

Lane County, Oregon

COMMUNITY WILDFIRE PROTECTION PLAN



Photo by Marcus Kauffman, ODF



Adopted on August 25, 2020



Oregon State University
Extension Service
Lane County



Lane County Community Wildfire Protection Plan



Prepared by:

CWPP Project Steering
Committee

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Acronyms and Abbreviations

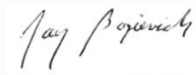
- BLM** – Bureau of Land Management, housed within the U.S. Department of the Interior.
- CAR** – Community at Risk
- CWPP** – Community Wildfire Protection Plan
- GIS** – Geographic Information System
- HFRA** – Healthy Forest Restoration Act
- LMD** – Lane County Land Management Division
- EM** – Lane County Emergency Management
- LCPW** – Lane County Public Works
- NFP** – National Fire Plan
- ODF** – Oregon Department of Forestry
- OSU** – Oregon State University Extension Service- Lane County
- ONHW** – Oregon Natural Hazards Workgroup
- OWRE** – Oregon Wildfire Risk Explorer
- USFS** – United States Forest Service housed within the U.S. Department of Agriculture.
- WUI** – Wildland Urban Interface

Signature Page

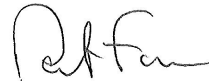
The Healthy Forest Restoration Act (HFRA) requires that three entities must mutually agree to the final contents of a CWPP:

- Lane County Board of Commissioners
- Lane County Fire Defense Board, and
- Oregon Department of Forestry

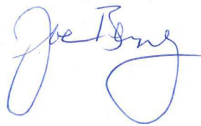
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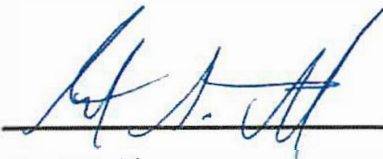
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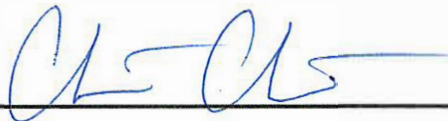
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Lane County Wildfire Risk Assessment:

Information for most maps in this plan were derived from Pyrologix’s 2017 Northwest Quantitative Wildfire Risk Assessment, using layers available from the free wildfire mapping tool, “Oregon Wildfire Risk Explorer” developed by Oregon State University and the Oregon Department of Forestry. Care was taken in the creation of these maps but are provided “as is” using the “best available” data, displayed to better inform local decision making. Lane County cannot accept any responsibility for any errors, omissions, or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from Land Surveys may have been used in the creation of these products, in no way does this product represent or constitute a Land Survey. Users are cautioned to field verify information on this product before making any decisions.

Executive Summary

The Lane County Community Wildfire Protection Plan (CWPP) seeks to identify mitigation strategies and priorities to reduce impacts of wildfires throughout Lane County, while providing a foundation for collaboration across boundaries, industries and values towards improved social, ecological and economic resilience. The plan identifies general areas with high wildfire risk and provides a framework of technical support and guidance to assist local communities in developing and refining their own community wildfire mitigation strategies. The CWPP is not a regulatory document and does not have authority over incorporated communities within Lane County, but rather seeks to develop strategies to align, collaborate and coordinate efforts for sharing information and resources across jurisdictional boundaries.

The CWPP includes a Risk Assessment for identifying areas of Lane County susceptible to wildfire risk, a Community Outreach and Collaboration section that evaluates input regarding wildfire gathered through a community survey, an Action Plan section which identifies future efforts for wildfire planning and mitigation, and a Plan Implementation and Maintenance section.

The CWPP Action Plan section identifies 24 Action Items that reflect the Goals and Objectives of the plan as identified by the CWPP Steering Committee. The following five Action Items are identified as priorities for wildfire planning in Lane County.

Action Item 2.1.1 Review and develop recommendations to the Lane County Board of Commissioners for revisions to land use regulations, such as: Implementation of fire safety standards within rural residential zoning districts; Distribution of educational materials at the outset of the building permit review process; and Outreach services with neighborhood organizations and special interest groups.

Action Item 2.1.3 Identify and prioritize areas for local evacuation plan development across Lane County's Rural Fire Protection District, potentially including data from the CWPP Rural Response: Priorities for Fuel Reduction Map.

Action Item 2.3.1 Utilize maps in the CWPP risk assessment to guide and identify new partners and opportunities for cross-boundary collaboration. Coordinate the implementation of landscape scale hazardous fuel projects.

Action Item 3.1.1 Develop a coordinated multi-agency seasonal outreach campaign that includes county-specific educational materials to promote effective risk reduction practices and communicate landowner assistance programs in the wildland/urban interface.

Action Item 3.2.1 Implement landowner assistance for fuel reduction projects including cost-share incentives. Increase local capacity, establish incentive programs to support yard debris disposal to assist landowners with hazardous fuels removal. Create disposal opportunities using alternative methods to burning.

The priority Action Items are intended to be the primary focus for the next implementation term of the plan and will be reevaluated by the Steering Committee during future plan updates.

Section 1 Introduction

Plan Purpose

The Lane County Community Wildfire Protection Plan (CWPP) is a collaborative agreement between the Oregon Department of Forestry, Lane County, and Federal partners. This document strives to:

- Provide countywide leadership through partnerships to implement wildland-urban interface fire mitigation strategies in Lane County.
- Improve community strategies for reducing the impacts of wildland-urban interface fires.
- Promote wildfire risk reduction activities for private and public lands in Lane County.

The CWPP is non-regulatory in nature, meaning that it does not set forth any new policy. The CWPP is designed to be an action plan and depends upon people and partnerships to carry it forward. The guiding principles of the plan include:

- A foundation to help improve cross-boundary coordination between agencies to reduce negative wildfire impacts through the pursuit of fire resilient landscapes and communities in Lane County.
- Identification and prioritization of areas for hazardous fuel reduction and wildfire resilience projects through the creation of county-level risk maps.
- Landowner resources for understanding wildfire risk in our community, including maps and recommended actions homeowners and local communities can take to help reduce their structure's exposure to wildfire risk (structural ignitability).
- A way to meet federal and state planning requirements and qualify for assistance programs.

Importance of Developing a CWPP

The increase of structures in and near forestlands exposes greater numbers of people and property to the wildfire hazard. According to the State Natural Hazards Risk Assessment, Lane County has a high probability of and vulnerability to wildland-urban interface fires¹. Wildfire Suppression Costs in Oregon set consecutive records in 2017 and 2018 with over 500 million dollars spent statewide in 2018.² The Governor's Council on Wildfire reminds Oregonians the true cost of wildfire, from suppression to recovery, can be 11 times greater than the cost of suppression, potentially costing the state several billions of dollars in just one fire season.³ The effect poor air quality has on residents and local business is an example of these added costs. In 2017 Oregon experienced 160 days of unhealthy air quality related to wildfire smoke⁴,

with the Eugene-Springfield area experiencing unhealthy air quality for approximately two months⁵.

The destruction caused by recent fire 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 includes the participation of federal, state, and local government agencies, the private sector, and citizens. Risk reduction strategies are typically most effective when organized at the local level.

The Lane County CWPP focuses on achieving the three minimum requirements for community wildfire protection plans described by the Healthy Forest Restoration Act (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.

Area Covered

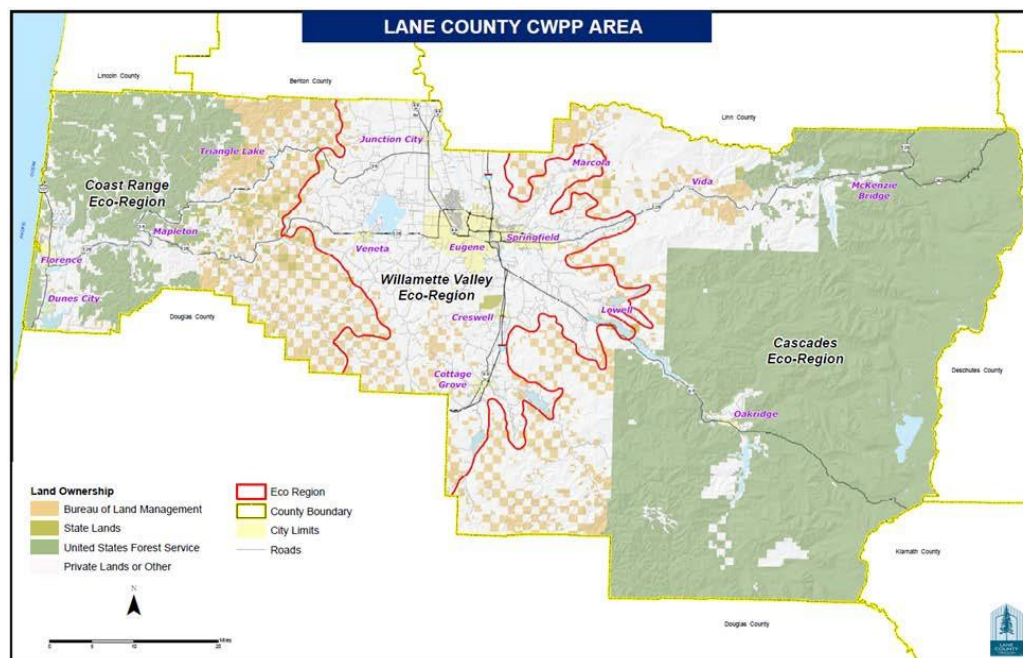
Lane County covers 2.9 million acres, stretching from the Pacific Ocean to the crest of the Cascade Mountains. Nearly 90% of Lane County is forestlands. Lane County is made up of three distinct ecoregions with differing vegetative, geographic, and fire regime characteristics.⁶ These ecoregions are described below:

Willamette Valley: The valley landforms include floodplains and terraces interlaced with surrounding rolling hills. The natural vegetation includes a mix of oak prairies and hardwood forests composed of oak, cottonwood, alder, Oregon ash, and big leaf maple. Douglas-fir, ponderosa pine, grand fir, incense-cedar, and western red cedar occur in moister areas. The valley has lower precipitation, warmer temperatures, and historic fire regimes of higher frequency and lower severity than adjacent Cascades or coast range.⁷

Coast Range: This ecoregion is characterized by steep, highly dissected slopes with narrow ridges. The natural vegetation includes forests of Douglas-fir, western hemlock, western red cedar, and Sitka spruce. The coast range historically experienced lower frequency, higher severity fires when compared to both the Willamette Valley and Western Cascades.⁸

Cascades: This ecoregion is characterized by ridge crests at similar elevations, separated by steep valleys. The natural vegetation consists of forests of Douglas-fir, western red cedar, and western hemlock at lower elevations and silver fir and mountain hemlock at higher elevations.⁹ The Cascade region typically sees more fire than the coast range, at mixed to high severities due to more natural ignitions via lightning events.

Figure 1.1: Lane County CWPP Area Map



Source: Lane County Public Works GIS, 2020

Wildfire History

Wildfire plays a critical ecological role in many ecosystems across the country, including those in Lane County. Native Americans annually burned large areas of the Willamette Valley and coastal valleys to help maintain grasslands and savannahs.¹⁰ Forest fires were relatively infrequent, although their size and severity were often large. Between 1846 and 1853, a series of large fires burned over 800,000 acres in the central Oregon coast range.¹¹

The disruption of natural fire cycles over the last century has created dangerous vegetative fuel loads and made forests vulnerable to catastrophic wildfires. Logging came to the region in the early twentieth century, combining with fire to change the landscape of the coast range and western Cascades.¹² 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, enlarging the wildland-urban interface.

There are many examples of disastrous fires, both in Lane County and in surrounding counties that share similar landscape characteristics. In 1910, the Nelson Mountain Fire burned many areas that are now state forestlands in Lane County. Large fires burned again in western Lane County in 1917, 1922, and 1929.¹³ The 1966 Oxbow Fire, started by a faulty spark arrester, burned 44,000 acres in Lane County.¹⁴ To the north of Lane County, the 1933-1951 Tillamook Burn fires consumed a combined 355,000 acres.¹⁵

Forest Characteristics

Historic wildfire regimes played a predominant role in the development of Lane County forests. 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 disrupted 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.¹⁶

Throughout Lane County, Douglas-fir and Western Hemlock climax is the most predominant forest type.¹⁷ 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).¹⁸ Significant annual precipitation and historically low occurrence of lightning throughout much of Lane County contribute to a low probability of natural fire ignitions in many areas. However, the high vegetative fuel loads are vulnerable to catastrophic fire once ignited. Catastrophic fires are 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” (National Fire Plan, 2001).¹⁹

Current Wildfire Protection Framework

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

The City of Eugene and City of Springfield Fire Departments provide emergency fire services to the most densely populated and developed areas of Lane County. Much of the remainder of the County’s fire protection lies within the jurisdictions of the agencies that make up the Lane County Fire Defense Board. The Oregon Department of Forestry is responsible for wildfire protection on all state-owned forestland, privately owned rural lands, and Bureau of Land Management lands. The U.S. Forest Service is responsible for national forest lands.

The Oregon Department of Forestry administers hazardous fuel mitigation funding via the Western States Fire Managers and Community Assistance grants through the National Fire Plan (NFP). Lane County utilizes Title III funds to implement the Firewise Communities program, which provides numerous wildland-urban interface resources for firefighting safety, community planning, landscaping, construction, and maintenance to lower the structural ignitability of rural homes and properties. Federal agencies utilize various methods and funding avenues to reduce wildfire risk on federal lands, with a focus on designing and prioritizing fuel treatments to reduce fire intensity, structure ignition and extent. A brief explanation of these roles and responsibilities is outlined below.

Federal

US Forest Service (USFS) and Bureau of Land Management (BLM):

- Manages the majority of Lane County’s 2.5 million acres of F1 zoned forestlands;
- USFS participates in fire response and co-op agreements with Oregon Department of Forestry;
- BLM agreement with Oregon Department of Forestry for wildland fire protection on lands within ODF district boundaries.

State

Oregon Department of Forestry:

- Provides wildland fire protection on 1.2 million acres in Lane County on state owned and state protected lands within district boundaries;
- Contracts with private lands to provide wildland fire protection outside of district boundaries;
- Participates in first-response agreements with all adjoining counties and with co-op agreements with USFS;
- Provides protection to BLM lands within district boundaries by agreement;
- Promotes education, outreach, and prevention activities.

Oregon State Fire Marshal:

- Provides technical assistance to local fire departments and unprotected areas;
- Promotes education and outreach in the wildland-urban interface;
- Adopted the Oregon Fire Service Mobilization Plan, which is reviewed annually and updated as needed.

County

Rural Fire Districts:

- 20 Rural Fire Districts within Lane County;
- Provide all hazard response in their districts, including structural fire protection within district boundaries throughout Lane County.

Lane County Fire Defense Board:

- There is a countywide mutual aid agreement to which all local fire protection agencies in Lane County and the Oregon Department of Forestry are signers;
- Focuses on the coordination and preparedness of structural fire districts on wildfire topics ranging from prevention and education, initial attack, mutual aid agreements and local conflagration planning in Lane County.

Lane Fire Prevention Co-op

- Facilitates interagency cooperation in the local delivery of wildfire fire prevention messages and materials;
- Includes Lane County Fire Defense Board, OSFM ODF, USFS and BLM representatives.

Municipal

City Fire Departments provide structural fire protection within city limits, often respond during initial attack of vegetation fires within city limits.

Existing Plans and Policies

The CWPP works in conjunction with other plans, policies, and programs. More information regarding these relationships can be found on Table 1.1 below.

Table 1.1 Existing Plans and Policies

Federal Policy	Requirements	How the CWPP Addresses Policy
<p>Healthy Forests Restoration Act (HFRA): 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 50% of appropriated fuel treatment funding through HFRA is to be used in the wildland-urban interface protection zone and give priority funding to communities with a community wildfire protection plan in place.</p>	<p>(1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.</p> <p>(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.</p> <p>(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.</p> <p>(4) 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.</p>	<p>(1) 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.</p> <p>(2) The CWPP includes an assessment of wildfire risk in Lane County and a process for prioritizing fuel reduction projects. The plan also includes a table identifying appropriate fuel treatment methods for Lane County.</p> <p>(3) The CWPP recommends actions for promoting risk reduction activities on private and public lands in Lane County.</p> <p>(4) The Lane County Board of Commissioners, the Lane County Fire Defense Board, and the Oregon Department of Forestry approved the Lane County CWPP.</p>
<p>National Fire Plan 10-Year Comprehensive Strategy: The National Fire Plan was developed in 2000, following a landmark wildfire season, to actively respond to severe wildfires and their impacts to communities while ensuring sufficient firefighting capacity for the future.</p>	<p>The National Fire Plan addresses five key points:</p> <p>(1) Firefighting</p> <p>(2) Rehabilitation</p> <p>(3) Hazardous Fuels Reduction</p> <p>(4) Community Assistance Accountability</p>	<p>The CWPP will aid in effectively implementing National Fire Plan goals by providing a collaborative framework reducing wildfire risk to communities in Lane County.</p> <p>The advisory committee responsible for coordinating the CWPP will also serve as the local coordinating body for National Fire Plan projects.</p>

Table 1.1 (Continued)

Federal Policy	Requirements	How the CWPP Addresses Policy
<p>Disaster Mitigation Act of 2000: 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 currently serves as the Wildfire Annex for the 2018 Lane County Natural Hazard Mitigation Plan.</p>
<p>Federal Land Assistance, Management, and Enhancement (FLAME) Act 2009</p>	<p>Directed the Departments of Agriculture and Interior to develop a cohesive wildland fire management strategy (Cohesive Strategy). The strategy is a framework to coordinate multiple agency and homeowner efforts toward three goals:</p> <ul style="list-style-type: none"> -Restore and maintain landscapes -Create fire-adapted communities -Improve fire response 	<p>The CWPP provides a framework to coordinate a multi-agency and stakeholder approach to fire planning and response across Lane County.</p>
State Policy	Requirements	How the CWPP Addresses Policy
<p>Oregon Statewide Land Use Goal 7: Areas Subject to Natural Hazards: Goal seven requires local governments to adopt measures in their comprehensive plan to reduce risk to people and property from natural hazards.</p>	<p>The Goal requires local governments, federal and state land managers to complete 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 Lane County, which may be used as new wildfire hazard inventory information in the Lane County Rural Comprehensive Plan.</p>
<p>Oregon Forestland Dwelling Units Statute, ORS 215.730: 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 meets requirements for construction materials, fuel breaks, water supply, and location in fire protection districts.</p>	<p>The Lane County Code and Rural Comprehensive Plan currently meet requirements of the state statute for dwellings on lands zoned forestlands. The Hazardous Fuel Subcommittee drafted suggested revisions to County Code.</p>

Table 1.1 (Continued)

State Policy	Requirements	How the CWPP Addresses Policy
<p>Oregon Forestland-Urban Interface Fire Protection Act (Oregon Defensible Space Law): 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> <ul style="list-style-type: none"> -Establish a forestland-urban interface classification committee -Establish a forestland-urban interface criteria and classification program -Encourage landowner forestland-urban interface fire mitigation actions 	<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 designates a wildland-urban interface in Lane County that may be used in the criteria and classification program required by Oregon Defensible Space Law.</p>
<p>Oregon Natural Hazards Mitigation Plan 2020 “Identifies hazards, vulnerabilities, and risks facing a local, state, or tribal government, and prioritizes actions to reduce the risks.”²⁰</p>	<p>“Create a disaster-resilient state of Oregon such that natural hazard events result in no loss of life, minimal property damage, and limited long-term impacts to the economy.”²¹</p>	<p>The CWPP includes a wildfire risk assessment for Lane County, which may be used as wildfire hazard inventory and will inform strategies/future projects.</p>
<p>Action Plan 2020 A statewide Forest Assessment and Resource Strategy to help identify and prioritize forestlands and communities at risk to wildfire. Includes strategies, actions and opportunities for implementation.</p>	<p>Provides a prioritized framework for opportunities, strategies and actions regarding forest restoration in Oregon, including how and where funding for fuels reduction and restoration work will be most effective. Identifies potential funding needs for each opportunity. Fulfill requirements of the 2008 Farm Bill²²</p>	<p>The CWPP Risk Assessment Includes communities at risk and identifies local actions to reduce community and risk from wildfire. The Hazardous Fuel subcommittee identified treatment strategies for fuels reduction and forest restoration. Action Items provide local opportunities for implementation.</p>

Table 1.1 (Continued)

County Plans	Plan Objective	How the CWPP works towards objective
<p>Lane County Natural Hazards Mitigation Plan 2018: Intended to assist in reducing Lane County risk from natural hazards.</p>	<p>(1) Meet the Disaster Mitigation Act of 2000, requirements for mitigation planning. (2) Identify resources, information, partnerships, and strategies for risk reduction.</p>	<p>The CWPP will begin to serve as the wildfire annex for the County’s Natural Hazards Mitigation Plan. The CWPP includes a wildfire risk assessment for Lane County, which may be used as wildfire hazard inventory.</p>
<p>Lane County Rural Comprehensive Plan Contains a natural hazards inventory to meet the requirements of Oregon State Planning Goal 7: Areas Subject to Natural Hazards.</p>	<p>Addresses Oregon State Planning Goals and sets forth policy to address each Goal for the purpose of guiding future growth and development in unincorporated areas of Lane County.</p>	<p>The wildfire risk assessment in the CWPP could be used to update the Natural Hazards Inventory for Lane County to identify wildfire as a hazard and implement land use regulations to address this hazard</p>
<p>Lane County Emergency Operations Plan Establishes guidelines regarding the management of disasters.</p>	<p>Create a safer community through planning.</p>	<p>The CWPP builds upon this document to facilitate effective pre-incident coordination and planning to future wildfire emergencies.</p>
<p>Lane County Parks and Open Space Plan 2018 “Provides realistic guidance for managing existing assets and providing well-maintained parks and open spaces.”²³</p>	<p>(1) “Identifies where strategic improvements, community collaborations and partnerships will help position County Parks to more strongly support outdoor recreation and a vibrant local economy.” (2) “Presents an investment strategy for enhancing parks and open space.”²⁴</p>	<p>The wildfire risk assessment in the CWPP helped identify the wildfire risk in or near parks and will continue to prioritize fuels reduction projects countywide.</p>

Summary

As human development continues to spread into forestlands, the risk of wildland-urban interface fire escalates. The diverse geography, population, and land ownership patterns in Lane County create further challenges to reducing Lane County's risk of wildfire. Many entities and programs aimed at wildfire risk response, reduction, and education exist, but capacity to integrate resources and information are limited. The risk assessment and action plan of the Lane County CWPP strives to create opportunities to improve collaboration, enhance wildfire mitigation efforts, and reduce Lane County's overall risk to wildfire.

¹ 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/>.

² State of Oregon (2019). *Wildfire Response Council Report: Governor's Council on Wildfire*. Retrieved from <https://www.oregon.gov/gov/policy/Pages/wildfirecouncil.aspx>.

³ Ibid.

⁴ Oregon Forest Resource Institute (January 2, 2018). *Impacts of Oregon's 2017 Wildfire Season Time for a Crucial Conversation*. Oregon Forest Resource Institute. <https://oregonforests.org/sites/default/files/2018-01/OFRI%202017%20Wildfire%20Report%20-%20FINAL%2001-02-18.pdf>

⁵ Guiles. L. (2019). Unpublished Lane Regional Air Protection Agency 2017 summary report data. Retrieved January 30th, 2019.

⁶ Loy, William et al. (2001). Atlas of Oregon.

⁷ 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>>.

⁸ Ibid.

⁹ Ibid.

¹⁰ Oregon Department of Forestry. (2001). *Northwest Oregon State Forests Management Plan: Final Plan*.

¹¹ Ibid.

¹² Ibid.

¹³ Oregon Department of Forestry. (2001). *Northwest Oregon State Forests Management Plan: Final Plan*.

¹⁴ Ballou. B. (2003). "A Short History of Oregon Wildfires." *Wildfire Chapter: State of Oregon Natural Hazard Mitigation Plan*. State Natural Hazard Mitigation Plan.

- ¹⁵ Decker. D. (March 17, 2018). Oregon Encyclopedia, *Tillamook Burn*. https://oregonencyclopedia.org/articles/tillamook_burn/#.Xrllb2hKjRY , accessed 5/11/2020.
- ¹⁶ 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).
- ¹⁷ Ibid
- ¹⁸ USDA Forest Service. (2004). *Healthy Forests Pacific Northwest – Fire & Ecosystems in the Pacific Northwest*. USDA Forest Service. <www.fs.fed.us/r6/colville/hfi/ecosystems/index.shtml>.
- ¹⁹ National Fire Plan. (2001). A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: A 10-Year Strategy.
- ²⁰ State of Oregon (n.d.) *Natural Hazards Mitigation Planning*. Natural Hazards. Department of Land Conservation and Development. <https://www.oregon.gov/lcd/NH/Pages/Mitigation-Planning.aspx>
- ²¹ Ibid.
- ²² Oregon Department of Forestry (2013). *Oregon’s Forest Action Plan*. <https://www.oregon.gov/odf/Documents/AboutODF/OregonActionPlan.pdf>
- ²³ Lane County Parks and Open Spaces (2018). *Parks & Open Space Master Plan*. Lane County https://lanecounty.org/UserFiles/Servers/Server_3585797/File/Government/County%20Departments/Public%20Works/Parks/Parks%20Advisory%20Committee/LANE%20COUNTY_FINAL%20P_LAN_110818_print.pdf
- ²⁴ Ibid.

Section 2 Risk Assessment

Introduction

A primary component of the Lane County CWPP is the Wildfire Risk Assessment, which evaluates the potential loss of lives, property, and essential infrastructure in the event of a wildland-urban interface fire. This assessment provides a local perspective on wildfire risk and broadly identifies communities and areas within Lane County that are at risk. It does not replace regional, statewide, or national data. Rather, it has been updated to better understand wildfire risk at a scale useful for local county-level decision making and should be used in conjunction with other wildfire assessment tools and data when appropriate. 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 CWPP Steering Committee updated the risk assessment using current wildfire data from the Oregon Wildfire Risk Explorer (OWRE), compiled and published by Oregon Department of Forestry and US Forest Service, as well as a wide variety of stakeholders throughout Oregon. This data is the most up to date, quantitative fire risk data available at this time. The 2005 Risk Assessment included in-depth analysis done at that time which provides important details regarding Lane County's wildfire risk. Specifically, the 2005 Risk Assessment evaluated wildfire risk at a finer scale as compared to the data from the OWRE, which provides wildfire risk data for the state. Refer to the 2005 CWPP for more information.

The specific goals of updating the assessment are to:

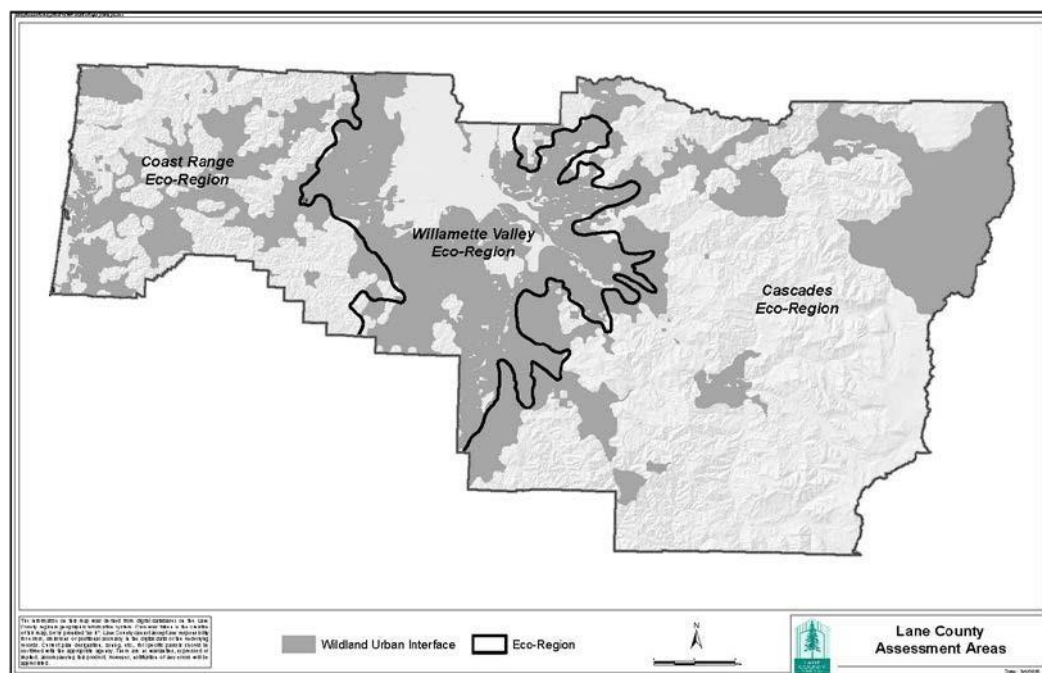
1. Incorporate the most current wildfire risk data into the CWPP in order to determine the potential risk from interface fires for Lane County communities;
2. Establish updated community base maps for overall wildfire risk and for the wildland-urban interface;
3. Identify areas for refined analysis, potentially through community or neighborhood level assessments;
4. Provide insight for the prioritization of hazardous fuel treatment projects.

The updated Risk Assessment Section provides a discussion of the scale at which wildfire risk was assessed in Lane County and the approach of the assessment. The section evaluates maps demonstrating wildfire risk, wildland-urban interface areas, potential impact of wildfire, and communities at risk. The final part of this section explains limitations of the assessment and provides general assessment findings. Appendix C of the CWPP provides a more in-depth explanation of the data sources and methods utilized in this Risk Assessment.

Assessment Areas and Approach

In order to present mapped findings at a meaningful scale, the updated maps have been divided into assessment areas that align with Lane County's ecoregions: the Coast Range, Willamette Valley, and the Cascades. Ecoregions were chosen as the assessment level to accommodate the scale provided by the OWRE, as well as reflect the dominant fire regimes in Lane County. The watershed level assessment areas from the 2005 plan were not utilized in the updated maps because the watershed assessment level represented Lane County at a scale not compatible with data from the OWRE.

Figure 2.1: Assessment Areas



The ecoregions utilized in the updated maps are defined as Level III by the United States Environmental Protection Agency, where the ecoregion data was sourced.¹ Ecoregions are areas where ecosystems, including the type, quality, and quantity of environmental resources are generally similar. At Level III, the continental United States is divided into 105 ecoregions, three of which fall within the boundaries of Lane County. The following maps are presented at a countywide and ecoregion level.

Map Discussion and Findings

The following section includes analysis of the maps generated for the updated risk assessment. The maps displayed below were generated using data from the OWRE, a statewide tool that provides wildfire data to communities across Oregon for the purpose of aiding the development of community wildfire protection plans. The CWPP Steering Committee identified new overall wildfire risk and wild-land urban interface (WUI) maps as being the most critical maps to update. This assessment also includes analysis of the potential impact of wildfire

and a map depicting priority areas for fuel reduction. The risk assessment maps are important aspect of the CWPP because they inform areas of wildfire risk related to resources and development. The following maps are presented and discussed in this section.

- Overall Wildfire Risk
- Overall Wildfire Risk: Coast Range Ecoregion
- Overall Wildfire Risk: Willamette Valley Ecoregion
- Overall Wildfire Risk: Cascades Ecoregion
- Wildland-Urban Interface (WUI) Map
- WUI: Coast Range Ecoregion
- WUI: Willamette Valley Ecoregion
- WUI: Cascades Ecoregion
- Overall Wildfire Potential Impact
- Wildfire Potential Impact: Coast Range Ecoregion
- Wildfire Potential Impact: Willamette Valley Ecoregion
- Wildfire Potential Impact: Cascades Ecoregion
- Rural Response: Priorities for Fuel Reduction Map
- Communities at Risk

Overall Wildfire Risk Map

The Lane County Overall Wildfire Risk Map presents modified wildfire risk data from the OWRE. This data is the product of the likelihood and consequence of wildfire on all mapped highly valued resources and assets combined: critical infrastructure, developed recreation, housing unit density, seed orchards, sawmills, historic structures, timber, municipal watersheds, vegetation condition, and terrestrial and aquatic wildlife habitat. Risk categories from OWRE data were consolidated to better inform local decision making. See Appendix C for a description of how overall wildfire risk data and display was changed to reflect local considerations. The dataset considers the likelihood of wildfire greater than 250 acres (likelihood of burning), the susceptibility of resources and assets to wildfire of different intensities, and the likelihood of those intensities. The data values reflect a range of impacts from a very high negative value, where wildfire is detrimental to one or more resources or assets (for example, structures, infrastructure, early seral stage and/or sensitive forests), to positive, where wildfire will produce an overall benefit (for example, vegetation condition/forest health, and wildlife habitat).

It should be noted that specific conditions can vary widely with local topography, fuels, and weather, especially local winds. In all areas, under warm, dry, windy, and drought conditions, higher likelihood of fire starts, higher flame lengths/fire intensities, more ember activity, a wildfire more difficult to control, and more severe fire effects and impacts should be expected.

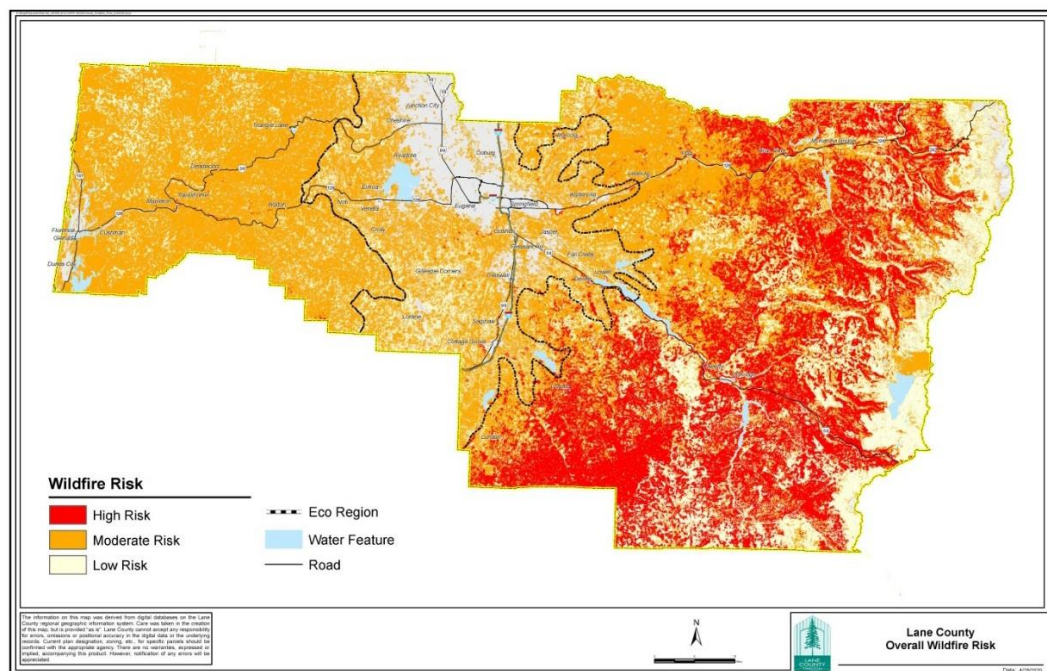
The wildfire risk identified throughout Lane County is classified as high, moderate, and low risk. These classifications are defined below:

High Risk: Wildfire risk is very high or high for all mapped resources and assets combined: critical infrastructure, developed recreation, housing unit density, seed orchards, sawmills, historic structures, timber, municipal watersheds, vegetation condition, and terrestrial and aquatic wildlife habitat. High represents the 80th to 100th percentile of values across the landscape.

Moderate Risk: Wildfire risk is moderate or low for all mapped resources and assets combined: critical infrastructure, developed recreation, housing unit density, seed orchards, sawmills, historic structures, timber, municipal watersheds, vegetation condition, and terrestrial and aquatic wildlife habitat. Moderate represents the 29th to 80th percentile of values across the landscape.

Low Risk: Wildfire risk is very low or could be beneficial for mapped resources and assets combined (for example, the cumulative value is positive, typically due to beneficial effects on forest health/vegetation condition and/or wildlife habitat). Low risk represents 0-29th percentile of values on the landscape.

Figure 2.2: Overall Wildfire Risk

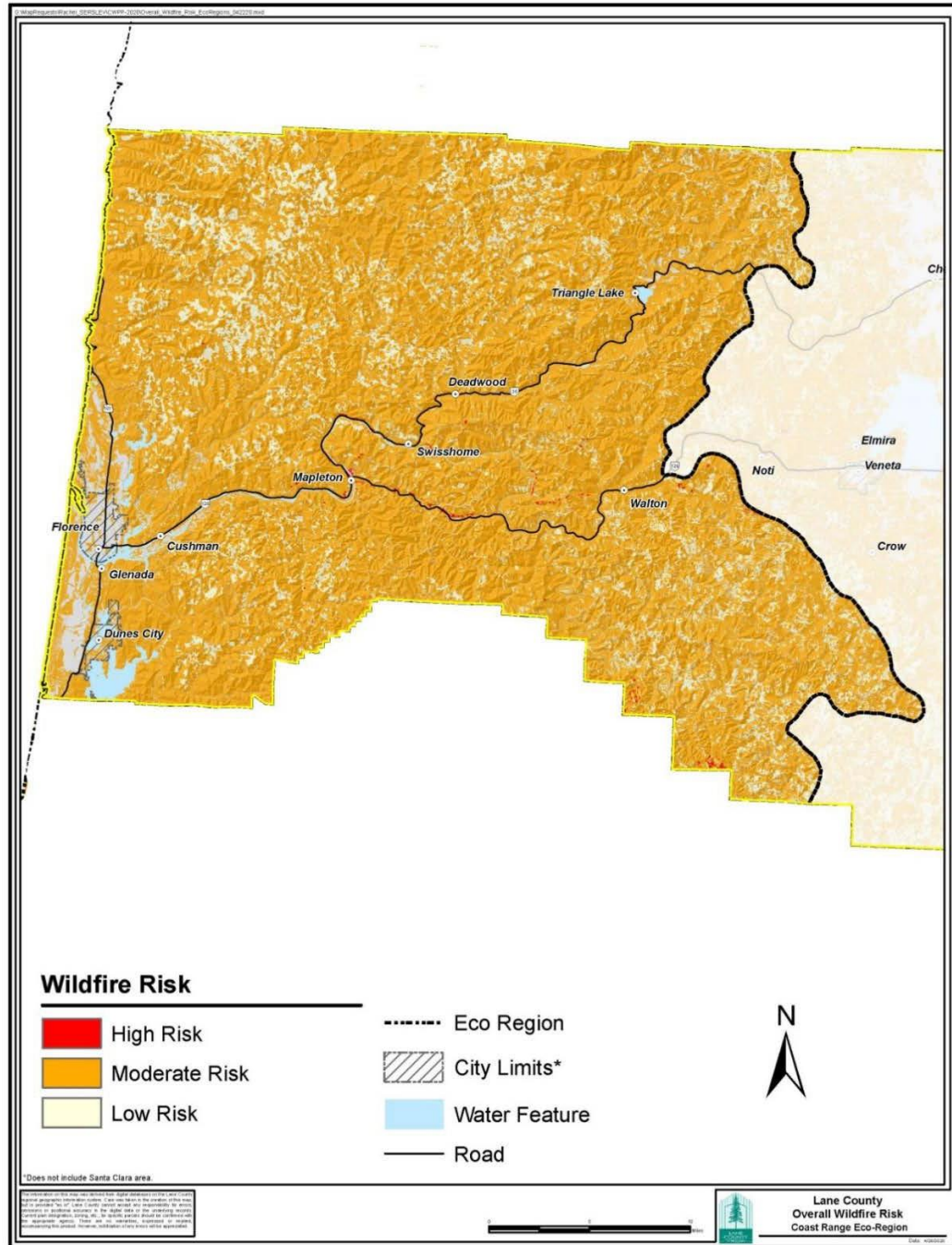


Overall, the County is mainly characterized by high and moderate wildfire risk. The high risk exists primarily in the Cascades Ecoregion while the Willamette Valley and Coast Range Ecoregions contain moderate risk. The wildfire risk for each ecoregion is described in the following sections.

Overall Wildfire Risk – Coast Range Ecoregion Map

The Coast Range Wildfire Risk Map shows primarily moderate risk with some areas of low risk. There are small areas of high risk along Highway 126, near Mapleton, and along East Mapleton Road. As compared to the other ecoregions, wildfire risk in the Coast Range can be characterized as moderate.

Figure 2.3: Overall Wildfire Risk – Coast Range Ecoregion

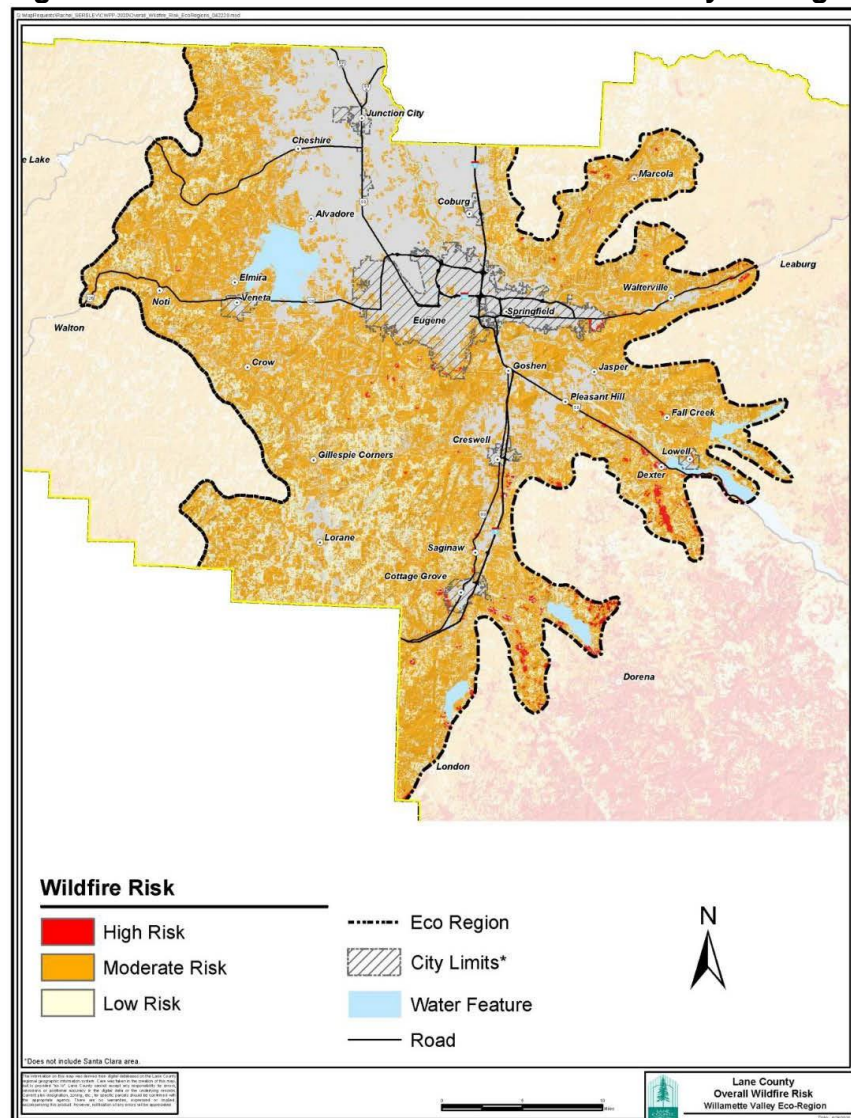


Overall Wildfire Risk – Willamette Valley Ecoregion Map

The Willamette Valley ecoregion contains the Eugene-Springfield metro area, the largest urbanized area in Lane County. This ecoregion is characterized as intermingled areas of moderate and low wildfire risk. However, there are pockets of high wildfire risk within the ecoregion. These areas are mainly found at the urban fringe, where urban and suburban level development meets forestlands.

Areas identified as high wildfire risk are the south hills of Eugene, southeast Springfield, Marcola, Dexter, along Lost Creek Road (south of Dexter), south of Creswell, west of Cottage Grove, and along Mosby Creek Road (southeast of Cottage Grove). Although, the Willamette Valley Ecoregion does not have wide swaths of high wildfire risk, areas of high risk exist and are concerning due to the residential development close to and intermixed with forestlands.

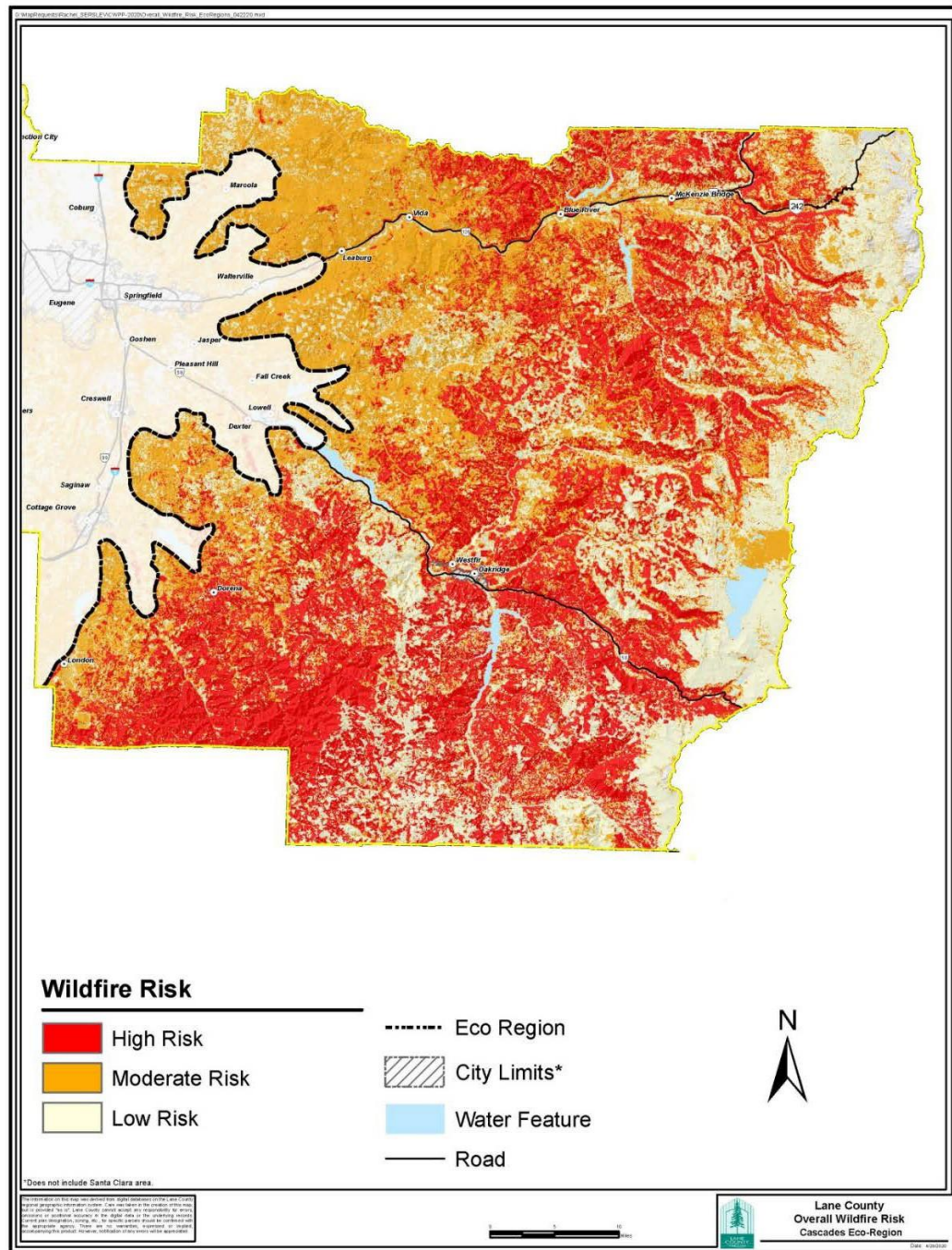
Figure 2.4: Overall Wildfire Risk – Willamette Valley Ecoregion



Overall Wildfire Risk – Cascades Ecoregion Map

The Cascades ecoregion contains a majority of Lane County’s high wildfire risk because the area is mainly forested lands with mountainous topography, frequent lightning events, and less development. There are several communities within the Cascades ecoregion that contain, or are near high wildfire risk areas, including Westfir, Oakridge, Dorena, Blue River, and McKenzie Bridge. Generally, wildfire risk in the Cascades ecoregion can be characterized as high.

Figure 2.5: Overall Wildfire Risk – Cascades Ecoregion



Wildland Urban Interface Map

The wildland-urban interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation. This makes the WUI a focal area for human-environment conflicts such as wildland fires, habitat fragmentation, invasive species, and biodiversity decline. Using geographic information systems (GIS), the Oregon Wildfire Risk Explorer integrated U.S. Census and United States Geological Survey National Land Cover Data, to map the Federal Register definition of WUI (Federal Register 66:751, 2001) for the conterminous United States from 1990-2010. This WUI layer was clipped to the boundaries of Lane County and further separated into Lane County's ecoregions as the assessment areas.

The Lane County WUI is large, approximately 1,481,400 acres or 2,315 square miles. This WUI is over 1,000 square miles less than the WUI defined in the 2005 CWPP. The reduction in WUI area presents more specificity regarding where development meets and intermingles with forestlands, which allows a more precise identification of communities that may be at risk.

Although the WUI has decreased in size with this assessment compared to the 2005 assessment, the updated WUI still extends east to west across Lane County – from the Western Cascades, well up the McKenzie and Middle Fork Willamette watersheds, down through the Willamette Valley foothills and floor, across the coastal lowlands and mountains to the Pacific Ocean. The size of Lane County's wildland-urban interface is the result of a dispersed population in close proximity to abundant vegetative fuels. Nearly 90% of Lane County is forestland and nearly 2.5 million of the county's 2.9 million acres are zoned F-1, non-impacted forestland. The U.S. Forest Service and the Bureau of Land Management own and manage the majority of the F1 zoned property. These forestlands contain extensive fuels comprised of flammable grasses, brush, slash and timber. Excluding the population of Eugene/Springfield metro area, nearly 100,000 Lane County residents live throughout or adjacent to these forestlands. The majority of these residents live in rural population centers along the I-5 corridor and other major transportation routes, including Highways 126, 101, 58, and 36. In addition, substantial pockets of residential development exist in the Mohawk Valley, Wolf Creek, Deadwood Creek, Row River Road, Mosby Creek Road, Lost Creek Road, High Prairie Road, and the North Fork Siuslaw Road areas.

The OWRE WUI map has been simplified to display three categories of wildland-urban interface: interface, medium density intermix and low density intermix. Generally, interface areas are defined as urban or suburban development that exists adjacent to forestlands while intermix areas are characterized as suburban or rural development within forestlands. The specific classifications are defined below.

Interface: High and Low Density: The WUI in these areas contains varying densities of urban and suburban residential development that are adjacent to forestlands.

Intermix: Medium Density: The WUI in these areas contains suburban residential development that is within forestlands.

Intermix: Low Density: The WUI in these areas contains rural residential development within forestlands.

These categories are displayed on the following map for the entire county.

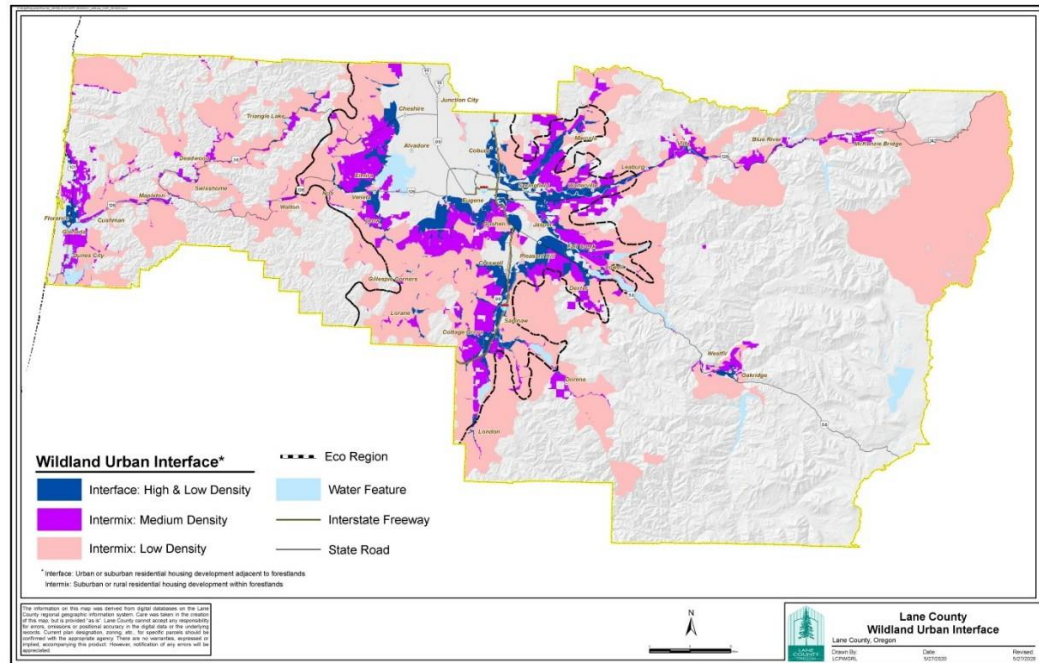
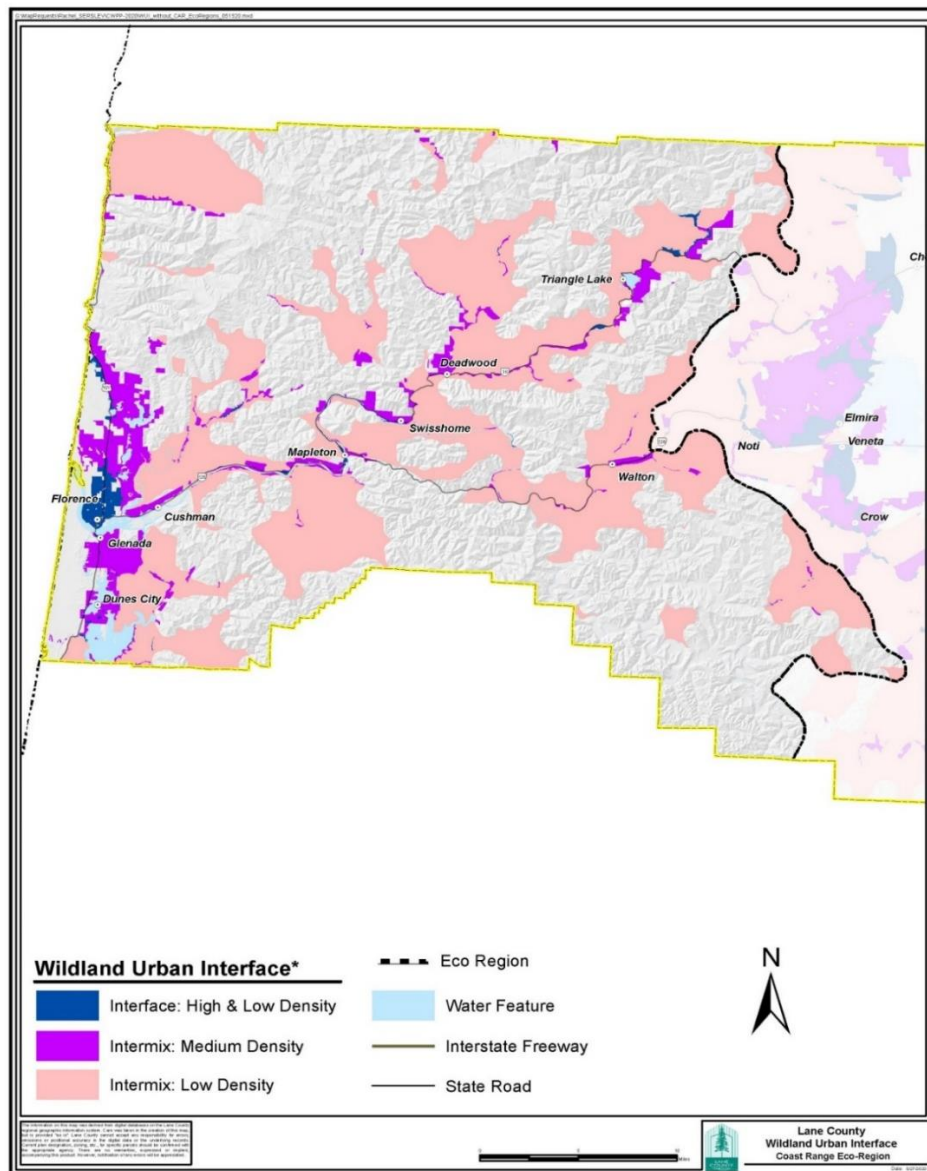


Figure 2.6: Wildland Urban Interface

Wildland Urban Interface - Coast Range Ecoregion Map

The Coast Range ecoregion WUI is generally characterized by low density intermix with some areas of medium density intermix throughout the ecoregion. Areas of high and low density interface are minimal in this ecoregion and are primarily found around and within the City of Florence. Notable areas of medium density intermix and low density interface are: Dunes City, north of Florence city limits, areas around Mercer and Sutton Lake, Highway 126 between Florence and Mapleton, Mapleton, Swishome, Deadwood, Triangle Lake, High Pass Road, and Walton.

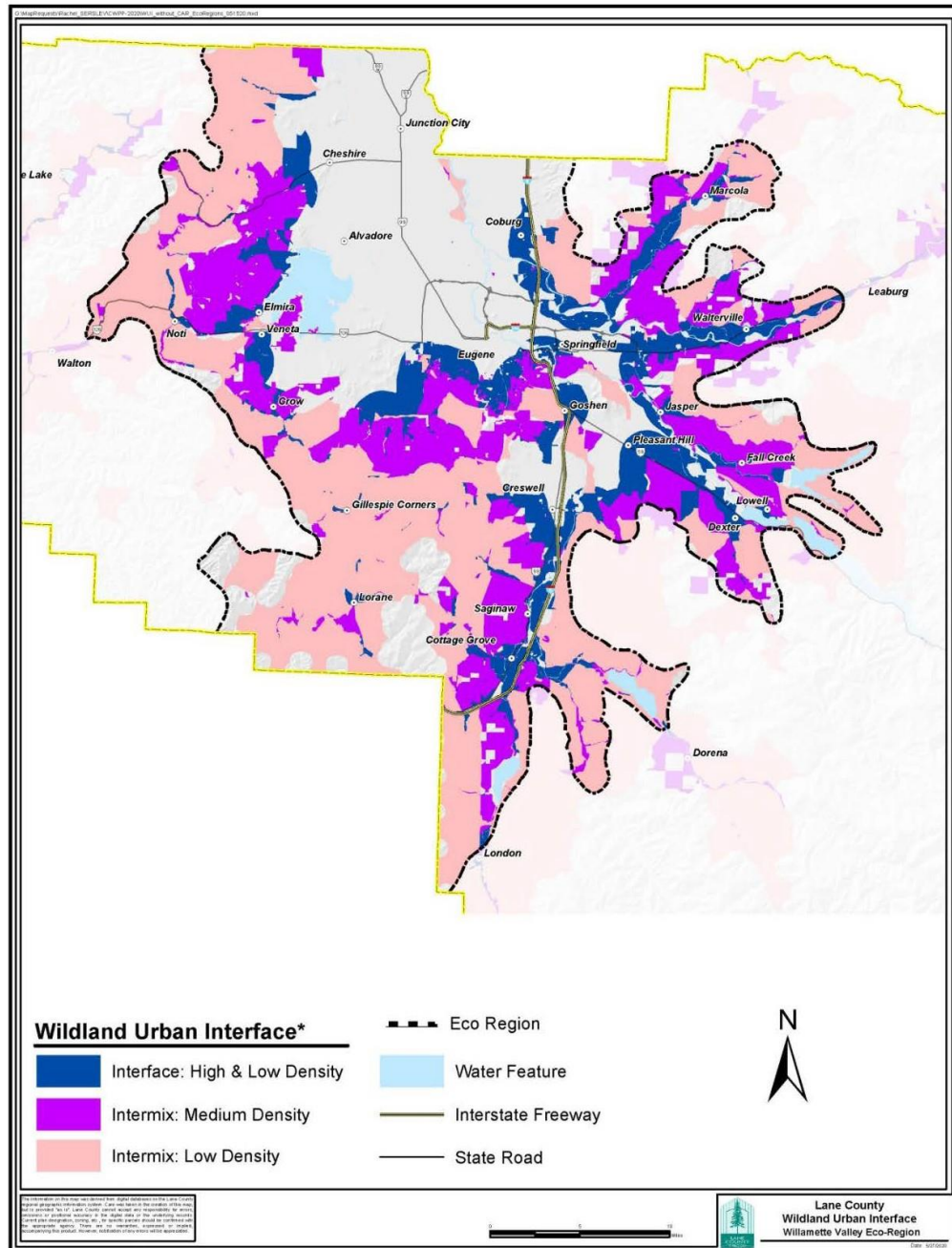
Figure 2.7: Wildland Urban Interface - Coast Range Ecoregion



Wildland Urban Interface - Willamette Valley Ecoregion Map

The majority of the Willamette Valley ecoregion is classified as WUI, extending primarily from the Eugene-Springfield metro area. Notable corridors include Marcola Road, McKenzie Highway, Highway 58, and Interstate 5. Notable areas include Veneta, Elmira, north of Fern Ridge Reservoir, Crow, Lorane, Lowell, Pleasant Hill, the south and southwest hills of Eugene, and Coburg. These corridors and areas are almost exclusively classified as WUI areas.

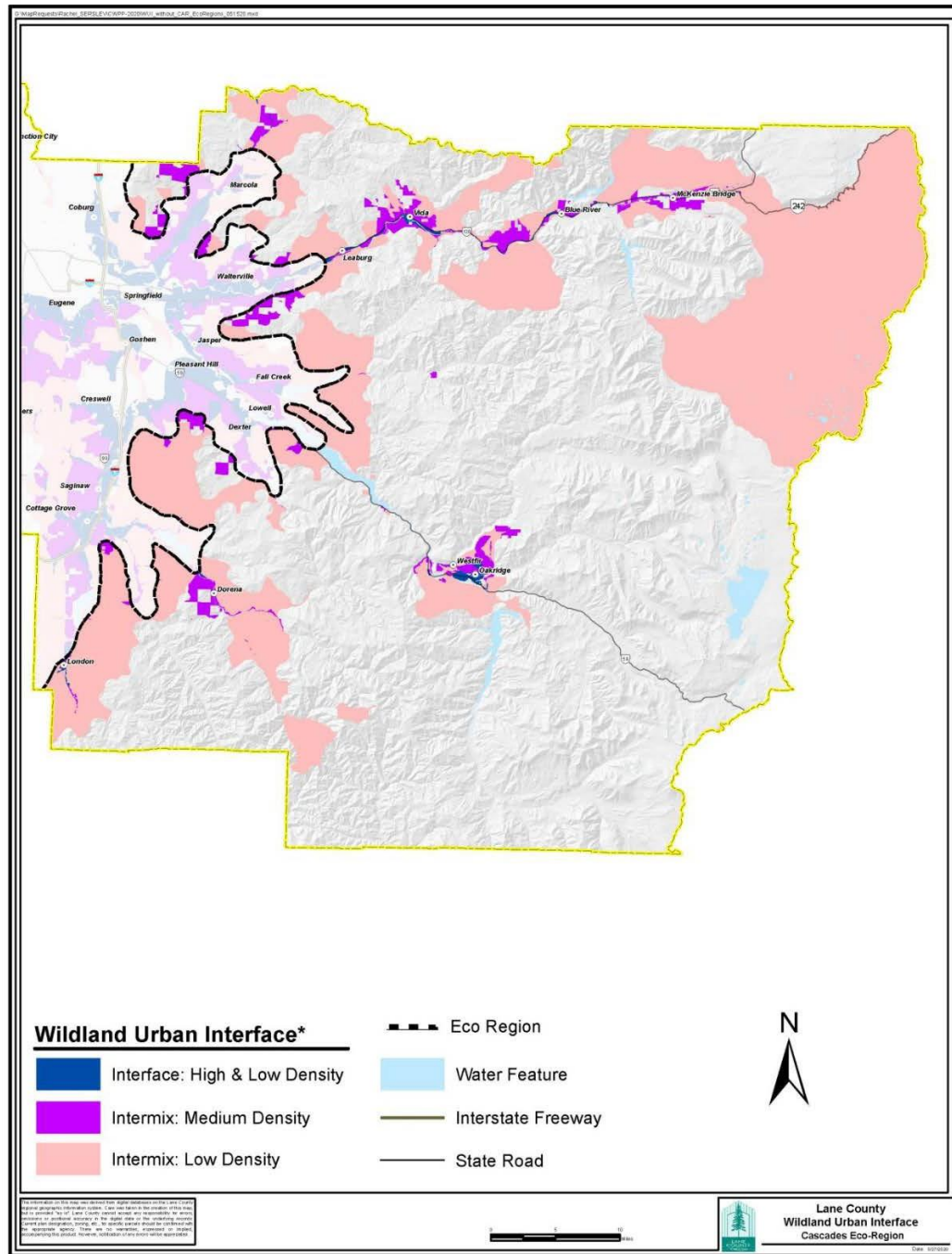
Figure 2.8: Wildland Urban Interface - Willamette Valley Ecoregion



Wildland Urban Interface - Cascades Ecoregion Map

The Cascades ecoregion WUI is generally characterized by primarily low density intermix with some areas of medium density intermix throughout the ecoregion. Notable corridors include the eastern portions of McKenzie Highway, Row River Road and Hwy 58. Notable areas include: Leaburg, Vida, Blue River, McKenzie Bridge, Westfir, Oakridge, London and Dorena. These communities are interface and intermix WUI areas.

Figure 2.9: Wildland Urban Interface - Cascades Ecoregion



Overall Wildfire Potential Impact Map

The Lane County Overall Wildfire Potential Impact map presents data from the OWRE showing the impact that wildfire can have on a certain area. Overall, potential impact represents the consequence of a potential wildfire on all mapped highly valued assets and resources combined: critical infrastructure, developed recreation, housing unit density, seed orchards, sawmills, historic structures, timber, municipal watersheds, vegetation condition, and terrestrial and aquatic wildlife habitat. This data layer does not include the likelihood of an area burning, but it shows potential impact only to characterize exposure to wildfire risk. The values reflect a range of impacts from a smaller negative rating, where wildfire is detrimental (for example, to structures, infrastructure, and early seral stage and sensitive forests), to a larger number, where wildfire has limited negative effects and/or produces an overall benefit (for example, to improve vegetation condition or wildlife habitat). See the next page for a countywide map.

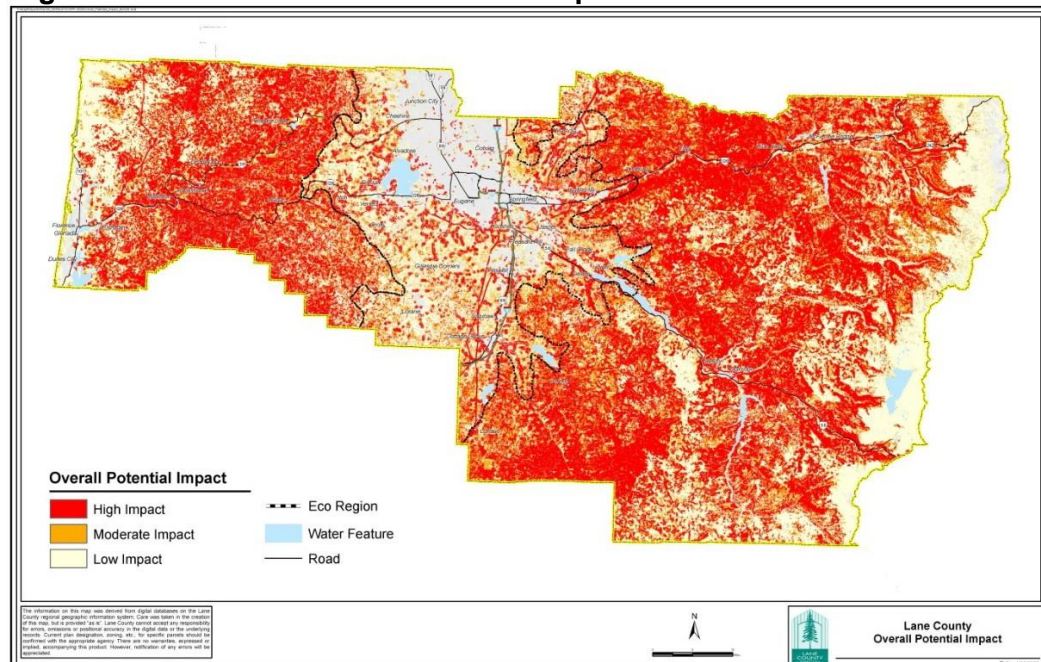
The CWPP Steering Committee labeled potential impacts as high, moderate, and low impact. These classifications are further defined below.

High Impact: The consequence, or potential effect of wildfire to mapped timber resources is high or very high. Wildfire is highly detrimental to timber values. Very high represents the top 20 percent of negatively-impacted values across the landscape.

Moderate Impact: The consequence, or potential effect of wildfire to mapped timber resources is moderate to low. Wildfire is damaging to timber values. Moderate represents the 29th to 80th percentile of values across the landscape.

Low Impact: The consequence, or potential effect of wildfire to mapped timber resources is very low (e.g. reduced hazardous fuel, and reduced, forest health/vegetation condition), producing a "fuel treatment effect" at very low flame lengths. Low impact and benefit represents 0-29th percentile of values on the landscape.

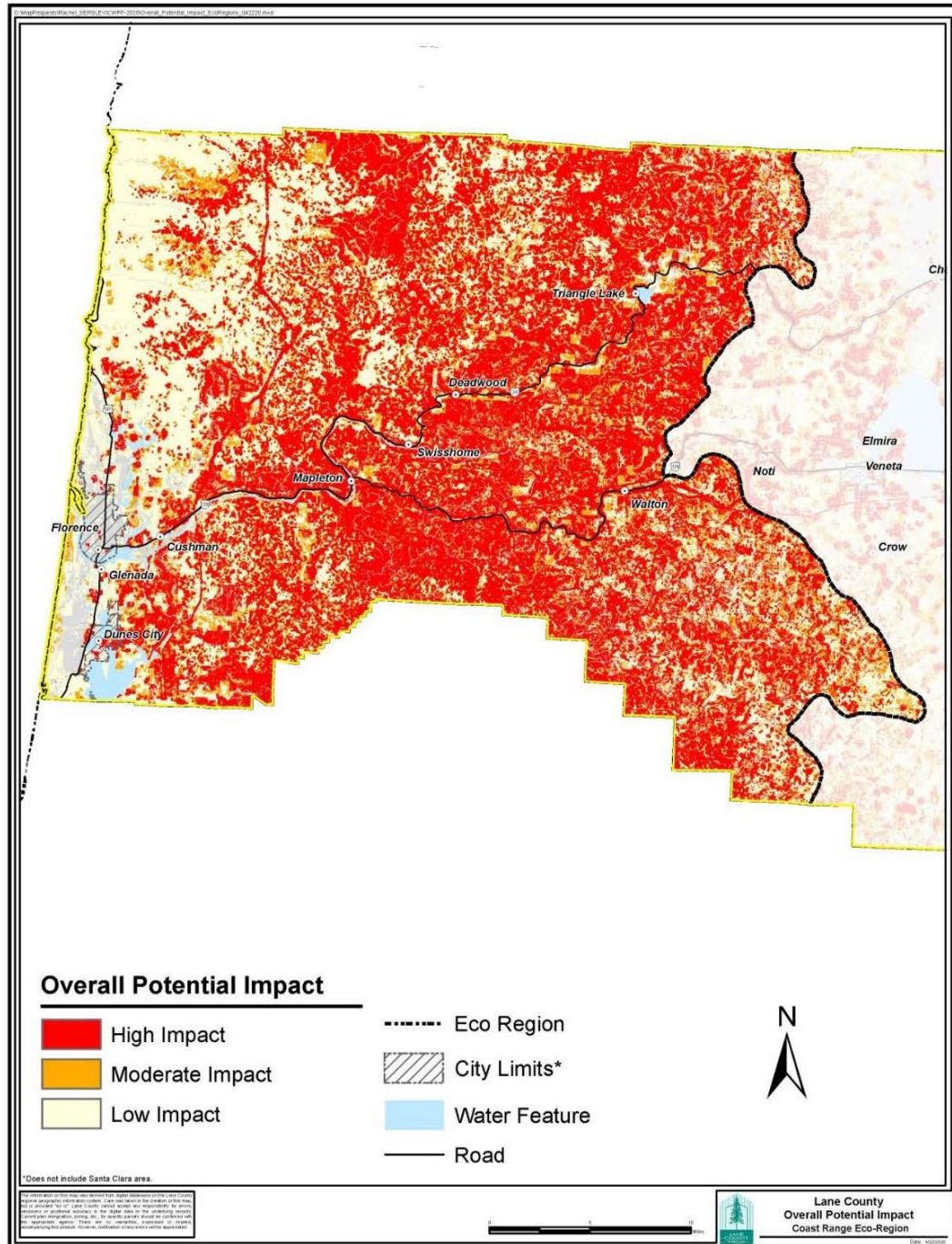
Figure 2.10: Overall Wildfire Potential Impact



Wildfire Potential Impact - Coast Range Ecoregion Map

The Coast Range ecoregion is primarily characterized by high potential impact from wildfire. The reason for such a high potential impact in this ecoregion is the existence of valuable timber resources within an ecosystem that historically experiences infrequent fires and results in high fuel loading.

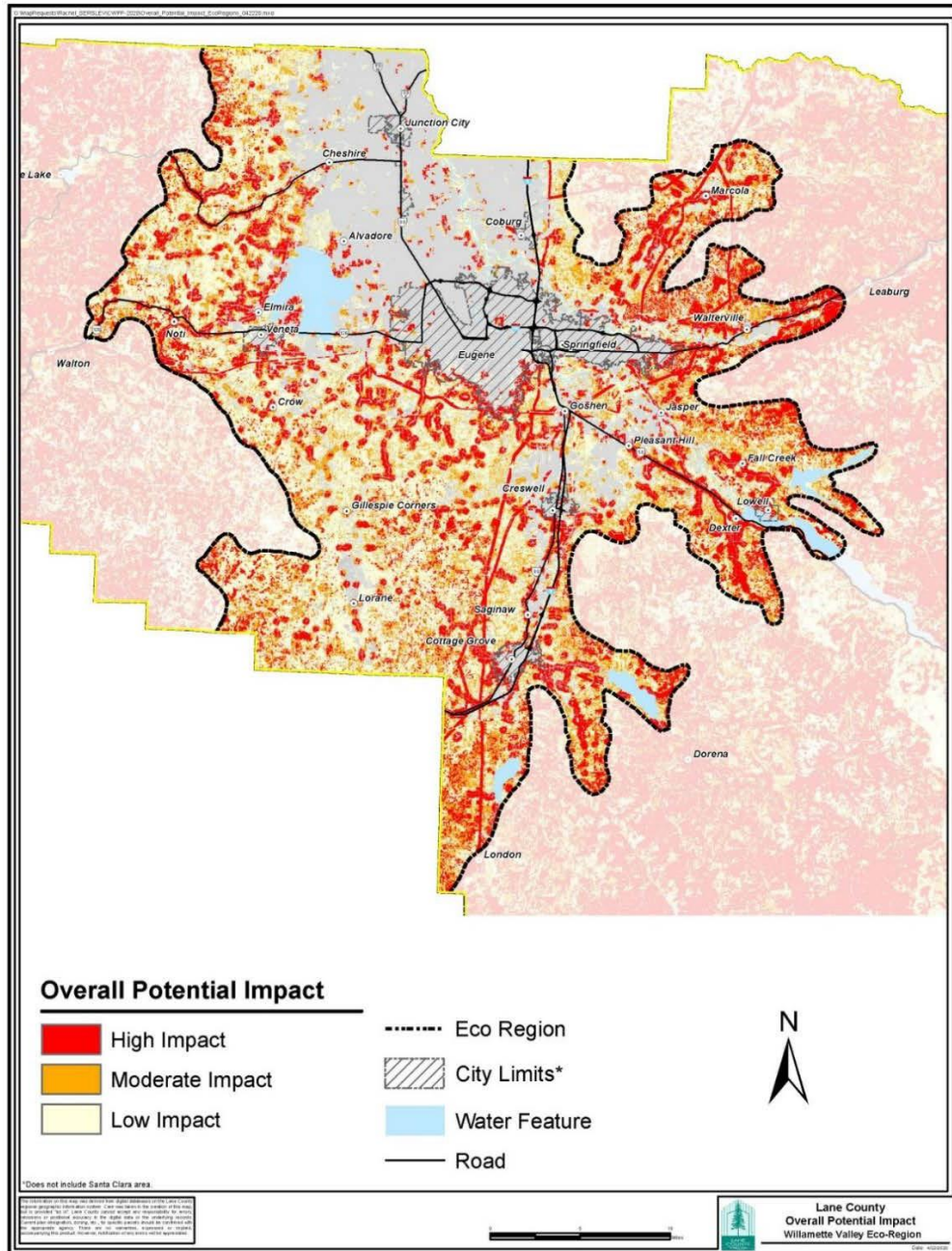
Figure 2.11: Wildfire Potential Impact - Coast Range Ecoregion



Wildfire Potential Impact – Willamette Valley Ecoregion Map

The potential impact from wildfire in the Willamette Valley Ecoregion varies greatly from the Coast Range to the Cascades because there are fewer timber resources in the valley. However, there are still sporadic areas of high potential impact due to other types of assets found in this ecoregion. The main assets in this area are infrastructure, housing, and recreation. These assets are clustered around larger cities and developed corridors, such as Eugene/Springfield, Cottage Grove and Veneta, given the housing density associated with these areas.

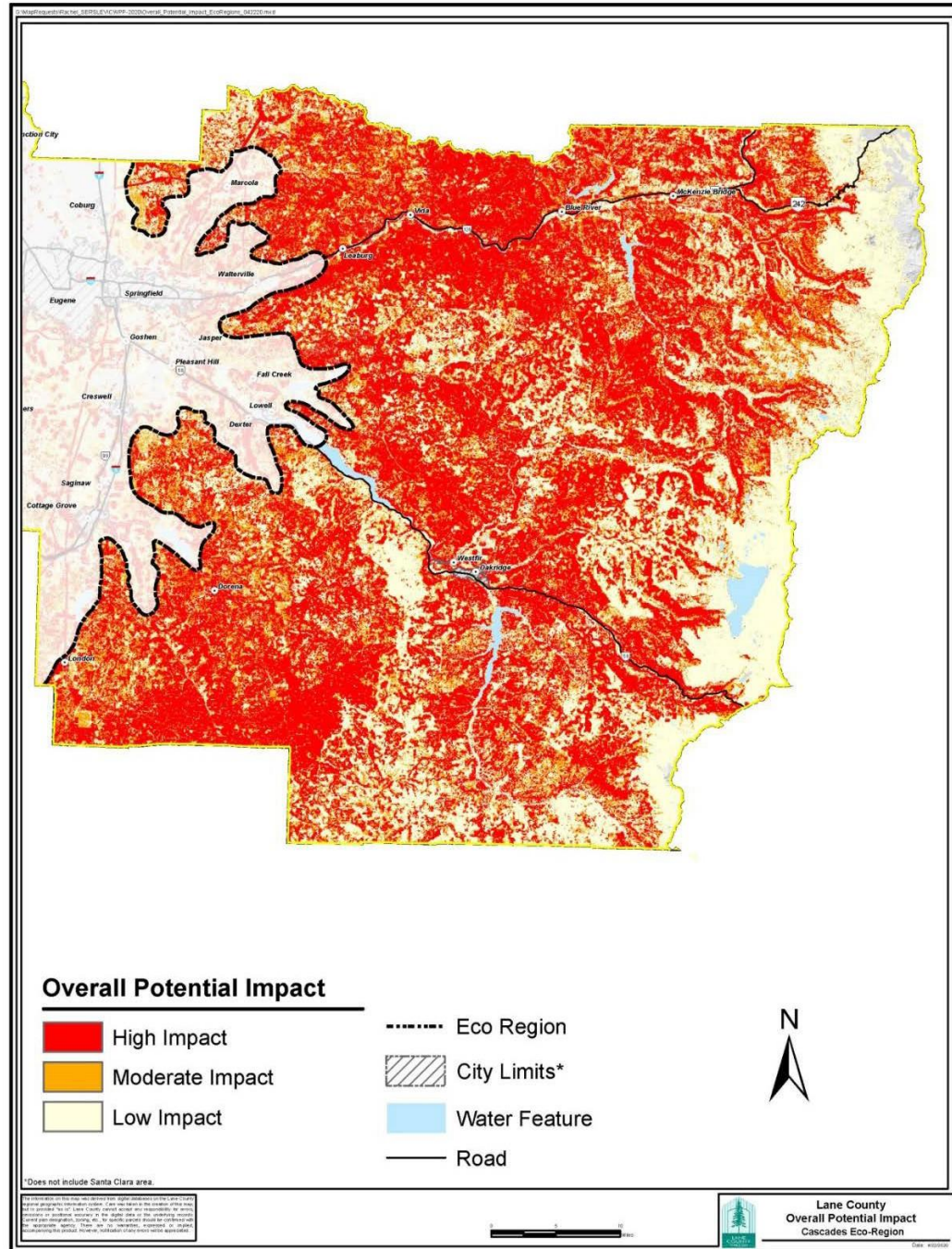
Figure 2.12: Wildfire Potential Impact – Willamette Valley Ecoregion



Wildfire Potential Impact – Cascades Ecoregion Map

The potential wildfire impact for the Cascades ecoregion is similar to that of the Coast Range due to the availability of timber resources and limited access for firefighting resources. These coupled with steep topography increase potential impacts.

Figure 2.13: Wildfire Potential Impact – Cascades Ecoregion



Rural Response: Priorities for Fuel Reduction Map

This map is a combination of the Potential Impact to Infrastructure layer from OWRE as well as concern areas identified by local fire response agencies. The Potential Impact to Infrastructure layer from the OWRE was simplified to display linear resources, such as roads, transmission lines and railways, without regard to level of risk. This map may be used in the future to refine concern areas, develop evacuation strategies, and/or inform countywide hazardous fuel priority treatment areas.

Areas of concern were identified by the following departments and agencies: United States Forest Service, Bureau of Land Management, Oregon Department of Forestry, and the Lane Fire Defense Board (Lane County Fire Departments and Districts). The listed agencies coordinated with local government and stakeholders to identify and map concern areas. Identified areas were selected using a range of categorical attributes with concerns categorized by fuel type and loading, community attributes, access, critical infrastructure, and cultural resources. See Appendix C for an expanded discussion of category descriptions. These categories are not displayed in the map, but are listed attributes in GIS Data.

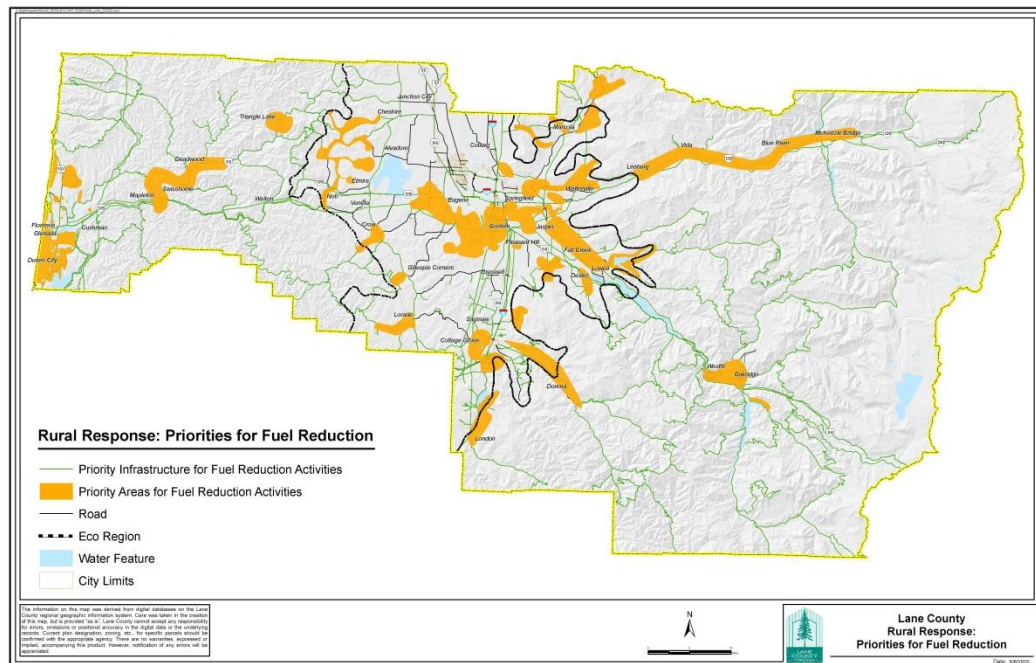


Figure 2.14: Rural Response: Priorities for Fuel Reduction

Communities At Risk Map

A key output of the risk assessment is an understanding of the hazards that wildfires pose to Lane County communities. For the purpose of this plan, Communities At Risk (CAR) have been identified using the 2020 Oregon Department of Forestry CAR Report that identifies communities at risk for all of Oregon.² The report identifies 508 CAR in Oregon, 29 of which are in Lane County. Communities are identified by community names by relying on the quantitative wildfire risk assessment and WUI data from the OWRE. The report

categorizes each community by its wildfire risk, which is based on number of structures, exposure, burn probability and hazard.

The 2005 Lane County risk assessment identified communities at risk exclusively by their fire protection district service boundaries, which was consistent with statewide methodologies at the time. However, the 2020 CAR report utilizes the Quantitative Wildfire Risk Assessment (USFS) community names to identify at-risk areas and a watershed model to identify community risk and WUI data. This methodology produces a more specific community format for identifying CAR.

- Pleasant Hill
- Cottage Grove
- Creswell
- Dexter
- Hazeldell
- Lowell
- Coburg
- Deadwood
- Dunes City
- Eugene
- Glenwood
- Goshen
- Junction City
- Lorane
- Mapleton
- Lower McKenzie
- Oakridge
- Upper McKenzie
- Walker
- Westfir
- McKenzie
- Mohawk
- Rainbow
- Santa Clara, Eugene
- Siuslaw
- Springfield
- Swisshome
- Veneta
- Willakenzie

The CAR map identifies communities at risk with points that represent the fire district or community, and displays the WUI boundary and priority areas for fuel reduction activities layer discussed above. The WUI and priority areas are included on this map to demonstrate areas within the CAR that may contain development that is near or located within forest lands or are areas of significance for fire districts.

It should be noted that the 2020 report in which these CAR were identified pertains to the entire state, meaning that data was collected and analyzed at the statewide level. The implication of this is that the ODF report does not capture smaller nuances of wildfire risk at the local level. The CAR data is highly valuable, but the WUI and Rural Response: Priorities for Fuel Reduction maps generated specifically for Lane County are useful when considering the identified communities at risk.

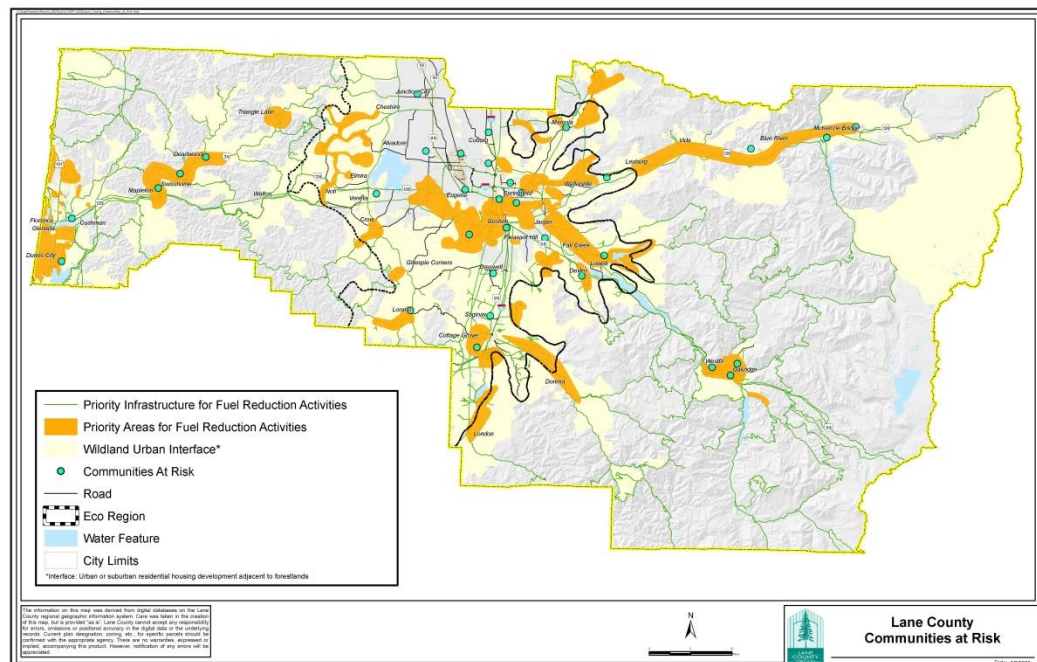


Figure 2.15: Communities At Risk

Risk Assessment Limitations

Wildland fires are complex events: their behavior and the potential damage they may cause are affected by several variables. The Steering Committee made every attempt to ensure the accuracy and completeness of the assessment. However, limitations in data and resources made it impossible to comprehensively assess every factor affecting wildland fires countywide. Ideally, periodic updates and data enhancements resulting from state and local community assessments can address these challenges. Future local community assessments can add value to the CWPP through performing more in-depth neighborhood or parcel-level risk evaluations for areas identified as high wildfire risk or WUI. These local community assessments may help further refine and update the countywide assessment.

Summary of Key Findings

Maintenance

The Lane County CWPP and its components, especially the risk assessment, require long term maintenance to continue to effectively support Lane County. Institutionalizing this long-term process and assigning maintenance responsibilities to oversee long term maintenance can help ensure that the plan continues to be a functional document.

Risk Assessment

Overall, Lane County has a moderate risk to wildland-urban interface fire, but high-risk areas do exist throughout Lane County. The risk assessment can be shared with local communities and used as a decision-making tool to help prioritize fuels reduction projects. However, to ensure long term viability, the risk assessment should be updated and enhanced with more precise data from the local community level.

Community Planning

Because of Lane County's scale, the countywide risk assessment could not assess the structural ignitability of every structure located in the wildland-urban interface. Local planning efforts in small communities and neighborhoods should collect more refined, site specific data required to address the structural ignitability component of the risk assessment. Local community planning efforts are vital because as site specific data is gathered at the micro level, it can be fed back into the countywide risk assessment. The incorporation of this refined local data into the countywide assessment will help to provide a better picture of overall risk in Lane County.

Collaboration

The risk assessment draws upon a wide variety of data sources. As a result, it will be important to maintain collaborative approaches to identifying, acquiring, and utilizing data layers among data users and providers. Because of the importance that local refined data play in community planning efforts, collaboration among the county and local communities will also be important.

¹ Environmental Protection Agency. (2018, December 26). *Level III and IV Ecoregions of the Continental United States*. <https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states>

² Oregon Department of Forestry. (2020, January 1). *Communities at Risk Report 2020*. <https://www.oregon.gov/odf/Documents/Fire/Communities-at-risk-report.pdf>

Section 3 Community Outreach and Collaboration

A key element in community fire planning is the meaningful discussion it promotes among community members. The success of the Lane County CWPP is dependent on the involvement and input of local stakeholders. A plan that accurately reflects the community's interests and priorities will have greater legitimacy and success in implementing the recommended actions. A Lane County Landowner Survey was done to identify these needs.

Purpose

To gather input on attitudes and opinions regarding wildfire, the CWPP Steering Committee developed and administered a mail and online outreach survey for rural landowners in Lane County. The purpose of the landowner survey was to gain information about how landowners in rural and wildland-urban interface areas of Lane County perceive the potential risk of wildfire and their attitudes towards risk reduction and preparedness strategies. The survey results may be used to focus public outreach activities aimed at wildfire risk reduction and loss prevention. Additional benefits of the survey include; educating and informing the public, incorporating public values into decision-making, improving the quality of decisions, and building trust in this planning process.

Methodology

The survey questions included five main themes:

- **Characteristics of Survey Respondents:** This section reports information about respondent characteristics including: educational attainment, home ownership, age, and household income.
- **Wildland Fire Risk Awareness and Communication:** This section presents information about respondents' understanding of personal property, neighborhood, and community risk awareness. The survey also asked questions about how respondents receive information pertaining to wildland fire.
- **Fire Protection and Preparedness:** This section presents the results of questions about fire protection services and level of preparedness for a wildland fire emergency.
- **Reducing Property Risk to Wildland Fire:** This section identifies actions landowners would be willing to take in the future to protect their property from wildland fire.
- **Reducing Community Risk to Wildland Fire:** This section presents landowners' opinions about protecting the greater community from wildland fire.

Survey questions were mostly repeated from the 2005 Landowner Survey questions which were developed from two primary sources: social science research studies supported by the National Fire Plan, and all hazard risk perception household survey administered by the Oregon Natural Hazards Workgroup in 2002.

The survey was mailed to a random sample of landowners selected from the Regional Land Information Database.

The sample frame (e.g., the list that the sample was drawn from) included landowners with property in the Impacted Forest Lands and Rural Residential zones. The sample frame also included lands, regardless of zone designation, determined to be in wildland-urban interface areas using the wildland-urban interface map on page 32. Public lands, low risk inner city lands under 5 acres, and industrial and commercial zoned lands were not included in the sample frame.

The survey was administered to 5,125 randomly selected landowners during July and August of 2019. The process included the mailing of a postcard telling landowners to expect the paper survey via mail and where to take it online. About one week later, the survey packet was mailed. The survey packet included: a cover letter explaining the purpose of the survey, a paper survey, a postage paid return envelope, and information regarding the Firewise program, in which Lane County is a participating community (see Appendix F under Firewise USA Communities and Firewise USA Communities, Lane County for a link to more information).

The survey was also advertised through Lane County's social media channels, such as Facebook and with a press release.

The CWPP Steering Committee received 1,550 valid survey responses yielding a 23% response rate.

Limitations of Sampling Methodology

A key limitation of any random sample survey is non-response bias. If one were to assume that the sample was perfectly random and that there was no response bias, then this survey would have a margin of error of $\pm 3\%$ at the 95% confidence level based on the sample size relative to the sample population. This means that if the survey were conducted 100 times, the results would end up within three percent of those presented in this report.

Non-response bias is an issue in all surveys, but is particularly important in mailed surveys due to response rates. The landowner survey received a 23% response rate which is average for mailed surveys. The 23% includes those that responded via paper and online. The Steering Committee was unable to calculate a response rate for those that responded as a result of the social media outreach. The survey results should not be considered representative of all Lane County residents, nor was it intended to be. The survey was intended to identify attitudes and opinions of landowners in the rural and wildland-urban interface areas. Thus, the scope of the survey was intentionally limited. The unique nature of the sample and a lack of phone numbers (to complete a non-response bias analysis) makes it difficult to determine areas of potential response bias. Despite

the potential for response bias, our assessment is that the results provide an accurate representation of the attitudes and opinions of landowners in wildland-urban interface areas of Lane County in 2019. It is also important to note that the following responses were given by rural and wildland-urban interface residents and it should not be assumed landowners are fire professionals.

Organization of Results

The survey results are organized into sections following the five survey themes listed above.

Tables and figures are used to display the data when possible. Tables and figures are titled and linked to the corresponding question number from the survey. If there was a noticeable change in response from the 2005 survey, it is noted in the description.

See Appendix E to view the 2019 paper surveys which includes the questions asked in the survey and the responses completed by landowners. See Appendix H for 2005 survey information. The response percentages are documented in the survey attachment. This section also documents written comments provided by respondents of the survey.

Findings

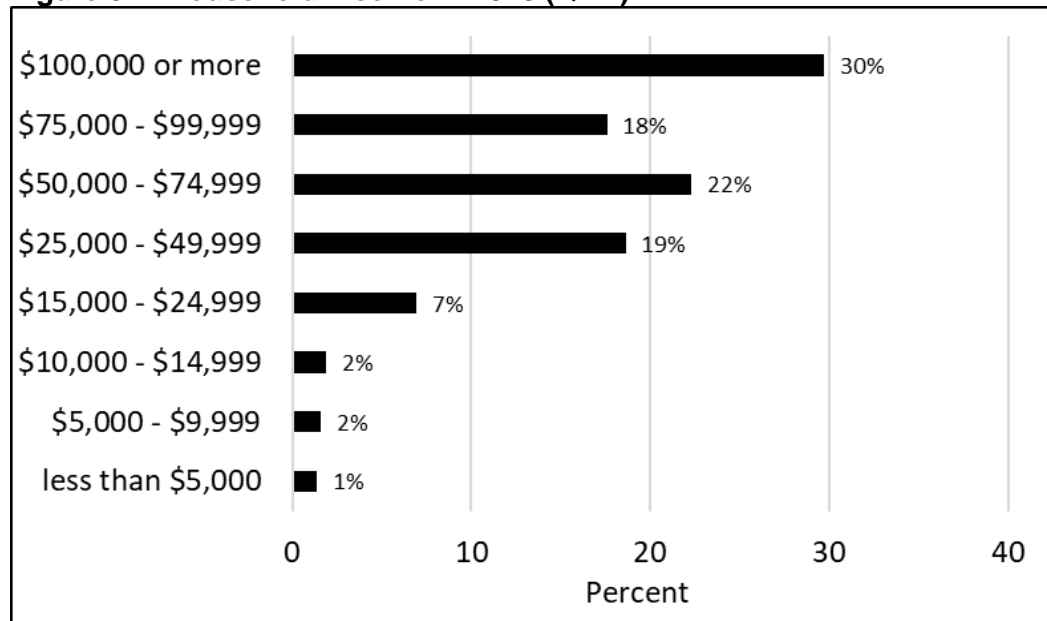
Characteristics of Survey Respondents

The survey instrument asked landowners to answer key demographic questions in order to help define the characteristics of the respondents. Specifically, the questions asked about age, educational attainment, household income, and information about the respondents' property and household. Because this survey targeted a unique population, landowners in the wildland-urban interface, it was not possible to obtain comparative census data.

The average age of respondents was 62 years old; respondents ranged from 20 to 94 years of age.

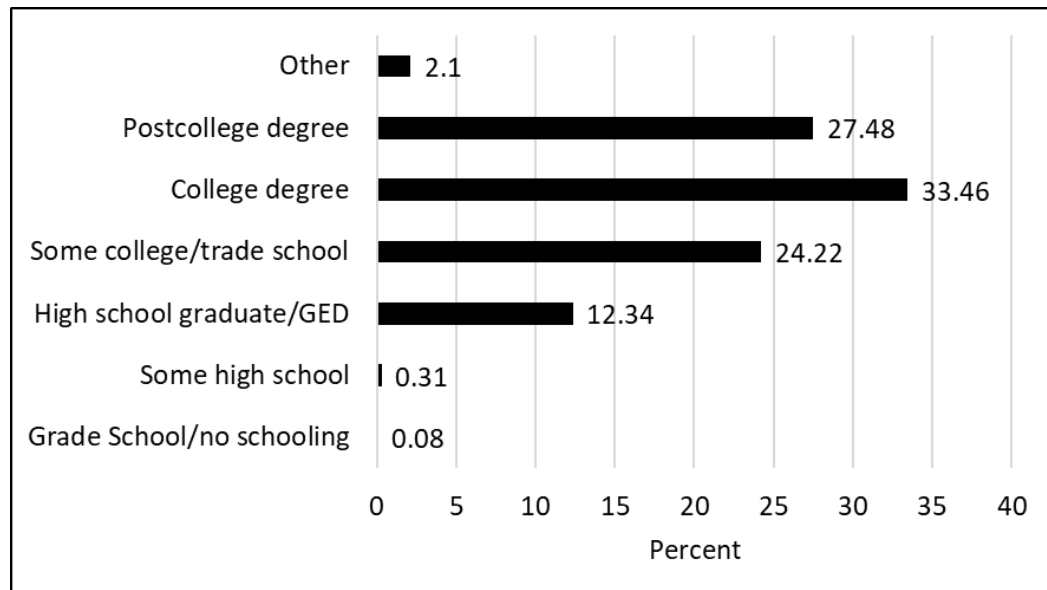
Seventy percent of the respondents had an average household income above \$50,000 in 2018 (Figure 3.1).

Figure 3.1: Household Income in 2018 (Q-22)



Source: OSU/Landowner Survey 2020

Figure 3.2: Level of Educational Attainment (Q-23)



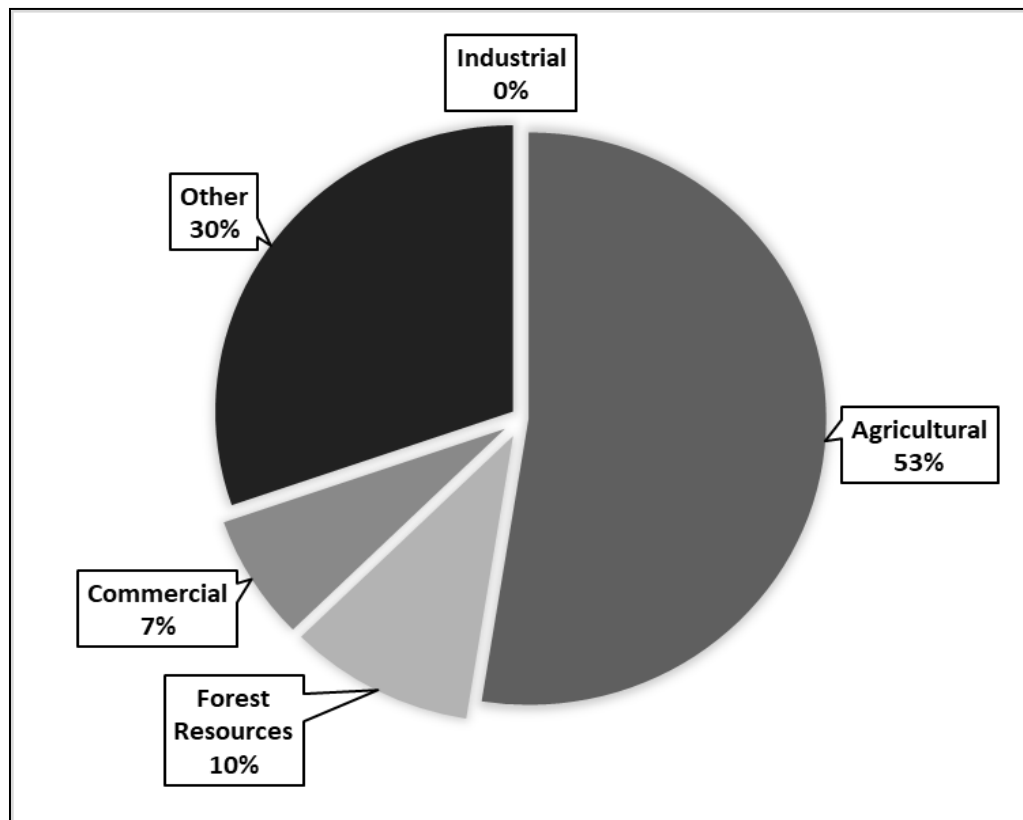
Source: OSU/Landowner Survey 2020

Figure 3.2 illustrates the educational attainment of respondents. Eighty-five percent have attained some college education, a college degree, or a post-college degree. Persons with a high school degree or less are underrepresented among survey respondents.

The survey asked general questions about respondents' properties, including ownership and use of property. The majority of respondents indicate they owned their home (94%) and were year-round residents of Lane County (95%). The average length of landownership was 19 years; length of ownership ranged from

2 months to 114 years (inferred to be a result of multigenerational ownership). Five percent of the respondents primarily used their property for business purposes; of these respondents, 62% indicated that they used the property for agricultural and forest industries. Figure 3.3 shows the types of businesses located on the property if the property was used primarily as a business. To see a list of the business identified in the “other” category visit Appendix H.

Figure 3.3: Types of Business Use of Property (Q-18.1)



Source: OSU/Landowner Survey 2020

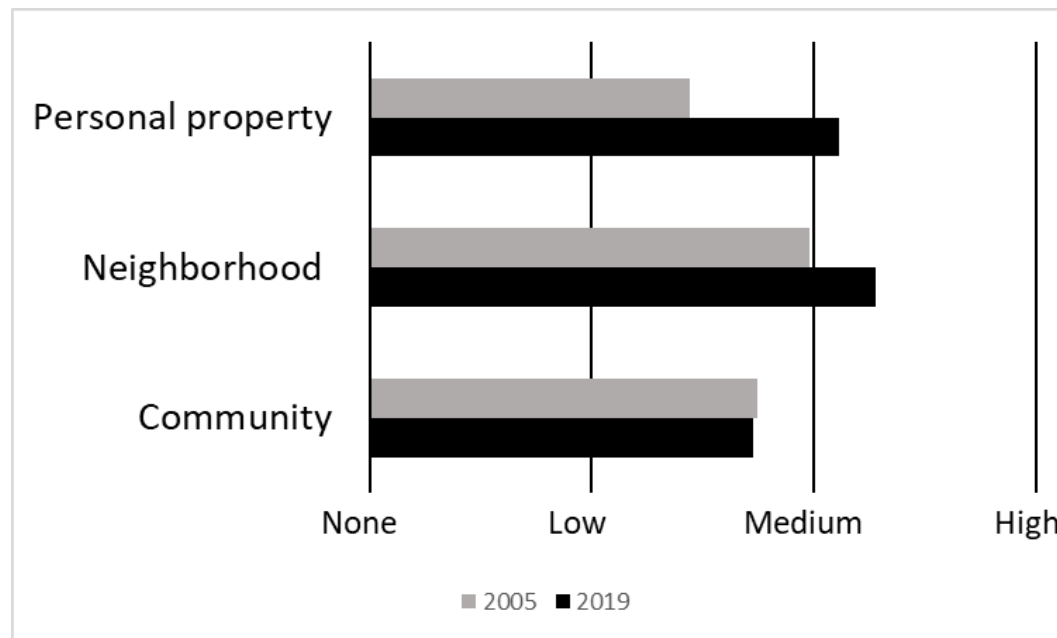
Wildland Fire Risk Awareness and Communication

To better understand perceptions of risk, the survey included several questions about wildland fire risk on respondents' property, in their neighborhoods and around their communities. Figure 3.4 shows respondents' perceptions of wildfire risk. Over half (77%) of respondents perceived their property as medium to high risk for wildland fires. This is consistent with local wildfire risk data that describes approximately half of Lane County residents live in medium to high risk areas. However, when compared to national wildfire risk data, overall Lane County residents live in medium-low to low risk areas.

Respondents perceived their neighbors' properties to have a slightly higher risk than their own (85%) and their communities to have a medium to low risk compared to their personal property (59%).

The perception of risk identified by landowners in 2019 was notably different than those in 2005. In 2005, 80% of landowners perceived their property and neighborhoods to be low to medium risk for wildfire.

Figure 3.4: 2005 and 2019 Perceptions of Wildland Fire Risk (Q-1)



Source: OSU/Landowner Survey 2020

Personal Experience with Wildland Fire

The survey asked landowners about their personal experiences with wildland fire. Figure Table 3.1 shows the types of experience respondents have had with wildland fire. Thirty-six percent reported that they had no previous experience with wildland fire. Just above half (63%), reported that they had witnessed a wildfire, smoke and other effects of wildfire, but few (10%) had actually evacuated their home or sustained property damage.

Table 3.1: Personal Experience with Wildland Fire (Q-2)

Type of Experience	Percentage of respondents with wildfire experience
Witnesses wildfire or observed smoke or other effects	63%
No experience with wildfire	36%
Suffered property damage from a wildfire	3%
Evacuated home due to a wildfire	7%

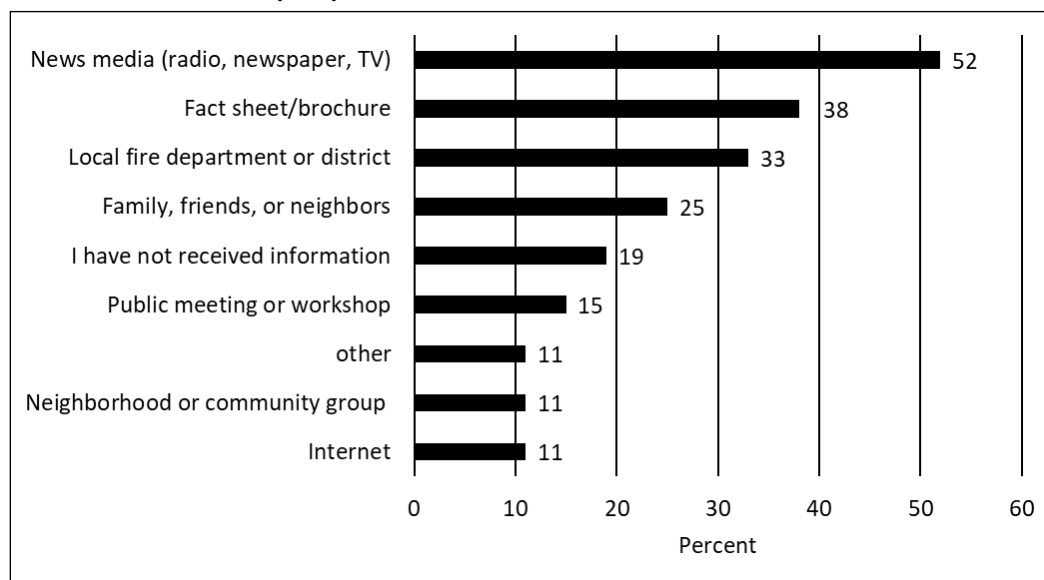
Source: OSU/Landowner Survey 2020

Sources of Information About Protecting Property

An important component of the landowner survey was gathering data on effective means of wildland fire information dispersal. The survey asked respondents how they received information about property protection in the past, as well as preferences for receiving information in the future.

Figure 3.5 shows how respondents received information in the past about protecting their property against losses from wildland fire. The top resources included the news media (52%), fact sheets/brochures (38%), and local fire departments or districts (33%). Survey respondents reported that they did not widely use neighborhood/community groups or the Internet to gather information about protecting property from wildland fire. Information availability for protecting property from wildland fire is increasing in Lane County. The 2005 survey revealed that 27% of participants had not received any information, but that number decreased to 19% for the 2019 survey.

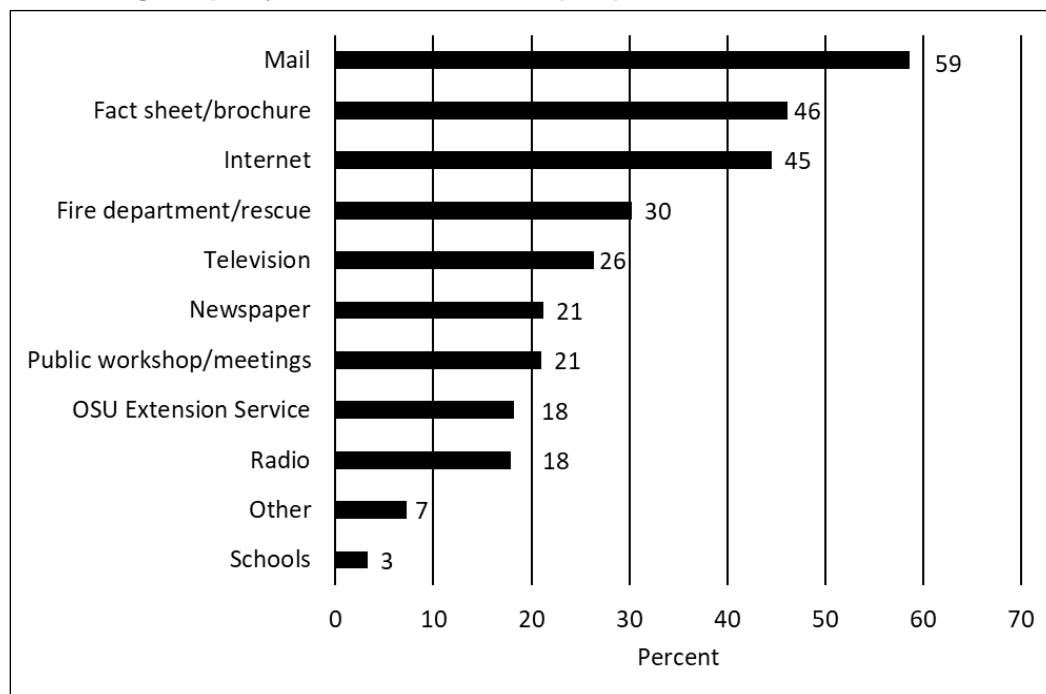
Figure 3.5: Past Sources of Information About Protecting Property from Wildland Fire (Q-3)



Source: OSU/Landowner Survey 2020

The survey gathered information about effective means of future correspondence relating to wildland fire property protection (Figure 3.6). Respondents identified mail (59%), fact sheets/brochures (46%), internet (45%), and fire departments (30%) as the top four preferred methods to receive information. Internet and fire departments moving ahead of newspaper and television which were identified in the top four preferred methods in 2005.

Figure 3.6: Preferred Sources of Receiving Information About Protecting Property from Wildland Fire (Q-4)



Source: OSU/Landowner Survey 2020 OSU/CPW 2020

Fire Protection Services and Wildland Fire Preparation

The survey gathered information about landowners’ knowledge of their fire protection service providers. The survey also asked landowners about emergency preparedness, including evacuation procedures and insurance coverage.

Table 3.2 shows that 53% of respondents receive fire protection services from a rural fire district. Seven percent of respondents reported that they did not know if their property was protected by a fire protection service.

Table 3.2: Fire Protection Services (Q-5)

Fire Protection Service Provider	% Respondents
Rural Fire Protection District	53%
Fire Department	38%
Don’t Know	7%
Not Serviced by a Fire Department or District	2%

Source: OSU/Landowner Survey 2020

Figure Table 3.3 illustrates respondents’ answers to questions about wildland fire preparedness and insurance coverage. The majority (88%) of the respondents did not know, or had not received information about community evacuation procedures. Fifty-nine percent of respondents indicated that they did not have personal household evacuation procedures in the case of a wildland fire emergency. While fifty-nine percent is a significant amount of respondents not having an evacuation plan, this is an eight percent decrease from the 2005 survey results.

One half (51%) of survey respondents reported that their insurance policies covered losses or structural damage incurred from wildland fire. However, 45% did not know if their insurance policies would protect their properties from damages or losses from wildland fire.

Table 3.3: Wildland Fire Evacuation Procedures and Insurance Coverage (Q-6)

Question	Yes	No	Don't Know
Has your community informed you of their wildland fire evacuation procedures?	12%	81%	7%
Does your household have a wildland fire evacuation plan?	38%	59%	3%
Does your homeowners or business insurance policy include coverage in the event of structural damage or loss due to wildland fire?	51%	4%	45%

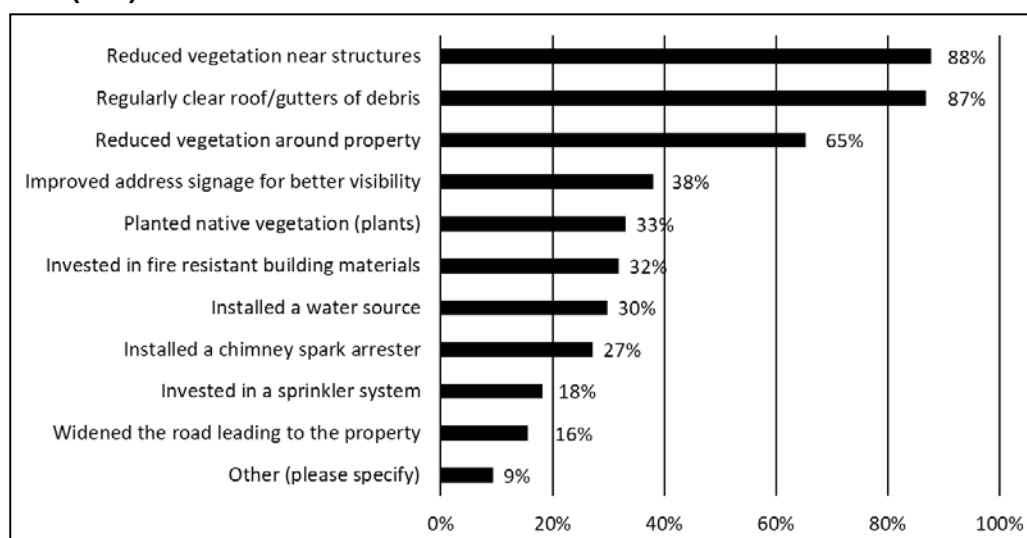
Source: OSU/Landowner Survey 2020

Reducing Property Risk to Wildland Fire

The survey gathered information from landowners about measures they have implemented to reduce the risk of wildland fire on their property. This section asked about specific risk reduction strategies.

The majority (89%) of respondents indicated that they have taken measures to reduce losses associated with wildland fire. Figure 3.7 shows the types of risk reduction measures taken by respondents. The most frequently reported measures were reducing vegetation near structures and clearing roof/gutters of debris. Fewer landowners reported implementing the measures that required higher financial investment.

Figure 3.7: Actions Taken to Reduce the Potential Losses from Wildland Fire (Q-7)



Source: OSU/Landowner Survey 2020

Preferred Risk Reduction Actions and Incentives

The survey asked landowners about their willingness to take specific actions to reduce the potential impacts of wildland fire on their property. Table 3.4 shows the likelihood of respondents to take different risk reduction actions. The majority of respondents indicated they are very likely to reduce vegetation and debris (79%) and create defensible zones around structures (65%). Respondents were less likely to improve emergency access or use fire-resistant building materials.

Table 3.4: Risk Reduction Actions Most Likely to Take (Q-8)

Risk Reduction Action	Very Likely	Somewhat Likely	Not Likely
Reduce debris and vegetation on property	79%	18%	3%
Clear a defensible zone around the property	65%	28%	7%
Improve emergency access to property	41%	23%	37%
Use fire resistant building materials	42%	32%	26%

Source: OSU/Landowner Survey 2020

The survey asked landowners which incentives, if any, would motivate them to take additional steps to protect their properties from wildland fire (Table 3.5). The highest percentage of respondents indicated that insurance discounts (70%) or tax breaks/incentives (69%) would motivate them to implement risk reduction steps. About half of respondents indicated that grant programs would encourage better protection measures, double the numbers from the 2005 survey.

Table 3.5: Preferred Incentives to Better Protect Property (Q-9)

Type of Incentive	Percent of Respondents
Insurance Discounts	70%
Tax Break or Incentive	69%
Grant Program	54%
None of the Above	9%
Other	12%

Source: OSU/Landowner Survey 2020

Local government and federal agencies provide a number of landowner assistance and recognition programs. The survey asked respondents to describe their familiarity with these programs (Table 3.6). Landowners were overwhelmingly unfamiliar with all available programs. Of the five programs respondents were least familiar with the fuels reduction cost share grants through Natural Resource Conservation Service (90%), Fire adaptive communities (89%), and Lane County Firewise Grant Program (84%). Nearly three and a half percent of landowners have participated in the Lane County Grant Program (3.4%), Firewise Communities (3.3%), and Oregon Department of Forestry Fuels Reduction Program (3.2%).

Table 3.6: Familiarity with Existing Incentive and Recognition Programs. (Q-10)

Type of Incentive	Percent participation in program	Percent Familiar	Percent Unfamiliar
Fuels Reduction Cost Share Grants Through the Natural Resources Conservation Service (NRCS)	1%	9%	90%
Firewise Communities	3%	21%	76%
Fire Adaptive Communities	1%	10%	89%
Oregon Department of Forestry Fuels Reduction Program	3%	17%	79%
Lane County Firewise Grant Program	3%	13%	84%

Source: OSU/Landowner Survey 2020

Reducing Community Risk to Wildland Fire

The survey asked respondents their opinions and preferences for different strategies to reduce community risk to wildfire. Communities may take a variety of approaches to wildland fire mitigation. The questions in this section help to inform policy decisions by providing better understanding of the level of landowner support for different approaches.

Hazardous Fuels Treatment

Respondents indicated their levels of support for four methods of hazardous fuels treatments in their communities (Table 3.7). The treatments included: no action, chemical treatment, prescribed burning, and mechanical thinning. Of the four, the two preferred methods were mechanical thinning (93%) and prescribed burning (73%). Respondents were divided over chemical treatment, with a 32% response in support of chemical treatment.

Table 3.7: Support for Hazardous Fuels Treatments (Q-11)

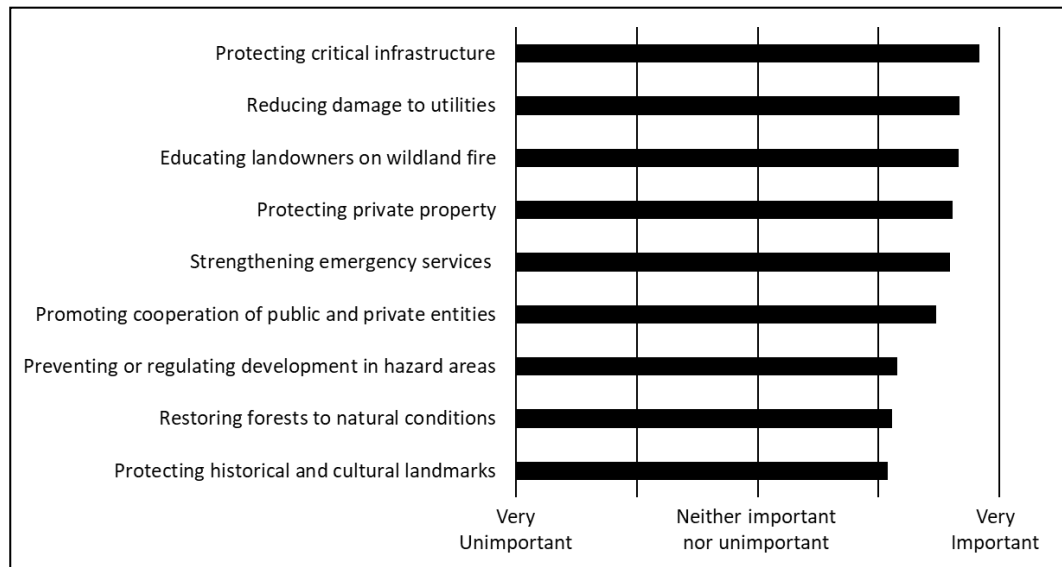
Type of Treatment	Supportive	Neither supportive nor unsupportive	Unsupportive
No Action	9%	13%	79%
Chemical Treatment	32%	13%	55%
Prescribed Burning	73%	13%	14%
Mechanical Thinning	93%	5%	2%

Source: OSU/Landowner Survey 2020

Landowner Priorities for Future Wildland Fire Planning

The survey asked landowners about their opinions on the importance of different planning priorities for wildland fire. Figure 3.8 shows the level of importance placed on different planning priorities by respondents. The majority of respondents indicated that each of the planning priorities listed were very or somewhat important. Protecting critical infrastructure, reducing damage to utilities, educating landowners, and protecting private property were the priorities ranked with highest importance. Of the priorities listed, respondents indicated that restoring forests to natural conditions and protecting historical and cultural landmarks were the least important.

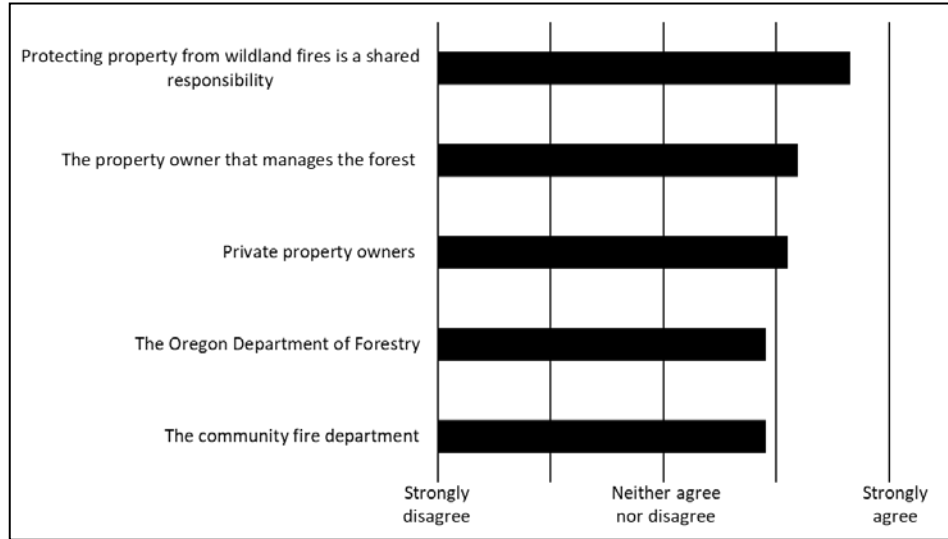
Figure 3.8: Priorities for Wildland Fire Planning (Q-12)



Source: OSU/Landowner Survey 2020

Figure 3.9 shows respondents' opinions on responsibility for protecting property against wildland fire. The majority (96%) of respondents agreed or strongly agreed that the responsibility for protecting property is shared between private landowners, local, state and federal agencies. Eighty-five percent of respondents agreed or strongly agreed that landowners who manage the forest are responsible for wildland fire protection. Fewer respondents agreed that the Oregon Department of Forestry or the community fire department is solely responsible.

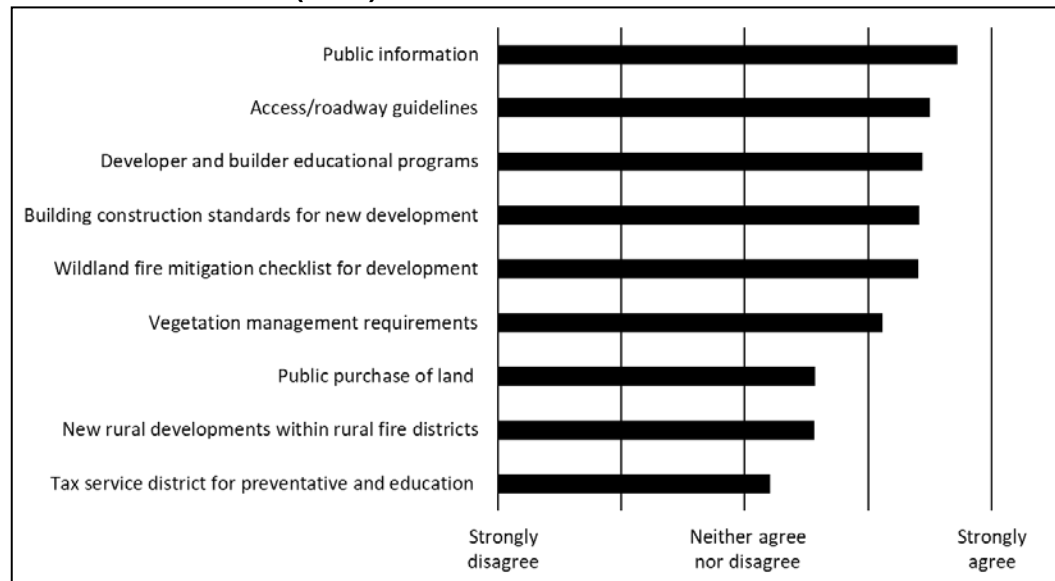
Figure 3.9: Responsibility for Protecting Private Property from Wildland Fire (Q-13)



Source: OSU/Landowner Survey 2020

There are a number of regulatory and non-regulatory activities that communities can implement to reduce wildland fire risk. Figure 3.10 shows respondents' levels of support for different risk reduction strategies. Respondents indicated the highest level of support for a public information strategy; 95% were very or somewhat supportive. Eighty-two percent or more of respondents were very or somewhat supportive of four out of five of the regulatory strategies listed. These four include access/roadway guidelines (92%) and access/roadway guidelines for new development in high hazards areas (89%). Of the risk reduction strategies listed in the survey, respondents indicated the least support for requiring that new rural residential developments be within rural fire protection district boundaries (60%), public acquisition of land in high hazard areas for open space (58%), and development of a tax service district to fund preventative wildfire reduction work and education (50%).

Figure 3.10: Regulatory and Non-Regulatory Strategies for Wildland Fire Risk Reduction (Q-14)



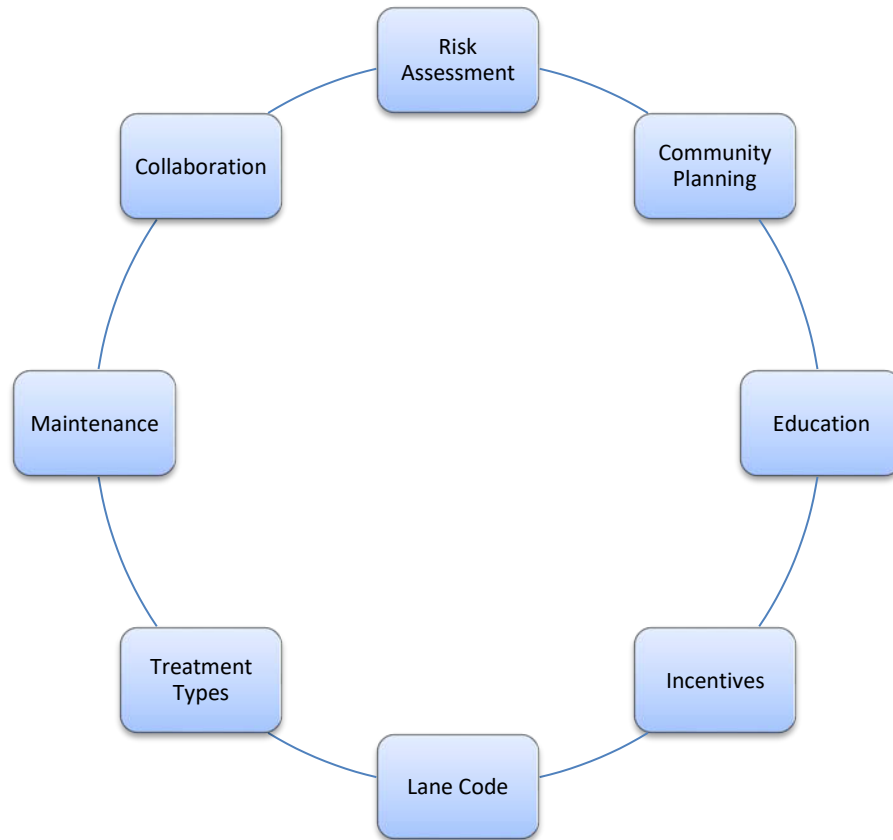
Source: OSU/Landowner Survey 2020

Conclusions drawn from the landowner survey have been synthesized with the other outreach activities that were conducted in 2005 including the Stakeholder interviews detailed in Appendix H.

Summary of Key Findings

Several common themes emerged from the landowner survey, the stakeholder interviews, and the Firewise Workshop. The section below summarizes these common themes into eight key findings, which are depicted in Figure 3.11.

Figure 3.11. Lane County CWPP Key Findings



Source: OSU/ Landowner Survey 2020

Risk Assessment

Overall, Lane County has a moderate risk to wildland-urban interface fire, but high-risk areas exist throughout the county. The wildfire risk assessment should be used as a decision-making tool to help prioritize fuels reduction projects.

Information in the risk assessment should be shared with local communities and updated and enhanced over time with local data.

Community Planning

Information sharing with local communities is especially important due to the large scale of Lane County. The ability of the CWPP to address structural ignitability issues is limited at the countywide level due to the lack of site-specific data. The Lane County CWPP should encourage the development of more refined community fire plans in local communities and neighborhoods through the development of partnerships and resource sharing.

Education

Although fire prevention education programs exist, one-fifth of landowners surveyed indicated that they are not receiving any information. Community outreach results identified a need for improved coordination and dissemination of educational activities regarding wildland fire risk. Educational messages should come from trusted sources, such as Oregon State University Extension, fire protection districts, and Oregon Department of Forestry. Information should be distributed through the preferred methods identified in the landowner survey, including mail, fact sheets/brochures, internet, and television.

Incentives

Many stakeholders expressed support for incentive programs, such as tax breaks and insurance benefits, as effective non-regulatory approaches to increasing participation in wildfire mitigation activities. Two-thirds of landowner survey respondents indicated that tax and/or insurance incentives would motivate them to take additional steps towards reducing risk to their property.

Lane Code

Multiple sources in the stakeholder interviews and Firewise Workshop identified the need to update the Lane Code to require wildfire safety measures in rural residential zones similar to those required in areas zoned as forestlands. Most new development occurs in rural residential areas. The landowner survey results indicate that the majority of landowners are supportive of requiring standards for building materials, emergency access, and vegetation management for new development in wildfire hazard areas. To this end, the CWPP committee conducted a review and suggested revisions to Lane County's fuel break standards. The fuel break standards require vegetation management surrounding homes in areas zoned as forestland. See Appendix F which includes a letter of support to update vegetative management strategies in Lane County.

Treatment Types

Community outreach results indicate high levels of support for reducing hazardous vegetative fuels in Lane County. Which treatment methods are most appropriate vary based on environmental and health concerns, the range of forest types and topography and the treatment objectives. See Appendix D, Fuel Treatment Types for a list of possible hazardous vegetative fuel treatments. See Appendix F for a literature review of defensible space treatments most likely to reduce wildfire impacts to homes in Lane County and fire modeling results.

Maintenance

The Lane County CWPP and its components require long-term maintenance to continue to effectively support efforts to protect people and property from wildfire. See Appendix B, Plan Implementation and Maintenance for further details. Stakeholders identified the need to institutionalize a process and establish a coordinator position to facilitate ongoing planning and coordination of wildfire mitigation activities in Lane County. This will help to ensure that the CWPP remains a functional document.

Collaboration

Stakeholders and community members within Lane County recognize that reducing risk to wildfire is a shared responsibility and requires collaboration between citizens, non-profit organizations, agencies, and the business community. Collaboration creates opportunities to develop better solutions, share resources, and more efficiently utilize limited funding. The Lane County CWPP can help initiate improved coordination and establish a process for ongoing collaboration.

Section 4 Action Plan

Action Plan Framework

Action Plan Methods

This section includes two subsections Goals and Objectives, and Action Items. The previous 2005 Action Plan was developed through an analysis of the issues identified in the risk assessment, the landowner survey, stakeholder interviews and the Firewise Workshop. In 2020, background research on community wildfire planning, including a review of other community wildfire protection plans was conducted. The 2020 risk assessment and landowner survey data informed a systematic review of 2005 Action Items. The Steering Committee updated Action Items and reaffirmed standing Goals and Objectives. Committee members were assigned responsibility for the coordination of individual Action Items.

Goals and Objectives

The Goals and Objectives link the Action Items to one or more of the Healthy Forest Restoration Act (HFRA) requirements addressed: collaboration, prioritized fuel reduction, and/or treatment of structural ignitability. Each Action Item has a corresponding Action Item worksheet, located in Appendix A – Action Item Worksheets.

Goals

The plan goals help to guide the direction of future activities aimed at reducing risk and preventing losses from wildfire. The goals serve as guiding principles for agencies and organizations regarding the implementation of Action Items.

GOAL 1: Provide countywide leadership through partnerships to implement wildland-urban interface fire mitigation strategies in Lane County.

GOAL 2: Improve community strategies for reducing the impacts of wildland-urban interface fires.

GOAL 3: Promote wildfire risk reduction activities for private and public lands in Lane County.

Objectives

The objectives connect the goals and Action Items and help organize the action plan for efficient implementation and evaluation.

OBJECTIVE 1.1: Establish and maintain a structure and methods for coordinating the implementation of the Lane County CWPP.

OBJECTIVE 1.2: Strengthen communication and coordination among local districts, county, state, and federal agencies to effectively deliver wildland-urban interface risk reduction programs and messages.

OBJECTIVE 2.1: Review existing policies and regulations to reduce the impact of wildland-urban interface fires.

OBJECTIVE 2.2: Enhance the Lane County Wildland-Urban Interface Risk Assessment.

OBJECTIVE 2.3: Support and prioritize fuels reduction projects by watershed.

OBJECTIVE 3.1: Increase individual awareness and promote risk reduction activities through education and outreach.

OBJECTIVE 3.2: Promote the use of non-regulatory incentives to reduce structural ignitability.

Action Items

Action Items have been identified through a collaborative process and a variety of mechanisms. Action Items were informed by and tied directly to issues or needs identified throughout the planning process. Action Items were developed from several sources including but not limited to: participants of the planning process, noted deficiencies in local capability, and/or issues identified through the risk assessment. To facilitate implementation, Action Items include information on key issues addressed, coordinating organizations, potential partners, and target timeframes.

Action Items carried forward from 2005 received committee review, including accomplishments, suggestions moving forward, lessons learned and target timeframes. This information is housed within Action Item Review Forms, see Table 4.1 for the form template. Review forms for each Action Item listed in the matrix are also located in Appendix A. For a complete list of 2020 Action Items, see Table 4.2, the Lane County Community Wildfire Protection Plan Matrix.

Priority Action Items

The 2020 Steering Committee identified five priority Action Items for the next implementation term. The five priority actions are intended to guide highest need actions and be updated periodically as needed and during plan updates. The Top five priority actions are as follows:

Action Item 2.1.1 Review and develop recommendations to the Lane County Board of Commissioners for revisions to land use regulations, such as: Implementation of fire safety standards within rural residential zoning districts; Distribution of educational materials at the outset of the building permit review process; and Outreach services with neighborhood organizations and special interest groups. **Purpose/Rational:** HFRA, Stakeholder Phone Interviews, Firewise Workshop Feedback- Identified the use of regulatory policies to reduce WUI wildfire risk.

Coordinating Organization: Lane County Land Management Division
Target Time Frame: Target Completion 2022.

Action Item 2.1.3 Identify and prioritize areas for local evacuation plan development across Lane County's Rural Fire Protection District, potentially including data from the CWPP Rural Response: Priorities for Fuel Reduction Map. **Purpose/Rational:** Assess, evaluate, test, and deploy area specific emergency evacuation plans (including shelter in place options) for priority areas in Lane County. Secondary benefits of this project will include informing local stakeholders (in every Fire District) about mitigation efforts (e.g. fuels reduction projects), critical infrastructure impacts, and emergency and evacuation preparedness steps.

Coordinating Organization: Lane County Emergency Management
Status/Target Time Frame: Ongoing

Action Item 2.3.1 Utilize maps in the CWPP risk assessment to guide and identify new partners and opportunities for cross-boundary collaboration. Coordinate the implementation of landscape scale hazardous fuel projects.

Purpose/Rational: HFRA- collaboration and reduction of hazardous fuels, Stakeholder Phone Interviews and the Landowner Survey- Identified a need for the prioritization of fuels reduction.

Coordinating Organization: Hazardous Fuel Subcommittee
Target Time Frame: Ongoing

Action Item 3.1.1 Develop a coordinated multi-agency seasonal outreach campaign that includes county-specific educational materials to promote effective risk reduction practices and communicate landowner assistance programs in the wildland/urban interface.

Purpose/Rational: HFRA- collaboration, reduction of hazardous fuels, and reduction of structural ignitability.

Coordinating Organization: Lane County Emergency Management with support from the Lane County Fire Prevention Co-Op

Target Time Frame: Target Completion 2022.

Action Item 3.2.1 Implement landowner assistance for fuel reduction projects including cost-share incentives. Increase local capacity, establish incentive programs to support yard debris disposal to assist landowners with hazardous fuels removal. Create disposal opportunities using alternative methods to burning.

Purpose/Rational: Landowner Survey Results and Stakeholder Phone Interviews Identified a need for the prioritization of fuels reduction.

Coordinating Organization: Oregon Department of Forestry
Target Time Frame: Ongoing

New Action Items

Notable changes made from the 2005 Action Items during the 2020 review process include three additional Action Items which are listed below. For a complete list of Action Items see Table 4.2.

2.1.3: Identify and prioritize areas for local evacuation plan development across Lane County's Rural Fire Protection District, potentially including data from the CWPP Rural Response: Priorities for Fuel Reduction Map.

2.1.4: Develop Community Response Plans for dealing with wildfire and prescribed fire smoke impacts in Lane County.

2.3.3: Prescribed Fire: Increase local capacity, coordination and explore policy improvements to increase the pace and scale of prescribed fire as a cross-boundary tool to reduce wildfire risk on tribal, public and private properties.

Removed Action Items

Three Action Items were removed from the 2005 CWPP. These Action Items are displayed in red in the Action Item Matrix. Removed Action Items are listed below with justifications for their removal.

1.2.1: Develop formal agreements with municipalities and special districts.

Justification: Formal agreements for coordination and communication continue to occur between ODF the Fire Defense Board, USFS, BLM, OSFM and OEM. These agreements are typically formalized at state and regional levels.

2.2.6: Obtain LiDAR data for high risk areas to enhance Lane County's Wildland-Urban Interface Risk Assessment.

Justification: No longer applicable. New wildfire risk data available since the last update includes WUI data. This data has been included in this update and can be found in the Risk Assessment, Section 2. Collecting local data including community assessments of structural ignitability is a listed Action Item (2.2.4) and can be used to inform finer scale analysis of existing WUI data.

2.3.2: Review fuels treatment method matrix for future Lane County fuel reduction projects.

Justification: This matrix provides high level guidance for partners exploring methods for fuel reduction projects. More detailed analysis should be conducted on a project basis to inform individual projects.

Table 4.1

Action Item	
ID#	Action Item Title/Description
Purpose/Rational	
Priority	Status/Target timeframe
Coordinating Organization:	
Partners Involved	
Action Item Review Form	
Action(s) Taken/Accomplishments	
What Went Well	
Lessons learned	
Suggestions for moving forward	
Dates of action	Funding Source(s) used

Table 4.2: Action Item Matrix Goal 1

GOAL 1: Provide countywide leadership through partnerships to implement wildland-urban interface fire mitigation strategies in Lane County			
Objective 1.1. Establish and maintain a structure and methods for coordinating the implementation of the Lane County Community Wildfire Protection Plan.			
Target Timeframe	Action Item	Coordinating Organization	Priority Level
Complete, review during next update (2023)	Action 1.1.1. Maintain a Lane County CWPP Advisory Committee to oversee implementation, identify and coordinate funding opportunities, and sustain the Lane County Community Wildfire Protection Plan.	Lane County Emergency Management	High
Ongoing	Action 1.1.2. Maintain a sub-committee to coordinate with the CWPP Core Committee to sustain effective countywide public education and outreach activities through the support of the Lane Fire Prevention Co-op and other programs.	Lane Fire Prevention Cooperative	Medium
Complete, review during next update (2023)	Action 1.1.3. Maintain the Hazardous Fuel Subcommittee to address fuel reduction and countywide coordination among agencies, programs and partnerships.	Oregon Department of Forestry	High
Objective 1.2. Strengthen communication and coordination among Local Fire Districts, County, State, and Federal agencies to effectively deliver wildland-urban interface risk reduction programs and messages.			
<i>Removed</i>	Action 1.2.1. <i>Develop formal agreements with municipalities and special districts.</i>	<i>Lane County Land Management</i>	<i>High</i>
Ongoing	Action 1.2.2. Establish a consistent communication strategy among intergovernmental partners using appropriate conduits and delivery mechanisms.	Oregon Department of Forestry	High

Table 4.3: Action Item Matrix Goal 2

GOAL 2: Improve community strategies for reducing the impacts of wildland-urban interface fires			
Objective 2.1. Review existing policies and regulations to reduce the impact of wildland-urban interface fires.			
Target Timeframe	Action Item	Coordinating Organization	Priority Level
Ongoing, Target Completion 2023	Action 2.1.1. Review and develop recommendations for the Lane County Board of Commissioners for revisions to land use regulations, such as: Implementation of fire safety standards within rural residential zoning districts; Distribution of educational materials at the outset of the building permit review process; and Outreach services with neighborhood organizations and special interest groups.	Lane County Land Management	Top 5
Ongoing	Action 2.1.2 Review and enhance the Lane County building permit process within the wildland-urban interface.	Lane County Land Management	High
Ongoing, Target Completion 2023	Action 2.1.3 Identify and prioritize areas for local evacuation plan development across Lane County's Rural Fire Protection District, potentially including data from the CWPP Rural Response: Priorities for Fuel Reduction Map.	Lane County Emergency Management	Top 5
Ongoing, Target Completion 2023	Action 2.1.4 Develop Community Response Plans for dealing with wildfire and prescribed fire smoke impacts in Lane County.	Hazardous Fuel Subcommittee	Medium
Objective 2.2. Enhance the Lane County Wildland-Urban Interface Risk Assessment.			
Complete, review during next update (2023)	Action 2.2.1. Incorporate BLM/USFS critical road and response infrastructure into the Lane County Wildland-Urban Interface Risk Assessment. See "Rural Response: Priorities for Fuel Reduction" Map in Section 2, Risk Assessment.	Hazardous Fuel Subcommittee	Medium
Complete, review during next update (2023)	Action 2.2.2. Maintain and update fire district boundary data.	Lane County Land Management	Medium

Table 4.3: Action Item Matrix Goal 2 (Continued)

Objective 2.2. Enhance the Lane County Wildland-Urban Interface Risk Assessment.			
Target Timeframe	Action Item	Coordinating Organization	Priority Level
Complete, review during next update (2023)	Action 2.2.3. Incorporate, maintain, and update Lane County's Wildland-Urban Interface Risk Assessment GIS data elements as new data becomes available.	Lane County Land Management	Medium
Ongoing, Target Completion 2023	Action 2.2.4. Expand "Rural Response: Priorities for Fuel Reduction" Map to include additional local information, structural vulnerability assessments and updated hazardous fuel treatment maps for example.	Fire Defense Board & Hazardous Fuel Subcommittee	Medium
Ongoing	Action 2.2.5. Update rural addressing data collection project for county.	Lane County Land Management	Medium
<i>Removed</i>	Action 2.2.6. <i>Obtain LiDAR data for high risk areas to enhance Lane County's Wildland-Urban Interface Risk Assessment.</i>	<i>Lane County Public Works GIS</i>	<i>High</i>
Objective 2.3. Support and prioritize fuels reduction projects by watershed.			
Ongoing	Action 2.3.1. Utilize maps in the CWPP risk assessment to guide and identify new partners and opportunities for cross-boundary collaboration. Coordinate the implementation of landscape scale hazardous fuel projects.	Hazardous Fuel Subcommittee	Top 5
<i>Removed</i>	Action 2.3.2. <i>Review fuels treatment method matrix for future Lane County fuel reduction projects.</i>	<i>Lane County Land Management</i>	<i>High</i>
Ongoing	Action 2.3.3. Prescribed Fire: Increase local capacity, coordination and explore policy improvements to increase the pace and scale of prescribed fire as a cross-boundary tool to reduce wildfire risk on tribal, public and private properties.	Hazardous Fuel Subcommittee	Medium
Ongoing, Target Completion 2022	Action 2.3.4. Complete 2 cross-boundary fuels reduction projects that leverage partners and programs identified from Action Item 2.3.1.	Hazardous Fuel Subcommittee	High

Table 4.4: Action Item Matrix Goal 3

GOAL 3: Promote wildfire risk reduction activities for private and public lands in Lane County			
Objective 3.1. Increase individual awareness and promote risk reduction activities through education and outreach.			
Target Timeframe	Action Item	Coordinating Organization	Priority Level
Ongoing, Target Completion 2022	Action 3.1.1 Develop a coordinated multi- agency seasonal outreach campaign that includes county-specific educational materials to promote effective risk reduction practices and communicate landowner assistance programs in the wildland/urban interface.	Lane Fire Prevention Cooperative & Lane County Emergency Management	Top 5
Ongoing, Target Completion 2022	Action 3.1.2 Establish a communication strategy that utilizes existing stakeholder channels to disseminate risk reduction messages.	Lane County Emergency Management	High
Ongoing, Target Completion 2020	Action 3.1.3. Create and maintain a website including county specific wildfire risk reduction and preparedness resources for residents and stakeholders.	Lane County Land & Emergency Management Divisions	High
Objective 3.2. Promote the use of non-regulatory incentives to reduce structural ignitability.			
Ongoing	Action 3.2.1. Implement landowner assistance for fuel reduction projects including cost-share incentives. Increase local capacity, establish incentive programs to support yard debris disposal to assist landowners with hazardous fuels removal. Create disposal opportunities using alternative methods to burning.	Oregon Department of Forestry	Top 5
Ongoing, Target Completion 2023	Action 3.2.2. Use the 2019 Governor's Council on Wildfire Response to guide future CWPP projects.	Office of State Fire Marshal & Oregon Department of Forestry	High

Section 5 Plan Implementation and Maintenance

Overview

The plan Implementation and Maintenance Section strives to ensure that the Lane County Community Wildfire Protection Plan (CWPP) remains an active and relevant document. This section provides the foundation for the formation of the Lane County CWPP Advisory Committee, hereby referred to as the Committee. This section outlines suggestions for how the Committee should prioritize community wildfire protection projects and includes a schedule for maintaining and updating the plan.

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 CWPP that remains current and relevant to Lane County and all of its respective partners. The benefits of a current and relevant CWPP include:

- Allowing communities to identify local priorities and shape management decisions on surrounding public lands;
- Building community partnerships and collaboration between fire districts, fire departments, local/state/federal governments, and private landowners;
- Making available a variety of funding sources and opportunities to communities;
- Facilitating fuel reduction projects and forest health treatments across the landscapes, in accordance with the Healthy Forest Restoration Act (HFRA) and Healthy Forests Initiative goals.¹

Plan Implementation

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

- Lane County Board of Commissioners
- Lane County Fire Defense Board
- Oregon Department of Forestry

The Lane County CWPP is a shared plan that was developed and implemented based upon a collaborative process. The plan will be adopted by order and resolution by the Lane County Board of Commissioners and acknowledged by the Lane 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 CWPP is non-regulatory in nature, so the effectiveness of the plan will be contingent upon the implementation of the Action

Items identified therein. The Action Items provide a framework for building and sustaining partnerships to support wildfire risk reduction projects.

Advisory Committee

In accordance with Action Item 1.1.1, the plan development Steering Committee should become the advisory committee (the Committee), and should: oversee implementation, identify and coordinate funding opportunities, and sustain the CWPP. The Committee should act as the coordinating body and serve as a centralized resource for wildfire risk reduction and wildland-urban interface issues in Lane County. Additional roles and responsibilities of the Committee include:

- Serving as the local committee to coordinate projects to be submitted 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 for wildfire risk reduction projects;
- Documenting successes and lessons learned;
- Evaluating and updating the CWPP in accordance with the prescribed maintenance schedule.

Co-Conveners

Lane County Emergency Management and Oregon Department of Forestry should serve as co-conveners to oversee the plan's implementation and maintenance. They should co-chair the CWPP advisory committee and fulfill the chair responsibilities. These two entities should 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).

Members

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

- Lane County Emergency Management
- Lane County Land Management
- Oregon Department of Forestry - Eastern Lane and Western Lane
- Lane County Fire Defense Board
- United States Forest Service
- Bureau of Land Management
- Oregon State University Extension Service - Lane County

Wildfire mitigation is a shared responsibility among numerous diverse stakeholders. For this reason, it is important that the CWPP planning process be collaborative in nature. The Committee may look to expand the current membership in to include other organizations such as:

- Upper Willamette Soil and Water Conservation District
- Siuslaw, Long Tom, McKenzie, Coast Fork Willamette and Middle Fork Willamette Watershed Councils
- Eugene Water and Electric Board, as well as other utilities
- Home Builders Association
- Local elected officials
- Oregon Small Woodlands Association (non-industrial forest landowners) and Lane County Tax Equalization Group (industrial forest landowners)

Plan Maintenance

Plan maintenance is a critical component of the CWPP. Proper maintenance should ensure that this plan will benefit Lane County’s efforts to reduce risk in the wildland-urban interface. Lane County and CWPP partners have developed a method to ensure that a regular review and update of the CWPP occurs. The Committee is responsible for maintaining and updating the CWPP through a series of meetings outlined in the maintenance schedule below. Periodic annual meetings may be called as needs arise.

Table 5.1: Plan Maintenance Meeting Schedule

Semi-Annual Meeting	Annual Meeting	Five-Year Review
Review current actions	Update risk assessment data and findings	Evaluate and update CWPP and integrate it into the Lane County Natural Hazard Mitigation Plan Wildfire Annex
Identify new issues and needs	Update on local planning efforts	
Prioritize potential projects	Discussion of continued public involvement methods	
	Documenting success and lessons learned	

The process the Committee should use to prioritize all projects, including fuel reduction projects, is detailed in the section below.

Project Prioritization Process

The requirements of HFRA state that the CWPP Advisory Committee will establish community hazard reduction priorities for projects. In accordance with Objective 2.3, the CWPP Advisory Committee should support and prioritize wildfire risk reduction projects within Lane County.

The 2020 Committee reviewed all 2005 Action Items and provided completed review forms for each Action Item listed in the Action Item Matrix. The Committee also identified a list of “Top 5 Actions”, reviewed and adjusted all Action Items priority levels, as well as assigned target completion dates to many high priority Actions. This review and ranking process was based on the Risk Assessment (Section 2), Community Outreach results (Section 3), known gaps in wildfire planning and prevention at the county level, a review of best practices for reducing wildfire risk at the community level as well as incorporating planned actions at the county level. Pairing existing capacity with identified Action Items is an effective method to ensure the CWPP is a “living document” and increases partner participation and buy in at the local level.

Depending on the intent of a potential project and its implementation methods, several funding sources may be appropriate. Examples of wildfire mitigation funding sources include: National Fire Plan, Title II funds, Title III funds and Pre-Disaster Mitigation grants. To ensure limited funding for wildfire risk mitigation and planning projects is spent efficiently, grant applications in Lane County aimed at mitigating wildfire risk and improving community resilience should address one of the listed Action Items and specify how their project addresses Plan Goals and Objectives.

Existing and future projects which address one or more of the listed Goals, Objectives and/or Action Items need not be confirmed by the committee, but should be tracked by the committee during plan maintenance. The CWPP Committee should provide support and guidance to internal and external partners as requested to increase an all hands, all lands approach to wildfire mitigation.

Projects that are presented to the CWPP Advisory Committee will often come from a variety of sources; therefore, the project prioritization processes should be flexible. If a wildfire risk mitigation project requesting federal funding does not address a listed Action Item, the applicant should contact the CWPP Steering Committee early in the application process. Semi-Annual Committee meetings provide an opportunity to review current actions and identify new projects. The applicant should be ready to demonstrate how their potential project will help reduce wildfire risk in Lane County.

Annual Meeting

The Committee should 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 from the past year.

On an annual basis, Lane County Emergency Management (EM) and Oregon Department of Forestry (ODF) may complete the following tasks in an effort to

incorporate, maintain, and update Lane County's Wildland-Urban Interface Risk Assessment GIS data elements (Action 2.2.3).

- 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 are available.
- Create a standardized format for local communities to use in submitting risk assessment data to supplement the CWPP GIS layers.
- Integrate local CWPP assessments and mapping when available into the Lane County CWPP.
- Update local and regional CWPP websites with information provided by the Lane County Fire Cooperative and Fire Defense Board.
- Support community efforts in the drafting of local CWPPs by providing access to the Risk Assessment GIS data.
- Assist local community efforts in identifying potential fuels reduction projects and drafting of Title II Secure Rural Schools, Resource Advisory Committee grant applications.
- Coordinate with local community partners, to include/involve in local fuels reduction projects.

EM will be responsible for documenting the outcomes of the annual meetings in *Appendix B: Implementation and Maintenance Documentation*.

Five-Year Review of Plan

For the 2023 Plan Update, the intent is for the CWPP to become a wildfire annex to the Lane County Natural Hazard Mitigation Plan. Complete plan updates should be set for five-year intervals to meet the requirements of the Disaster Mitigation Act of 2000. Lane County Emergency Management should be responsible for documenting the outcomes of the five-year plan review in the *Appendix B: Implementation and Maintenance Documentation*. Figure 5.2 provides a list of questions that can be used by the Committee to update the CWPP

Table 5.2: Five-Year Plan Review Questions

5-Year Plan Review Questions
Background Data – Section 1
<ol style="list-style-type: none"> 1. Has the wildfire protection framework at the local, state, or federal level changed? 2. Have the responsibilities of partner organizations changed? 3. Has recent fire occurrence been accurately reflected in the plan?
Risk Assessment Data – Section 2
<ol style="list-style-type: none"> 1. Has the wildfire risk across the county changed? 2. Have new tools emerged to better evaluate the wildfire hazard? 3. Have local communities developed plans and implemented activities that might change the county’s overall risk?
Outreach Data – Section 3
<ol style="list-style-type: none"> 1. Are there new players that should be brought to the table?
Action Plan Data – Section 4
<ol style="list-style-type: none"> 1. Do the CWPP goals, objectives, and actions address current or expected conditions? 2. Have identified Action Items been effectively implemented? 3. Are there new funding sources available for the mitigation of wildfire hazards? 4. Are there new Action Items that should be added to the Action Item Matrix?
Plan Implementation Data – Section 5
<ol style="list-style-type: none"> 1. Are the structures and methods established for implementing the plan still relevant? 2. Have there been any lessons learned documented from significant wildfires in other parts of the state may be applicable to Lane County? 3. Has implementation occurred as anticipated? 4. Are there obstacles and challenges that have arisen that may have prevented or delayed implementation?

Source: ONHW/CPW, 2005

¹ Tucker, Lena. 2005. Testimony for the House Resource Committee, Subcommittee on Forests and Forest Health. *Development and Implementation of Community Wildfire Protection Plans in Oregon.*

Appendix A Action Item Worksheets & Matrix

This appendix includes the Action Item Matrix, and completed Action Item Worksheets describing each Action Item identified during the CWPP update process. The Action Item Matrix houses all active action and removed Action Items, organized by plan goals and objectives. The plan identifies Action Items developed through various plan inputs, data collection and research. CWPP Action Items and associated activities may be considered for funding through state and federal grant programs, including the National Fire Plan or Title II/Title III funding, see Appendix B Plan Implementation and Maintenance for more information.

To facilitate implementation, each Action Item was described in a worksheet, which includes a purpose/rational, priority level, status/timeline, a coordinating organization and partners involved. In addition, a 2020 Review Form includes actions taken, what went well, lessons learned, suggestions moving forward, estimated cost, and funding source(s) used.

Action Item Worksheets

Purpose/Rational

Each Action Item includes a listed purpose or rational for why the action was selected. Action Items are fact based and tied directly to issues or needs identified throughout the planning process. Action Items were developed from a number of sources including participants of the planning process, noted deficiencies in local capability, or issues identified through the risk assessment.

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.

Partners Involved

Listed partners can be either potential partners identified since the last update, or existing partners utilized since the last update. The coordinating organization should serve as a central contact point for identified and/or interested partner organizations to see if they are capable of and interested in participation. This initial contact is also to gain a commitment of time and or resources towards completion of the Action Items.

Actions Taken/Accomplishments

This content details a high-level overview of the status and/or accomplishments to date. It may include an example project, program or process developed since the last plan update in 2005. These accomplishments should be examples of successful approaches taken within Lane County and need not be taken by the listed coordinating organization.

What Went Well

This content is meant to showcase positive outcomes in process, project and/or program that may be beneficial for future use. The intent is to showcase successful strategies that may be beneficial to continue in further efforts.

Lessons Learned

This content should showcase ideas for positive growth based on noted struggles in process, project and/or program. It is an opportunity to bring forward ideas for improvement.

Suggestions Moving Forward

Each Action Item includes ideas for implementation and potential resources. These suggestions serve as a continuation point for Action Items. This component of the Action Items is dynamic as some ideas may be not feasible and new ideas can 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.

Status/Timeline

This cell includes one of three designations: Ongoing, Target Completion, and Complete with an anticipated review date. Ongoing Action Items are activities that receive continual improvements and those which are not intended to stop. For example, reducing hazardous fuel is an ongoing effort. Target Completion dates are an intended completion date set by the CWPP Committee. These dates are goals and are intended to both add additional prioritization metrics and improve progress towards Action Items. Target Completion dates were identified by reviewing current and planned activities identified during the review process. Complete with anticipated review were applied to Action Items which are currently complete but will benefit from periodic review.

The following pages include Action Item Worksheets for 2020 Action Items which include information for each of the subsections listed above.

Table A1: Worksheet 1.1.1

Action Item	
ID#	Action Item Title/Description
1.1.1	Maintain a Lane County CWPP Advisory Committee to oversee implementation, identify and coordinate funding opportunities, and sustain the Lane County Community Wildfire Protection Plan.
Purpose/Rational	
The 2005 CWPP, was put into place without a formal Steering Committee to oversee the implementation and coordination of the plan goals. The 2020 CWPP Committee will be responsible for overseeing this plan, convening to report updates/progress toward completing Action Items, and preparing for plan updates.	
Priority	Status/Target timeframe
High	Complete, review during next update (2023)
Coordinating Organization:	
Lane County Emergency Management	
Partners Involved	
ODF, OSFM, FDB, LMD, USFS, BLM	
Review Form	
Action(s) Taken/Accomplishments	
Updated Section 5 and Appendix B in the 2020 CWPP to provide a framework for CWPP plan maintenance and implementation.	
What Went Well	
Support from ODF.	
Lessons learned	
Emerging incidents can strain partner involvement, COVID 19 for example.	
Suggestions for moving forward	
See Section 5 and Appendix B, Implementation and Maintenance	
Dates of action	Funding Source(s) used
2020	

Table A.2: Worksheet 1.1.2

Action Item	
ID#	Action Item Title/Description
1.1.2	Maintain sub-committee to coordinate with CWPP Committee and sustain effective countywide public education and outreach activities.
Purpose/Rational	
Stakeholder Phone Interviews, Firewise Workshop - Identified an opportunity to increase education and wildland-urban interface fire awareness of residents of Lane County to increase public involvement in wildfire risk reduction activities.	
Priority	Status/Target timeframe
Medium	Complete, review during next update (2023)
Coordinating Organization:	
Lane Fire Prevention Cooperative	
Partners Involved	
ODF, OSFM, USFS, BLM, Keep Oregon Green, Lane County Fire Defense Board	
Review Form	
Action(s) Taken/Accomplishments	
Staffing a booth at the Lane County Home and Garden Show, local parades, fairs and other community events to deliver wildfire prevention and preparedness material. Working with partners to deliver a wildfire preparedness campaign.	
What Went Well	
With the cooperation of all of the partners we have been able to maintain an ongoing prevention campaign since 2005	
Lessons learned	
Based on 2020 survey results 19.3% of landowners have not received information on protecting their home from wildfire.	
Suggestions for moving forward	
Develop new methods for delivery of educational materials to expand outreach to more landowners. An example would be creating a one page brochure and giving to rural fire departments for dissemination. Brochures and rural fire departments are a preferred conduit for educational material based on the landowner survey.	
Dates of action	Funding Source(s) used
2005-2020	Lane County Fire Defense Board, National Fire Plan, Title III

Table A.3: Worksheet 1.1.3

Action Item	
ID#	Action Item Title/Description
1.1.3	Maintain the Hazardous Fuel Subcommittee to address fuel reduction and countywide coordination among agencies, programs and partnerships.
Purpose/Rational	
Stakeholder Phone Interviews, Firewise Workshop – A committee is needed to prioritize and set guidelines for the implementation of prioritized fuel reduction projects. A committee is also needed to collaboratively decide the best method of treatment to be used during fuel reduction projects.	
Priority	Status/Target timeframe
High	Complete, review during next update (2023)
Coordinating Organization:	
Oregon Department of Forestry	
Partners Involved	
USFS, BLM, OSFM, OSU Extension Services, TNC, Friends of Buford Park, Lane County Parks and Lane County Fire Defense Board.	
Review Form	
Action(s) Taken/Accomplishments	
Hazardous fuels sub-committee formed to make recommendations to Lane County fire siting standards.	
What Went Well	
The committee worked together to develop new siting standards using the latest science and knowledge of local fire behavior.	
Lessons learned	
There is a need for an update county wide hazardous fuels treatment map that includes fire organizations and restoration group accomplishments.	
Suggestions for moving forward	
The siting standards will need to be updated as the environment and latest scientific findings change.	
Dates of action	Funding Source(s) used
2018-2020	BLM Community Assistance Funding

Table A.4: Worksheet 1.2.2

Action Item	
ID#	Action Item Title/Description
1.2.2	Establish a consistent communication strategy among intergovernmental partners using appropriate conduits and delivery mechanisms.
Purpose/Rational	
Stakeholder Phone Interviews, Firewise Workshop Feedback - Identified a lack of communication of information and a need to compile and consolidate information regarding wildland-urban interface issues.	
Priority	Status/Target timeframe
High	Ongoing
Coordinating Organization:	
Oregon Department of Forestry	
Partners Involved	
USFS, BLM, Lane County Fire Defense Board, EM & Lane County Fire Prevention Coop.	
Review Form	
Action(s) Taken/Accomplishments	
The communication plan provides a list of the agencies that would be involved in the event of a wildland urban interface fire. Additionally, ODF has an annual mobilization guide with updated contacts and radio frequencies that are distributed among intergovernmental partners before fire season each year.	
What Went Well	
The communication plan allows for initial attack personnel to reach the other agencies or districts it would potentially interact with.	
Lessons learned	
Technology constantly changes and with that there can be communication hurdles, especially when multiple agencies are responding to wildland fires. That is why it is imperative that there is good communication between agencies when changes are made to protocols or equipment. Interagency preseason trainings are also very important.	
Suggestions for moving forward	
Annual updates to the communication plan are needed to ensure all changes across agencies have been communicated.	
Dates of action	Funding Source(s) used
Ongoing since 2005	Title III & National Fire Plan

Table A.5: Worksheet 2.1.1

Action Item	
ID#	Action Item Title/Description
Action 2.1.1.	Review and develop recommendations to the Lane County Board of Commissioners for revisions to land use regulations, such as: Implementation of fire safety standards within rural residential zoning districts; Distribution of educational materials at the outset of the building permit review process; and outreach services with neighborhood organizations and special interest groups.
Purpose/Rational	
Stakeholder Phone Interviews, Firewise Workshop Feedback- Identified the use of regulatory policies to reduce WUI wildfire risk.	
Example Programs:	
<ul style="list-style-type: none"> - Ashland, Oregon Fire Plan- Has building codes that require development standards regarding the reduction of structural ignitability and vegetation management - Florida Wildfire Mitigation Handbook- Discusses the use of land development regulations to reduce WUI wildfire risk. 	
Priority	Status/Target timeframe
Top 5	Ongoing, Target Completion 2023
Coordinating Organization:	
Lane County Land Management Division	
Partners Involved	
ODF / Rural Fire Protection Districts	
Review Form	
Action(s) Taken/Accomplishments	
Recommendation from fire professionals via the Hazardous Fuels Subcommittee regarding fuel break standards to be adopted into Lane Code.	
What Went Well	
The hazardous fuels subcommittee created a new recommended set of fire siting standard for Lane County. The new standards take in local risk analysis and are believed to be both more effective and flexible than the previous standards. Fire managers and a member of the Lane County Planning Commission were involved in the development of these standards to ensure they are both effective and implementable, and will be proposed for adoption in June of 2020.	
Lessons learned	
While progress is being made on siting standards, and additional work remains to be done in the area of general public outreach and information sharing.	
Suggestions for moving forward	
Continue to develop recommendations for updating land use regulations for better protection of life and property from wildland fire.	
Dates of action	Funding Source(s) used
March 2020	

Table A.6: Worksheet 2.1.2

Action Item	
ID#	Action Item Title/Description
2.1.2	Review and enhance the Lane County building permit process within the wildland urban interface.
Purpose/Rational	
<p>Firewise Workshop Feedback- Identified a need to streamline the permit process to remove inefficiencies.</p> <p>2020 Landowner Survey – Identified an interest in incentives for wildfire mitigation strategies and in land use regulations pertaining to wildfire safety measures.</p>	
Priority	Status/Target timeframe
High	Ongoing
Coordinating Organization:	
Lane County Land Management Division	
Partners Involved	
LMD Building Program; Rural Fire Protection Districts; ODF	
Review Form	
Action(s) Taken/Accomplishments	
There is a process in place for fire district review of access to vacant properties proposed for development. The permit review process for forestland development includes review of fuel breaks.	
What Went Well	
Forms and informational materials for property owners were developed. Lane County adopted R327 of Oregon Residential Specialty Code 2017 for wildfire hazard.	
Lessons learned	
Can do more to promote voluntary wildfire safety measures.	
Suggestions for moving forward	
Continue to work on providing the public with wildfire safety information; promote wildfire safety incentive programs and work to update land use regulations pertaining to wildfire.	
Dates of action	Funding Source(s) used
2005-2020	Permit fees; LMD long range planning funds

Table A.7: Worksheet 2.1.3

Action Item	
ID#	Action Item Title/Description
2.1.3	Identify and prioritize areas for local evacuation plan development across Lane County’s Rural Fire Protection District potentially including data from the CWPP Rural Response: Priorities for Fuel Reduction map.
Purpose/Rational	
Assess, evaluate, test, and deploy area specific emergency evacuation plans (including shelter in place options) for priority areas in Lane County. Secondary benefits of this project will include informing local stakeholders (in every Fire District) about mitigation efforts (e.g. fuels reduction projects), critical infrastructure impacts, and emergency and evacuation preparedness steps.	
Priority	Status/Target timeframe
Top 5	2-3 Years
Coordinating Organization:	
Lane County- Emergency Management; Search and Rescue; GIS Staff	
Partners Involved	
ODF, Lane Fire Defense Board, Lane County Search & Rescue, Lane County GIS, University of Oregon, State of Oregon Hazard Mitigation Office	
Action Item Review Form	
Action(s) Taken/Accomplishments	
Applied for Hazard Mitigation Assistance Funding, to fund planning project. Application being submitted 7/1, project scope will include producing final product for emergency evacuation plans in high hazard areas. Completed a pilot planning project with local Fire District on evacuation area, potentially high risk with limited egress options, determining solid base plan to utilize in future planning efforts with additional Fire Districts.	
What Went Well	
Lessons learned	
Suggestions for moving forward	
Dates of action	Funding Source(s) used
2020	Hazard Mitigation Assistance

Table A.8: Worksheet 2.1.4

Action Item	
ID#	Action Item Title/Description
2.1.4	Develop Community Response Plans for dealing with wildfire and prescribed fire smoke impacts in Lane County.
Purpose/Rational	
Having a response plan for reducing harm to landowners from smoke impacts in a community will allow more prescribed fire treatments and reduce negative impacts when wildfire smoke is present. The increase in treatments will lower fire danger in and adjacent to the WUI in Lane County.	
Priority	Status/Target timeframe
Medium	Ongoing, Target Completion by 2023
Coordinating Organization:	
Hazardous Fuels Subcommittee	
Partners Involved	
ODF, USFS, LRAPA, DEQ, Lane Fire Defense Board, Lane County EM, Lane County Public Health, University of Oregon Partnership for Disaster Resilience, Southern Willamette Forest Collaborative	
Action Item Review Form	
Action(s) Taken/Accomplishments	
What Went Well	
Lessons learned	
Suggestions for moving forward	
Track the 2020 Oakridge smoke mitigation project closely for lessons learned and possibly use as template for countywide strategies and plan(s)	
Dates of action	Funding Source(s) used
TBA	

Table A.9: Worksheet 2.2.1

Action Item	
ID#	Action Item Title/Description
Action 2.2.1	Incorporate BLM/USFS critical road and response infrastructure into the Lane County Wildland-Urban Interface Risk Assessment. See “Rural Response: Priorities for Fuel Reduction” Map in Section 2, Risk Assessment.
Purpose/Rational	
Landowner Survey — Protecting critical infrastructure was a top priority for wildfire planning from survey respondents, with the majority of landowners indicating it was very important.	
Priority	Status/Target timeframe
Medium	Complete, review during next update (2023)
Coordinating Organization:	
Hazardous Fuel Subcommittee	
Partners Involved	
LMD & LC Parks and Recreation; USFS/BLM, ODF, Friends of Buford Park and Mt. Pisgah, OSFM	
Review Form	
Action(s) Taken/Accomplishments	
Between the fall of 2019 and the spring of 2020 representatives from fire response agencies including USFS, BLM, ODF, and the Lane Fire Defense board identified priorities for fuel reduction along roads and in communities. Over 400 miles of roads were identified on USFS or BLM lands as a priority for evacuation and response. This data is displayed as Figure 2.14 in Section 2 of the CWPP.	
What Went Well	
Representatives were established fire response personnel with decades of local knowledge of their districts. This allow for rapid identification of concern areas.	
Lessons learned	
Coordinating with over 20 districts and digitizing hard copy map data was a time-consuming process. Starting the process at least 6-8 months in advance would have provided more time for a detailed review from partners.	
Suggestions for moving forward	
Start the process 6-8 months in advance. Use existing maps to make refinements. The current map does not display categorical data describing the concern area. Consider performing this function to better display and distinguish roads of concern and safety/evacuation routes.	
Dates of action	Funding Source(s) used
11/12/2019	ODF and partner staff time

Table A.10: Worksheet 2.2.2

Action Item	
ID#	Action Item Title/Description
Action 2.2.2	Maintain and update fire district boundary data.
Purpose/Rational	
<p>Risk assessment team request- The CWPP has value primarily as a shared information record utilized by all of the implementing partners on a weekly, monthly and annual basis as the need arises. Risk assessment information provided by fire districts is an essential part of that record. By digitizing district input the data is in a format that can be made widely available to all those who need it. Currently, there are discrepancies between fire district boundaries recorded by LCOG and the information provided by the fire protection districts surveys.</p> <p>2020 Update: This Action Item is being maintained as a best practice.</p>	
Priority	Status/Target timeframe
Medium	Review during next update (2023)
Coordinating Organization:	
Lane County Land Management	
Partners Involved	
Lane County Public Works GIS; Rural Fire Protection Districts (rural fire districts), Municipalities (City – Fire Districts), LCOG	
Review Form	
Action(s) Taken/Accomplishments	
LMD and LCOG Fire district boundary maps are consistent. LMD GIS has a fire district layer boundary.	
What Went Well	
There is a process in place for updating the map with properties annexed into the fire district service boundary.	
Lessons learned	
Ensure that there is a process for updating LMD and LCOG maps so that they are consistent with one another.	
Suggestions for moving forward	
Continue to update all fire district boundary maps with the most up to date boundary information. Stay up to date on fire district annexations.	
Dates of action	Funding Source(s) used
2005-2020	Title II funds and permit fees

Table A.11: Worksheet 2.2.3

Action Item	
ID#	Action Item Title/Description
Action 2.2.3	Incorporate, maintain, and update Lane County's Wildland-Urban Interface Risk Assessment GIS data elements as new data becomes available.
Purpose/Rational	
<p>Stakeholder Phone Interviews- Identified the use of GIS and local communities' risk assessments to update the county's risk assessment</p> <p>Example Programs:</p> <ul style="list-style-type: none"> - California State Fire Plan- Uses community information regarding GIS overlays of different wildfire factors to prioritize pre-fire management projects - Idaho State Fire Plan- Identified the use of GIS to develop "National Fire Plan related projects" - Josephine County Integrated Fire Plan- Uses GIS to develop and maintain Josephine County's risk assessment <p>2020 Update: This Action Item is being maintained as a best practice.</p>	
Priority	Status/Target timeframe
Medium	Review during next update (2023)
Coordinating Organization:	
Lane County Land Management Division	
Partners Involved	
Lane County Public Works GIS; ODF, Rural Fire Protection Districts, Municipalities, Utilities	
Review Form	
Action(s) Taken/Accomplishments	
The WUI was updated with the 2020 CWPP update and is a useable GIS layer.	
What Went Well	
The map was updated with the most current available WUI data.	
Lessons learned	
Recognize the different scale in datasets used for updating the WUI layer.	
Suggestions for moving forward	
Keep this Action Item for maintenance of the layer with future plan updates.	
Dates of action	Funding Source(s) used
2005-2020	Title II and LMD long range planning

Table A.12: Worksheet 2.2.4

Action Item	
ID#	Action Item Title/Description
2.2.4	Expand "Rural Response: Priorities for Fuel Reduction" Map to include additional local information, structural vulnerability assessments and updated hazardous fuel treatment maps for example.
Purpose/Rational	
<p>Landowner Survey</p> <ul style="list-style-type: none"> Protecting Critical Infrastructure was the top priority for wildfire planning, with the majority of landowners indicating it was very important. <p>Wildfire Mitigation Best Practices</p> <ul style="list-style-type: none"> Understanding where past fuel reduction work has occurred, as well as community level information including structural vulnerability assessments improves efficient use of limited wildfire prevention and planning resources. 	
Priority	Status/Target timeframe
Medium	Ongoing, Target Completion 2023
Coordinating Organization:	
Fire Defense Board & Hazardous Fuel Subcommittee	
Partners Involved	
ODF, USFS, BLM, EM	
Review Form	
Action(s) Taken/Accomplishments	
Between the Fall of 2019 and the spring of 2020 representatives from fire response agencies including USFS, BLM, ODF, and the Lane Fire Defense board identified priorities areas for fuel reduction across Lane County. Some of these priority areas are based on qualitative community assessments.	
What Went Well	
Having a designated Fire Defense Board Representative to communicate needs aided coordination with structural protection districts.	
Lessons learned	
Begin the process early, preferably a year before the target completion date. Utilize existing cooperatives, boards and committees to disseminate data collection work. The Rivers to Ridges Partnership, Lane Fire Defense Board, and LCOG are likely participants which should be engaged early and often.	
Suggestions for moving forward	
Using Figure 2.14 as a base map, create local assessment area (coast, W. Valley, Cascades) maps including hazardous fuel treatment areas and structural vulnerability assessments by community. Use meta-data from Figure 2.14. Consider including restoration treatment areas to better understand where fuels reduction is occurring on a landscape level.	
Dates of action	Funding Source(s) used
Fall 2019	Staff Time, WSFM Grants

Table A.13: Worksheet 2.2.5

Action Item	
ID#	Action Item Title/Description
Action 2.2.5	Update rural addressing data collection project for county.
Purpose/Rational	
Lane County Public Works currently is developing the Rural Addressing Project. <ul style="list-style-type: none"> - The project would refine current information to a point layer for structural locations. - The project will improve emergency response times, providing benefits to multiple objectives - The information will improve the accuracy of the wildland-urban interface boundary by refining the density layer. - Public Works indicates that this project is only about 18% complete and that there are 44,000 addresses to map 2020 Update: This Action Item is being maintained as a best practice.	
Priority	Status/Target timeframe
Medium	Ongoing
Coordinating Organization:	
Lane County Land Management Division	
Partners Involved	
Lane County Public Works GIS	
Review Form	
Action(s) Taken/Accomplishments	
Current addresses have been mapped and a process is in place for mapping new addresses.	
What Went Well	
The project was completed with the mapping of 44,000 addresses.	
Lessons learned	
Good communication between LMD and GIS is essential to ensure new addresses get mapped.	
Suggestions for moving forward	
Continue the current process for tracking and mapping new addresses.	
Dates of action	Funding Source(s) used
2005-2020	Permit fees

Table A.14: Worksheet 2.3.1

Action Item	
ID#	Action Item Title/Description
Action 2.3.1	Utilize maps in the CWPP risk assessment to guide and identify new partners and opportunities for cross-boundary collaboration. Coordinate the implementation of landscape scale hazardous fuel projects.
Purpose/Rational	
HFRA Goals, Stakeholder Phone Interviews, Firewise Workshop Feedback- Identified a need for the prioritization of fuels reduction projects. This will also continue to help leverage funding sources from multiple agencies and land ownerships to complete work that is deemed high priority for Lane County.	
Priority	Status/Target timeframe
Top 5	Ongoing
Coordinating Organization:	
Hazardous Fuel Subcommittee	
Partners Involved	
Lane County Fire Chiefs, Lane County EM, Board of Commissioners, owners of sites identified for potential projects, ODF, USFS, BLM	
Review Form	
Action(s) Taken/Accomplishments	
Multiple projects have been accomplished within areas identified in the Lane County CWPP risk assessment to date with additional projects planned. Examples include: BLM Community Assistant Grant Projects- These projects have reduced hazardous fuels on City or Eugene, Lane County Parks, and Willamalane managed lands along strategic property boundaries. Oakridge Westfir Fuels Reduction Project- This project is reducing hazardous fuels on Forest Service managed lands adjacent to the communities of Oakridge and Westfir.	
What Went Well	
Numerous projects have been completed on multiple ownerships within Lane County's WUI areas. Project specifications have been tailored to the local ownership and community's needs, resulting in a range of implementation tools from prescribed under-burning to alternatives to burning such as chipping and mulching.	
Lessons learned	
Smoke management limitations are a challenge whenever burning adjacent to communities. Windows for conducting prescribed burns were hard to predict, and some units in the Oakridge Westfir project were modified from under burning to hand piling and burning to take advantage of more predictable opportunities to burn piles during the fall and winter.	
Suggestions for moving forward	
Land managers from all agencies within the county will need to continue the collaboration and communication that has already been established to take advantage of funding mechanisms, appropriate project design, new partners, and prescribed fire implementation opportunities.	
Dates of action	Funding Source(s) used
2007-2020	BLM Community Assistance Grants, US Forest Service Hazardous Fuels Funds, WSFM Grants

Table A.15: Worksheet 2.3.3

Action Item	
ID#	Action Item Title/Description
Action 2.3.3	Prescribed Fire: Increase local capacity, coordination and explore policy improvements to increase the pace and scale of prescribed fire as a cross-boundary tool to reduce wildfire risk on tribal, public and private properties.
Purpose/Rational	
<p>Landowner Survey: –73% of residents indicated they were supportive of prescribed fire as a means to treat hazardous fuel.</p> <p>Success of the Rivers to Ridges Controlled Ecological Burn Program: –Over 30 years providing safe ecological burns in the southern Willamette Valley with various partners, resources and providing opportunities for training and capacity building. Predominantly in and around Eugene’s West Eugene Wetlands and Fern Ridge Reservoir, as well as City of Eugene and Lane County parks.</p>	
Priority	Status/Target timeframe
Medium	Ongoing
Coordinating Organization:	
Hazardous Fuels Subcommittee (with support from the Rivers to Ridges Partnership)	
Partners Involved	
USFWS, NRCS, TNC, Private Landowners, Long Tom Watershed Council, Municipal and Rural Fire Districts, BLM, ODF, ODA, USFS, National Weather Service, Friends of Buford Park and Mt. Pisgah, Willamalane.	
Review Form	
Action(s) Taken/Accomplishments	
<ul style="list-style-type: none"> • Average of 256 acres broadcast burning annually for a total of 139 units and 3988 acres since 2005 in Rivers to Ridges. • 13 coordinating and regulatory organizations listed as active participants in the Rivers to Ridges Ecological Burn Program. • Large percentage of burns in the WUI adjacent to private land, within Eugene Urban Growth Boundary and/or City Limits. • Opportunities for municipal firefighters to train in the wildland environment, and for all firefighters to experience and train with live fire. 	
What Went Well	
Coordinating before, during, and after fall burn season with partners to ensure that everyone was on the same page going in, knew what one another were doing on burn days, and were able to reflect on what happened to improve moving forward.	
Lessons learned	
Coordinate with LRAPA in advance and let them know if any issues with operating within their permit are encountered. Over communicate with partners and fire districts about plans to burn to ensure that all who need to know have been informed.	
Suggestions for moving forward	
Engage on the front end of projects with Grand Ronde and Siletz tribes. Support grant opportunities to fund work on private lands. Continue to engage with LRAPA and ODF collaboratively. Review and incorporate improvements from Action Item 2.1.4: community response plans for dealing with wildfire and prescribed fire smoke impacts in Lane County. Include prescribed fire treatments and opportunities in Figure 2.14.	
Dates of action	Funding Source(s) used
2005-2020	OWEB, USFWS Partners Program, City of Eugene,

Table A.16: Worksheet 2.3.4

Action Item Form	
ID#	Action Item Title/Description
2.3.4	Complete 2 cross-boundary fuels reduction projects that leverage opportunities identified from Action Item 2.3.1.
Purpose/Rational	
<p>Stakeholder Phone Interviews, Firewise Workshop Feedback- Identified a need for the prioritization of fuels reduction</p> <p>Example Projects:</p> <ul style="list-style-type: none"> – Eugene Wildfire Collaborative, https://www.eugene.or.gov/CivicAlerts.aspx?AID=4210. See review form below for more information. 	
Priority	Status/Target timeframe
High	Ongoing, Target Completion 2022
Coordinating Organization:	
Hazardous Fuels Subcommittee, Oregon Department of Forestry	
Partners Involved	
City of Eugene, The Northwest Youth Corps, Eugene Parks and Open Spaces, Eugene Springfield Fire Department, Lane County Public Works and the Long Tom Watershed Council	
Review Form	
Action(s) Taken/Accomplishments	
Dead-end roads have been prioritized for Firewise Community outreach and establishment. Non-federal hazardous fuel funding from the City of Eugene focused on treating 1) roadways in the South Hills of Eugene 2) dead-end Firewise communities and 3) public properties adjacent to private residence.	
What Went Well	
Interagency Collaboration, selecting and treating highly visible areas to demonstrate fuels reduction.	
Lessons learned	
Increased time and resources needed for planning. Inclusion of more non-governmental partners would be helpful. Including non-fire messaging and augmenting treatment prescriptions i.e. habitat restoration increased participation from private landowners.	
Suggestions for moving forward	
Included countywide organization to help replicate and organize these types of projects across the county. Ideas for future partners include the Fire Prevention Co-Op, the Upper Willamette Soil and Water Conservation District, Local Watershed Councils, Other Municipalities, USFS, BLM, Parks and Recreation Departments and Neighborhood Associations and Organizations.	
Dates of Action	Funding Source(s) used
2019	City of Eugene Wildfire Mitigation Funding, BLM WUI Assistance Funding.

Table A.17: Worksheet 3.1.1

Action Item	
ID#	Action Item Title/Description
3.1.1	Develop a coordinated multi-agency seasonal outreach campaign that includes county-specific educational materials to promote effective risk reduction practices and communicate landowner assistance programs in the wildland/urban interface.
Purpose/Rational	
<ul style="list-style-type: none"> ▪ HFRA Goals- collaboration, reduction of hazardous fuels, and reduction of structural ignitability. ▪ Stakeholder interviews, Firewise workshop- Identified an opportunity to develop a “model” home or property recognition program to encourage greater participation by homeowners in risk reduction projects. Identified an opportunity to educate the public and dispel negative perceptions about the aesthetics of fuel reduction and defensible space. Seasonal community events such as "free chipping or dump days" encourages public participation in fuels reduction projects as well as provides a venue for disseminating information about wildfire risk reduction. 	
Priority	Status/Target timeframe
Top 5	Ongoing, Target Completion 2022
Coordinating Organization:	
Lane County Emergency Management with support from the Lane County Fire Prevention Co-Op.	
Partners Involved	
ODF, OSFM,USFS,BLM, Keep Oregon Green & Lane County Fire Defense Board	
Review Form	
Action(s) Taken/Accomplishments	
Staffing of Lane County Home and Garden Show in the spring to distribute risk reduction material. Radio campaign starting in May with wildfire preparedness message.	
What Went Well	
The landowner survey showed that 51.6% of people had received info about protecting their property from wildland fire through: News media (radio, newspaper, TV)	
Lessons learned	
There is still a portion (19.3%) of landowners in the county that haven't received information on risk reduction strategies.	
Suggestions for moving forward	
There is a need to continue to develop new cost-effective ways to distribute risk reduction messaging in Lane County. Mail, Fact Sheet/Brochure and Internet are landowners preferred ways of delivery.	
Dates of action	Funding Source(s) used
Ongoing Since 2005	Lane County Fire Defense Board, National Fire Plan

Table A.18: Worksheet 3.1.2

Action Item	
ID#	Action Item Title/Description
3.1.2	Establish a communication strategy that utilizes existing stakeholder channels to disseminate risk reduction messages.
Purpose/Rational	
Stakeholders currently promote risk reduction information at an organizational level. By creating a more collaborative campaign, stakeholders can amplify the same message.	
Priority	Status/Target timeframe
High	Ongoing, Target Completion 2022
Coordinating Organization:	
Lane County Emergency Management	
Partners Involved	
ODF, LCFDB, LC Land Management	
Review Form	
Action(s) Taken/Accomplishments	
What Went Well	
Lessons learned	
Suggestions for moving forward	
Dates of action	Funding Source(s) used

Table A.19: Worksheet 3.1.3

Action Item	
ID#	Action Item Title/Description
Action 3.1.3	Create and maintain a website including county specific wildfire risk reduction and preparedness resources for residents and stakeholders.
Purpose/Rational	
<p>Stakeholder interviews, Firewise workshop- Identified a need to make information more accessible to the public. A website would be a good central place to promote educational efforts and provide tips on how to reduce wildfire risk.</p> <p>Example Programs-</p> <ul style="list-style-type: none"> - Douglas Forest Protective Association, OR- Has a website with information on their fire prevention programs - Spokane County, WA - “FireSafe Spokane” website contains information on how to create defensible space around a home and remove other hazards. The website gives an email address and a phone number where homeowners can sign-up for free inspections. <p>2020 Update: This Action Item is being maintained as a best practice.</p>	
Priority	Status/Target timeframe
High	Ongoing, Target completion 2020
Coordinating Organization:	
Lane County Land Management Division and Emergency Management	
Partners Involved	
US Forest Service, Rural Fire Protection Districts	
Review Form	
Action(s) Taken/Accomplishments	
CWPP has a webpage for downloading the plan. There is a project webpage for updating the CWPP, also containing information about wildfire protection measures.	
What Went Well	
The plan is published online and the plan update is advertised	
Lessons learned	
Should have a “one-stop-shop” for all things wildfire	
Suggestions for moving forward	
LMD and Emergency Management should collaborate to create an all-encompassing website for wildfire hazard, mitigation and response.	
Dates of action	Funding Source(s) used
2005-2020	Title III funds

Table A.20: Worksheet 3.2.1

Action Item Form	
ID#	Action Item Title/Description
3.2.1	Implement landowner assistance for fuel reduction projects including cost-share incentives. Increase local capacity, establish incentive programs to support yard debris disposal to assist landowners with hazardous fuels removal. Create disposal opportunities using alternative methods to burning.
Purpose/Rational	
<p>Landowner Survey Results and Stakeholder Phone Interviews Identified a need for the prioritization of fuels reduction</p> <p>Example Projects:</p> <ul style="list-style-type: none"> - Western States Fire Manager’s Grant Program, BLM WUI Assistance. See review form below for more information. 	
Priority	Status/Target timeframe
Top 5	Ongoing
Coordinating Organization:	
Oregon Department of Forestry	
Partners Involved	
Private Landowners, Long Tom Watershed Council, County, Municipal and Rural Fire Districts	
Review Form	
Action(s) Taken/Accomplishments	
<ul style="list-style-type: none"> • Over 5 million in Federal Grant Funding for hazardous fuel treatment and planning has been awarded in Lane County since the early 2000’s through 2 full-time Fire Planners and 2 seasonal ODF Fuels Reduction Crews. • ~50,000 landowners have received informational mailings regarding hazardous fuel treatments and risk reduction actions through these federal awards • ~20,000 landowners have received hazardous fuel inspections • ~5,000 private properties have been treated for hazardous fuels to improve defensible space and fire response access 	
What Went Well	
ODF Fuels Crews, Cost Share Programs, Identifying self-motivated communities to expand program impact through the establishment of Firewise Communities.	
Lessons learned	
Tax Incentives have not proceeded at the same pace or scale as cost-share incentives. Improvements to Oregon’s Defensible Space law and the 2019 Governor’s Council on Wildfire may offer improved tax incentive and policy pathways. Disposal of cut fuel remains a challenge for private property owners. Consider using this as a tax-incentive or rebate program for county refuse as well as exploring alternative methods of disposal.	
Suggestions for moving forward	
Continue prioritizing federal risk reduction funding and cost-share incentives for private properties. Partner with watershed enhancement organizations including local Watershed Councils to further increase pace and scale of private property hazardous fuel removal and disposal. Equipment purchase remains a challenge, consider alternative sources to purchase large equipment, industrial chippers for example, to improve program efficiency.	
Dates of action	Funding Source(s) used
2003-2020	National Fire Plan primarily through Western States Fire Managers and BLM WUI Assistance Grant funding.

Table A.21: Worksheet 3.2.2

Action Item	
ID#	Action Item Title/Description
3.2.2	Use the 2019 Governor’s Council on Wildfire Response to guide future CWPP projects.
Purpose/Rational	
Ensures the Lane County CWPP incorporates and aligns with state directed policies, funding opportunities, and a cohesive wildfire response framework in Oregon	
Priority	Status/Target timeframe
High	Ongoing
Coordinating Organization:	
Office of the State Fire Marshal and Oregon Department of Forestry	
Partners Involved	
ODF, LMD, EM, OEM	
Review Form	
Action(s) Taken/Accomplishments	
Review of the 2019 Report	
What Went Well	
TBD	
Lessons learned	
See the Governor’s Council on Wildfire Response Report, TBD	
Suggestions for moving forward	
Maintain close communication with state executive staff on upcoming implementation timelines and strategies as they develop.	
Dates of action	Funding Source(s) used
2019	None

Appendix B

Implementation and Maintenance

This appendix serves as documentation for the implementation and maintenance of the Lane County Community Wildfire Protection Plan (CWPP). The primary purpose of this appendix is to document the Steering Committee's efforts to implement and maintain the plan including; the 2020 update process, 2020 plan maintenance and the anticipated 2023 update process.

2020 Update Process

The Steering Committee convened in September of 2018 to begin the update process. Between 2018 and spring of 2019 project scoping was conducted which included:

- 1) The identification and formalization of Core Committee and members
- 2) Review of the 2005 plan
- 3) Identifying potential update components and defining roles and responsibilities to committee members and agencies
- 4) Inclusion of additional partners and sub-committee members and defining additional roles
- 5) Updating the Lane County Board of Commissioners on the intent to update the plan

The CWPP committee meetings were conducted bi-monthly to review updated sections, items, and vote-in the final Steering Committee member. The CWPP Steering Committee submitted the 2020 CWPP Plan update to the Board of County Commissioners for County adoption on July 7th 2020. See Table B.1 "2020 Update Components" for a list of major updates made to the 2005 CWPP.

2020 Plan Maintenance

Plan maintenance is a critical component of the CWPP plan. Proper maintenance of this plan should improve Lane County's efforts to reduce risk in the wildland-urban interface. Lane County, with help from ODF and the 2020 CWPP Steering Committee have developed a method to ensure a regular review and update of the CWPP occurs. The Committee will be responsible for maintaining and updating the CWPP through a series of meetings outlined in the Maintenance Schedules Table 5.1 on page 63.

2023 Plan Update Process (Anticipated)

The intent of the 2020 Steering Committee is for the next CWPP revision to include the plan's incorporation into Lane County's Natural Hazards Mitigation Plan (NHMP) as either the Wildfire Hazard Section or Annex. The year 2023

was selected by the Steering Committee for the next update to coincide with the NHMP update timeline. Represented agencies on the 2020 CWPP Steering Committee will participate as CWPP Committee members for the next plan update, although representative person(s) may change. Natural hazards share overlapping boundaries, concerns, and often Action Items. Incorporating the CWPP into the NHMP should improve cross-boundary communication and collaboration, a key goal of the CWPP.

Table B.1

2020 Update Components	Committee Vote carried by	Date
2020 CWPP Update Table		
<ul style="list-style-type: none"> Records plan update components 	FDB, EM, LMD, OSU, ODF, USFS & BLM	6/09/2020
Executive Summary		
<ul style="list-style-type: none"> Drafted and added 	EM, LMD, OSU, ODF, USFS & BLM	5/11/2020
Section 1: Introduction		
<ul style="list-style-type: none"> Reduced redundancy 	EM, LMD, FDB & ODF	1/22/2019
Section 2: Risk Assessment		
<ul style="list-style-type: none"> Changed Assessment scale from 5th level watershed to 3rd level watershed Completely new data source (USFS/Pyrologix 2017 Quantitative Wildfire Risk Data) 	EM, LMD, FDB & ODF	1/22/2019
New Maps		
<ul style="list-style-type: none"> 2 Community At Risk (CARs) Maps <ul style="list-style-type: none"> Display communities listed in a recent ODF 2020 CARs Report Rural Response: Priorities for Fuel Reduction Map <ul style="list-style-type: none"> Displays response concern areas identified at the local level 	EM, LMD, OSU & ODF	5/18/2020
Changes to Existing Maps		
<ul style="list-style-type: none"> Wildland Urban Interface <ul style="list-style-type: none"> Now includes quantitative boundaries & types of WUI. 	EM, LMD, OSU & ODF	5/18/2020
Potential Impact Map		
<ul style="list-style-type: none"> Replaces the 2005 "Wildfire Hazards" Map 	EM, LMD, OSU & ODF	5/18/2020

Table B.1 (Continued)

2020 Update Components	Committee Vote carried by	Date
Section 3: Community Outreach		
<ul style="list-style-type: none"> Conducted a 2020 Community Survey largely following the 2005 survey Comparison of notable changes from the 2005 & 2020 Landowner responses were made 	EM, LMD OSU & ODF	3/25/2019
Section 4: Action Items		
<ul style="list-style-type: none"> Review and reprioritization of Action Items (matrix) Top 5 Actions identified Listed Removed Action Items with justification New Action Item Review Form created 	EM, LMD, FDB & ODF	6/02/2020
Goals and Objectives		
<ul style="list-style-type: none"> Unchanged 	FDB, EM, LMD & ODF	11/01/2019
Action Item Matrix		
<ul style="list-style-type: none"> A review of all 2005 Action Items occurred. <ul style="list-style-type: none"> Changed ranking to be either Top 5, High, or Medium Added 2.1.3, 2.1.4 & 2.3.1 Removed 1.2.1, 2.2.6, & 2.3.2 	EM, LMD, OSU & ODF	5/18/2020
Section 5: Plan Implementation and Maintenance		
<ul style="list-style-type: none"> Co-conveners changed from EM & LMD to EM and ODF Core Committee Members: ODF, EM, LMD, LC FDB, USFS & BLM 	FDB, EM, LMD, OSU, ODF, USFS & BLM	6/02/2020
Appendix A: Action Items Worksheets & Matrix		
<ul style="list-style-type: none"> New format now captures ongoing nature of Action Items <ul style="list-style-type: none"> Review Subsection includes Accomplishments, Lessons Learned & Suggestions Moving Forward 	EM, LMD, OSU, ODF, USFS & BLM	5/11/2020
Appendix B: Implementation and Maintenance		
<ul style="list-style-type: none"> Reworded narrative to include actions taken to update plan from 2005 version to 2020 plan. Identified staff responsible for updating documents, and, outlined the process utilized to update the plans and final disposition. 	FDB, EM, LMD, OSU, ODF, USFS & BLM	6/02/2020
Appendix C: Risk Assessment Methods		
<ul style="list-style-type: none"> Included OWRE data methodology Data collection and priority identification methodology for Rural Response: Priorities for Fuel Reduction Map 	EM, LMD, OSU & ODF	5/18/2020

Table B.1 (Continued)

2020 Update Components	Committee Vote carried by	Date
Appendix D: Fuel Treatment Types		
<ul style="list-style-type: none"> Matrix was consolidated to remove ecoregions Removed Action Item 2.2.6 	EM, LMD, ODF, USFS, & BLM	3/25/2020
Appendix E: Landowner Survey Summary Data		
<ul style="list-style-type: none"> Summary data and landowner responses from the 2019 Landowner Survey is included. 	EM, LMD, FDB, OSU, ODF, USFS, & BLM	6/02/2020
Appendix F: Wildfire Resources		
<ul style="list-style-type: none"> Updated Plans and Policies subsection Added Fire Siting Recommendations subsection Updated wildfire resources subsection 	EM, LMD, FDB, OSU, ODF, USFS, & BLM	6/09/2020
Plans and Policies		
<ul style="list-style-type: none"> Updated contact information Includes 2019 Governor’s Council on Wildfire Report 	EM, LMD, FDB, OSU, ODF, USFS, & BLM	6/09/2020
Fire Siting Recommendations		
<ul style="list-style-type: none"> Subcommittee’s recommended changes to Lane County’s Fuel Break Standards Fire modeling scenarios were run to inform suggested revisions Conducted & provided literature review to inform code changes Undesirable planting list added 	EM, LMD, FDB, ODF, USFS, & BLM	6/09/2020
Wildfire Educational Resources		
<ul style="list-style-type: none"> Lane County Defensible Space Flyer Oregon’s Defensible Space Act: Homeowner self-certification checklist for “high” risk areas Ember Aware Poster: Tips for home hardening 	EM, LMD, FDB, ODF, USFS, & BLM	6/09/2020
Appendix G: Contact Information		
<ul style="list-style-type: none"> Agency contacts organized by topic and function 	EM, LMD, OSU, ODF, USFS, & BLM	5/11/2020
Appendix H: 2005 Firewise Stakeholder Survey		
<ul style="list-style-type: none"> 2005 CWPP data referenced in 2020 plan 	EM, LMD, FDB, ODF, USFS, & BLM	6/09/2020
Appendix I: Acronyms and Glossary of terms		
<ul style="list-style-type: none"> Updated to reflect 2020 Plan 	EM, LMD, OSU, ODF, USFS, & BLM	5/11/2020

Appendix C

Risk Assessment Methods

This appendix outlines the specific methods, data, and values used to evaluate wildfire risk in Lane County.

Mapping Methods

The updated Lane County Risk Assessment primarily relies on the Oregon Wildfire Risk Explorer (OWRE). From the OWRE:

“The Oregon Wildfire Risk Explorer is designed to increase wildfire awareness, give a comprehensive view of wildfire risk and local fire history, and educate users about wildfire prevention and mitigation resources. The site provides decision support for homeowners, communities, and professionals to identify and prioritize local fire prevention and mitigation efforts.

This Advanced Wildfire Risk Explorer serves professional planners to inform updates to Community Wildfire Protection Plans (CWPP) and Natural Hazard Mitigation Plans (NHMP), with extensive data resources, detailed summaries, and full wildfire risk inventory report.”

Lane County has utilized the OWRE for its intended purpose, to update the local CWPP with the most current wildfire risk data.

The specific methods involved gathering data in the form of GIS layers from the OWRE for the subject area of this plan and displaying that data to depict wildfire risk, the wildland-urban interface (WUI) and potential wildfire impact on resources and assets. These layers were clipped from a state-wide view down to the boundaries of Lane County. Wildfire risk, WUI, and potential impact layers are displayed on a single map and have corresponding maps that break Lane County into the assessment areas (ecoregions). The display of the data was altered for each map to accurately demonstrate the values.

Overall Wildfire Risk Maps

The data layer from the OWRE organized wildfire risk into the following 6 categories; very high, high, moderate, low, low benefit, and benefit.

To simplify the data and more clearly show areas of wildfire risk, the categories were condensed into just high, moderate and low risk. The categories were grouped as shown in Table C1.

Table C1

OWRE Categories		CWPP Map Categories
Very High and High	→	High Risk
Moderate and Low	→	Moderate Risk
Low Benefit and Benefit	→	Low Risk

Wildland Urban Interface Maps

The OWRE WUI layer presented the data in 13 categories. The Steering Committee distilled the categories to just three based on local knowledge of development and fuel loads in Lane County. The categories were grouped as illustrated in Table C2.

Table C2

OWRE Categories		CWPP Map Categories
High, Medium & Low Density Interface	→	Interface: High & Low Density
High and Medium Density Intermix	→	Intermix: Medium Density
Low Density Intermix and Very Low Density Veg*	→	Intermix: Low Density

High, Medium, Low and Very Low Density No Veg, and Uninhabited No Veg and Uninhabited Veg were not included on the map.

*Veg stands for vegetation

Overall Wildfire Potential Impact Maps:

This data layer is similar to the Overall Wildfire Risk layer, as the OWRE organized wildfire impact into categories of very high, high, moderate, low, low benefit and benefit. The CWPP map condensed those into high, moderate and low impact, as shown in Table C3.

Table C3

OWRE Categories		CWPP Map Categories
Very High and High	→	High Impact
Moderate and Low	→	Moderate Impact
Low Benefit and Benefit	→	Low Impact

Data Source

The data used in this analysis can be viewed and downloaded with the Advanced Oregon Wildfire Risk Explorer, which can be accessed at the following link:

https://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning

Communities at Risk

The risk assessment also includes a section identifying communities at risk. This section utilized the Oregon Department of Forestry's 2020 Communities at Risk Report. The risk assessment adopted the communities identified in this report as Lane County's communities at risk. The Communities at Risk Map utilizes the WUI data layer and a fire district boundary and points layer sourced from Lane County Public Works GIS. The full 2020 ODF Communities at Risk Report can be accessed here: <https://www.oregon.gov/odf/Pages/Reports.aspx>

Rural Response: Priority Areas for Fuel Reduction

Figure 2.14 is a combination of the Potential Impact to Infrastructure layer from OWRE as well as concern area identification by local fire response agencies. OWRE layer "Potential Impact to Infrastructure" was simplified to display line resources (roads, transmission lines and railways) without regard to level of risk. See OWRE data link on the previous page for more detail on how the "Potential Impact to Infrastructure" layer was developed.

In the winter of 2019, the following departments and agencies reviewed roads and communities within their jurisdiction for potential wildfire hazards: USFS, BLM, ODF and the Lane Fire Defense Board (Lane County Structure and Rural Fire Departments). The listed agencies coordinated with local government and stakeholders to identify and map concern areas.

Identified areas were selected using a range of categorical attributes, see Table C4 for a list of attributes. Because these attributes are not displayed in the "Rural Response: Priority Areas for Fuel Reduction" map, meta-data has not been included in this plan. Attribute data is captured in GIS layer information and may therefore be useful in the future to refine concern areas, potentially informing countywide evacuation planning and/or hazardous fuel priority treatment areas. For example a road may have: dense fuel along roadsides (1c), distance to water concern (2a) on a steep grade (3c), dead end road (3b) with a long response time (3a), resulting in a description of 1c, 2a & 3abc. Roads and Areas identified on the "Rural Response: Priorities for Fuel Reduction" Map are displayed because one or more of the hazard categories in Table C4 were identified. This data is not displayed by category, more in-depth analysis should be conducted, with results displayed at a finer scale, perhaps by Assessment Area (ecoregion).

Table C4

Attributes for Rural Response Priority Mapping Exercise	
1. Fuel Characteristics	
<ul style="list-style-type: none"> A. High fuel loading (storm damage for example) B. High fuel flammability (gorse, scotch broom, etc.) C. Dense fuel along roadsides D. Other 	
2. Community	
<ul style="list-style-type: none"> A. Distance to water B. Firewise USA site or proactive community C. High housing density D. Other 	
3. ACCESS	
<ul style="list-style-type: none"> A. Response time concerns B. Dead-end road(s) C. Steep grade D. Other E. Bridge restrictions and/or clearance issues 	
4. Critical Infrastructure	
<ul style="list-style-type: none"> A. Hospital B. Highway/major access road C. Utility- communication tower(s) water supply, dam, transmission lines, waste treatment, etc. D. Other 	
5. Cultural	
<ul style="list-style-type: none"> A. High ignition incidence B. Unsafe conditions for first responders C. Unprotected areas D. Other 	
6. Other	
<ul style="list-style-type: none"> A. Other Concerns not captured in Categories 1-5 	

Credits

Primary data contact: Alex Rahmlow, Fire Planning Coordinator, Oregon Department of Forestry, Western Lane District. Alex.J.Rahmlow@oregon.gov. Work organized by Alex Rahmlow. Priority Areas identified by various structural fire departments and natural resource agencies in Lane County, OR. Digitized by AJ Corwin, Oregon Department of Forestry Western Lane District.

Appendix D

Fuel Treatment Types

One of the minimum requirements for a 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 ecoregions present in Lane County, the appropriate treatment methods vary considerably by vegetation type, annual precipitation, slope, aspect, and elevation.

The following tables (D.1-D.3) provide 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. Additionally, prescribed fire involves some risk of liability and varying restrictions based on treatment type. It is important to check with local fire and smoke management agencies before burning. The tables only provide a general framework. Individual projects will need to be tailored to the conditions present in the local area. Local fuels specialists should be consulted to determine the most feasible array of fuels treatment options for a given geographical area.

Table D.1: Prescribed Fire Treatment Method

Prescribed Fire Treatment Method (including broadcast, understory, or pile burning)
<p>Advantages</p> <ul style="list-style-type: none"> • Encourages herbaceous growth and supports native species and ecosystems • Cost effective fuels treatment method in most cases
<p>Concerns</p> <ul style="list-style-type: none"> • Broadcast & understory burning requires skilled application and involves some risk of liability • Must invest time in informing and educating the public • May require additional costs if mop-up or post-burn monitoring of site is required • Multiple entries may be required to achieve objectives • Re-burn potential in areas of heavy fuels or duff
<p>Seasonality</p> <ul style="list-style-type: none"> • Broadcast & understory burning constrained by weather, fuel characteristics, and smoke management constraints • Pile burning may be conducted under a broader range of conditions (i.e. less constraints) • Low elevation seasonal inversions and valley fog may affect burning opportunities
<p>Application in WUI</p> <ul style="list-style-type: none"> • 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 • Most burning opportunities will exist along outer perimeters of urban areas/boundaries
<p>Maintenance & Scheduling</p> <ul style="list-style-type: none"> • Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment • Recreation and other high use areas may be evaluated annually as part of a fire prevention and fuels maintenance program planning

Table D2: Mechanized Treatment Method

Mechanized (i.e. large equipment) Treatment Method (including thinning pruning, lop and scatter, mowing, crushing, chipping, etc.)
<p>Advantages</p> <ul style="list-style-type: none"> • Large local labor and contract pool • Cost effective over larger areas • Most methods reduce fire risk by getting fuels on ground (accelerating decomposition rates) or by removal • Can be followed by prescribed fire where needed • Opportunities may exist for public to readily utilize material (i.e. chips, firewood, etc.)
<p>Concerns</p> <ul style="list-style-type: none"> • Large equipment limited to gentler slopes • Potential “product” may be market dependent • May be less economically feasible on small sites due to move-in/move-out costs • May create short-term increase in fire risk especially in high-use recreation areas • In high use areas, if site precludes prescribed fire as a follow-up treatment, fuels removal or increased fire prevention patrols may be warranted
<p>Seasonality</p> <ul style="list-style-type: none"> • May require shut-down periods on some sites due to soils conditions or seasonal wildlife concerns • May be constrained by fire season requirements in summer
<p>Application in WUI</p> <ul style="list-style-type: none"> • 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 • Proximity to private residences may limit mechanical use due to noise concerns
<p>Maintenance & Scheduling</p> <ul style="list-style-type: none"> • Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment • Re-entry into thinning areas may be scheduled using standard silvicultural practices • Recreation and other high use areas may be scheduled for annual mechanized treatments (i.e. mowing) • Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts

Table D3: Manual Treatment Method

Manual (i.e. hand) Treatment (including. thinning, pruning, hand piling, raking, etc.)
<p>Advantages</p> <ul style="list-style-type: none"> • Large local labor and contract pool • Opportunities for volunteers, partnerships, stewardships, or homeowner involvement • Can treat areas that cannot be treated by prescribed fire or mechanical means
<p>Concerns</p> <ul style="list-style-type: none"> • More labor intensive; may not be cost effective in areas of heavy fuels • May require more than one entry to achieve initial objectives for site
<p>Seasonality</p> <ul style="list-style-type: none"> • Work can usually be conducted year-round • Chainsaw use may be constrained by fire season requirements in summer
<p>Application in WUI</p> <ul style="list-style-type: none"> • 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)
<p>Maintenance & Scheduling</p> <ul style="list-style-type: none"> • Timing for subsequent treatments dependent upon condition class goals and degree of change made via initial treatment • Re-entry into thinning areas may be scheduled using standard silvicultural practices • Private landowners and homeowners may be advised as to recommended maintenance by fire protection experts

Appendix E

Landowner Survey Data

The purpose of the landowner survey was to gain information about how landowners in Lane County perceive the potential risk of wildfire and their attitudes towards risk reduction and preparedness strategies. This appendix shows the landowner survey questions and the data associated with those questions.

Responses to Open-Ended Questions

The Lane County Landowner Survey included a number of open-ended (e.g., fill in the blank) questions. The opened data can be found in a summarized format in Section 3, in relationship with the overall analysis of the data.

2005 LANDOWNER SURVEY DATA

Instructions: This survey focuses on wildland fire risk awareness, preparedness, and the risk reduction activities of property owners. The estimated time for completing the survey is fifteen to twenty minutes. It should be completed by an adult, preferably the head of the household. **Please return the survey in the enclosed postage paid envelope by March 21, 2005.** All responses are kept confidential.

Your participation is voluntary. If you have any questions regarding the survey, please contact Julie Baxter at the University of Oregon (541-346-3651). If you have questions regarding your rights as a research participant, please contact the Office of Human Subjects Compliance call (541) 346-2510. Please mail completed surveys to CPW, 1209 University of Oregon, Eugene, OR 97403.

WILDLAND FIRE RISK AWARENESS AND COMMUNICATION

The term *property* is used throughout this survey; please interpret this as including both land and structures such as homes.

1. Please check the box that represents your opinion on the level of risk at each of the three areas listed below:

Table E1 Opinion on Level of Wildfire Risk

Question	High	Medium	Low	None
How do you rate your property's risk to wildland fire?	16.7 %	44.1 %	36.3 %	2.9 %
How do you rate the risk of the properties in your neighborhood or area?	24.4 %	50.7 %	23.3 %	1.6 %
How do you rate your community's (e.g. roads, schools, hospitals, shopping centers, historic landmarks) risk to wildland fire?	6.4 %	37.0 %	50.9 %	5.7 %

2. Have you or someone in your household personally experienced a wildland fire? (Please check all that apply.)

- 45.6 % No experience with wildland fire
- 57.0 % Witnessed wildland fire or observed smoke or other effects of wildland fire
- 3.5 % Evacuated home due to a wildland fire
- 3.5 % Suffered property damage from a wildland fire

3. How have you received information in the past about protecting your property from wildland fire? (Please check all that apply.)

- 27.1 % I have not received information
- 2.0 % Public meeting or workshop
- 59.3 % News media (radio, newspaper, TV)
- 17.2 % Family, friends, or neighbors
- 20.9 % Fact sheet/brochure
- 28.2 % Local fire department or district
- 3.3 % Internet
- 9.0 % Other (specify):_____
- 5.1 % Neighborhood or community group, (specify):_____

4. What is your preferred method for receiving information about protecting your property from wildland fire? (Please check all that apply.)

- 48.8 % Newspaper
- 30.0 % Fire department/rescue
- 24.3 % Radio
- 5.1 % Schools
- 42.2 % Television
- 41.5 % Fact sheet/brochure
- 59.4 % Mail
- 11.3 % Public workshop/meetings
- 13.0 % Internet
- 12.1 % Agricultural extension service
- 1.8 % Other (specify):_____

FIRE PROTECTION AND PREPAREDNESS

5. Do you know if your property is serviced by a fire department or rural fire protection district? (Please check only one.)

- 19.9 % Fire department
- 70.4 % Rural fire protection district
- 3.8 % Not serviced by a fire department or district
- 5.9 % Don't know

6. Please answer the following fire protection and preparedness questions.

Table E2 Fire Protection and Preparedness

Question	Yes	No	Don't Know
A. Have you received information about wildland fire evacuation procedures for your community?	4.4 %	90.8 %	4.6 %
B. Does your household have a wildland fire evacuation plan?	30.0 %	66.0 %	3.8 %
C. Does your homeowner or business insurance policy include coverage in the event of structural damage or loss due to wildland fire?	49.9 %	7.1 %	42.8 %

REDUCING PROPERTY RISK TO WILDLAND FIRE

Property owners can take a number of actions to reduce the potential for property damage due to wildland fire. For instance, an owner can significantly reduce the chances of structures igniting during a wildland fire by creating and maintaining a defensible space around structures on their property. Defensible space is a fire-safe zone created by reducing flammable vegetation around a structure.

7. Please indicate if you have taken any actions to reduce the potential for fire losses on your property?

- 89.9 % Yes
- 10.1 % No (IF NO, Skip to Question 8)

7.1 If YES, which of the following actions have you taken on your property? (Please check all that apply.)

- 85.9 % Regularly clear roof/gutters of debris
- 87.9 % Reduced vegetation near structures (buildings) on property
- 66.3 % Reduced vegetation on other areas of property
- 23.5 % Planted native vegetation (plants)
- 23.8 % Invested in fire resistant building materials
- 29.6 % Installed a chimney spark arrester
- 32.8 % Installed a water source
- 9.0 % Invested in a sprinkler system
- 40.9 % Improved address signage for better visibility
- 16.7 % Widened the road leading to the property
- 10.0 % Other (specify): _____

8. Please indicate how likely you are to take the following actions to reduce the potential impacts of wildland fire to your property.

Table E3 Risk Reduction Activities Landowners are Likely to Take

Risk Reduction Action	Very Likely	Somewhat Likely	Not Likely
A. Reduce debris and vegetation on property	78.5 %	15.2 %	6.2 %
B. Create defensible zones around structures	64.9 %	25.2 %	9.9 %
C. Improve emergency access to property	35.1 %	20.1 %	44.8 %
D. Use fire resistant building materials	32.8 %	33.9 %	33.3 %

9. Which of the following incentives, if any, would motivate you to take additional steps to better protect your property from wildland fire?

- 69.7 % Insurance discount
- 29.2 % Grant program
- 68.6 % Tax break or incentive
- 12.2 % None of the above
- 5.6 % Other (specify): _____

REDUCING COMMUNITY RISK TO WILDLAND FIRE

10. Developed public and private lands can create a wildland fire risk when trees and underbrush grow densely near structures. Several methods can be used to maintain trees and underbrush to reduce the potential for wildland fire impacts. Mechanical thinning involves the use of chainsaws, brush mowers, or other specialized machines to reduce the number of shrubs and small trees, thus

reducing the potential for nearby structures to ignite. Prescribed burning involves controlling naturally caused fires or intentionally setting fires to burn under close and careful watch. Chemical treatment involves the application of chemical agents to prevent or restrict the growth of existing vegetation. Please indicate how supportive you are of each of the following methods.

Table E4 Support for Hazardous Fuel Treatment Methods

Treatment Method	Very Supportive	Somewhat Supportive	Neither Supportive nor Unsupportive	Somewhat Unsupportive	Very Unsupportive
A. No Action	6.2 %	4.5 %	20.5 %	15.4 %	53.4 %
B. Mechanical Thinning	68.6 %	24.5 %	3.7 %	1.6 %	1.6 %
C. Prescribed Burning	39.0 %	34.7 %	12.1 %	7.4 %	6.9 %
D. Chemical Treatment	24.7 %	22.6 %	10.0 %	13.5 %	29.2 %

11. Wildland fire can have a significant impact on a community but planning for its occurrence can help lessen the impacts. The following statements will help determine landowner priorities for planning for wildland fire. Please tell us how important each one is to you.

Table E5 Importance of Wildfire Planning

Statement	Very Important	Somewhat Important	Neither Important nor Unimportant	Somewhat Unimportant	Very Unimportant
A. Protecting critical infrastructure (e.g. roads, hospital, schools)	80.2 %	14.9 %	3.1 %	1.3 %	0.4 %
B. Protecting private property	66.3 %	28.3 %	4.5 %	0.9 %	0.0 %
C. Preventing or regulating development in hazard areas	46.1 %	34.1 %	11.4 %	3.9 %	4.5 %
D. Restoring forests to natural conditions	38.4 %	30.8 %	16.2 %	8.7 %	5.9 %
E. Protecting historical and cultural landmarks	34.3 %	42.6 %	16.6 %	3.8 %	2.7 %
F. Promoting cooperation among public agencies, citizens, non-profit groups, and businesses	52.1 %	36.2 %	8.5 %	1.3 %	1.8 %
G. Reducing damage to utilities	62.0 %	31.1 %	6.3 %	0.4 %	0.2 %
H. Strengthening emergency services (e.g. police, fire)	56.0 %	35.5 %	6.5 %	1.6 %	0.4 %
I. Educating landowners on wildland fire	65.2 %	31.3 %	2.6 %	0.4 %	0.4 %

12. Please indicate your opinion on each of the following statements about responsibility for protecting property from wildland fire.

Table E6 Opinion on Wildfire Protection Responsibility

Statement	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
A. Private property owners are responsible for protecting their property from wildland fire.	42.5 %	41.6 %	9.6 %	5.4 %	0.9 %
B. The community fire department is responsible for protecting property from wildland fire.	16.6 %	55.7 %	17.7 %	8.2 %	1.8 %
C. The property owner (including federal, state, local, and private) that manages the forest is responsible for protecting property from wildland fire.	32.7 %	51.2 %	14.1 %	1.6 %	0.5 %
D. The Oregon Department of Forestry is responsible for protecting property from wildland fire.	17.4 %	45.8 %	25.6 %	8.5 %	2.7 %
E. Protecting property from wildland fires is a shared responsibility between private landowners, local, state, and federal government agencies.	65.1 %	28.6 %	4.6 %	0.4 %	1.3 %

13. A number of activities can reduce your community’s risk to wildland fire. These activities can be both regulatory and non-regulatory. An example of a regulatory activity would be a policy that requires the review of development plans to meet certain criteria in known wildland fire hazard areas. An example of a non-regulatory activity would be to develop a public education program to demonstrate steps citizens can take to make their property safer from wildland fire. Please check the box that best represents your support of the following strategies to reduce the risks posed by wildland fire.

Table E7 Support for Risk Reduction activities

Risk Reduction Strategy	Very Supportive	Somewhat Supportive	Neither Supportive nor Unsupportive	Somewhat Unsupportive	Very Unsupportive
A. Public information to increase citizen action in reducing risk	97.3 %	28.4 %	3.3 %	0.4 %	0.4 %
B Requirements for vegetation management around structures located in high hazard areas	38.7 %	40.0 %	10.4 %	6.2 %	4.7 %
C. Building construction standards for new development in high hazard areas	49.6 %	33.6 %	9.3 %	5.6 %	2.0 %
D Access/roadway guidelines for new development in high hazards areas	52.9 %	35.1 %	8.7 %	1.8 %	1.6 %
E Developer and builder educational programs	48.5 %	38.0 %	11.4 %	0.7 %	1.3 %
F Wildland fire mitigation checklist for development review process in high hazard areas	41.9 %	39.7 %	13.5 %	3.6 %	1.3 %
G Public purchase of land in high hazard areas for open space	19.7 %	26.5 %	30.9 %	10.3 %	12.6 %
H Require new rural residential developments be within rural fire protection district boundaries	24.3 %	25.9 %	22.8 %	13.2 %	13.8 %

GENERAL LANDOWNER INFORMATION

14. How long have you owned the property to which this survey is addressed? Average 19.3 Years

15. What is your zip code?

16. Is this property primarily used as a business?

8.2%	Yes
91.6 %	No (IF NO, Skip to Question 17)
16.1.	What type of business is it?
43.9 %	Agricultural
24.4 %	Forest Resources
2.4 %	Industrial
9.8 %	Commercial
19.5 %	Other (specify): _____

17. Do you rent or own the home in which you live?

0.4%	Rent
97.6%	Own (or am buying)
1.8%	Occupy without payment or rent

18. Do you live in the home where you received this survey year round or seasonally?

93.0%	Year round
6.1%	Seasonal

19. What is your age? Average 59 Years

20. Please estimate your total household income in 2004 before taxes.

0.8%	Less than \$5,000
11.9 %	\$15,000-\$24,999
13.7 %	\$75,000-\$99,999
2.6 %	\$5,000-\$9,999
24.9 %	\$25,000-\$49,999
8.0 %	\$100,000-149,999
4.4 %	\$10,000-14,999
25.1 %	\$50,000-\$74,999
8.5 %	\$150,000 or more

21. Please indicate your level of education.

1.1%	Grade school/no schooling
24.9%	College degree
2.7%	Some high school
35.8%	Some college/trade school
15.2%	Postcollege degree
16.6%	High school graduate/GED
1.1%	Other (Please specify) _____

Please feel free to provide any additional comments in the space provided below.

THANK YOU VERY MUCH FOR PROVIDING THIS INFORMATION

The Oregon Natural Hazards Workgroup at the University of Oregon's Community Service Center prepared this survey. For more information, please contact Oregon Natural Hazards Workgroup at 1209 University of Oregon, Eugene, OR 97403-1209, call (541) 346-3653, or visit <http://www.OregonShowcase.org>

2019 LANDOWNER SURVEY RESULTS

Instructions: This survey focuses on wildland fire risk awareness, preparedness, and the risk reduction activities of property owners. The estimated time for completing the survey is fifteen to twenty minutes. It should be completed by an adult, preferably the head of the household. Please return the survey in the enclosed postage paid envelope by **August 21, 2019**. If you have filled out this survey online, thank you! You do not need to fill it out again. All responses are kept confidential.

Your participation is voluntary. If you have any questions regarding the survey, please contact Lauren Grand at Oregon State University (541-344-5859).

WILDLAND FIRE RISK AWARENESS AND COMMUNICATION

The term *property* is used throughout this survey; please interpret this as including both land and structures such as homes.

1. Please check the box that represents your opinion on the level of risk at each of the three areas listed below:

Question	High	Medium	Low	None
How do you rate your property's risk to wildland fire?	35.1%	42.3%	21.2%	1.4%
How do you rate the risk of the properties in your neighborhood or area?	43%	4.24%	14%	0.6%
How do you rate your community's (e.g. Roads, schools, hospitals, shopping centers, historic landmarks) risk to wildland fire?	16.5%	42.5%	38.2%	2.7%

2. Have you or someone in your household personally experienced a wildland fire? (check all that apply)

35.8%	No experience with wildland fire
62.5%	Witnessed wildland fire or observed smoke or other effects of wildland fire
7.01%	Evacuated home due to a wildland fire
3.4%	Suffered property damage from a wildland fire

3. How have you received information in the past about protecting your property from wildland fire? (check all that apply)

- 19.3% I have not received information
- 14.9% Public meeting or workshop
- 51.6% News media (radio, newspaper, TV)
- 25.1% Family, friends, or neighbors
- 37.7% Fact sheet/brochure
- 33.1% Local fire department or district
- 11.4% Internet (specify): _____
- 11.25% Neighborhood or community group (specify): _____
- 10.6% Other (specify): _____

4. What is your preferred method for receiving information about protecting your property from wildland fire? (check all that apply)

- 21.2% Newspaper
- 30.3% Fire department/rescue
- 17.9% Radio
- 3.3% Schools
- 26.3% Television
- 46.2% Fact sheet/brochure
- 58.6% Mail
- 21% Public workshop/meetings
- 44.5% Internet
- 18.2% Oregon State University Extension Service
- 7.32% Other (specify): _____

FIRE PROTECTION AND PREPAREDNESS

5. Do you know if your property is serviced by a fire department or rural fire protection district? (check only one.)

- 37.8% Fire department
- 52.9% Rural fire protection district
- 2.2% Not serviced by a fire dept or district
- 7% Don't know

6. Please answer the following fire protection and preparedness questions.

Question	Yes	No	Don't know
Have you received information about wildland fire evacuation procedures for your community?	12.1%	81.3%	6.6%
Does your household have a wildland fire evacuation plan?	37.6%	59.4%	3.0%
Does your homeowner or business insurance policy include coverage in the event of structural damage or loss due to wildland fire?	50.6%	4.4%	45.0%

REDUCING PROPERTY RISK TO WILDLAND FIRE

Property owners can take a number of actions to reduce the potential for property damage due to wildland fire. For instance, an owner can significantly reduce the chances of structures igniting during a wildland fire by creating and maintaining a

defensible space around structures on their property. Defensible space is a fire-safe zone created by reducing flammable vegetation around a structure.

7. Have you taken any actions to reduce the potential for fire losses on your property?

- 88.7% Yes
- No (IF NO, Skip to Question 8)

7.1 If YES, which of the following actions have you taken on your property? (check all that apply.)

- 86.9% Regularly clear roof/gutters of debris
- 87.8% Reduced vegetation near structures (buildings) on property
- 65.4% Reduced vegetation on other areas of property
- 33.1% Planted native vegetation (plants)
- 31.9% Invested in fire resistant building materials
- 27.2% Installed a chimney spark arrester
- 29.8% Installed a water source
- 18.2% Invested in a sprinkler system
- 38.0% Improved address signage for better visibility
- 15.6% Widened the road leading to the property
- 9.3% Other (specify):_____

8. Please indicate how likely you are to take the following actions to reduce the potential impacts of wildland fire to your property.

Risk reduction action	Very likely	Somewhat likely	Not likely
Reduce debris and vegetation on property	79.1%	17.6%	3.3%
Create defensible zones around structures	65%	27.8%	7.3%
Improve emergency access to property	40.6%	22.8%	36.6%
Use fire resistant building materials	42.3%	31.7%	26%

9. Which of the following incentives, if any, would motivate you to take additional steps to better protect your property from wildland fire? (check all that apply)

- 69.5% Insurance discount
- 54.4% Grant program
- 69.5% Tax break or incentive
- 9.4% None of the above
- 11.6% Other (specify):_____

10. Local Government and Federal Agencies provide a number of landowner assistance and recognition programs. How familiar are you with the available programs?

Table E8 Familiarity with Landowner Assistance Programs

Program	I've participated in this program	Very familiar	Some-what familiar	Not familiar At all
Fuels reduction cost share grants through the Natural Resources Conservation Service (NRCS)	1.4%	1.9%	7.2%	89.5%
Firewise Communities	3.3%	4.7%	16.4%	75.6%
Fire Adaptive Communities	0.8%	2.0%	7.8%	89.3%
Oregon Department of Forestry Fuels Reduction Program	3.2%	4.1%	13.2%	79.4%
Lane County Firewise Grant Program	3.4%	2.4%	10.4%	8.4%

REDUCING COMMUNITY RISK TO WILDLAND FIRE

11. Developed public and private lands can create a wildland fire risk when trees and underbrush grow densely near structures. Several methods can be used to maintain trees and underbrush to reduce the potential for wildland fire impacts. Mechanical thinning involves the use of chainsaws, brush mowers, or other specialized machines to reduce the number of shrubs and small trees, thus reducing the potential for nearby structures to ignite. Prescribed burning involves controlling naturally caused fires or intentionally setting fires to burn under close and careful watch. Chemical treatment involves the application of chemical agents to prevent or restrict the growth of existing vegetation. Please indicate how supportive you are of each of the following methods.

Treatment method	Very supportive	Somewhat supportive	Neither supportive nor unsupportive	Somewhat unsupportive	Very unsupportive
No Action	3.5%	5.1%	12.8%	13.3%	65.4%
Mechanical Thinning	72%	21.1%	5.1%	1%	0.8%
Prescribed Burning	38.9%	34%	12.5%	9.4%	5.2%
Chemical Treatment	13.7%	18.4%	12.6%	20.4%	34.9%

12. Wildland fire can have a significant impact on a community but planning for its occurrence can help lessen the impacts. The following statements will help determine landowner priorities for planning for wildland fire. Please tell us how important each one is to you.

Statement	Very important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Very unimportant
Protecting critical infrastructure (e.g. roads, hospitals, schools)	87.4%	10.1%	1.4%	0.6%	0.5%
Protecting private property	67.6%	27.7%	3.2%	1.1%	0.4%
Preventing or regulating development	47.3%	31.5%	13.6%	4.4%	3.2%
Restoring forests to natural Conditions	49.2%	27.3%	13.5%	5.8%	4.3%
Protecting historical and cultural Landmarks	38.6%	40%	14.5%	4.6%	2.4%
Promoting cooperation among public agencies, citizens, nonprofits, & businesses	62.5%	26.9%	7.7%	1.6%	1.3%
Reducing damage to utilities	72.9%	22.4%	4.1%	0.4%	0.4%
Strengthening emergency services (e.g. Police, fire)	71.2%	20.7%	5.8%	1.1%	1.3%
Educating landowners on wildland Fire	74%	21.1%	3.9%	0.5%	0.8%

13. Please indicate your opinion on each of the following statements about responsibility for protecting property from wildland fire.

Statement	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Private property owners are responsible for protecting their property from wildland fire.	35.5%	47.4%	10.4%	5.4%	1.4%
The community fire department is responsible for protecting property from wildland fire.	22.7%	52.5%	18.6%	5.3%	0.9%
The property owner (including federal, state, local, and private) that manages the forest is responsible for protecting property from wildland fire.	37.3	47.8%	12.2%	2.3%	0.5%
The Oregon Department of Forestry is responsible for protecting property from wildland fire.	24.3%	48.5%	22.1%	4.2%	0.9%
Protecting property from wildland fires is a shared responsibility between private landowners, local, state, and federal government agencies.	71.5%	24.1%	3.3%	0.9%	0.2%

14. A number of activities can reduce your community’s risk to wildland fire. These activities can be both regulatory and non-regulatory. An example of a regulatory activity would be a policy that requires the review of development plans to meet certain criteria in known wildland fire hazard areas. An example of a non-regulatory activity would be to develop a public education program to demonstrate steps citizens can take to make their property safer from wildland fire. Please check the box that best represents your support of the following strategies to reduce the risks posed by wildland fire.

Risk Reduction Strategy	Very supportive	Somewhat supportive	Neither supportive nor unsupportive	Somewhat unsupportive	Very unsupportive
Public information to increase citizen action in reducing risk	78.5	17%	3.7%	0.4%	0.5%
Requirements for vegetation management around structures located in high hazard areas	47.1	35.2%	8.8%	5.3%	3.7%
Building construction standards for new development in high hazard areas	60.8	27.7%	7.3%	2.2%	2.0%
Access/roadway guidelines for new development in high hazards areas	63.8	28.1%	5.2%	1.9%	0.9%
Developer and builder educational programs	59.4	29.8%	8.3%	1.3%	1.3%
Wildland fire mitigation checklist for development review process in high hazard areas	59.8	27.6%	9.3%	2.2%	1.1%
Public purchase of land in high hazard areas for open space	30.4	27.6%	26.24%	6.8%	8.9%
Require new rural residential developments be within rural fire protection district boundaries	32.3	27.3%	22.6%	8.5%	9.3%
Development of a tax service district to fund preventative wildfire reduction work and education	23.2	26.6%	24.2%	10.0%	16.1%

GENERAL LANDOWNER INFORMATION

15. How long have you owned your property? 19 Years

16. In which fire district is your property located? (There is a fire district map at the end of this packet.) _____

17. What is your street address? Your address will remain confidential and will not be used for anything other than this survey.

18. Is this property primarily used as a business?

4.6% yes

95.4% no

(IF NO, Skip to question 19)

18.1 If YES, what type of business is it?

51.5% Agricultural

10.3% Forest Resources

0.0% Industrial

7.4% Commercial

30.9% Other: (specify)

19. Do you rent or own the home in which you live?

3.4% Rent

94.4% own (or am buying)

2.2% Occupy without payment or rent

20. Do you live in the home where you received this survey year round or seasonally?

95% Year round

5% Seasonal

21. What is your age? 62 Years

22. Please estimate your total household income in 2018 before taxes.

1.4% Less than \$5,000

1.6% \$5,000-\$9,999

1.9% \$10,000-\$14,999

6.9% \$15,000-\$24,999

18.6% \$25,000-\$49,999

22.4% \$50,000-\$74,999

17.6% \$75,000-\$99,999

29.7% \$100,000- or more

23. Please indicate your level of education.

0.1% Grade school/no schooling

33.5% College degree

0.3% Some high school

27.5% Postcollege degree

12.3% High school graduate/GED

21% Other (please specify): _____

24.2% Some college/trade school

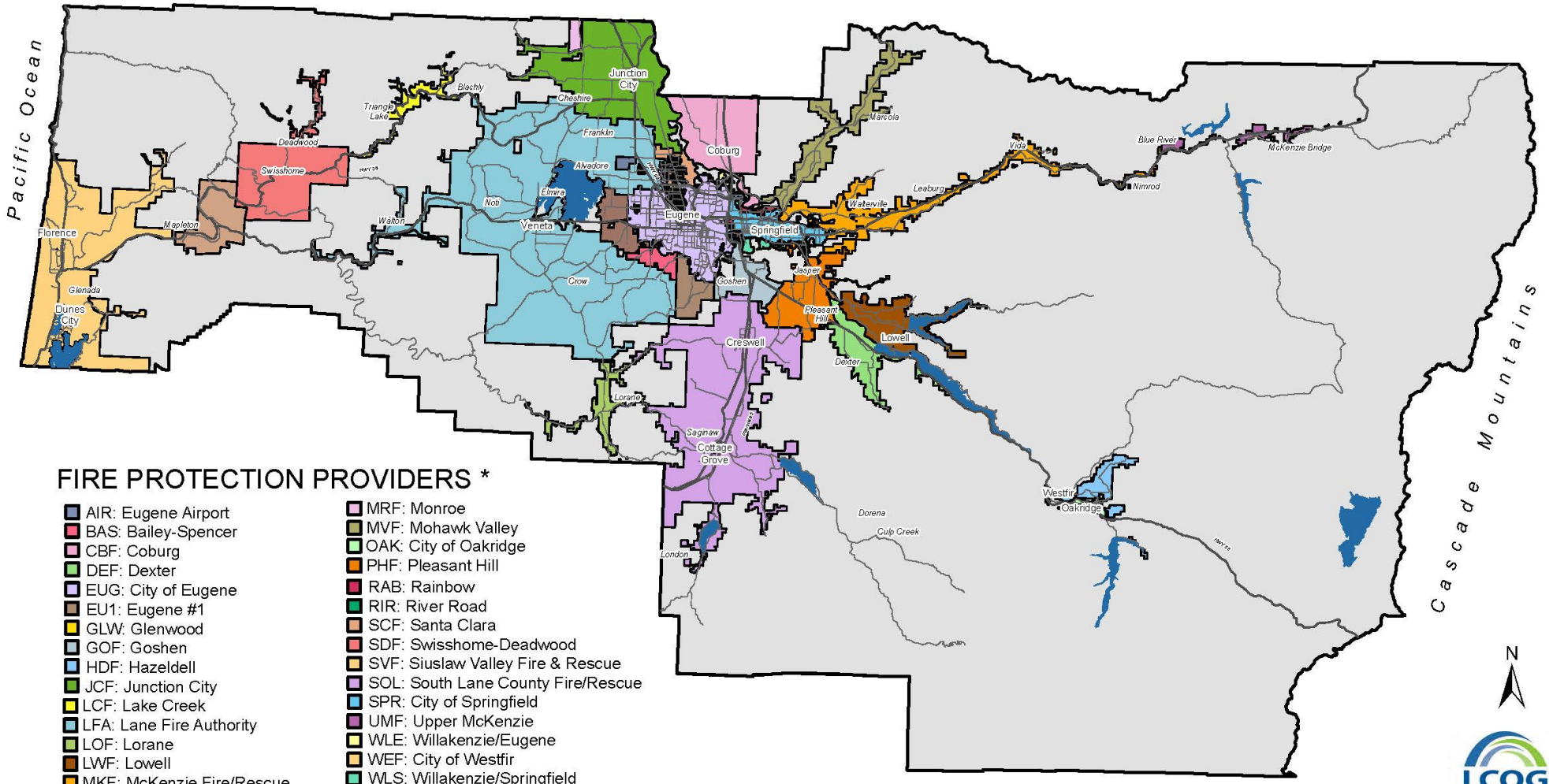
24. Please feel free to provide any additional comments in the space provided below.

THANK YOU VERY MUCH FOR PROVIDING THIS INFORMATION

For more information, please contact Lauren Grand, Oregon State University,
541-344-5859

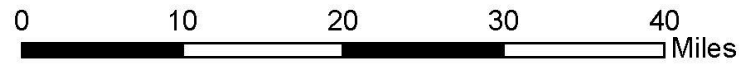
Fire Districts* in Lane County

* Various types of fire protection providers are shown on the map. Most are either RFPDs or Water Districts. The cities of Eugene and Springfield jointly provide fire protection service inside their combined city limits, as well as for the Eugene Airport (AIR) and several contract districts in and around the Eugene-Springfield area (BAS, ZUM, RIR, EU1, GLW, WLE, WLS, and RAB).. The cities of Oakridge and Westfir provide fire protection through contract with HDF. Small private contract areas are not shown on the map. Some Lane County districts extend into adjacent counties, while the Monroe district extends into Lane County from Benton County.



FIRE PROTECTION PROVIDERS *

- | | |
|-----------------------------|--------------------------------------|
| ■ AIR: Eugene Airport | ■ MRF: Monroe |
| ■ BAS: Bailey-Spencer | ■ MVF: Mohawk Valley |
| ■ CBF: Coburg | ■ OAK: City of Oakridge |
| ■ DEF: Dexter | ■ PHF: Pleasant Hill |
| ■ EUG: City of Eugene | ■ RAB: Rainbow |
| ■ EU1: Eugene #1 | ■ RIR: River Road |
| ■ GLW: Glenwood | ■ SCF: Santa Clara |
| ■ GOF: Goshen | ■ SDF: Swisshome-Deadwood |
| ■ HDF: Hazeldell | ■ SVF: Siuslaw Valley Fire & Rescue |
| ■ JCF: Junction City | ■ SOL: South Lane County Fire/Rescue |
| ■ LCF: Lake Creek | ■ SPR: City of Springfield |
| ■ LFA: Lane Fire Authority | ■ UMF: Upper McKenzie |
| ■ LOF: Lorane | ■ WLE: Willakenzie/Eugene |
| ■ LWF: Lowell | ■ WEF: City of Westfir |
| ■ MKF: McKenzie Fire/Rescue | ■ WLS: Willakenzie/Springfield |
| ■ MPF: Mapleton | ■ ZUM: Zumwalt |



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Appendix F

Wildfire Resources

This section covers eight topics:

- Policies
- Fire Siting Recommendations
 - Recommendations for fire siting standards in Lane County
 - Undesirable plants list for Lane County
- Wildfire Mitigation: Educational Resources
 - Survivable Space Poster
 - Oregon Forestland Dwelling Statute: Self-Certification Checklist
 - Ember Awareness Checklist Poster

These resources are intended to help local stakeholders, members of the public, landowners, and communities take proactive steps and learn more about pathways to reduce wildland urban interface fire risk.

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 Forests Initiative and Healthy Forest Restoration Act

<https://www.fs.fed.us/projects/hfi/field-guide/web/page03.php>

National Fire Plan 10 Year Comprehensive Strategy

https://www.fs.fed.us/database/budgetoffice/NFP_final32601.pdf

FLAME Act of 2009 (Federal Land Assistance, Management and Enhancement)

https://www.forestsandrangelands.gov/documents/strategy/reports/2_ReportToCongress03172011.pdf

Disaster Mitigation Act of 2000

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

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

<https://www.oregon.gov/lcd/OP/Pages/Goal-7.aspx>

Oregon Forestland Dwelling Units Statute, ORS 215.730

<https://www.oregonlaws.org/ors/215.501>

Oregon Forestland-Urban Interface Fire Protection Act of 1997 (Oregon's Defensible Space Law)

<https://oregonexplorer.info/content/oregon-forestland-urban-interface-fire-protection-act?topic&ptopic>

Governor's Council on Wildfire Response 2019

<https://www.oregon.gov/gov/policy/Pages/wildfirecouncil.aspx>

Fire Siting Recommendations

The following content was developed by the Hazardous Fuel Subcommittee. The Subcommittee was formed to help guide recommendations for an update to Fire Siting Standards in Lane County. The Committee was composed of members from: Lane County Fire Defense Board, Oregon Department of Forestry, Oregon Office of State Fire Marshals, BLM, USFS, The Nature Conservancy, Friends of Buford Park and Mt. Pisgah, and Lane County Parks and Open Spaces.

The recommendations were formed during six meetings from October 2019-March 2020 in an effort to inform recommended changes to current fire siting standards with a combination of literature review, expert opinion, and fuels and fire behavior modeling (Action item 2.3.1 in the CWPP). The following are the codes the subcommittee addressed; Lane Code: 16.210(7)(c) Non-Impacted Forest Lands Zone (F-1), Fire Siting Standards and 16.211(8)(c), Impacted Forest Lands Zone (F-2), and Fire Siting Standards.

The following content is non-regulatory and was developed by the Hazardous Fuels Subcommittee to inform policy makers, stakeholders, and future land use regulations. To view current fire siting regulations in Lane County visit:

www.lanecounty.org/lanecode.

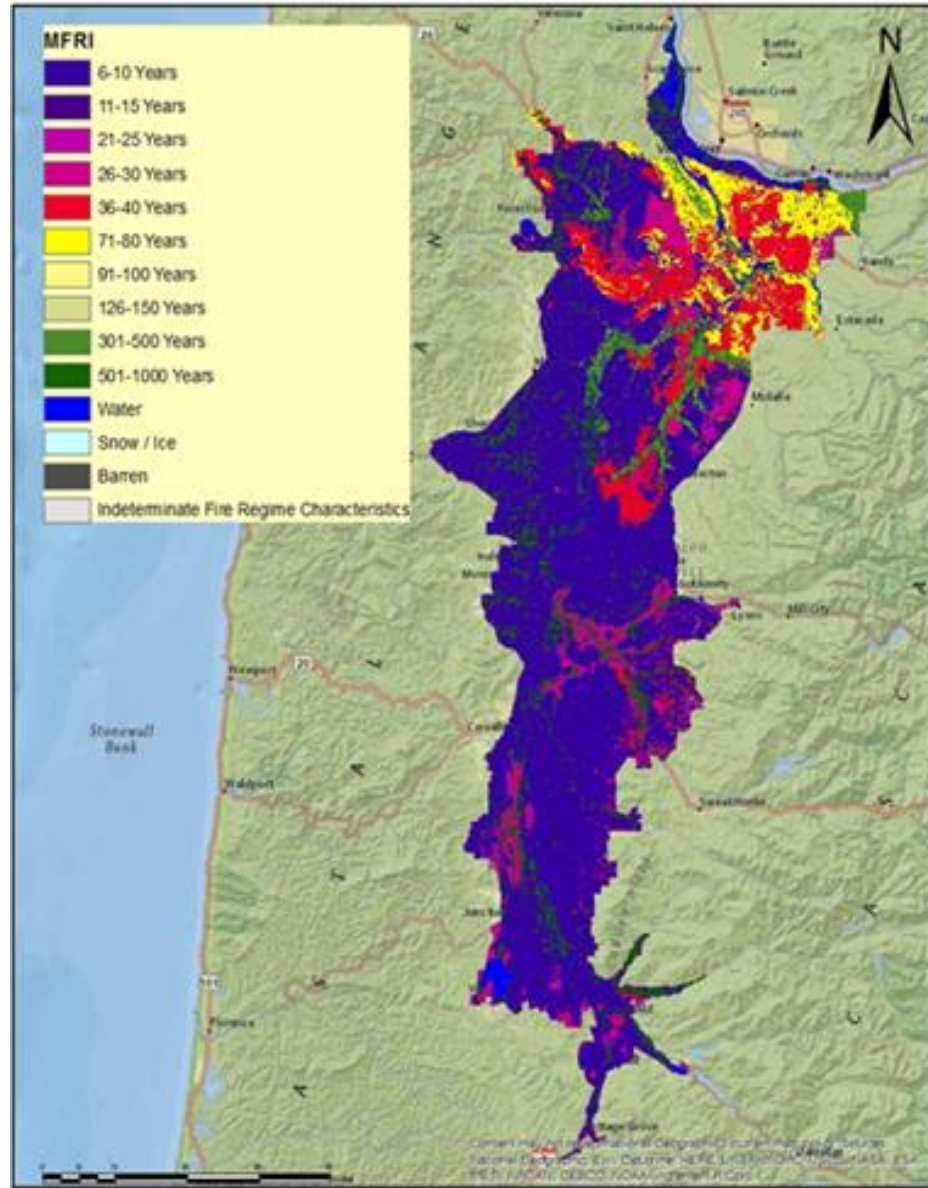
Fire Siting Recommendations and Fuels and Fire Behavior Modeling

The best long-term solution to avoid structure loss during a wildfire event is a combination of defensible space treatments, building design, education, and proactive land-use planning that limits exposure.¹ Defensible space can be defined as a given proximity within structures in which fuel treatments are conducted to alter fire behavior which in turn reduces the risk of a structure ignition during a wildfire event.

In California (a much higher risk area than Lane County) researchers found that, "The most effective treatment distance varied between 5 and 20 m (16–58 ft.) from the structure, but distances larger than 30 m (100 ft.) did not provide additional protection, even for structures located on steep slopes. The most effective actions were reducing woody cover up to 40% immediately adjacent to structures and ensuring that vegetation does not overhang or touch the structure. Multiple-regression models showed landscape-scale factors, including low housing density and distances to major roads, were more important in explaining structure destruction."²

Fuels and fire behavior in Lane County vary considerably depending upon aspect, elevation, soil type, and vegetation.³ Historical wildland fire frequencies based on both natural ignitions from lightning and indigenous burning practices range from every six to once every thousand years.⁴ When considering the availability of fuels to burn, it is helpful to identify the most common fuel types for modeling and planning purposes.

Figure F 1: Willamette Valley, Presumed Historic Mean Fire Return Intervals



Created by Amanda Rau using LANDFIRE Data³ 2017.

Lane County Fire Behavior and Model Design

The height of fire season in Lane County has historically occurred in late summer and early fall, when dry climate, available fuels, and easterly winds combine to create conditions for rapid fire growth. While the time of year during which conditions enabling wildfire growth is relatively short compared with other parts of the state such as the Rogue Basin and Central Oregon, the hazard potential associated with wildfire during those times is equally significant.

For the purposes of modeling potential fire behavior impacts to recommended buffers around structures, we identified the four most common fuel types as

described by Scott and Burgan⁵ found in Lane County: compact timber litter associated with closed canopy Douglas-fir dominated forests (timber litter), broadleaf and long-needle pine litter associated with oak, madrone, maple, and Ponderosa pine woodlands (broadleaf litter), grasses most commonly found in valley bottom prairies and upland savannas (grass), and shrubs such as blackberry and rose intermixed with grasses found in prairie, savanna, and disturbed forests where the forest canopy has been removed (grass/shrub) were chosen as representative.

Based on fire behavior modeling of the four fuel types described above, under three slope scenarios (0-9%, 10-24%, and 25-40%), and two weather scenarios (hot/dry and cool/wet). It is evident that shading, wind obstruction, increased crown base height with pruning limbs to 8 ft., and fuel arrangement in timber litter has the effect of reducing surface fire behavior (flame lengths and rates of spread) as well as crown fire potential. The highest potential for problematic surface fire and crown fire is found in grass/shrub. Maintenance of fuels that fall within this category including mowing and burning significantly reduces potential wildfire hazards and is recommended in the absence of canopy limiting growth of surface vegetation that inevitably becomes fuel for fire.

Recommendations for safe distances between surface and crown fuels to limit crown fire potential are based on best available science and associated modeling coupled with local fire management expertise. Studies and research looking at the effectiveness of fuel breaks generally focus on dry forests known for high historical fire frequency with low severity⁶ where canopy spacing reduces crown fire potential without increasing surface fuel loading to the extent that it does in Lane County. The Willamette Valley also has a more complex fire history of both higher and lower frequency fires of varying severities, occurring during late summer and early fall. Lower frequency of fire return is associated with canopy closure, with higher fire frequency occurring in unshaded areas such as prairie and savanna.

Modeling Implications

Main text results of modeling fuels and fire behavior confirmed what Lane County fire managers know, that maintaining a canopy adequately disconnected from surface fuels is the most effective long-term forest management action in an environment where vigorous vegetative growth occurs when light reaches the forest floor. The current code increases surface and ladder fuel growth by allowing light to penetrate the forest canopy through the requirement for canopy spacing to reduce crown fire potential. Model results as outlined in Figure 2⁷ indicates that under very dry, hot, and windy conditions in open canopy with grass and shrub, flame lengths from Douglas fir trees torching would be 41 feet. Compared with just 14 feet under the same conditions in a closed canopy forest where trees have been pruned to 8 feet from the ground.

Buffers between structures and fuels alone are not sufficient to prevent embers from causing homes to ignite. Home hardening has been shown to be of equal importance in protecting homes from ignitions during wildfire events.⁸ Ignitions from flame radiation are unlikely to occur from burning vegetation beyond 120 feet of a structure, and thinning vegetation within 120 feet has a significant ignition mitigation effect.⁹

Figure F 2: Lane County CWPP Fire Behavior

Fuel Model and Environmental Conditions	Head Fire ROS (ch/hr)	Head Fire Surface Flame Length (ft.)	Crown Fire Type	Active Crown Fire Rate of Spread (ch/hr)	Active Crown Fire Flame Length (ft.)	Passive Crown Fire Rate of Spread (ch/hr)	Passive Crown Fire Flame Lengths (ft.)
TL1 Compact Timber Litter Hot	0-9% 0.1-0.3 10-24% 0.2-0.3 25-40% 0.2-0.5	0-9% 0.2-0.3 20-24% 0.3-0.4 25-40% 0.3-0.4	Surface	0-9% 2.3-34.5 10-24% 2.3-34.5 25-40% 2.3-34.5	0-9% 2.3-14.0 10-24% 2.3-14.0 25-40% 2.3-14.0	0-9% 0.1-0.3 10-24% 0.2-0.3 25-40% 0.4-0.5	0-9% 0.1 10-24% 0.1 25-40% 0.1-0.2
TL1 Compact Timber Litter Cool	0-9% 0.1-0.2 10-24% 0.1-0.3 25-40% 0.2-0.4	0-9% 0.2-0.3 10-24% 0.3-0.4 25-40% 0.3-0.5	Surface	0-9% 1.0-14.3 10-24% 1.0-14.3 25-40% 1.0-14.3	0-9% 1.3-7.0 10-24% 1.3-7.0 25-40% 1.3-7.0	0-9% 0.1-0.2 10-24% 0.1-0.3 25-40% 0.2-0.4	0-9% 0.1 10-24% 0.1 25-40% 0.1
TL9 Very High Load Broadleaf Hot	0-9% 1.1-2.4 10-24% 1.2-3.2 25-40% 2.0-4.7	0-9% 1.8-2.6 10-24% 1.9-3.0 25-40% 2.4-3.6	0% Surface 0-8 mph Torching 0% 12-16mph 10-40%	0-9% 2.3-34.5 10-24% 2.3-34.5 25-40% 2.3-34.5	0-9% 3.7-22.3 10-24% 3.7-22.3 25-40% 3.7-22.3	0-0% 1.1-4.4 10-24% 1.2-7.1 25-40% 2.0-11.3	0-9% 1.5-4.0 10-24% 1.6-5.6 25-40% 2.3-8.0
TL9 Very High Load Broadleaf Cool	0-9% 0.8-1.8 10-24% 0.9-2.4 25-40% 1.5-3.6	0-9% 1.5-2.1 10-24% 1.6-2.5 25-40% 2.0-2.9	Surface	0-9% 1.0-14.3 10-24% 1.0-14.3 25-40% 1.0-14.3	0-9% 1.9-11.8 10-24% 1.9-11.8 25-40% 1.9-11.8	0-9% 0.8-1.8 10-24% 0.9-2.4 25-40% 1.5-3.6	0-9% 1.1-1.9 10-24% 1.2-2.3 25-40% 1.7-3.0
GR4 Moderate Load Grass Hot	0-9% 4.0-18.3 10-24% 5.4-26 25-40% 13.1-40.2	0-9% 2.2-4.4 10-24% 2.5-5.2 25-40% 3.8-6.3	Torching	0-9% 2.3-34.5 10-24% 2.3-34.5 25-40% 2.3-34.5	0-9% 2.8-17.1 10-24% 2.8-17.1 25-40% 2.8-17.1	0-10% 4-19.9 10-24% 5.4-27.2 25-40% 13.1-40.2	0-10% 2.0-6.5 10-24% 2.5-8.4 25-40% 4.7-11.7
GR4 Moderate Load Grass Cool	0-9% 0-0.2 10-24% 0.1-0.2 25-40% 0.2-0.3	0-9% 0.1-0.2 20-25% 0.1-0.2 25-40% 0.2	Surface	0-9% 1.0-14.3 10-24% 1.0-14.3 25-40% 1.0-14.3	0-9% 1.2-7.5 10-24% 1.2-7.5 25-40% 1.2-7.5	0-9% 0.1-0.2 10-24% 0.1-0.2 25-40% 0.1-0.3	0-9% 0-0.1 10-24% 0-0.1 25-40% 0-0.1
GS4/SH8 High Load Shrub/Grass Hot	0-9% 1.7-5.5 10-24% 2.0-7.4 25-40% 3.1-10.9	0-9% 4.4-7.4 10-24% 4.8-8.5 25-40% 5.8-10.3	Torching	0-9% 2.3-34.5 10-24% 2.3-34.5 25-40% 2.3-34.5	0-9% 6.8-41.1 10-24% 6.8-41.1 25-40% 6.8-41.1	0-9% 1.7-9.3 10-24% 2.0-12.0 25-40% 4.0-16.4	0-9% 4.8-15.3 10-24% 5.5-18.3 25-40% 8.7-22.7
GS4/SH8 High Load Shrub/Grass Cool	0-9% 0.1-0.6 10-24% 0.2-0.7 25-40% 0.4-1.1	0-9% 0.7-1.3 10-24% 0.7-1.5 25-40% 1.0-1.7	Surface	0-9% 1.0-14.3 10-24% 1.0-14.3 25-40% 1.0-14.3	0-9% 1.8-11.2 10-24% 1.8-11.2 25-40% 1.8-11.2	0-9% 0.1-0.6 10-24% 0.2-0.7 25-40% 0.4-1.1	0-9% 0.3-0.8 10-24% 0.4-1.0 25-40% 0.6-1.2

Source: Generated by Amanda Rau using Behave 6.0.0 Modeling Program Beta 3 (<https://www.frames.gov/catalog/57066>)

Behave 6.0.0 runs assumes maximum effective wind speed limit is imposed, two fuel model weighting method is based on two dimensional spread, fire spread as a head fire, wind is blowing upslope, wind and spread directions are degrees clockwise from upslope, and direction of the wind vector is the direction the wind is pushing the fire. 2020.

Voluntary Compliance

Defensible space can be enforced with adequate funding for annual maintenance and inspections. This often means enforcement is not feasible due the cost of site inspections even with grants for fuels reduction and other programs to help landowners. Many communities elect for education and technical support as a means to increase voluntary compliance. Compliance for defensible space is related to feasibility.¹⁰ Homeowners are more accepting of policies perceived as fair and part of a more comprehensive risk reduction strategy.¹¹

In Lane County many landowners echo research indicating that the choice to participate in strategies for wildfire hazard mitigation hinges on consideration of homeowners’ feelings of connectedness to nature as impacted by vegetation management, the cost of mitigation activities, as well as emotional drivers like fear and sense of responsibility.¹² The willingness to implement defensible space was predicted by the perceived effectiveness of, and attitude toward defensible space.¹³

As the referenced material, and model results indicate, treatments within 60 feet are the most important and treatments beyond 100 feet do not provide additional

protection, even on steep slopes (Figure 2). Fuels reduction should be focused on ladder fuel reduction within a closer distance to the home while eliminating requirements for canopy spacing in areas where it would not have a beneficial impact. Landowners who choose an open canopy fuel break should be made aware of the need for maintenance in reducing wildfire risk over time.

Recommendations for Fire Siting Standards in Lane County

Primary Fuel Break

The primary fuel break is measured from the edge of the structure footprint, defined as the structure **and** attached accessories, such as decks, carports and any other building material attached to structure.

The Primary Fuel Break includes the Structure Ignition Zone; 0-5 Feet from the structure and an additional 25 feet of managed landscaping.

Immediate Zone 0-5 Feet

A 5 foot non-combustible perimeter is required, measured from structure perimeter outwards. Non-combustible is defined as material incapable of burning during sustained convection and radiant heat. Non-combustible is also defined as material unable to combust under extreme heat and extended flame contact, rock or mineral soil for example. There shall be no tree trunks within this zone.

Intermediate Zone 5-30 Feet

Grass is maintained to no more than 4 inches above the ground and kept green if possible. Mature trees are pruned to a height of 10 feet from the ground (lowest point of branch), trees less than 20 feet tall are pruned between 1/3 and 1/2 of the trees height do not exceed 1/2 of the trees height to avoid damage from pruning. Prune trees as they grow until the branches reach 10 feet from the ground. No dead plant material is present. 3x vertical spacing is maintained between surface and canopy fuels. Surface fuels other than short maintained grass lawns shall not be growing or arranged in a continuous or otherwise connected fashion, nor in quantities nor densities known to sustain fire activity under extreme conditions.

Trees

There shall not be any tree branches within 15 feet of the structure footprint in any direction. Within 15 feet, tree trunks (defined as the main stem(s) of a large woody plant) are acceptable within this zone, as long as tree limbs have been pruned to allow 15 feet of clearance from the structure footprint. For example; a large conifer tree may be growing within 6 feet of a house, as long as the closest branches are at least 15 feet above and away from the structure in all directions.

Secondary Fuel Break

Extended Zone: 30-100 feet

All trees over 20 feet tall are pruned to a height of 10 feet from the ground (lowest point of branch), trees less than 20 feet tall are pruned between 1/3 and 1/2 of the trees height, not to exceed 1/2 of the trees height to avoid damage

from pruning. Prune trees as they grow until the branches reach 10 feet from ground. All dead plant material within 10 feet of the surface has been removed or mulched. Dead plant material includes but is not limited to sticks, limbs, leaves, branches and trunks. Maintain at least 2x vertical clearance between canopy layers and from the lowest canopy layer to the ground. This may be replicated for multiple canopy layers. For example surface vegetation may be 2 feet tall, with the understory canopy greater than 4 feet above the surface vegetation, and at least 2x lower than the height of the dominant canopy.

Coarse Woody Debris (CWD) Exemption

CWD can be defined as dead trees and remains of large branches on the ground in forests, rivers and wetlands. CWD is known to increase soil moisture and improve wildlife habitat, therefore a Limited Amount will be allowed within the secondary fuel break. In total no more than 200 linear feet will be allowed within the secondary fuel break. The diameter of all CWD must be a minimum of 9 inches. All CWD present must either be in contact with surface soil or within 6 inches of surface contact. For example you could have two 100 foot long downed trees 9 inches in diameter or larger as long as the fine fuels such as branches have been removed or mulched.

Additional Slope restrictions:

Sloping land within 100 feet of structures in which the majority of a quadrant has a greater than 10% grade will have additional primary fuel break distances. No matter the additional primary fuel break distance, the immediate zone will remain the same (0-5 feet non-combustible fuel break)

0-9%

The standard fuel breaks mentioned above shall be created (5-30 feet Intermediate Zone) and the Secondary Fuel Break (30-100 feet).

10-24%

Within 180° of the steepest downward slope the Primary Fuel Break shall extend an additional 10 feet, creating an Intermediate Zone from 5-40 feet. The Secondary Fuel Break (Extended Zone) shall be 40-100 feet.

24-39%

Within 180° of the steepest downward facing slope, the primary fuel break shall extend an additional 20 feet creating a 50 foot Intermediate Zone (5-50 feet) on the downslope half of the house/property. The Secondary Fuel Break shall extend from 50 feet to 100 feet.

>40%

We do not recommend allowing structures within 100 feet of slopes exceeding 39%. If additions occur on sites with slopes 40% or greater, the Primary Fuel Break shall extend an additional 30 feet (5-60 feet) from the structure on all sides. The Secondary Fuel Break shall extend from 60-100 feet from the structure.

The above specifications alone will not improve home survivability during wildfire events. Home hardening activities (fire resistant building material paired with annual fine fuel removal and maintenance) have a much larger impact on home

ignition risk than fuel breaks. Fuel breaks require annual maintenance. The above recommendations are an attempt to improve long term efficacy of fuel break codes by incorporating canopy shade as a significant maintenance tool for controlling surface fuels in Western Oregon.

The preceding recommendations were developed with input from the following entities: Oregon Department of Forestry, Oregon Office of State Fire Marshalls, United States Forest Service, Bureau of Land Management, The Nature Conservancy, Friends of Buford Park and Lane County Parks to inform Lane County Code LC 16.210(7) (c) and 16.211(8) (c), generally referred to as Lane County Fire Siting Standards.

Conclusion

Fire managers are the architects of the suggested fire siting standard recommendations. Recommendations were informed by relevant scientific research, expert knowledge of social and wildfire factors influencing defensible space, as well as fire modeling research for Lane County vegetation types. The best long-term strategy to reduce structure loss includes a suite of prevention measures. We believe the suggested revisions to County Code 16.210(7)(c) and 16.211(8)(c) represents a commonsense approach in an environment notorious for vegetative growth that will reduce structure loss from wildfires in Lane County as much or better than current regulations. Fit with other county wildfire risk reduction measures including the CWPP, and improved voluntary landowner participation in fuel break maintenance.

Undesirable Planting List

Table 1 includes trees, shrubs, and ornamental grasses that are highly flammable and should be avoided when planting within the primary fuel break. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Note that this is not a complete list of flammable plants that can be grown in Lane County. Furthermore, all plants can increase fire behavior due to lack of maintenance, growth habit, and/or site conditions. Table 1 includes some species known to be a hazard, even under optimal growing conditions.

Table F 1: Undesirable Planting List

Botanical name	Common Name
<i>Acacia</i> species	Acacias
<i>Araucaria araucana</i>	Monkey Puzzle
<i>Arctostaphylos</i> species	Manzanita
<i>Bambusa</i> and related species	Bamboos (all)
<i>Callistemon</i> species	Bottlebrush
<i>Calocedrus decurrens</i>	Incense Cedar
<i>Ceanothus</i> species	Ceanothus
<i>Cedrus</i> species	Cedars
<i>Chamaecyparis</i> species	False Cypress
<i>Cortaderia</i> species	Pampas Grass
<i>Cotoneaster</i> species	Cotoneasters
<i>Cryptomeria japonica</i>	Japanese Cryptomeria
<i>Cupressus</i> species	Cypresses
<i>Cytisus</i> species	Brooms
<i>Elaeagnus</i> species	Silverberry, etc.
<i>Eucalyptus</i> species	Eucalyptus
<i>Genista</i> species	Brooms
<i>Juniperus</i> species	Junipers
<i>Picea</i> species	Spruce Trees
<i>Pinus</i> species	Pines
<i>Prunus laurocerasus</i>	Cherry Laurel
<i>Pyracantha</i> species	Firethorn
<i>Rosmarinus</i> species	Rosemary
<i>Rubus</i> species (<i>armeniacus</i> , <i>vestitus</i> , etc.)	Non-Native Invasive Blackberries
<i>Spartium junceum</i>	Spanish Broom
<i>Taxodium</i> species	Bald Cypresses
<i>Taxus</i> species	Yews
<i>Thuja</i> species	Arborvitae
<i>Trachycarpus fortunei</i>	Windmill Palm
<i>Ulex europea</i>	Gorse
<i>Umbellularia californica</i>	California Bay
<i>Vaccinium ovatum</i>	Evergreen Huckleberry

Wildfire Mitigation: Educational Resources

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:

IBHS Research Center

Contact: N/A

Address: N/A

Phone: N/A

<https://ibhs.org/risk-research/wildfire/>

Federal Emergency Management Agency (FEMA) for Kids: Teaching Kids About Prescribed Fire

Contact: FEMA

Address: 500 C Street, Southwest Washington D.C. 20472

Phone: (202) 566-1600

<https://www.ready.gov/kids>

Fire Adapted Communities

Contact: National Wildfire Coordinating Group

Address: N/A

<https://fireadapted.org/>

Firewise USA Communities

A voluntary program that provides a framework to help neighbors get organized, find direction, and take action to increase the ignition resistance of their homes and community.

Contact: Firewise Communities

Address: N/A

Phone: N/A

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

Firewise USA Communities, Lane County Program

Lane County offers financial grants to residents who are interested in making landscaping or structural improvements to their properties in order to help increase the survivability of their homes in the event of a wildfire.

Contact: Lane County Public Works Department: Land Management Division

Address: 3050 N Delta Hwy, Eugene, OR 97408

Phone: (541) 682-6522

https://lanecounty.org/government/county_departments/public_works/land_management_division/firewise

Keep Oregon Green

Contact: Keep Oregon Green Association Incorporated

Address: Salem, OR 97309

Phone: (503)-945-7498

<https://keeporegongreen.org/>

Missoula FireLab

Contact: Missoula FireLab

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

Phone: N/A

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

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

<https://www.nwccg.gov/>

National Fire Protection Association

Contact: National Fire Protection Association

Address: 1 Batterymarch Park, Quincy, MA 02169-7471

Phone: (617) -770-3000

<https://www.nfpa.org/>

National Interagency Fire Center

Contact: NIFC

Address: 3833 Development Avenue, Boise, ID 83705

Phone: (208)-387-5512

<https://www.nifc.gov/>

Oregon Wildfire Risk Explorer

Contact: Oregon Department of Forestry

Address: N/A

Phone: N/A

<https://tools.oregonexplorer.info/>

Oregon Prescribed Fire Council

Contact: N/A

Address: N/A

Phone: N/A

Website: <https://oregonrxfire.weebly.com/>

Ready, Set, Go! Program

Contact: N/A

Address: N/A

Phone: N/A

Website: <https://www.wildlandfirersg.org>

Smokey Bear

Contact: Karen Curtiss

Address: 63096 Deschutes Market Road, Bend, OR 97701

Phone: (541)-383-5583

Website: <https://smokeybear.com/en>

US Fire Administration: WUI fires

Contact: US Fire Administration

Address: 16825 South Seton Ave, Emmitsburg, MD, 21727

Phone: (301)-447-1853

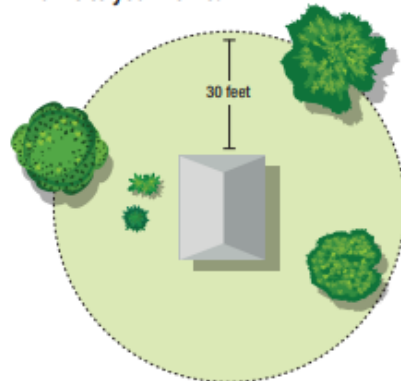
Website: https://www.usfa.fema.gov/wui/wui_awareness_month.html

Figure F 3 Survivable Space Poster

The poster below was made for Lane County and details survivable space guidance on how to harden your home prior to wildfire season as well as evacuation levels used to notify landowners of impending incidents.

DO YOU HAVE SURVIVABLE SPACE? 

Your home should have a buffer of 30 feet that is **lean, clean and green** to reduce the threat of wildfire to your home.



Fire-Resistant Landscaping and Construction

- Avoid plants that contain resins, oils and wax that burn easily and are extra flammable, especially in your survivable space. Keep trees pruned at least 6 feet from the ground.
- Use fire-resistant materials when constructing your home, roof, outbuildings, and decks or when improving your home.

LEAN

Prune shrubs and cut back tree branches, especially within 15 feet of your chimney.



CLEAN

Remove all dead plant material from around your home; this includes dead leaves, dry vegetation and even stacked firewood.



GREEN

Plant fire-resistant vegetation that is healthy and green throughout the year. Keep landscaping, including mulch, well watered to prevent it from becoming fuel for fires.



ARE YOU READY TO EVACUATE? KNOW YOUR LEVELS

BE READY.

Prepare to leave at a moment's notice. Monitor television, radio, mobile phones for emergency alerts. There are dangerous conditions in your area.

BE SET.

Be ready to go at a moment's notice. Consider leaving now. There is significant danger in your area.

GO NOW.

Leave immediately. Do not stop to gather belongings. You are in immediate danger.



Figure F 4 Oregon’s Forestland-Urban Interface Protection Act: Self-Certification Checklist

The checklist below can be used by landowners to check if state required defensible space specifications are met prior to fire season. To learn more about Oregon’s Defensible Space Law, including a complete form to self-certify your compliance visit: <https://www.oregon.gov/ODF/Fire/Pages/UrbanInterface.aspx>.



EVALUATION FORM FOR FORESTLAND URBAN INTERFACE PROPERTIES LOCATED IN AREAS CLASSIFIED AS HIGH.



Checking “Y” means “yes, the standard or step has been met or satisfied. Checking “N/A” means the step or standard does not apply to this property or situation. No fuel-reduction treatment is required on a property where a structure does not exist. See reverse for additional guidance.

1. 30-FOOT PRIMARY FUEL BREAK: The intent of this fuel break is to reduce the intensity of a wildland fire, slow its rate of spread, and create an area in which fire suppression operations may more safely take place.		
1a. Is the area substantially composed of nonflammable ground cover?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1b. If dry grass is present, has it been mowed to a height of 4 inches or less?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1c. Have continuous beds of fine fuel been eliminated?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1d. Are trees and shrubs maintained in a green condition?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1e. Are trees and shrubs substantially free of dead plant material?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1f. Have ladder fuels been removed?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
1g. Have trees and shrubs been thinned to discourage the transfer of fire from plant-to-plant?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
2. SECONDARY FUEL BREAK: This fuel break is to increase the total size of the area around a structure in which a wildfire’s rate of spread will be reduced and fire-fighting operations may more safely occur. While recommended, a secondary fuel break is only required for structures with flammable roofing material. Check NA for all if this is the case.		
2a. Are trees and shrubs maintained in a green condition?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
2b. Are trees and shrubs substantially free of dead plant material?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
2c. Have ladder fuels been removed?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
2d. Have trees and shrubs been thinned to discourage the transfer of fire from plant-to-plant?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
3. DRIVEWAY FUEL BREAK: This standard is to ensure that there is sufficient vertical and horizontal clearance alongside and above the driving surface for fire trucks, and to create areas adjacent to the driveway in which fire intensity will be reduced and fire suppression operations may more safely take place. Not required for driveways less than 150 feet long. Check NA for all if this is the case.		
3a. Is there at least 12 horizontal feet of clear space above the driving surface?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
3b. Within the 12-foot-wide clearance area, is there at least 13 ½ feet of vertical clearance?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
4. Have tree branches or other vegetation within 10 feet of a chimney or stovepipe been removed?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
5. Are trees that overhang the structure substantially free of dead plant material?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
6. Is the area beneath a deck substantially free of flammables?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
7. During fire season, are there firewood or lumber piles on the property?	<input type="checkbox"/> Y	<input type="checkbox"/> NA
7a. If “Y” is checked, has each pile been moved 20 feet or farther from the structure? OR	<input type="checkbox"/> Y	<input type="checkbox"/> NA
7b. Has each pile been fully enclosed?	<input type="checkbox"/> Y	<input type="checkbox"/> NA

Figure F 5 Ember Awareness Checklist

The checklist below is intended to inform landowners of where embers often pose serious risk during wildfire events. The checklist provide actions homeowners can take to reduce this risk. To view and download a high resolution pdf version visit: <http://azfac.org/2018/07/23/ember-aware-poster/>

WHERE IS THIS HOME VULNERABLE TO EMBER ATTACK?



EMBER AWARENESS CHECKLIST

WHAT YOU CAN DO TO PROTECT YOUR HOME:

- 1 WOOD ROOF**
Replace wood roofs with fire-resistant types such as composition, metal and tile.
- 2 ROOF OPENINGS**
Plug openings at locations between the roof covering and roof deck using a noncombustible material.
- 3 ROOF DEBRIS**
Routinely remove leaf and pine needle debris from the roof.
- 4 SKYLIGHTS**
Replace plastic skylights with double-pane tempered glass on gabled or sloped roofs.
- 5 SPARK ARRESTER**
Install an approved spark arrester on chimneys.
- 6 WINDOWS**
Use multi-pane, tempered glass windows. Close windows if wildfire is threatening.
- 7 VENTS**
Cover all exterior vents with 1/8-inch corrosion resistant wire mesh or install new vents designed to resist ember entry. Use a lowered vent for the dryer.
- 8 RAIN GUTTERS**
Use noncombustible rain gutter covers. Inspect and keep gutters free of debris.
- 9 SIDING**
Fill gaps in siding and trim with caulk. Assure at least a six-inch separation between the ground and the start of the siding.
- 10 WOODPILES**
Move woodpiles at least 30 feet from the house.
- 11 PATIO FURNITURE**
Put combustible patio furniture inside or move 30 feet from the house if wildfire is threatening.
- 12 DECK BOARDS**
Replace deck boards <1" thick, or in poor condition, with thicker higher density decking (i.e., hardwood or plastic composite). Properly install metal flashing between the deck and house.

- 13 DECK DEBRIS**
Remove leaf and pine needle debris on top of deck and between deck board gaps.
- 14 PORCH & DECK ACCESSORIES**
If wildfire is threatening, remove door mats and combustible materials from the porch and deck. Place BBQ propane tanks indoors.
- 15 UNDER THE DECK**
Remove leaf and pine needle debris and other combustible materials from under decks. Enclose open sided decks with 1/8-inch corrosion resistant wire mesh.
- 16 FLOWERBOXES**
Remove plants and combustible materials (or flowerboxes as practical) from beneath windows if wildfire is threatening.
- 17 EAVES**
Enclose open eaves with a noncombustible material.
- 18 FLOWERBEDS**
Should be at least five feet from the house. Use noncombustible mulch like gravel. Routinely remove dead and dry plant material. Choose plants and flowers that are deciduous, herbaceous, low resin or non-resinous, succulent and/or low growing.
- 19 VEHICLES**
Close vehicle windows. Park in closed garage or away from the house.
- 20 GARAGE DOOR**
Adjust garage doors to achieve a tight fit. Close the garage door if wildfire is threatening.
- 21 GARBAGE CANS & RECYCLING BINS**
Use garbage cans with tight lids. Place recycling bins in garage or away from the house.
- 22 WOODEN FENCES**
Use a five-foot or longer noncombustible gate or fence section next to the house. Keep base of fence free of combustible debris.





This poster was created using the Ember Aware® Will Your Home Survive? When the Embers Arrive!® kit, published by the Lane County Community Wildfire Protection Plan. The Program Coordinator, graphic design, layout, and printing provided by the PFAC, University of Nevada.

¹ Syphard, A. D., Brennan, T. J., & Keeley, J. E. (2014). The role of defensible space for residential structure protection during wildfires. *International Journal of Wildland Fire*, 23(8), 1165-1175.

² Ibid.

³ LANDFIRE, LANDFIRE: Mean Fire Return Interval, U.S. Department of Agriculture and U.S. Department of the Interior. Accessed 23 March 2020 at <https://www.landfire.gov/viewer/viewer.html>.

⁴ Ibid.

⁵ Scott, Joe H.; Burgan, Robert E. 2005. Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

⁶ Agee, James & Bahro, Berni & Finney, Mark & Omi, Philip & Sapsis, David & Skinner, Carl & van Wagendonk, Jan & Weatherspoon, C. (2000). The use of fuel breaks in landscape fire management. *Forest Ecology and Management*. 127. 55-66. 10.1016/S0378-1127(99)00116-4.

⁷ McFarlane, B. L., McGee, T. K., & Faulkner, H. (2012). Complexity of homeowner wildfire risk mitigation: an integration of hazard theories. *International Journal of Wildland Fire*, 20(8), 921-931.

⁸ Cohen, Jack D.; Butler, Bret W. 1998. Modeling potential structure ignitions from flame radiation exposure with implications for wildland/urban interface fire management. In: *Proceedings of the 13th Fire and Forest Meteorology Conference*, International Association of Wildland Fire. p. 81-86

⁹ McFarlane, B. L., McGee, T. K., & Faulkner, H. (2012). Complexity of homeowner wildfire risk mitigation: an integration of hazard theories. *International Journal of Wildland Fire*, 20(8), 921-931.

¹⁰ Winter, G., McCaffrey, S., & Vogt, C. A. (2009). The role of community policies in defensible space compliance. *Forest Policy and Economics*, 11(8), 570-578.

¹¹ Ibid.

¹² McFarlane, B. L., McGee, T. K., & Faulkner, H. (2012). Complexity of homeowner wildfire risk mitigation: an integration of hazard theories. *International Journal of Wildland Fire*, 20(8), 921-931.

¹³ Hall, Troy E., and Megan Slothower. "Cognitive factors affecting homeowners' reactions to defensible space in the Oregon Coast Range." *Society and Natural Resources* 22.2 (2009): 95-110.

Appendix G

Local Contact Information

The resources below are organized into wildfire related functions: Law Enforcement, Evacuation Planning, Wildfire Restrictions, Smoke Management, Prevention Education and Funding, and Federal Lands.

*Note: Agencies are listed under sections which are most appropriate for their given function. Other listed agencies likely coordinate and support a number if not all listed functions.

Reporting a Wildfire: **Dial 911**

Law Enforcement

Learn about laws pertaining to fire or reporting suspicious activity (i.e. arson).

Oregon State Police (541) 726-2525

<https://www.oregon.gov/OSP/Pages/index.aspx>

3620 Gateway St., Springfield, OR 97477

Oregon State Fire Marshal (541) 726-2572

<https://www.oregon.gov/osp/programs/sfm/Pages/default.aspx>

3620 Gateway St, Springfield 97477

Lane County Sheriff's Office (541) 682-4150

https://lanecounty.org/government/county_departments/sheriff_s_office

125 E. 8th Ave., Eugene, OR 97401

Emergency Evacuation, Disaster Preparedness and Recovery

The following contacts may provide local information for: all hazard preparedness, Lane County preparedness plans, post-wildfire recovery strategies and funding, and education on these topics.

Lane County Emergency Management (541) 682-6999

www.Lanecountyor.gov/prepare

3040 N Delta Hwy., Eugene, OR 97408

State and Federal Contacts

The agencies listed below coordinate with Lane County Emergency Management on state, regional, and nationwide planning and implementation strategies, educational resources, and preparedness plans.

Federal Emergency Management Administration
 Disaster Preparedness, Responses and Recovery.
<https://www.ready.gov/wildfires>

Oregon Office of Emergency Management
<https://www.oregon.gov/OEM/Pages/default.aspx>

Wildfire Related Restrictions

Fire Danger Levels, public and industrial fire restrictions (on private lands), forestry related equipment inspections, and waivers for operations.

Oregon Department of Forestry
<https://www.oregon.gov/odf/Pages/index.aspx>

Western Lane District Office (541) 935-2283
 87950 Territorial Hwy., Veneta, OR 97487
<https://www.facebook.com/ODFWesternLane>

South Cascades Eastern Lane Unit Office (541) 726-3588
 3150 Main St., Springfield, OR 97478
<https://www.facebook.com/odfscas>

Smoke Management

Coordinate to mitigate planned smoke emitting activities in Lane County.

Lane Regional Air Protection Agency (LRAPA) (541) 736-1056
 Regulatory Agency for burning operations not related to forest or Agriculture.
<http://www.lrapa.org/>
 1010 Main St., Springfield, OR 97477

Oregon Department of Forestry
 Regulatory Agency for slash burning relating to forest operations
<https://www.oregon.gov/odf/Pages/index.aspx>

Western Lane (541) 935-2283
 87950 Territorial Hwy., Veneta, OR 97487

South Cascades Eastern Lane Unit (541) 726-3588
 3150 Main St., Springfield, OR 97478

Wildfire Prevention Education and Funding

Below are potential funding sources and local programs for treating hazardous fuel, education on wildfire, and county resources. For online educational resources see Appendix F, Wildfire Resources.

Oregon Department of Forestry

Defensible space education, inspections, funding, forest fuel treatments to reduce wildfire risk, Firewise Communities USA™ guidance and wildfire education presentations.

<https://www.oregon.gov/odf/fire/pages/fireprevention.aspx>

Western Lane Unit Office (541) 935-2283
87950 Territorial Hwy., Veneta, OR 97487

South Cascades Eastern Lane Unit Office (541) 726-3588
3150 Main St., Springfield, OR 97478

Oregon State Extension Service

Wildfire science, defensible space, fire resistant native plants, and landscape design.

Lane County Office (541) 344-5859
996 Jefferson St., Eugene, OR 97402
<https://extension.oregonstate.edu/lane>

Lane County Emergency Management (541) 682-6999
All hazards community preparedness, evacuation kits and plans, and local contact for FEMA funding.
www.Lanecountyor.gov/prepare
3040 N Delta Hwy., Eugene, OR 97408

Lane County Land Management (541) 682-3577
Code requirements, fuel break and driveway access requirements for new homes and additions, and cost-share funding for structural retrofits for homes and structures in Lane County.

Lane County Firewise Program (541) 682-6522
A cost-share funding program for structural retrofits for homes and structures in Lane County.

Firewise Communities
<https://www.oregon.gov/odf/Pages/index.aspx>

Lane County Firewise
www.lanecounty.org/firewise
firewiseprogram@lanecountyor.gov

Lane County CWPP

CWPP website
www.lanecounty.org/fireplan

Oregon Wildfire Risk Explorer:
<https://oregonexplorer.info/topics/wildfire-risk?ptopic=62>

Lane County Fire Defense Board Agencies

Structural ignitability, structure/home fire safety, emergency and wildfire preparedness, and evacuation. To find out which structural fire district you live in go to:

https://lanecounty.org/government/county_departments/lane_county_emergency_management/fire_departments_and_districts

Coburg Rural Fire Protection District (541) 686-1573
<https://www.coburgoregon.org/community/page/coburg-rural-fire-district>
91232 N Coburg Rd., Coburg, OR 97408

Dexter Rural Fire Protection District (541) 937-3045
<https://dexterorfd.samariteam.com/>
82781 Barbre Rd., Dexter, OR 97431

Lane Fire Authority (541) 935-2226
Includes Santa Clara Fire Department.
<https://www.lanefire.org/>
88050 Territorial Hwy., Veneta, OR 97487

Lowell Rural Fire Protection District (541) 937-3393
<https://www.lowellfiredistrict.org/>
389 Pioneer St., Lowell, OR 97452

McKenzie Fire & Rescue (541) 896-3311
<https://www.mckenziefire.com/wordpress/>
Station #3 McKenzie Hwy., Leaburg, OR 42870

Mohawk Valley Rural Fire Protection District (541) 933-2907
<https://mohawkvalleyfire.com/>
92058 Marcola Rd., Marcola, OR 97454

Oakridge Fire Department (541) 782-2416
Includes Oakridge Fire Department, Hazeldell and Westfir Rural Fire Protection Districts.
<https://www.ci.oakridge.or.us/fire>
47592 Hwy. 58, Oakridge, OR 97463

Pleasant Hill Goshen Fire & Rescue (541) 747-8016
Includes Pleasant Hill and Goshen Rural Fire Protection District.
<https://www.goshenfd.net/>
36024 Hwy. 58, Pleasant Hill, OR 97455

Eugene Springfield Fire (541) 682-5111
<https://www.eugene-or.gov/120/Fire-and-Emergency-Medical-Services>
1705 West 2nd Ave., Eugene, OR 97402

South Lane County Fire & Rescue https://southlanefire.org/ 233 Harrison Ave., Cottage Grove, OR 97424 (#1)	(541) 942-4493
Upper McKenzie Rural Fire Protection District https://www.uppermckenziefire.org/ 56578 McKenzie Hwy., McKenzie Bridge OR 97413	(541) 822-3479
Junction City Fire Department Includes Junction Rural Fire Protection District. https://sites.google.com/site/junctioncityfire/ 1755 Juniper St., Junction City, OR 97448	(541) 998-2022
Lake Creek Rural Fire Protection District 20451 Hwy. 36, Blachly, OR 97412	(541) 925-3064
Siuslaw Valley Fire and Rescue http://www.svfr.org/ 2625 Hwy. 101 N, Florence, OR 97439	(541) 997-3212
Lorane Rural Fire Protection District https://loraneorfd.samariteam.com/ 80287 Old Loraine Rd., Loraine, OR 97451	(541) 942-1233
Swisshome Deadwood Rural Fire Protection District (541) 268-1959 13283 Hwy. 36, Swisshome, OR 97480	

Federal Lands

Contact information for local offices for Federal Agencies can be found below. These contacts can inform the public on wildfire danger levels on national lands, permits (i.e. collecting firewood, backcountry travel, etc.), closures, general recreation, and forest inquiries.

Bureau of Land Management (541) 683-6600 <https://www.blm.gov/>
3106 Pierce Parkway, Suite E., Springfield, OR 97447

Willamette National Forest
<https://www.fs.usda.gov/willamette/>

Supervisors Office 3106 Pierce Parkway, Suite D, Springfield, OR 97477	(541) 225-6300
Middle Fork Ranger District 46375 Hwy 58, Westfir, OR 97492	(541) 782-2283
McKenzie River Ranger District 57600 McKenzie Hwy, McKenzie Bridge, OR 97413	(541) 822-3381

Umpqua National Forest<https://www.fs.usda.gov/umpqua>**Supervisors Office**

2900 Stewart Parkway, Roseburg, OR 97471

(541) 957-3200

Cottage Grove Ranger District

34963 Shoreview Dr, Cottage Grove, OR 97424

(541) 767-5000

Siuslaw National Forest<https://www.fs.usda.gov/siuslaw>**Supervisors Office**

3200 SW Jefferson Way, Corvallis, OR 97331

(541) 750-7000

Central Coast Ranger District

1130 Forestry Lane, Waldport, OR 97394

(541) 563-8400

Oregon Dunes Visitor Center

855 Hwy. 101, Reedsport, OR 97467

(541) 271-6000

U.S. Army Corp of Engineers<https://www.usace.army.mil/>

211 E. 7th St., Eugene, OR 97401

(541) 684-4300

Appendix H

2005 Firewise Stakeholder Survey

This Appendix contains

- 2005 Stakeholder Interview Findings
- 2005 Firewise Workshop Summary
- Past Accomplishments: Lane County Firewise Program

2005 Stakeholder Interview Findings

The text below is sourced from a memo titled *Stakeholder Interview Findings* sent June 12, 2020 from the Oregon Natural Hazards Workshop at the University of Oregon to the Lane County CWPP Steering Committee.

The purpose of this memo is to provide you with the findings of the Stakeholder Interviews conducted in conjunction with the development of the Lane County Community Wildfire Protection Plan (CWPP). The findings are summarized below and the entire Stakeholder Interview Appendix including the full interview transcriptions has been attached as well. Please review the summary below.

Background

Main text Lane County initiated a Community Wildfire Protection Planning (CWPP) process in fall 2004. The County hired Oregon Natural Hazards Workgroup to assist in the development of a plan aimed to address the complex issues surrounding Wildland/Urban Interface Fire. Lane County understands that the success of a CWPP is tied to the ability to effectively involve a broad range of local, state and federal stakeholders in the planning process. The inputs from a diverse group insure that the final plan reflects the highest priorities of the community, while highlighting the fact the implementation will need to be accomplished through a collaborative partnership.

In early January, ONHW conducted telephone interviews with 18 stakeholders identified by the Steering Committee for the Lane County CWPP. The purpose of the stakeholder interviews was to document key issues, concerns, and current activities related to the CWPP requirements of:

- 1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- 2) Prioritization Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuels 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.

Stakeholder interviews accomplish this by gather various perspectives from the local, state and federal partners by:

- Identifying critical issues and concerns,
- Documenting of current activities, and
- Exploring opportunities for collaboration.

Appendix A includes a summary of key issues identified by stakeholders and a transcript of the telephone interviews. Lane County will use the information from the interviews to assess the risk factors of local preparedness and capabilities and to analyze common themes surrounding fuel reduction and structural ignitability within the wildland/urban interface.

Methodology

Stakeholders came from a pool that included both public and private interests, and all have either expertise in fire issues or the authority to help with implementation of the plan.

ONHW sent each stakeholder a preliminary email explaining the plan and its purpose. The email also contained a copy of the interview questions for the stakeholder to look over prior to the actual interview, a brief statement explaining why they had been selected as a stakeholder in the process, and a list of available times to be interviewed. Interview questions were grouped into four main areas:

- 1) Current Activities
- 2) Key Issues Related to Hazardous Fuel Reduction
- 3) Key Issues Related to Structural Ignition
- 4) Collaboration and Participation

Some questions were modified slightly or not asked at all depending on their relevance to the stakeholder. Each interview lasted approximately 30 minutes. Interviews were transcribed by hand during the interview, and then typed into a computer template afterward. Following completion of the interviews, all of the answers were documented then analyzed for common themes.

ONHW completed the interviews in February and March 2005.

Participants

ONHW interviewed the following stakeholders:

- Nancy Ashlock – Assistant Fire Management Office, BLM Eugene
- Carl West – Fire Management Officer, USFS - Siuslaw National Forest

- Rick Rogers – District Forester, ODF Western Lane County
- Lena Tucker – District Forester, ODF Eastern Lane County
- Donna Disch – Oregon State Fire Marshal
- Mark Reese – Lane County Sheriff’s Office
- Dale Wendt – Lane County Public Works/Land Management
- Don Nickell – Lane County Public Works/Land Management
- Chief Dale Ledyard – McKenzie Fire and Rescue
- Chief John Buchanan – Siuslaw Valley Fire and Rescue
- Chief Marty Nelson – Lane County District #1 (Veneta)
- Kevin Urban – Community Services Director, City of Oakridge
- Karl Morgenstern – Coordinator, Drinking Water Source Protection, EWEB
- Mike McDowell – Team Leader, Weyerhaeuser
- Steve Akehurst – Chief Forester, Rosboro Lumber Co.
- John Buss – Chief Forester, Davidson Industries
- John Day – Union Pacific Railroad, Oakridge Office
- Roxie Cuellar – Director of Government Affairs, Homebuilders Association of Lane County

Summary of Themes

Stakeholders mentioned several themes repeatedly through all categories of questions: 1) funding obstacles; 2) follow-up and maintenance of policies and programs; and 3) education of landowners. The remainder of this section summarizes other themes of the interviews within the four areas of interview questions.

Risk Perception and Current Activities

The following is a brief summary of the stakeholder’s perception of wildland/urban interface (WUI) fire risk, current policies and programs, and funding for programs related to WUI fire.

Perception of fire risk

There is a perceived threat from fire in the wildland-urban interface area by all of the stakeholders

The WUI conditions exist and in fact the threat is increasing and protection capabilities are difficult without strategic planning

The main fire threat is from the build-up of hazardous fuels when debris accumulates on the forest floor after thinning or other treatments
There is a need for outreach in areas that are unprotected by a Rural Fire Protection District

Current policies and programs

Lane County zoning codes (e.g. Chapter 15 and Chapter 16 sections 10 &11) were mentioned as mitigation element Fire Defense Board and Fire Prevention Co-ops activities

Current emphasis is on response plans

Oregon Department of Forestry's plans and programs focused on prevention and response

Oregon Forest Land Urban Interface Protection Act of 1997 (better known as Senate Bill 360) was also mentioned

Funding

Nearly 50% of the stakeholders have received some form of grant funding for various activities related to WUI fire issues

Government agencies and Rural Fire Protection Districts currently apply for grants and matching funds for mitigation projects, fire planning, outreach, equipment needs, and GIS mapping

Private sector stakeholders raised questions on eligibility

Key Issues Related to Hazardous Fuels Reduction

Stakeholders provided their issues and concerns related to identifying and prioritizing fuel reduction treatments. They were also asked about concerns they had regarding the types of methods used for fuel reduction treatments and about resources to help Lane County move forward with fuel reduction projects.

Identifying and prioritizing fuel reduction treatments

Risk assessment can and should be used to identify and prioritize hazardous fuels projects

Urban and under-protected areas should be a priority

Fuels need to be treated on a landscape scale vs. a site-specific scale (e.g. defensible space projects and landscape scale projects should be done in conjunction with one another)

Public and private projects need to be more coordinated and can facilitate sharing of labor, tools, and knowledge

Types and methods for fuel reduction treatments

Most methods have been proven to work well, but the effectiveness of a particular method is dependent upon the nature of the hazard and the topography of the area

Prescribed burning presents unique challenges in Lane County specifically around smoke management (e.g. diminished air quality and complaints from residents) and safety fuels can hold heat and flare up long after the fire crews have left. However, some stakeholder believe prescribed burning is good for forest health on a larger landscape scale

Stakeholders were split on their concerns over the use of chemical treatments. Some see chemical treatments as affordable means of fuel reduction, while others had concerns about their environmental impacts.

Brush cutting is effective, but is costly and requires dedicated maintenance

Stakeholders indicated that debris removal is an important component of fuel reduction but that it is costly

Key Issues Related to Structural Ignition

Stakeholders provided insight regarding which regulatory and non-regulatory policies and programs might be effective in motivating property owners to reduce their risk to wildfire. A follow-up question was then asked regarding the obstacles that may hinder implementation of these policies and programs.

Non-regulatory policies and programs

Homeowner and landowner awareness plays an important role in reducing structural ignitability, but current levels of education and awareness are lacking

Free or easy debris removal programs are lacking and would be a great resource to enable the public to reduce their risk by removing hazardous fuels from their properties

Firewise Workshops and Firewise Communities USA programs at the local level (e.g. fire district, town, or neighborhood levels)

Regulatory policies and programs

Defensible space incentives or fire protection requirements from the insurance industry should be explored

County building ordinances that regulate building and roofing materials are needed, and need to be followed up on and maintained over the long-term

Obstacles

Funding for both non-regulatory and regulatory policies and programs is lacking

Human resources for long-term follow-up and maintenance of policies and programs could be a problem

Education of landowners and the public of their responsibilities in following regulations

Collaboration and Participation

Stakeholders answered questions related to their current level of participation in reducing the wildland/urban interface fire risk to Lane County. Other questions

asked about current and future collaboration opportunities among stakeholders or other agencies. All stakeholders interviewed stated that their organizations are willing to collaborate on more site-specific local community fire plans that follow the countywide plan.

There is currently limited collaboration among several agencies regarding wildland-urban interface or disaster protection issues:

- US Forest Service and BLM Interagency office collaborates with the Oregon Department of Forestry on wildfire response
- Lane County Fire Defense Board
- Lane County Fire Prevention Co-op
- Lane County Interagency Emergency Response Team
- EWEB Hazardous Materials GIS Tool (collaborated with 27 agencies)

Opportunities for collaboration will be increased through the process of this plan. There will need to be a designated leader to drive the process and keep up the interest in the issues in order to ensure long-term collaboration and participation. Careful consideration must be given on how to establish effective collaborative process to accomplish risk reduction.

Firewise Workshop Summary

In conjunction with the development of the Lane County Community Wildfire Protection Plan (CWPP), Oregon Natural Hazards Workgroup (ONHW) and Oregon Department of Forestry (ODF) conducted a Firewise Communities Workshop on April 5, 2005 at the University of Oregon for an invited group of diverse stakeholders. Participants in the workshop included representatives of federal and state fire and land management 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.

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) To improve safety in the wildland/urban interface by learning to share responsibility.
- 2) To create and nurture local partnerships for improved decisions in communities.
- 3) To encourage the integration of Firewise concepts into community and disaster mitigation planning.

The Firewise goals are consistent with Lane County Plan's goals and emphasis on collaboration. Participants worked in small groups to learn Firewise concepts, completed interactive scenarios designed to assess and reduce the wildfire risk of a hypothetical community, and were asked to apply the lessons learned from the sessions to Lane County.

ONHW and ODF worked to prepare an agenda for the workshop that would engage and encourage communication between participants while providing them with information on current wildland-urban interface fire risk issues and mitigation efforts. In addition to the small group scenarios and a video, several key speakers addressed the wildland-urban interface issue from both the state and local perspectives. Speakers included Marvin Brown, Oregon State Forester; Faye Stewart, Lane County Commissioner and Linda Cook, Lane County Emergency Manager. A list of workshop participants and a copy of the workshop's agenda can be found at the end of this appendix.

Opportunities and Obstacles in Lane County

Throughout the day facilitators asked participants to think about how Firewise concepts apply to issues in Lane County. ONHW created a worksheet for participants to identify opportunities and obstacles in Lane County for each of the three requirements of the CWPP - 1) reducing structural ignitability, 2) prioritizing fuel reduction projects, and 3) collaboration. Participants discussed their ideas in small groups and shared these results with the whole group at the end of the workshop. ONHW analyzed the completed worksheets to compile the opportunities and obstacles frequently identified by participants.

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 list opportunities and obstacles to implementing structural ignition reduction projects in Lane County. Participant's responses are summarized below.

Opportunities

Education and outreach through various sources including media, town hall meetings, and publications such as the Oregon State University Extension Service newsletter

Incentive programs, especially the use of insurance incentives, to encourage participation in projects to reduce risk

Collaboration with community groups, developers, neighbors, fire agencies, and others to better educate residents and implement projects

Available grant money from the National Fire Plan and other sources for implementing projects to reduce structural ignitability

Updating or revising Lane County codes and ordinances to reduce structural ignitability

Obstacles

Lack of homeowner education and awareness regarding the true risk of wildfire in Lane County and how defensible space can reduce risk

Lack of funding to implement projects, along with the cost of fire resistant building materials for homeowners

Lack of collaboration and involvement among homeowners, agencies, and developers to implement projects

Lack of regulations to enforce the use of fire resistant building materials and practices within Lane County

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 list opportunities and obstacles to implementing prioritized fuel reduction projects in Lane County. Participant's responses are summarized below.

Opportunities

Education using community outreach, public forums, media and other sources emphasizing examples of fuel reduction projects and homes saved by defensible space

Incentive programs such as rebates or other support to help landowners with debris removal, as well as insurance or property tax incentives to encourage fuel reduction

Collaboration and participation to share costs, tools, and manpower to implement fuel reduction projects on a larger scale

Finding uses for the biomass generated from fuel reduction projects, such as selling the chips or using it as an energy source

Available grant money from the National Fire Plan and other sources to aid in implementation of fuel reduction projects

Obstacles

Debate surrounding the best method to conduct fuel reduction treatments on private and public lands based on differing topography, environmental issues, public perception, and cost

Long term maintenance of fuel reduction treatments

The size and scope of the county and the sheer volume of work that is needed to begin and maintain fuel reduction projects as the wildland-urban interface continues to increase

Public perception of low wildfire risk and that fuel reduction treatments are aesthetically unpleasant

The cost of implementing fuel reduction treatments on properties and removing debris

Special needs populations who require extra assistance with fuel reduction projects

Collaboration

A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties. Participants were asked to list opportunities and obstacles to collaborating on projects to reduce hazardous fuels and structural ignitability in Lane County. Participant's responses are summarized below.

Opportunities

Brings people with diverse expertise together for better solutions to problems

Showing collaboration increases success with grant applications

Work with real estate agencies and other groups and businesses to raise awareness of wildland-urban interface wildfire issues

Use the media to capture public attention of current collaboration efforts and encourage future efforts

Obstacles

Differing priorities, values, and interests among partners

Lack of time and communication needed to foster working relationships among partners

"Turf battles" and conflicts over jurisdictional authority

Resistance or lack of interest in collaborating with others

Conclusion

The Firewise Communities Workshop brought together a diverse group of stakeholders to identify strategies for community planning and partnership building in order to reduce fire risk in the wildland-urban interface. The opportunities and obstacles identified by participants were used to develop the Action Items identified in the CWPP. A second forum will be held in late summer to present the final Community Wildfire Protection Plan to interested participants.

Appendix I

Glossary of Terms

Aquatic Species – A plant or animal that lives in water for the majority of its lifetime.

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

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.

Climax Species - Plant species which remain largely unchanged in terms of species composition for as long as the site remains undisturbed. Synonyms: late seral, late successional.

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

Coordinating Organization – An organization that is willing and able to organize resources, find appropriate funding, and oversee activity implementation, monitoring, and evaluation.

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.

Dwellings – A place of residence. A building or portion thereof which is occupied in whole or in part as a residence or sleeping place, either permanently or temporarily, but excluding hotels, motels, auto courts, mobile homes and camping vehicles.

Ecological – relating to or concerned with the relation of living organisms to one another and to their physical surroundings.

Eco-region – A major ecosystem defined by distinctive geography and receiving uniform solar radiation and moisture.

Endangered Species – A species that is very likely to become extinct in the near future, either worldwide or in a particular political jurisdiction.

Escape Route – Route leading 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.

External Partners – Organizations that can assist the coordinating organization in implementing an action in various functions and may include local, regional, state, or federal agencies, as well as local and regional public and private sector organizations.

Impacted Forest Lands Zone (F-2) – A type of forest land zoning in Lane County pursuant to the land use regulations at Lane Code Chapter 16.211.

Forest Land Zoning – Forest land zoning is divided into two zones in Lane County, Non-impacted and Impacted. The purpose of these zones is to protect and maintain forest land for grazing, rangeland and forest use consistent with existing and future needs for agriculture and forest products.

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 Regime – The pattern, frequency and intensity of wildfires that prevail in an area over long periods of time. Informs fire ecology of a given environment.

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 – 1: Any source of heat, natural or human made, capable of igniting wildland fuels. 2: Flaming or glowing fuel particles that can be carried naturally by wind, convection currents, or by gravity into unburned fuels. Examples include leaves, pinecones, 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.

Firewise USA – A voluntary program that provides a framework to help neighbors get organized, find direction, and take action to increase the ignition resistance of their homes and community.

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.

Habitat – The natural home or environment of an animal, plant, or other organism.

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 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.

Ignitability – 1: The condition of being able to burn (ignitable). 2: A measure of the extent to which something is able to burn (ignitable).

Ignition Probability – Chance that a firebrand will cause an ignition when it lands on receptive fuels.

Infrastructure – Man-made structures and/or facilities that support public and private operations including but not limited to distribution lines, streets, roads and highways, and telecommunication facilities.

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.

Internal Partners – Internal partners are within the CWPP advisory committee and may be able to assist in the implementation of Action Items by providing relevant resources to the coordinating organization.

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 using tools, machinery, or physical labor for the purpose of wildfire prevention.

Mitigation – Action that moderates the severity of a fire hazard or risk.

Ecosystems – A community of living and non-living organisms, where each component interacts together as a unit through biological, physical, and chemical processes.

Non-Impacted Forest Lands Zone (F-1) – A type of forest land zoning in Lane County pursuant to the land use regulations at Lane Code Chapter 16.210.

Non-response bias – A type of bias that can occur when the people who do not respond to a survey differ to those that are willing to respond. These differences can be due to the person's exposures or outcomes. As a result mistakes in estimating population characteristics can occur based on the underrepresentation of this group of people.

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 – The highest layer of vegetation in a forest, trees which form the upper or uppermost layer of a forest canopy.

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.

Statewide Land Use Planning Goals – These 19 goals express Oregon's policies on land use and related topics, like citizen involvement, housing, and natural resources. The statewide goals are achieved through local jurisdiction's adopted comprehensive plan, zoning and land-division ordinances.

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.

Risk Assessment – The process or method of identifying hazards that have the potential to cause harm, and evaluating the risk associated with the hazards.

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.

Early Seral Stage – The first stage in forest development following any disturbance, including wind, ice, fire or logging. This community is made up of the first colonizers of a forest opening: grasses, other herbaceous plants, broadleaf shrubs and tree seedlings along with remnants or legacy structures (snags, etc.) from the previous forest.

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 trees in a forest stand with their crowns growing below the dominant tree canopy (see 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.

Watershed- A land area that channels rainfall and snowmelt to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.

Water Supply – A source of water for firefighting activities.

Wildfire Risk – The chance of a fire starting from any cause.

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 – 1: Any area where wildland fuels threaten to ignite combustible homes and structures. 2: The zone where structures and other human development meets or intermingles with undeveloped wildland fuels where natural vegetation is typically less than 50 percent of the land area.

Wildland-Urban Intermix – An area of suburban or rural development which extends into predominantly wildlands; typically having greater than 50 percent natural vegetation cover.