheduled using standard silvicultural practices</li> </ul>
Manual (i.e. hand) Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Can treat areas that cannot be treated by prescribed fire or mechanical means</li> </ul>	<ul style="list-style-type: none"> <li>- More labor intensive; may not be cost effective in areas of heavy fuels</li> <li>- May require more than one entry to achieve initial objectives for site</li> </ul>	<ul style="list-style-type: none"> <li>- Work can usually be conducted year-round</li> <li>- Chainsaw use may be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning)</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Re-entry into thinning areas may be scheduled using standard silvicultural practices</li> </ul>

## Willamette Valley

Treatment Methods	Advantages	Concerns	Seasonality	Application in WUI	Maintenance & Scheduling
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> <li>- Encourages herbaceous growth and supports native species and ecosystems</li> <li>- Cost effective fuels treatment method in most cases</li> </ul>	<ul style="list-style-type: none"> <li>- Broadcast &amp; understory burning requires skilled application</li> <li>- Must invest time in informing and educating the public</li> <li>- Complete mop-up, if required for air quality reasons, may increase costs</li> </ul>	<ul style="list-style-type: none"> <li>- Burning constrained by weather, fuels characteristics, and smoke management constraints</li> <li>- Low elevation seasonal inversions and valley fog may affect burning opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods</li> <li>- Most burning opportunities will exist along outer perimeters of urban areas/boundaries</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon kinds of sites being treated, condition class goals and degree of change made via initial treatment</li> <li>- Recreation and other high use areas may be evaluated annually as part of a fire prevention and fuels maintenance program planning</li> </ul>
Mechanized Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Cost effective over larger areas</li> <li>- Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal</li> <li>- Can be followed by prescribed fire where needed</li> <li>- Opportunities may exist for public to readily utilize material (i.e. chips, firewood, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Potential “product” may be market-dependent</li> <li>- May be less economically feasible in isolated sites due to move-in/move-out costs</li> <li>- May create short-term increase in fire risk, especially in high-use recreation areas</li> <li>- In high use areas, if site precludes prescribed fire as a follow-up treatment, fuels removal or increased fire prevention patrols may be warranted</li> </ul>	<ul style="list-style-type: none"> <li>- May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns</li> <li>- May be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods</li> <li>- Proximity to private residences may limit mechanical use due to noise concerns</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Re-entry into thinning areas may be scheduled using standard silvicultural practices</li> <li>- Recreation and other high use areas may be scheduled for annual mechanized treatments (i.e. mowing)</li> <li>- Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts</li> <li>-</li> </ul>
Manual Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Opportunities for volunteers, partnerships, stewardships or homeowner involvement</li> <li>- Can access areas that cannot be treated by prescribed fire or mechanical means</li> </ul>	<ul style="list-style-type: none"> <li>- More labor intensive; may not be cost effective in some areas</li> <li>- May require more than one entry to achieve initial objectives for site</li> </ul>	<ul style="list-style-type: none"> <li>- Work can usually be conducted year-round</li> <li>- Chainsaw use may be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning)</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts</li> </ul>

<b>Cascade Mountains</b>					
<b>Treatment Methods</b>	<b>Advantages</b>	<b>Concerns</b>	<b>Seasonality</b>	<b>Application in WUI</b>	<b>Maintenance &amp; Scheduling</b>
Prescribed Fire (incl. broadcast, understory or pile burning)	<ul style="list-style-type: none"> <li>- Encourages herbaceous growth and supports native species and ecosystems</li> <li>- Cost effective fuels treatment method in most cases</li> </ul>	<ul style="list-style-type: none"> <li>- Broadcast &amp; understory burning requires skilled application</li> <li>- Multiple entries may be required to achieve objectives</li> <li>- May require additional costs if mop-up or post-burn monitoring of site is required</li> </ul>	<ul style="list-style-type: none"> <li>- Broadcast &amp; understory burning constrained by weather, fuels characteristics, and smoke management constraints</li> <li>- Pile burning may be conducted under a broader range of conditions (i.e. less constraints)</li> </ul>	<ul style="list-style-type: none"> <li>- Burning may be effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with mechanized or manual vegetation treatment methods</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> </ul>
Mechanized Treatments (incl. thinning, pruning, lop and scatter, mowing, crushing, chipping, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Cost effective over larger areas</li> <li>- Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal</li> <li>- Can be followed by prescribed fire where needed</li> </ul>	<ul style="list-style-type: none"> <li>- Large equipment limited to gentler slopes</li> <li>- Potential “product” may be market-dependent</li> <li>- May be less economically feasible on small sites due to move-in/move-out costs</li> <li>- May create short-term increase in fire risk, especially in high-use recreational areas</li> </ul>	<ul style="list-style-type: none"> <li>- May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns</li> <li>- May be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up prescribed fire treatment methods</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Re-entry into thinning areas may be scheduled using standard silvicultural practices</li> <li>- Recreation and other high use areas may be scheduled for annual treatments designed to minimize risk of human-caused fire</li> </ul>
Manual Treatment (incl. thinning, pruning, hand piling, raking, etc)	<ul style="list-style-type: none"> <li>- Large local labor and contract pool</li> <li>- Can treat areas that cannot be treated by prescribed fire or mechanical means</li> </ul>	<ul style="list-style-type: none"> <li>- More labor intensive; may not be cost effective in areas of heavy fuels</li> <li>- May require more than one entry to achieve initial objectives for site</li> </ul>	<ul style="list-style-type: none"> <li>- Except at highest elevations, work can usually be conducted year-round</li> <li>- Chainsaw use may be constrained by fire season requirements in summer</li> </ul>	<ul style="list-style-type: none"> <li>- Can be very effective within or adjacent to WUI, either as a stand-alone treatment or in conjunction with follow-up fuels treatment methods (i.e. removal or burning)</li> </ul>	<ul style="list-style-type: none"> <li>- Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment</li> <li>- Re-entry into thinning areas may be scheduled using standard silvicultural practices</li> </ul>

# Wildfire Resources

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This appendix provides a list of wildfire agencies and organizations that are potential sources of support and collaboration. The following are wildfire resources to help communities, landowners, and other interested parties help reduce Wildland Urban Interface fire risk. There are four main categories: agencies, policies, wildfire mitigation/education, and fire prevention and interagency cooperation.



# Wildfire Resources

The following are wildfire resources to help communities, landowners, and other interested parties help reduce wildland urban interface fire risk. There are four main categories: agencies, policies, wildfire mitigation/education, and fire prevention and interagency cooperation.

## Agencies

A variety of agencies do work that affects forest and fire management and other factors associated with reducing wildfire risk to forests and communities. The following resources provide information on federal, state, and local agencies that are related to forests, fire, and resource management and planning:

### **United States Forest Service, Fire and Aviation Management**

Contact: USFS Fire and Aviation Management  
Address: 3833 South Development Avenue, Boise, ID 83705  
Phone: (208) 387-5100  
Website: <http://www.fs.fed.us/fire/>

### **United States Forest Service, Willamette National Forest**

Contact: Willamette National Forest  
Address: PO Box 10607, Eugene, OR 97440  
Phone: (541) 225-6300  
Website: <http://www.fs.fed.us/r6/willamette/>

### **Bureau of Land Management**

Contact: Bureau of Land Management  
Address: 1849 C Street, Room 406-LS, Washington DC 20240  
Phone: (202) 452-5125 (voice) or (202) 452-5124 (fax)  
Website: <http://www.blm.gov/nhp/index.htm>

### **Oregon Department of Forestry**

Contact: Oregon Department of Forestry  
Address: 2600 State Street, Salem, OR 97310  
Phone: (541) 945-7200 (voice) or (503) 945-7212 (fax)  
Website: <http://oregon.gov/ODF/index.shtml>

### **Oregon State Fire Marshall**

Contact: Oregon State Fire Marshall  
Address: 3225 State Street, Salem, OR 97301  
Phone: (503) 378-3056  
Website: <http://www.blm.gov/nhp/index.htm>

### **Washington Department of Natural Resources**

Contact: Fire Prevention Program Coordinator  
Address: PO Box 47037, Olympia, WA 98504-7037  
Phone: (360) 902-1754 (voice) or (306) 902-1757 (fax)  
Website: <http://www.dnr.wa.gov/contact/>

### **National Interagency Fire Center (NIFC)**

Contact: NIFC  
Address: 3833 South Development Avenue, Boise, ID 83705-5354  
Phone: (208) 387-5512  
Website: <http://www.nifc.gov/>

## **Policies**

Policies are often created at the federal and state level that affect how agencies, businesses, and residents can work individually and collaboratively to reduce communities' risk to wildfire. The following resources provide information on existing federal and state policies regarding wildfire risk reduction.

### **Healthy Forest Restoration Act**

Website: <http://www.fs.fed.us/projects/hfi/>

### **National Fire Plan 10 Year Comprehensive Strategy**

Website: <http://www.forestsandrangelands.gov/plan/>

**Disaster Mitigation Act of 2000**

Website: <http://www.dem.dcc.state.nc.us/PA/Assets/Forms/dma2000.pdf>

**Oregon Statewide Land Use Planning Goal 7: Areas Subject to Natural Hazards**

Website: <http://www.lcd.state.or.us/LCD/docs/goals/goal7.pdf>

**Oregon Forestland Dwelling Units Statute, ORS 215.730**

Website: <http://landru.leg.state.or.us/ors/215.html>

**Oregon Forestland-Urban Interface Fire Protection Act of 1997 (Senate Bill 360)**

Website:

[http://www.odf.state.or.us/divisions/protection/fire\\_protection/prev/sb360/docs/legal/PROTACT%20ORS%20090704.pdf](http://www.odf.state.or.us/divisions/protection/fire_protection/prev/sb360/docs/legal/PROTACT%20ORS%20090704.pdf)

## Wildfire Mitigation/Education

Many programs currently exist to help mitigate communities' risk to wildfire and to educate agencies, businesses, and residents on issues related to wildland-urban interface fire. The following resources provide links to educational information and programs regarding wildfire mitigation and community outreach:

**Firewise Communities**

Contact: Firewise Communities

Address: N/A

Phone: N/A

Website: <http://www.firewise.org/>

**Missoula FireLab**

Contact: Missoula FireLab

Address: PO Box 8089, 5775 West Highway, Missoula, MT 59807

Phone: N/A

Website: <http://www.firelab.org/>

**Fire Safe Councils**

Contact: Fire Safe Council

Address: N/A

Phone: N/A

Website: <http://www.firesafecouncil.org/>

### **Federal Alliance for Safe Homes**

Contact: Federal Alliance for Safe Homes  
Address: 1427 East Piedmont Drive, Suite 2, Tallahassee, FL 32308  
Phone: (877) 221-7233  
Website: <http://www.flash.org/welcome.cfm>

### **What Trees Can Provide**

Contact: Center for Urban Forest Research  
Address: PSW Research Station, USDA Forest Service c/o Department of Environmental Horticulture, Suite 1103, One Shields Avenue, Davis, CA 95616  
Phone: (530) 752-7636 (voice) or (503) 752-6634 (fax)  
Website: <http://cufr.ucdavis.edu/>

### **Home and Fire Magazine**

Contact: Home and Fire Magazine  
Address: PO Box 458, Lebanon, OR 97355  
Phone: (541) 451-4670 (voice) or (541) 451-1015  
Website: <http://www.homeandfire.com/>

### **A Model for Improving Community Preparedness for Wildfire**

Contact: Pacific Northwest Research Station  
Address: Pacific Northwest Research Station  
Phone: (206) 732-7832  
Website:  
<http://www.ncrs.fs.fed.us/4803/highlights/Intro%20to%20website.pdf>

### **The Ad Council Firewise Campaign PSA's**

Address: The Advertising Council, INC., 261 Madison Avenue, 11<sup>th</sup> Floor, New York, NY 10016  
Phone: (212) 922-1500 (voice) or (212) 922-1676 (fax)  
Website: <http://www.adcouncil.org/campaigns/firewise/>

### **Where's the Fire Wise Choices Make Safe Communities**

Contact: Center for Urban Forest Research  
Address: PSW Research Station, USDA Forest Service c/o Department of Environmental Horticulture, Suite 1103, One Shields Avenue, Davis, CA 95616  
Phone: (530) 752-7636 (voice) or (503) 752-6634 (fax)  
Website: [http://cufr.ucdavis.edu/products/8/curf\\_150.pdf](http://cufr.ucdavis.edu/products/8/curf_150.pdf)

### **National Wildfire Coordinating Group**

Contact: National Wildfire Coordinating Group  
Address: National Office of Fire and Aviation, Bureau of Land Management, National Interagency Fire Center  
Phone: (208) 387-5144  
Website: <http://www.nwccg.gov/teams/wfewt/biblio/index.htm>

### **National Fire Protection Association**

Contact: National Fire Protection Association  
Address: 1 Batterymarch Park, Quincy, MA 02169-7471  
Phone: (617) 770-3000  
Website: <http://www.firepreventionweek.org/>

**National Interagency Fire Center: Fire Prevention and Education**

Contact: NIFC: Fire Prevention and Education  
Address: 3833 South Development Avenue, Boise, ID 83705  
Phone: (208) 387-5512  
Website: <http://www.nifc.gov/preved/index.html>

**Federal Emergency Management Association for Kids: Teaching Kids About Prescribed Fire**

Contact: FEMA  
Address: 500 C Street, Southwest Washington D.C. 20472  
Phone: (202) 566-1600  
Website: <http://www.fema.gov/kids/wldfire.htm>

**Protecting and Landscaping Homes in the Wildland/Urban Interface**

Contact: University of Idaho Extension  
Address: Forest, Wildlife and Range Experiment Station, College of Natural Resources, University of Idaho, Moscow, ID 83844-1130

**Wildfire Mitigation in Florida: Land use planning strategies and best development practices**

Contact: State of Florida Department of Community Affairs, Division of Community Planning, Publications  
Address: 2555 Shumard Oak Blvd, Tallahassee, FL 32399-2100  
Phone: (850) 487-4545  
Website:  
[http://www.dca.state.fl.us/fdcp/dcp/publications/Wildfire\\_Mitigation\\_in\\_FL.pdf](http://www.dca.state.fl.us/fdcp/dcp/publications/Wildfire_Mitigation_in_FL.pdf)

## Grant Opportunities

Federal and state grants already exist to assist counties and local communities in funding various wildfire risk reduction projects. To assist the county and local communities in accessing existing funding sources, the following resources have been adapted from the *National Fire Plan - Pacific Northwest Interagency: Grant Opportunity Summaries*<sup>1</sup> and explain and provide contact information for some federal and state grants:

**FS/BLM/NFWS/NPS/BIA Community Assistance and Economic Action Programs**

This grant is to be used for community based planning and projects for fuels reduction and community wildland-urban interface education and prevention. Agency partnerships and fund sharing is encouraged. Federally recognized tribes, universities, colleges, state chartered non-

profit organizations, counties, cities, federal, state, and local government agencies are eligible to apply for this grant.

Applications due: March  
Website: [www.nwfireplan.gov](http://www.nwfireplan.gov)

### **FEMA Assistance to Firefighters Grant Programs**

This grant funds programs by fire departments that help protect the public and firefighting personnel against fire related hazards. This grant additionally focuses on programs aimed at children and firefighting personnel training, protective equipment, and vehicles. Recognized local fire departments are eligible to apply for this grant.

Applications: March  
Website: <http://www.usfa.fema.gov/grants/afgp/>

### **Volunteer and Rural Fire Department Assistance**

This grant provides financial assistance to volunteer and rural fire departments for improving fire protection through improved organization, training, equipment, prevention, and planning.

Applications: February  
Contact: Oregon Department of Forestry  
Phone: (503) 945-7341

### **State Fire Assistance Wildland Urban Interface Hazard Mitigation Grants**

This grant provides funding for education and outreach programs, fuels reduction and ecosystem restoration programs, and community assistance in seventeen western states and Pacific Island territories. State Forestry agencies are eligible to apply and can sponsor other participants.

Applications: Fall  
Website: [www.fs.fed.us/r4/sfa\\_grants/sfa\\_grants.html](http://www.fs.fed.us/r4/sfa_grants/sfa_grants.html)

## **Energy Trust Grants**

This grant provides financial assistance to renewable energy programs that do not already have incentive programs developed through the Energy Trust of Oregon. Projects in the areas of small wind, solar photovoltaics, biomass, biogas, small hydro, and geothermal electric will generally receive grants. Schools, local and state governments, and commercial, industrial, residential, agricultural, and non-profit businesses are eligible to apply for this grant

Contact: The Energy Trust of Oregon  
Address: 733 S.W. Oak Street, Suite 200, Portland, OR, 97205  
Phone: (503) 493-8888 (voice) or (503) 546-6862 (fax)  
Website: <http://www.energytrust.org>

## **Fire Prevention and Interagency Cooperation<sup>2</sup>**

Reducing communities' wildfire risk is a shared responsibility not only between residents and agencies, but also between agencies at the federal, state, and local levels. Federal, state, and local agencies frequently work closely with one another and form partnerships in coordinating wildfire prevention programs. Examples of existing partnerships and current coordinating efforts and programs include the following:

### **Prevention Working Team of the Pacific Northwest Wildfire Coordinating Group (PNWCG)**

This group is composed of representatives of ODF, the Oregon State Fire Marshal (OSFM), the Washington State Fire Marshal, the five federal wildfire agencies, and the Keep Oregon Green (KOG) Association. Meetings are held monthly. Recent work has included:

- Ongoing oversight of the Industrial Fire Precaution Level System
- Coordination of the deployment of National Fire Prevention and Education Teams into the region.
- General coordination of wildfire prevention programs and campaigns across the region.
- Development of a regional wildfire prevention web site.
- Creation and implementation of Wildfire Awareness Week
- Review and scoring of National Fire Plan grant applications related to fire prevention.
- Design and conduct of a prescribed awareness and ecosystem health media campaign.
- Development and distribution of a "Fire in the Northwest Ecosystem" curriculum, to teachers of grades 7-12.

### **Bureau of Land Management (BLM)**

BLM and ODF worked closely on a number of fronts:

- ODF protects approximately 2.5 million acres of BLM forestland from fire. This protection includes all aspects of wildfire prevention: education, engineering and enforcement.
- - The two agencies work together, frequently, on groups such as the Prevention Working Team of the PNWCG.

### **Forest Service (USFS)**

In addition to working together on many statewide and regional fire prevention related groups, the two agencies:

- Routinely combine efforts to conduct wildfire prevention related training.
- Coordinate the implementation of closures and restrictions.
- Coordinate assistance to communities in the preparation of community wildfire protection plans.
- Facilitate and coordinate various projects conducted as a part of the National Fire Plan.
- Implementation of various national prevention programs and campaigns, such as Firewise and Smokey Bear.

### **Forest Industry**

Working primarily through the Oregon Forest Industries Council and the Associated Oregon Loggers (AOL), ODF works closely with the forest industry. Recent examples include:

- Refinement of fire prevention standards required for logging operations.
- Annual “operator dinners”, where members of the logging community are brought up to date on new fire prevention regulations and emerging trends in logging related fire causes.

### **Pacific Northwest Fire Prevention Workshop Committee**

This body plans and hosts an annual, week long, gathering of several hundred fire prevention personnel from across the region and, increasingly, from across the nation. The success of this committee is evidenced by their receipt of a national Silver Smokey Bear Award in 2000. The committee is made up of personnel from ODF, the state of Washington, the five federal wildfire agencies, the structural fire services of Oregon and Washington, KOG, and the Oregon Fire Marshal Association.

### **Prevention Working Group, Fire Program Review**

Over the past year, this group reviewed Oregon’s wildfire prevention efforts and made recommendations for improvements. Represented on the group were small woodland owners, large industrial owners, Oregon Forest Resources Institute, AOL, city fire departments, Oregon State University, Insurance Information Service of Oregon & Idaho, OSFM, rural fire departments, USFS and others. The group was co-chaired by representatives from KOG and ODF.

### **Local fire prevention cooperatives**

In many areas of the state, fire prevention cooperatives have been formed to facilitate interagency cooperation in the local delivery of wildfire fire prevention messages and materials. Cooperative membership normally includes structural fire departments, ODF and the USFS. Some cooperatives also have the American Red Cross, local 911 dispatch centers and other emergency oriented organizations as members. Projects commonly undertaken by cooperatives include:

- Presentation of Smokey Bear wildfire prevention programs in area grade schools.
- Presentation of home fire safety, “stop, drop and roll” and “exist drills in the home” (EDITH) programs in local schools.
- Establishment of hunter education booths, on the opening weekend of hunting season, to make hunter aware of fire prevention practices.
- Joint staffing of county fair fire prevention displays and booths.
- Joint sponsorship of local special events, such as Smokey Bear day at professional baseball games.
- Fire prevention related training for member agency employees.
- Implementation and delivery of various fire prevention and wildland-urban interface programs and campaigns.

### **Oregon State Fire Marshal (OSFM)**

ODF often and frequently works with OSFM on a variety of initiatives. Perhaps the largest ongoing such initiative is the implementation of the Oregon Forestland-Urban Interface Fire Prevention Act (aka Senate Bill 360), of which OSFM was a co-sponsor. In addition to working together on many statewide and regional fire prevention related groups, the two agencies have recently:

- Jointly sponsored, with KOG, a Wildfire Awareness Week proclamation from the Governor.
- Worked together to assist local communities in the completion of community wildfire protection plans.

### **Oregon Interagency Hazard Mitigation Team**

This organization, established by the Oregon Department of Homeland Security, meets monthly to share information about all types of natural hazard, including wildfire. Membership includes a wide diversity of state agencies. The team recently completed development of the state’s Natural Hazards Mitigation Plan, which included a chapter on Wildland-Urban Interface Wildfire. Other chapters, such as those dealing with volcanic hazards and windstorms, also related to fire prevention issues.

### **Oregon Department of Parks and Recreation (ODPR)**

In addition to assisting ODPR with campground fire safety, during the summer months, ODF has recently been working with ODRP to enhance wildfire prevention on the ocean shore. Also involved in this

recent effort has been OSFM, several rural fire protection districts and KOG.

### **Oregon Department of Justice (DOJ)**

ODF works extensively with DOJ on efforts related to changing people's unacceptable fire prevention behavior, when such behavior has resulted in an escaped wildfire. DOJ assists ODF in collecting the costs of suppressing these fires, from the negligent parties. DOJ has also assisted with specific projects, such as the 2003 ground breaking effort to prevent the Union Pacific Railroad from engaging in a continuing pattern of fire starting activities.

### **Oregon State Police (OSP)**

OSP and ODF frequently join forces to carry out wildfire prevention efforts. Such efforts include:

- The annual, full time assignment of two OSP troopers to conduct wildfire arson prevention programs across the state, during fire season.
- Joint fire investigation training.
- Assisting ODF to outfit and operate a fire investigation vehicle.
- Cooperative investigation of fires. The investigation of fires related to arson is headed by OSP while the investigation of fires related to other causes is normally headed by ODF.

### **Oregon Department of Transportation (ODOT)**

In recent years, ODOT and ODF have increasingly worked together to deliver the wildfire prevention messages to motorists, primarily through the use of ODOT's fixed and mobile variable message reader boards.

### **Keep Oregon Green Association (KOG)**

KOG and ODF have history of joint collaboration, which spans the last 65 years. KOG is currently collocated with ODF in Salem and receives extensive direct support from the agency. In addition to working together on many statewide and regional fire prevention related groups, the two organizations routinely and regularly conduct fire prevention programs, campaigns and media offerings.

### **City and Rural Fire Departments**

Especially at the local level, ODF often works with local fire departments to carry out wildfire prevention activities. One ongoing example is the Fire Free campaign in central Oregon. Headed by the Bend Fire Department, ODF has assisted with the conduct and expansion of this award winning and highly successful wildfire mitigation and prevention program. Often, the agencies work together on activities under the auspices of the local fire prevention cooperative.

### **County and City Governments**

Increasingly, ODF has been working with local governments on wildfire prevention. On a statewide basis, three of the major such efforts have been:

- Implementation of Oregon's Forestland-Urban Interface Fire Protection Act (Senate Bill 360)
- Preparation of community wildfire protection plans
- Creation of wildfire hazard zones

### **National level involvement**

ODF is represented on several committees working at the national level, through the National Wildfire Coordinating Group. Each of these committees has members from the federal wildfire agencies, the National Association of State Foresters, and others:

- Wildland Fire Education Working Team, which is responsible for the development wildfire prevention related materials and programs.
- Fire Investigation Working Team – which is responsible for the development of training programs and standards related to wildfire investigation.

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<sup>1</sup> Oregon Department of Forestry. 2005. *National Fire Plan - Pacific Northwest Interagency: Grant Opportunity Summaries*. <<http://oregon.gov/ODF/FIRE/docs/NatnlFirePlanGrantSummary.pdf>>.

<sup>2</sup> Fire Prevention and Interagency Cooperation information developed by Rick Rogers of the Oregon Department of Forestry.

# Glossary

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This appendix contains the glossary of terms found in Linn County's CWPP and in other wildfire literature.

Glossary terms were identified through two sources: 1) Firewise.org Glossary and 2) Florida Department of Community Affairs's *Wildfire Mitigation in Florida: Land use planning strategies and best development practices*. Definitions pulled from the Firewise resource are noted in *italics*.

**Canopy** – *The stratum containing the crowns of the tallest vegetation present (living or dead), usually above 20 feet.*

**Combustible** – *Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn.*

**Crown Fire** – *A fire that advances from top to top of trees or shrubs more or less independent of a surface fire.*

**Debris Burning Fire** – *In fire suppression, a fire spreading from any fire originally ignited to clear land or burn rubbish, garbage, crop stubble, or meadows (excluding incendiary fires).*

**Defensible Space** – *An area, typically a width of 30 feet or more, between an improved property and a potential wildfire where the combustibles have been removed or modified.*

**Duff** – *The layer of decomposing organic materials lying below the litter layer of freshly fallen twigs, needles and leaves and immediately above the mineral soil.*

**Escape Route** – *Route away from dangerous areas on a fire; should be preplanned.*

**Evacuation** – *The temporary movement of people and their possessions from locations threatened by wildfire.*

**Exposure** – *(1) Property that may be endangered by a fire burning in another structure or by a wildfire. (2) Direction in which a slope faces, usually with respect to cardinal directions. (3) The general surroundings of a site with special reference to its openness to winds.*

**Fire Behavior** – *The manner in which a fire reacts to the influences of fuel, weather, and topography.*

**Fire Department** – Any regularly organized fire department, fire protection district or fire company regularly charged with the responsibility of providing fire protection to the jurisdiction.

**Fire Hazard** – A fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

**Fire History** – The chronological record of the occurrence of fire in an ecosystem or at a specific site. The fire history of an area may inform planners and residents about the level of wildfire hazard in that area.

**Fire Prevention** – Activities, including education, engineering, enforcement and administration, that are directed at reducing the number of wildfires, the costs of suppression, and fire-caused damage to resources and property.

**Fire-Proofing** – Removing or treating fuel with fire retardant to reduce the danger of fires igniting or spreading (e.g., fire-proofing roadsides, campsites, structural timber). Protection is relative, not absolute.

**Fire Protection** – The actions taken to limit the adverse environmental, social, political and economical effects of fire.

**Fire Resistant Roofing** – The classification of roofing assemblies A, B, or C as defined in the Standard for Safety 790, Tests for Fire Resistance of Roof Covering Materials 1997 edition.

**Fire Resistant Tree** – A species with compact, resin-free, thick corky bark and less flammable foliage that has a relatively lower probability of being killed or scarred by a fire than a fire sensitive tree.

**Fire Retardant** – Any substance except plain water that by chemical or physical action reduces flammability of fuels or slows their rate of combustion.

**Fire Triangle** – Instructional aid in which the sides of a triangle are used to represent the three factors (oxygen, heat, and fuel) necessary for combustion and flame production; removal of any of the three factors causes flame production to cease.

**Firebrands** – Any source of heat, natural or human made, capable of igniting wildland fuels. Flaming or glowing fuel particles that can be carried naturally by wind, convection currents, or by gravity into unburned fuels. Examples include leaves, pine cones, glowing charcoal, and sparks.

**Firefighter** – A person who is trained and proficient in the components of structural or wildland fire.

**Firewise Construction** – The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within a building or structure and the spread of fire to or from buildings or structures to the wildland-urban interface area.

**Firewise Landscaping** – Vegetative management that removes flammable fuels from around a structure to reduce exposure to radiant heat. The flammable fuels may be replaced with green lawn, gardens, certain individually spaced green, ornamental shrubs, individually spaced and pruned trees, decorative stone or other non-flammable or flame-resistant materials.

**Flammability** – The relative ease with which fuels ignite and burn regardless of the quantity of the fuels.

**Fuel(s)** – All combustible material within the wildland-urban interface or intermix, including vegetation and structures.

**Fuel Condition** – Relative flammability of fuel as determined by fuel type and environmental conditions.

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

**Fuel Management/Fuel Reduction** – Manipulation or removal of fuels to reduce the likelihood of ignition and to reduce potential damage in case of a wildfire. Fuel reduction methods include prescribed fire, mechanical treatments (mowing, chopping), herbicides, biomass removal (thinning or harvesting of trees, harvesting of pine straw), and grazing. Fuel management techniques may sometimes be combined for greater effect.

**Fuel Modification** – Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

**Ground Fuels** – All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood, leaves, peat or sawdust that typically support combustion.

**Hazard** – The degree of flammability of the fuels once a fire starts. This includes the fuel (type, arrangement, volume, and condition), topography and weather.

**Hazardous Areas** – Those wildland areas where the combination of vegetation, topography, weather, and the threat of fire to life and property create difficult and dangerous problems.

**Hazard Reduction** – Any treatment of living and dead fuels that reduces the threat of ignition and spread of fire.

**Herbicide** – Any chemical substance used to kill or slow the growth of unwanted plants.

**Human-caused Fire** – Any fire caused directly or indirectly by person(s).

**Human-caused Risk** – The probability of a fire ignition as a result of human activities.

**Ignition Probability** – Chance that a firebrand will cause an ignition when it lands on receptive fuels.

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

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

**Mechanical Treatment(s)** – Ways to reduce hazardous fuels for the purpose of wildfire prevention.

**Mitigation** – Action that moderates the severity of a fire hazard or risk.

**Noncombustible** – A material that, in the form in which it is used and under the conditions anticipated, will not aid combustion or add appreciable heat to an ambient fire.

**Overstory** – That portion of the trees in a forest which forms the upper or uppermost layer.

**Peak Fire Season** – That period of the fire season during which fires are expected to ignite most readily, to burn with greater than average intensity, and to create damages at an unacceptable level.

**Preparedness** – (1) Condition or degree of being ready to cope with a potential fire situation. (2) Mental readiness to recognize changes in fire danger and act promptly when action is appropriate.

**Prescribed Burning** – Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions, which allows the fire to be confined to a predetermined area, and to produce the fire behavior and fire characteristics required to attain planned fire treatment and resource management objectives.

**Prescribed Fire** – *A fire burning within prescription. This fire may result from either planned or unplanned ignitions.*

**Property Protection** – *To protect structures from damage by fire, whether the fire is inside the structure, or is threatening the structure from an exterior source. The municipal firefighter is trained and equipped for this mission and not usually trained and equipped to suppress wildland fires. Wildland fire protection agencies are not normally trained or charged with the responsibility to provide structural fire protection but will act within their training and capabilities to safely prevent a wildland fire from igniting structures.*

**Protection Area** – *That area for which a particular fire protection organization has the primary responsibility for attacking an uncontrolled fire and for directing the suppression action. Such responsibility may develop through law, contract, or personal interest of the fire protection agent. Several agencies or entities may have some basic responsibilities without being known as the fire organization having direct protection responsibility.*

**Response** – *Movement of an individual fire fighting resource from its assigned standby location to another location or to an incident in reaction to dispatch orders or to a reported alarm.*

**Retardant** – *A substance or chemical agent which reduces the flammability of combustibles.*

**Risk** – *The chance of a fire starting from any cause.*

**Rural Fire District (RFD)** – *An organization established to provide fire protection to a designated geographic area outside or areas under municipal fire protection. Usually has some taxing authority and officials may be appointed or elected.*

**Rural Fire Protection** – *Fire protection and firefighting problems that are outside of areas under municipal fire prevention and building regulations and that are usually remote from public water supplies.*

**Slash** – *Debris left after logging, pruning, thinning, or brush cutting. Slash includes logs, chips, bark, branches, stumps, and broken trees or brush that may be fuel for a wildfire.*

**Slope** – *The variation of terrain from the horizontal; the number of feet rise or fall per 100 feet measured horizontally, expressed as a percentage.*

**Smoke** – *(1) The visible products of combustion rising above a fire. (2) Term used when reporting a fire or probable fire in its initial stages.*

**Structure Fire** – Fire originating in and burning any part or all of any building, shelter, or other structure.

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

**Suppression** – The most aggressive fire protection strategy, it leads to the total extinguishment of a fire.

**Surface Fire** – A fire that burns leaf litter, fallen branches and other surface fuels on the forest floor, as opposed to ground fire and crown fire.

**Surface Fuel** – Fuels lying on or near the surface of the ground, consisting of leaf and needle litter, dead branch material, downed logs, bark, tree cones, and low stature living plants.

**Tree Crown** – The primary and secondary branches growing out from the main stem, together with twigs and foliage.

**Uncontrolled Fire** – Any fire which threatens to destroy life, property, or natural resources, and (a) is not burning within the confines of firebreaks, or (b) is burning with such intensity that it could not be readily extinguished with ordinary, commonly available tools.

**Understory** – Low-growing vegetation (herbaceous, brush or reproduction) growing under a stand of trees. Also, that portion of trees in a forest stand below the overstory.

**Urban Interface** – Any area where wildland fuels threaten to ignite combustible homes and structures.

**Volunteer Fire Department** – A fire department of which some or all members are unpaid.

**Water Supply** – A source of water for firefighting activities.

**Wildfire** – An unplanned and uncontrolled fire spreading through vegetative fuels, at times involving structures.

**Wildland** – An area in which development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

***Wildland Fire Protection*** – *The protection of natural resources and watersheds from damage by wildland fires. State and Federal forestry or land management agencies normally provide wildland fire protection with trained and equipped personnel. (The equipment and training required to conduct wildland fire protection is not normally provided to the structural fire protection firefighter.) Various taxing authorities and fees fund this service.*

**Wildland-Urban Interface** – The zone where structures and other human development meets or intermingles with undeveloped wildland fuels and other natural features.

***Wildland-Urban Interface*** – *Any area where wildland fuels threaten to ignite combustible homes and structures.*