Upper Deschutes River
Community Wildfire Protection Plan

2024

Prepared in cooperation with:

Copies of this plan are available at: http://www.projectwildfire.org/cwpps/

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Executive Summary

Community Wildfire Protection Plans (CWPPs) are documents that are designed by a local group of stakeholders who are invested in the wildland fire threat to their area. The group of stakeholders typically consists of a representative from the fire department(s), the state Forestry Department, any governing bodies and especially property owners. Each of these representatives should bring their concerns regarding wildland fire to the discussion and propose solutions to their concerns.

Although reducing the risk of high intensity wildland fire is the primary motivation behind this plan, managing the larger landscape to restore forest health and more resilient conditions and improving fire response by all fire agencies are also discussed and addressed in the action plan. Continued efforts have been made by County, State and Federal land management agencies to reduce the threat of high intensity wildland fires through education and fuels reduction activities on public lands. In addition, private property owners have responded enthusiastically to the defensible space and preparation guidelines and recommendations to reduce hazardous fuels on their own properties by participating in programs such as Firewise and FireFree. All these activities allow the Upper Deschutes River Area to become a more Fire Adapted Community.

Since its creation in December 2005, the Upper Deschutes River Community Wildfire Protection Plan has been reviewed three times (2013, 2018 and 2024) by a local steering committee to be applied as it was intended by a wide variety of private landowners and public agencies to decrease the risks of high intensity wildfire in the South County Area.

The 2024 Upper Deschutes River Community Wildfire Protection Plan will assist all agencies and local property owners in the identification and prioritization of all lands, including surrounding public lands that are at risk from high intensity wildland fire. The Upper Deschutes River CWPP identifies priorities and strategies for reducing hazardous wildland fuels while improving forest health, supporting local industry, and economy and improving fire protection capabilities.

Addressing these goals in a cooperative, collaborative manner maintains alignment with the goals outlined in the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) -**r**esilient landscapes, Fire Adapted Communities and safe and effective wildfire response. For more information on Cohesive Strategy, visit http://www.forestsandrangelands.gov/.

The goals of the Upper Deschutes River CWPP are to:

- Protect lives and property from wildland fires.
- Maintain a watershed with healthy fire-resistant forests providing quality fish and wildlife habitat.

- Instill a sense of responsibility among residents, visitors, conservation groups and federal, state and local agencies to take preventive actions regarding wildland fire.
- Provide guidance to federal agencies for implementing fuels reduction treatments.
- Prioritize the use of limited funds for the treatment of hazardous fuels.
- Create and maintain fire adapted communities.
- Increase public understanding of living in a fire-adapted ecosystem.
- Increase the ability of UDR communities to prepare for, respond to and recover from wildland fires.
- Restore fire-adapted ecosystems with diverse, multi-structured forests emphasizing large ponderosa pine trees.
- Improve the fire resilience of the landscape while protecting other social, economic and ecological values.

The Upper Deschutes River CWPP integrates information from a variety of sources to present a comprehensive picture of risk and possible treatments on the landscape and enable community organizations and their partners to act in a coordinated fashion. A completed plan also allows the adjacent federal land management agencies to make use of the expedited authorities provided by the Healthy Forest Initiative (HFI) and the Healthy Forest Restoration Act (HRFA). In addition, for communities seeking federal grant funding from the National Fire Plan, a completed community wildfire protection plan has become *a de facto* requirement. Lastly, developing a community wildfire protection plan is a powerful tool to help get residents and visitors involved in fire protection efforts.

Planning Area Description

Deschutes County is in central Oregon and is a rapidly growing social, economic, and recreational destination. Deschutes County continues to be the fastest growing county in Oregon, according to Portland State University. From 2022-2023 Deschutes County's population has grown by 1.74%.

The Upper Deschutes River CWPP is multi-jurisdictional and addresses all lands and all ownerships within the boundaries of the plan area. The southern edge of the boundary is the northern boundary of the Greater La Pine CWPP and the northern boundary is the Sunriver CWPP. Both the west and east sides of the WUI are met by the East-West Deschutes County CWPP boundary.

In all seven (7) identified sub regions, the WUI boundary meets the CWPP planning area boundary. For the purposes of this plan, the wildland urban interface (WUI) boundary and the CWPP planning area are the same geographical region.

The Upper Deschutes River planning area is located between Sunriver and La Pine, Oregon adjacent to US Forest Service and BLM public lands. It is comprised of 65,510.1 acres rich with ponderosa & lodgepole forests, meandering rivers and diverse wildlife. There are 6,614 tax lots in the planning area ranging in size from ½ acre to over 40 acres in size, of those 77 are County

owned. Dispersed among those lots are 3,996 residential structures with an estimated resident population of 6,686.

Historically the area was characterized by open stands of ponderosa pine and native grasslands. Following logging in the first half of the 1900's many of these stands naturally regenerated to lodgepole pine. Lodgepole pine is a species that lives and dies by high intensity and active stand replacement crown fires. It is therefore less desirable from a wildland fire perspective because of the risk these stands pose to the communities and activities nearby.

Today, with less stand management, logging activity and highly effective wildland fire suppression, the forestland is predominantly dense lodgepole pine with some mixed stands of lodgepole and ponderosa pine. Much of the understory consists of dense bitterbrush with some areas of native bunchgrasses. Due to the lack of disturbance, these stands continue to become increasingly overcrowded.

The climate in all areas is considered semi-arid and typical of the east slopes of the Cascade Mountains, with most of the annual precipitation coming as winter snow or fall and spring rains. Summers are dry and prone to frequent thunderstorms with lightning storms producing multiple fire ignitions.

US Highway 97, a major transportation route through the state, runs north to south, directly through the planning area. As central Oregon grows, more residents and tourists crowd the highways and increase congestion, particularly during the summer months when fire season reaches its peak. As part of the central community, transportation routes are included in the consideration of the WUI boundary due to their critical role as roads and travel corridors that link communities together and serve as evacuation routes.

Wildland Fire Risk Assessment

The CWPP steering committee used the Oregon Wildfire Risk Explorer tool that was created in partnership with the Oregon Department of Forestry (ODF) and the Institute for Natural Resources at Oregon State University (OSU) to undertake a wildland fire risk assessment and gauge the relative risk and hazard due to wildland fire for the lands and communities within the planning area. This tool is intended to direct the implementation of wildfire mitigation activities to the highest priority areas and promote cross-boundary coordination. The full risk assessment can be found in Appendix A.

Action Plan and Implementation

The Steering Committee recognizes the Upper Deschutes River CWPP is a living tool that can be used for multiple outcomes. The plan contains recommendations consistent with the three goals of the Cohesive Strategy (safe and effective wildfire response, Fire Adapted Communities and resilient landscapes), as well as prioritized recommendations and preferred treatment methods. With critical needs assessed and priority areas identified through the risk assessment process, the Steering Committee identified the following recommendations to meet the purposes of the Upper Deschutes River CWPP:

- Reduce hazardous fuels on public lands
- Reduce hazardous fuels on private lands
- Reduce structural vulnerability
- Increase education and awareness of the wildfire threat
- Identify, improve and protect critical transportation routes

Declaration of Agreement

Under the Healthy Forests Restoration Act, the applicable local government, the local fire department(s) and the state entity responsible for forest management approve the CWPP. The Upper Deschutes River Community Wildfire Protection Plan (CWPP) was originally completed and signed in December 2005 and a revision was completed in 2013, 2018 and 2024. As directed by this CWPP, extensive fuels reduction and fire prevention activities have been completed on public and private lands. Recent wildland fires have also impacted the landscape and neighborhoods. Combined, these events have changed the priorities outlined in the previous documents.

This plan is not legally binding as it does not create or place mandates or requirements on individual jurisdictions. It is intended to serve as a planning tool for fire and land managers and residents to assess risks associated with wildland fire and identify strategies and make recommendations for reducing those risks.

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Acknowledgments

In the true spirit of collaboration, the following people are acknowledged for their participation and commitment resulting in the 2024 Update of the Upper Deschutes River CWPP.

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www.UDRC.org

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Purpose

Since its creation in December 2005, the Upper Deschutes River Community Wildfire Protection Plan has now been reviewed three times (2013, 2018 and 2024) by a local steering committee to be applied as it was intended by a wide variety of private landowners and public agencies to decrease the risks of high intensity wildfire in the South County Area.

This CWPP also addresses special areas of concern and makes recommendations for reducing structural vulnerability and creating fire adapted communities in the identified Communities at Risk. It is intended to be a living vehicle for fuels reduction, educational, and other projects to decrease overall risks of loss from wildland fire; reviewed yearly and updated every five years to address its purpose.

The purpose and goals of the Upper Deschutes River CWPP are to:

- Protect lives and property from wildland fires.
- Maintain a watershed with healthy fire-resistant forests providing quality fish and wildlife habitat.
- Instill a sense of responsibility among residents, visitors, conservation groups and federal, state and local agencies to take preventive actions regarding wildland fire.
- Provide guidance to federal agencies for implementing fuels reduction treatments.
- Prioritize the use of limited funds for the treatment of hazardous fuels.
- Create and maintain fire adapted communities.
- Increase public understanding of living in a fire-adapted ecosystem.
- Increase the ability of UDR communities to prepare for, respond to and recover from wildland fires.
- Restore fire-adapted ecosystems with diverse, multi-structured forests emphasizing large ponderosa pine trees.
- Improve the fire resilience of the landscape while protecting other social, economic and ecological values.

Wildland fire is a natural and necessary component of ecosystems across the country. Central Oregon is no exception. Historically, wildland fires have shaped the forests and rangelands valued by residents and visitors. These lands are now significantly altered due to fire prevention efforts, modern suppression activities and a general lack of large-scale fires resulting in large tracts of overstocked ponderosa and lodgepole pine forests with dense ground fuels of bitterbrush and saplings which burn hotter and more intensely than in the past. In addition, the recent explosion in population has led to increased residential development into forests in the wildland urban interface (WUI).

Within these boundaries, there is a significant amount of public land with numerous destination resorts, and developed and dispersed recreation sites which provide valuable recreation and economic opportunities to both residents and visitors in Deschutes County. In the summer months, transient populations occupy these areas creating a seasonal challenge for those agencies responsible for fire suppression and evacuation.

To address these issues, the UDRC continues to take proactive steps to collaborate with members of fire agencies, local businesses and organizations, and individuals to produce a robust and useful Community Wildfire Protection Plan.

Planning Summary

The Deschutes County Board of Commissioners adopted the most recent update of the Upper Deschutes River Community Wildfire Protection Plan in March 2018. Continued efforts have also been made by county, state and federal land management agencies to reduce the threat of high intensity wildland fires through education and fuels reduction activities on public lands. In addition, private residents have responded enthusiastically to the defensible space and preparation guidelines and recommendations to reduce hazardous fuels on their own properties.

Since that time, the Upper Deschutes River Coalition (UDRC) continues to be a leader in implementing projects that address the critical condition of the forestlands and watershed of the Upper Deschutes River area. The Coalition is also an active participant in Project Wildfire and participates regularly in wildfire prevention education and activities.

Although reducing the risk of high intensity wildland fire is the primary motivation behind this plan, managing the wildlands for hazardous fuels reduction and fire resilience is only one part of the larger picture. Residents and visitors desire healthy, fire-resilient wildlands that provide habitat for wildlife, recreational and economic opportunities, and scenic beauty.

In keeping with the strategy of the original UDRC CWPP, the Steering Committee revisited the planning outline in Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities (Communities Committee, Society of American Foresters, National Association of Counties, and National Association of State Foresters 2005); and Deschutes County Resolution 2004-093.

Eight steps are outlined to help guide Steering Committees through the planning process:

Step one: Convene the decision makers.

The UDR CWPP Steering Committee reconvened in 2023 and 2024 to review the work completed within and adjacent to the WUI boundaries on public and private lands; and reevaluate the priorities for future fuels reduction treatments. The Steering Committee is comprised of the Program Director from Project Wildfire; the representatives from the UDRC board; representatives from Oregon Department of Forestry (ODF); representatives from the Bureau of Land Management and the US Forest Service, the Deschutes County Forester, other stakeholders and members of the public.

Step two: Involve state and federal agencies.

The Healthy Forests Restoration Act (HFRA) directed communities to collaborate with local and state government representatives, in consultation with federal agencies and other interested parties in the development of a CWPP. The Steering Committee recognized the importance of this collaboration and involved not only members from the USDA Forest Service and USDI Bureau of

Land Management (BLM) but Oregon Department of Forestry (ODF) and Deschutes County representatives as well. Each agency brought a wealth of information about fuels reduction efforts planned and completed along with educational information based on current research across the nation.

Step three: Engage interested parties.

Representatives from the Communities at Risk participated on the Steering Committee. The Steering Committee also included members of local businesses, homeowner/neighborhood associations, and other organizations and individuals.

Step four: Establish a community base map.

The Steering Committee reviewed the previous maps and boundaries from the 2018 CWPP. The Steering Committee determined that the CWPP Planning Boundary and the WUI Boundary should be the same boundary. In the past, there were areas within the plan considered "Rural Areas". The Steering Committee felt that this change in the boundary accurately reflects the wildfire risk and will allow for better strategic planning in the future by all agencies.

Step five: Develop a community risk assessment.

The Steering Committee relied on the Oregon Wildfire Risk Explorer tool that was created in partnership with the Oregon Department of Forestry (ODF) and the Institute for Natural Resources at Oregon State University (OSU) to undertake a wildland fire risk assessment and gauge the relative risk and hazard due to wildland fire for the lands and communities within the planning area.

Step six: Establish community hazard reduction priorities and recommendations to reduce structural ignitability.

Based on the assessments, the Steering Committee produced three groups of priorities for fuels reduction treatments on public and private lands. The Steering Committee also made recommendations to reduce structural ignitability based on information in the assessments and local knowledge.

Step seven: Develop an action plan and assessment strategy.

The Steering Committee identified an action plan for key projects; roles and responsibilities for carrying out the purpose of the CWPP; potential funding needs, post fire recovery considerations and the evaluation process for the CWPP itself.

Step eight: Finalize the Community Wildfire Protection Plan.

A draft of the UDR CWPP was available for public comment prior to the final signing and approval of the plan. The UDR Community Wildfire Protection Plan was mutually approved by the Upper Deschutes River Coalition, the Oregon Department of Forestry, the La Pine Rural Fire Protection

District and the Deschutes County Board of Commissioners as demonstrated in the Declaration of Agreement. Policy Background Related to CWPPs.

Collaboration and background

In 2002, President George W. Bush established the Healthy Forests Initiative (HFI) to improve regulatory processes to ensure more timely decisions, greater efficiency and better results in reducing the risk of high intensity wildfire. This initiative allowed forest management agencies for the first time, to expedite the documentation process for the purpose of reducing hazardous fuels on public lands.

In 2003, the US Congress passed historical bi-partisan legislation: the Healthy Forests Restoration Act (HFRA). This legislation expands the initial effort under the Healthy Forests Initiative and directs federal agencies to collaborate with communities in developing a CWPP, which includes the identification and prioritization of areas needing hazardous fuels treatment. It further provides opportunities and authority for federal agencies to expedite the National Environmental Policy Act (NEPA) process for fuels reduction projects on federal lands. The act also requires that 50% of funding allocated to fuels projects be used in the wildland-urban interface.

Communities now have the opportunity to participate in determining where federal agencies place their fuels reduction efforts. With a CWPP in place, community groups can apply for federal grants to treat hazardous fuels and address special concerns to reduce the risk of catastrophic loss as a result of wildland fire. Although some of the capabilities and authority under HFI and HFRA have been challenged in federal courts, all have been successfully upheld and the original intent and validations under each remain the same.

In 2009, Congress passed the Federal Land Assistance, Management, and Enhancement (FLAME) Act and called for a National Cohesive Wildland Fire Management Strategy to address wildland fire related issues across the nation in a collaborative, cohesive manner. The Cohesive Strategy was finalized in 2014, updated in 2023, and represents the evolution of national fire policy:

To safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and collectively learn to live with wildland fire.

The updated, national goals identified as necessary to achieving the vision are:

- Resilient Landscapes: Landscapes regardless of jurisdictional boundaries are resilient to fire, insect, disease, invasive species, and climate change disturbances in accordance with management objectives.

- Fire-Adapted Communities: Human populations and infrastructure are as prepared as possible to receive, respond to and recover from wildland fire.

- Safe, Effective, Risk-based Wildfire Response: All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

Building a collaborative and cooperative environment with the fire department(s), community-based organizations, local government, and the public land management agencies has been the first step in reducing the risk of loss from wildland fire. The Steering Committee pledges to maintain this cooperation with the public over the long term with the commitment of all the participants involved. The importance of collaboration with neighboring CWPPs is recognized by the Steering Committee and is referenced throughout this CWPP as documentation of collaborative efforts to maximize hazardous fuels reduction efforts in the area. The Steering Committee agrees that the Upper Deschutes River Community Wildfire Protection Plan will be a living document, intended to promote fuels reduction, education, and other projects to decrease overall risks of loss from wildland fire; it is intended to be revisited at least annually to address its purpose.

At a minimum, the Upper Deschutes River Community CWPP Steering Committee shall include representatives from La Pine Rural Fire Protection District, representatives from Oregon Department of Forestry (ODF); representatives from the Upper Deschutes River Coalition. representatives from Bureau of Land Management (BLM); the Deschutes County; and the Program Director from Project Wildfire, along with members of the public.

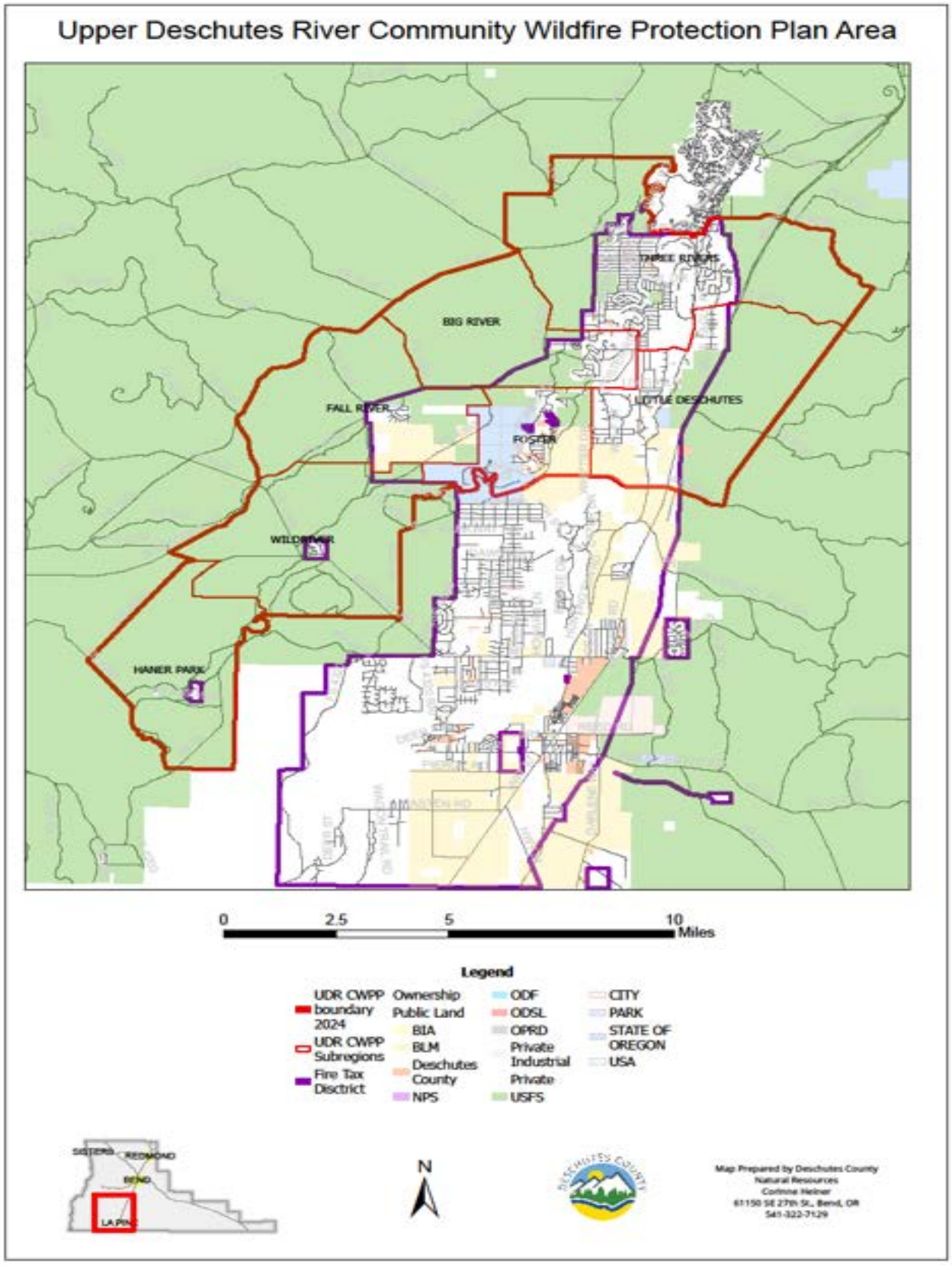
Historically the CWPP area was characterized by open stands of ponderosa pine and native grasslands. Following logging in the first half of the 1900's many of these stands naturally regenerated to lodgepole pine. Lodgepole pine is a species that lives and dies by high intensity and active stand replacement crown fires. It is therefore less desirable from a wildland fire perspective because of the risk these stands pose to the communities and activities nearby.

Today, with less stand management, logging activity and highly effective wildland fire suppression, the forestland is predominantly dense lodgepole pine with some mixed stands of lodgepole and ponderosa pine. Much of the understory consists of dense bitterbrush with some areas of native bunchgrasses. Due to the lack of disturbance, these stands continue to become more and more overcrowded.

The climate in all areas is considered semi-arid and typical of the east slopes of the Cascade Mountains, with most of the annual precipitation coming as winter snow or fall and spring rains. Summers are dry and prone to frequent thunderstorms with lightning storms producing multiple fire ignitions.

US Highway 97, a major transportation route through the state, runs north to south, directly through the planning area. As central Oregon grows, more residents and tourists crowd the highways and increase congestion, particularly during the summer months when fire season reaches its peak. As part of the central community, transportation routes are included in the consideration of the WUI boundary due to their critical role as roads and travel corridors that link communities together and serve as evacuation routes.

Upper Deschutes River Community Wildfire Protection Plan



Upper Deschutes River Coalition

The Upper Deschutes River Coalition (UDRC) was incorporated in 2004 to enable communities along the Upper Deschutes River and tributaries to work together to resolve natural resource issues in this sensitive, fire-prone area. In 2019 the organization adopted the alternate business name "Upper Deschutes River Communities". The UDRC CWPP area includes 29 communities, Sunriver Business Park, Thousand Trails RV Resort, and La Pine State Park, surrounded by public forest land.

The mission of the UDRC:

- Supporting fire-adapted communities
- Healthy forests
- Pure and abundant river flows
- Wildlife habitat

The website www.udrc.org features information about area wildfires, watersheds, and wildlife issues. The UDRC collaborates with partners including Deschutes National Forest Bend-Fort Rock Ranger District, Bureau of Land Management Prineville District, Natural Resources Conservation Service, National Forest Foundation, Oregon Department of Forestry, Oregon State Fire Marshal Office, Deschutes County Project Wildfire, Deschutes River Conservancy, Deschutes Soil and Water Conservation District, and La Pine Rural Fire District.

Private Landowner Accomplishments

Defensible Space Reimbursement Program

Since 2016 the UDRC has provided assistance to property owners within the La Pine Rural Fire Protection District with the cost of creating or maintaining defensible space for wildfire risk reduction. The UDRC uses grant funds to reimburse property owner expenses for licensed fuel reduction contractors or rental equipment up to $500 maximum. Applicants fill out and submit an online application form with a wildfire fuels reduction work plan checklist. Applicants spent an average of 2.5 times the amount reimbursed for their projects.

Low-income Senior or Disabled Defensible Space Program

Since 2019 UDRC has partnered with Central Oregon Council on Aging to provide free wildfire fuels reduction services for low-income senior or low-income disabled homeowners in the La Pine Rural Fire Protection District. Applicants who meet the income and age or disability requirements fill out and mail an application form. A volunteer from UDRC visits the property, writes a prescription for the fuels reduction work. The work plan prioritizes creating defensible space within 30 feet of the house and clearance around the driveway. The UDRC pays a fuels reduction contractor up to $1000 maximum.

Firewise USA®

Firewise Communities: Caldera Springs, Crosswater, DRRH 6, Fall River Estates, Oregon Water Wonderland I, River Forest Acres, River Meadows, Spring River, and Wild River.

2018 – 2024 Accomplishments

$307,156 grant funds expensed for fuels reduction and home hardening projects

Defensible Space Reimbursement Program

1. UDRC CWPP area: 332 property owners reimbursed
2. La Pine CWPP area: 169 property owners reimbursed

Low-income Senior or Low-income Disabled Program

1. UDRC CWPP area: 15 projects completed
2. La Pine CWPP area: 48 projects completed

Other Projects

1. Vandevert Acres 30-acre common areas fuels reduction, collaboration with Heart of Oregon.
2. Home Hardening Pilot Program: 16 assessments, 8 projects completed.
3. River Forest Acres Fiscal Sponsorship: 14 projects completed.

Public Meeting Topics

- Public lands: fuels management, restoration, recreation, trails
- River flow management, recreation safety
- Deschutes County: Project Wildfire, emergency services, roads, zoning
- La Pine Fire services
- Oregon insurance regulations
- Workshops: Defensible Space, Grants
- Wildfire film screening

Wildland Urban Interface Definition

Generally, wildland urban interface (WUI) can be defined as any developed areas where conditions affecting the combustibility of both wildland and built fuels allow for the ignition and spread of fire through the combined fuel complex. The Healthy Forests Restoration Act defines wildland urban interface (WUI) as an area within or adjacent to an at-risk community that has been identified by a community in its wildfire protection plan. For areas that do not have such a plan, it is identified as:

- extending ½ mile from the boundary of an at-risk community,
- extending 1½ miles from the boundary of an at-risk community when other criteria are met such as a sustained steep slope or a geographic feature that creates an effective firebreak, or is classified as Condition Class 3 land,
- adjacent to an evacuation route.

The Steering Committee reviewed the overall WUI boundary and approved its use in this update. The southern edge of the boundary is the northern boundary of the Greater La Pine CWPP. The northern boundary is the southern boundary of the Greater Bend and Sunriver CWPP boundaries. The west and east side of the boundary is met by the East West CWPP. Every acre in Deschutes County is covered by a CWPP.

Communities at Risk

The Healthy Forest Initiative (HFI) and the Healthy Forests Restoration Act (HFRA) define a "community at risk" from wildland fire as one that:

- is a group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) in or adjacent to federal land.
- has conditions conducive to large-scale wildland fire; and
- faces a significant threat to human life or property because of a wildland fire.

For the purposes of this plan, the lands and associated homes and structures within the planning area boundary of the Upper Deschutes River CWPP constitute the Community at Risk.

Preferred treatments and goals for hazardous fuels reduction

Appendix A includes detailed maps of the WUI boundary throughout the UDR CWPP and the recommended areas for treatments by reducing wildland fuel hazards on both public and private lands.

The standard of the UDR CWPP is to decrease the risk of uncharacteristic and high intensity wildland fire behavior by reducing fuel loads to that which can produce flame lengths of less than four feet. This enables safe and effective initial attack.

One of the CWPP goals is to provide for a healthy, fire resilient landscape that supports the social, economic and ecological values of area residents and visitors. The Steering Committee recognizes the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal or private projects and recommends that future projects consider these benefits when selecting areas for treatment. The following specific standards are recommended for treatments on public and private lands within the Upper Deschutes River WUI.

Public lands

All seven Communities at Risk are adjacent to public lands managed by either the Forest Service or the Bureau of Land Management. State owned lands represent only a small percentage of the lands (3%) within the planning area.

It is the intent of the Steering Committee that the UDR WUI is subject to expedited measures for hazardous fuels treatment and allocation of funds to protect the communities and neighborhoods as stipulated by the Healthy Forests Restoration Act.

The overall standard for public lands under this CWPP is to decrease the risk of high intensity wildland fire behavior by reducing and maintaining fuel loads to that which can produce flame lengths of less than four feet in the areas within the WUI boundary. This buffer will begin at the edge of private lands (except where other land management practices prohibit it such as riparian or wetland areas) and extend onto the federal lands to the designated WUI boundary. This standard can be achieved by federal land management agencies through a variety of treatment methodologies such as thinning, prescribed burning and mechanical treatments. Specific treatments should address fuels issues on a landscape scale rather than acre by acre.

Federal land managers are strongly encouraged to work toward the overall standard by restoring Condition Class 2 and 3 lands with the goal of returning the landscape to Condition Class 1. In stands where Crown Fire Potential is rated Extreme by the federal agencies the recommended standard is to reduce fuel loads to that which can produce flame lengths of less than four feet, regardless of Condition Class:

- Within a ¼ mile buffer of the UDR WUI boundary. Treatments should begin here and increase in ¼ mile increments until the WUI boundary is reached.
- Within 300 feet of any evacuation route from any of the Communities at Risk.
- Maintenance of previously treated lands is also a top priority. Treatment and maintenance of previously treated lands before treatment begins again in other places is an important component of keeping communities safe.

In general, the dominant strategy in all areas should be thinning from below, in an effort to restore large tree, open, ponderosa pine dominated forests. Federal land managers are strongly encouraged to utilize mechanical treatments and prescribed fire to reduce fuel loads to that which can produce flame lengths of less than four feet.

These treatments shall be consistent with the current COFMS Fire Management Plan on the federal lands and existing land management plans on state owned lands.

Within ¼ mile of any residential area, and within 300 feet of roads, trees should be thinned and widely spaced to protect and enhance the large trees on any given site. Ladder fuels and shrubs should be aggressively managed by mowing or prescribed burning. Lower branches should be trimmed. Additionally, it will be necessary to provide effective closures and signs to ensure these buffers are not abused by unmanaged OHV use.

The Steering Committee recommends that in the WUI farther than ¼ mile from residences, thinning from below and vegetation treatments should be done to accomplish greater diversity of forest structure, a greater variety of size and age classes, efforts to promote remaining large diameter ponderosa pine, and a selected mosaic of shrub and other vegetation to support wildlife. Throughout the WUI, forests should be thinned to an extent that leaves insufficient ladder fuels to support a fast-moving crown fire.

Regarding the Upper Deschutes River Wild and Scenic River corridor, the Steering Committee is extremely concerned that this area presents some of the most dangerous forest fuel conditions in the analysis area and should be considered a high priority for treatment, as permitted under the river management plan. The Committee recommends thinning and other forest treatments using careful planning and low impact techniques. Forest management should occur in accordance with the other recommendations in this plan, if thinning and risk reduction activities reflect the following considerations:

- Forest management actions must be protective of riparian areas, elk and deer habitat, and vegetation and wildlife diversity.
- Compliance with agency guidelines for retaining volumes of dead and down vegetation for stream bank structure, future fishery habitat, and wildlife habitat.
- The Forest Service and BLM should consider the lowest impact harvest systems for thinning within the Wild and Scenic River Boundary.

Within the UDR WUI there are many side roads that were slated for closing as a part of the 1996 Upper Deschutes Wild and Scenic River Management Plan. Given that many of these are fire ignition sites because of smoking, remote camping, and OHV use, the Steering Committee supports current efforts to close these roads when supported by the nearest neighborhoods. Priority should be given to those areas that have a neighborhood commitment to become partners with the federal agencies and stewards of the nearby non-motorized area.

The Steering Committee also encourages federal and state land managers to work with local landowners to minimize road closures that could be used as alternate evacuation routes.

Industrial and non-industrial private forestlands

Private forestlands are generally larger land holdings managed for multiple values including timber, wildlife, recreation and water. The landowner may or may not live on the property however the property is largely forest vegetation excluding the area directly adjacent to any structures. There are still a few private forestland parcels in the UDR WUI that directly border some of the Communities at Risk. The Steering Committee recommends continued partnerships

with private forestland owners that encourage fuels management to the standards above as part of an overall plan for management of the forest resource.

Industrial and non-industrial private forestland owners can meet the overall standard by treating Condition Class 2 and 3 lands with the goal of returning the landscape to Condition Class 1 by reducing fuels loads to that which can produce flame lengths of less than four feet:

- Within a ¼ mile buffer of adjacent communities at risk. Treatments should begin here and increase in ¼ mile increments until the WUI boundary is reached.
- Within 300 feet of any evacuation route from adjacent Communities at Risk.

The standard can be achieved through a variety of treatment methodologies such as thinning, prescribed burning and mechanical treatments. Specific treatments should address fuels issues on a landscape scale rather than acre by acre. These treatments shall be consistent with existing land management plans for these areas.

Fuel Hazards and Ecotypes

The majority of the vegetation in the planning area includes:

- Ponderosa pine
- Lodgepole pine
- Bitterbrush
- Riparian areas

Ponderosa pine is currently found throughout the UDR planning area. Historically, ponderosa pine forests contained more understory grasses and sporadic shrubs than are present today. These plants combined with fallen pine needles, formed fast burning fuels that led to recurrent widespread burning.
Frequent low-intensity ground fires that occurred every 11-15 years characterized the fire regime for ponderosa pine. The pattern of low ground fires and stand dynamics resulted in the open park-like conditions that early inhabitants and visitors found in the region.

Less stand management, logging activity and highly effective wildland fire suppression, have significantly altered the ponderosa pine forest type. Removal of the larger “pumpkin” pines has dramatically decreased clumpy open forests, replacing them with more evenly spaced and smaller, younger “black-bark” forests. Similar to other species of conifer forest types, the suppression of fire has greatly increased the stocking levels and density of trees, creating ladder fuels and putting the stands at risk of attack from insects and disease. These factors have contributed to more intense fires in ponderosa pine forests in recent years.

Mature lodgepole pine in central Oregon is characterized by dense, uniform stands, an absence of other species, and a general lack of understory shrubs (although bitterbrush is often found with mature lodgepole pine). Lodgepole pine forests exhibit a moderate severity fire regime with a fire return interval between 60 and 80 years. Fire in lodgepole pine stands can be low, moderate, or severe over time and often result in full stand replacement.

In addition to fire, mountain pine beetles are worth noting as a significant disturbance agent as the two processes are linked. The fire cycle in lodgepole pine is 60-80 years and occurs as follows: a stand replacement fire leads to stand regeneration → Dead snags from the fire fall to the forest floor and fuels begin to accumulate → Windstorms blow more trees to the ground → Forest fires burn some of the downed logs and lead to heart rot in the standing trees → The heart rot stresses the stands and makes it vulnerable to attack by the mountain pine beetle → A major outbreak of the mountain pine beetle causes significant mortality and soon the conditions are ripe for another stand replacement fire.

Bitterbrush occurs throughout the planning area on all aspects and elevations and is frequently found with mature lodgepole pine. Fire severely damages bitterbrush, especially if rain is not received shortly after a burn. Bitterbrush is fire dependent, but not fire resistant. It regenerates mostly from seed after a fire and often sprouts from caches of seeds made by rodents. Bitterbrush will sprout after burning regardless of the severity of the burn and matures relatively quickly. Consequently, the planning area is rich with patches of bitterbrush that burn well on their own and provide fire-ready ladder fuels for taller tree stands.

A **riparian area** is defined as the strip of moisture loving vegetation growing along the edge of a natural water body. The exact boundary of the riparian area is often difficult to determine because it is a zone of transition between the water body and the upland vegetation. With four river flows within the WUI area, riparian areas are of great concern from the wildland fire perspective. Vegetation types in these riparian areas vary and include trees, shrubs, grasses, forbs and willows. The primary exposure from a wildland fire perspective is during the spring before "green up" has occurred and autumn when the vegetation has cured and is highly flammable. Riparian areas include all rivers and tributaries within the planning area.

Noxious weeds and cheat grass are found across the planning area and present yearly challenges for residents, agricultural users and fire suppression agencies. Cheatgrass and other noxious weeds typically occur where the ground has been disturbed to create roads, paths, or other plantings. Once established, they return perennially and can reach heights of three feet or more creating an easily ignitable fuel bed once they dry out during summer months. Fires that occur in this type of fuel spread quickly and can direct fire to other fuels such as trees or structures.

Cheatgrass provides a flammable link in the brush and forest vegetation types. It cures early in the fire season and ignites readily during dry periods because of its very fine structure that responds readily to changes in atmospheric moisture, its tendency to accumulate litter and its invasive nature. Cheatgrass promotes more frequent fires by increasing the biomass and horizontal continuity of fine fuels that persist during the summer lightning season. Its expansion has dramatically changed fire regimes and plant communities over vast areas of western rangelands by creating an environment where fires are easily ignited, spread rapidly, cover large areas, and occur frequently. Fire in these habitats can have severe effects on native species of plants and animals.

Historic fire seasons occurred between July and September, with the middle to end of August being the period of the most extreme fire conditions. Cheatgrass matures by July, while most native species it replaces mature in late August. With Cheatgrass dominant, wildfires tend to occur earlier in the season, when native perennials are more susceptible to injury by burning. These fires are larger and more uniform, with fewer patches of unburned vegetation remaining within burns. Cheatgrass thrives in grounds that have been disturbed by activities such as recreation or building. There are many areas within the CWPP Boundary that have Cheatgrass invading the landscape, in some cases creating ladder fuel adjacent to homes in the WUI. Cheatgrass is recognized as a noxious weed in Deschutes County.

The result of the fuel hazards and forest types in the planning area is an overgrowth of trees, forest floor fuels and an abundance of dead or dying vegetation that contribute to a substantially elevated risk of wildland fires that are difficult to control. These overly dense conditions lead to fire behavior that produces flame lengths over eight feet with crowning, torching and ember showers that can result in stand replacement severity fires.

Not only have large, stand replacement fires not occurred, but also the more frequent low intensity fires have not been allowed to burn either. This practice of fire exclusion along with insufficient vegetation/fuels reduction has resulted in the buildup of excessive live and dead fuels.

Public & Private Accomplishments

As part of the ongoing wildland fire risk management of the surrounding public and private forestlands, the USFS, the BLM, ODF, Deschutes County and private landowners are engaged in hazardous fuels treatment projects across the planning area. Noting these accomplishments informs the risk assessment and action plan found later in this document.

Federal Lands

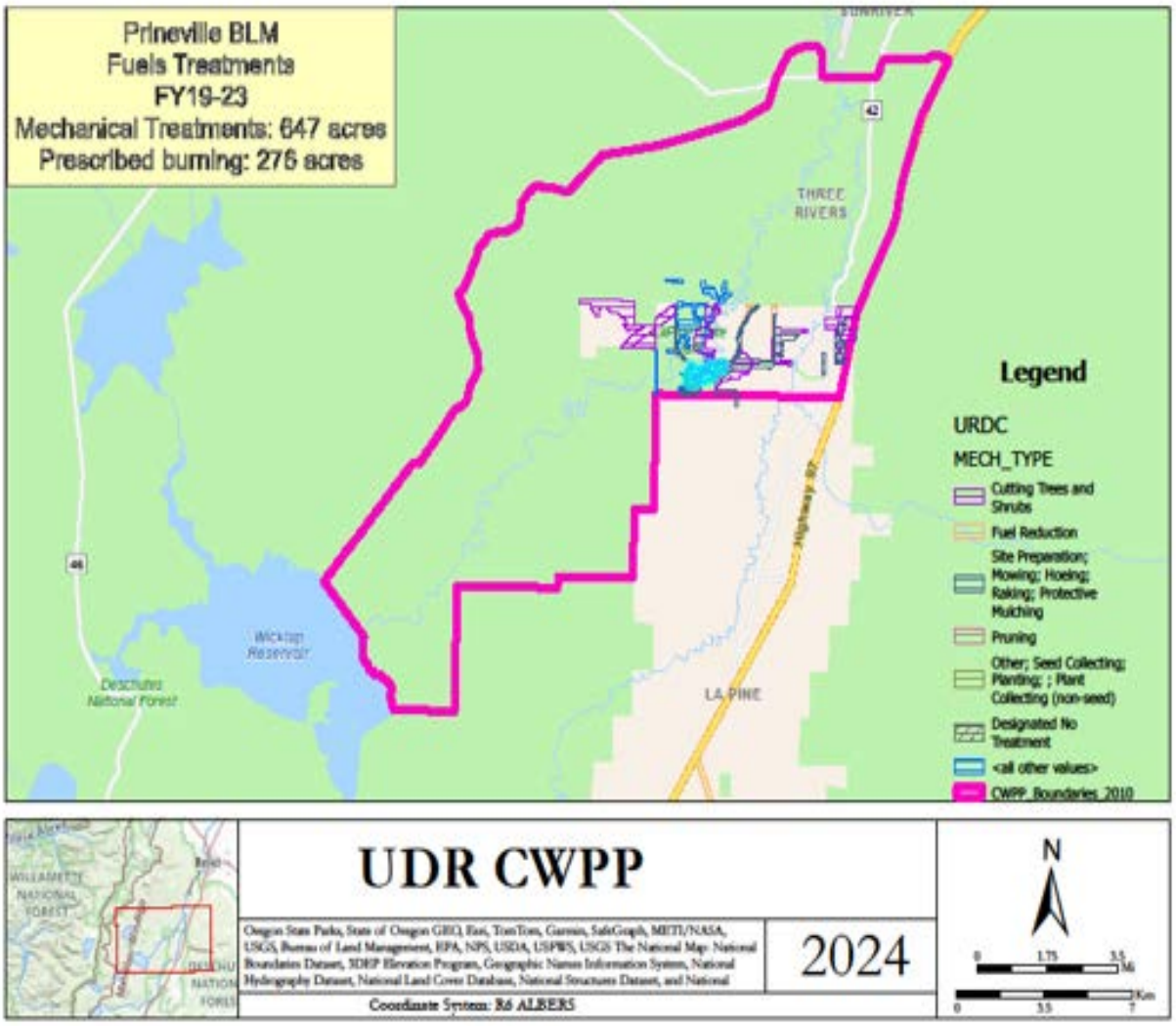
Currently, fire suppression on federal lands in Central Oregon under the combined management of the Central Oregon Fire Management Service (COFMS), the US Forest Service, and the Bureau of Land Management are involved in multiple fuels projects across the WUI in areas that stretch across this CWPP planning area to reduce hazardous fuels and the likelihood of high-intensity wildfire.

Bureau of Land Management

The Bureau of Land Management is implementing and planning multiple types of fuels treatments across the La Pine Basin. These activities include approximately 2,500 acres of mowing, 1,500 acres of machine thinning and piling, 1,000 acres of hand piling, and 2,500 acres of pile burning. These treatments are intended to reduce the potential for high-intensity fire that can spread to tree crowns, requiring costly suppression efforts and causing large losses on the landscape as well as in and around communities.

Projects completed in the table below:

Treatment Name:	Project Name:	Mechanical Type:	Mechanical Method	Treatment Date:	GIS_Acres
LaPine State Park Powerline Thinning		Unknown		1/1/2019	22.513264
Outback Thin and Biomass	Outback	Cutting/ Chip Pile burn	Feller/Buncher	4/8/2021	272.163793
Outback Thin and Biomass	Outback	Cutting/ Chip Pile burn	Feller/Buncher	4/8/2021	99.679909
Outback Thin and Biomass	Outback	Cutting/ Chip Pile burn	Feller/Buncher	4/8/2021	85.989775
Outback Thin and Biomass	Outback	Cutting/ Chip Pile burn	Feller/Buncher	4/8/2021	69.52788
LaPine Maintenance	La Pine HFR EA	Piling	Chainsaw	12/21/0201	39.205188
Prairie slashbusting unit - 24	La Pine HFR EA	Mastication/Mowing	Masticator	1/1/2019	60.106044
1_La Pine Maintnace units 49-52	La Pine HFR EA	Mastication/Mowing	Masticator	11/11/2023	94.814944
Prairie - Huntington RD piles - 2019		Hand Pile Burn	Completed	2019	8
La Pine Maintenance Unit - 29 - 2020		Hand Pile Burn	Completed	2020	36
Prairie hand pile unit 2 - 2019		Hand Pile Burn	Completed	2020	71
Prairie hand pile unit 1 - 2019		Hand Pile Burn	Completed	2020	66


Prineville BLM
Fuels Treatments
FY19-23
Mechanical Treatments: 647 acres
Prescribed burning: 276 acres
THREE RIVERS
LA PINE
Wickiup Reservoir
Deschutes National Forest
Legend
URDC
MECH_TYPE
Cutting Trees and Shrubs
Fuel Reduction
Site Preparation; Mowing; Hoeing; Raking; Protective Mulching
Pruning
Other; Seed Collecting; Planting; ; Plant Collecting (non-seed)
Designated No Treatment
<all other values>
CWPP_Boundaries_2010
UDR CWPP
2024
Coordinate System: R6 ALBERS
N

US Forest Service

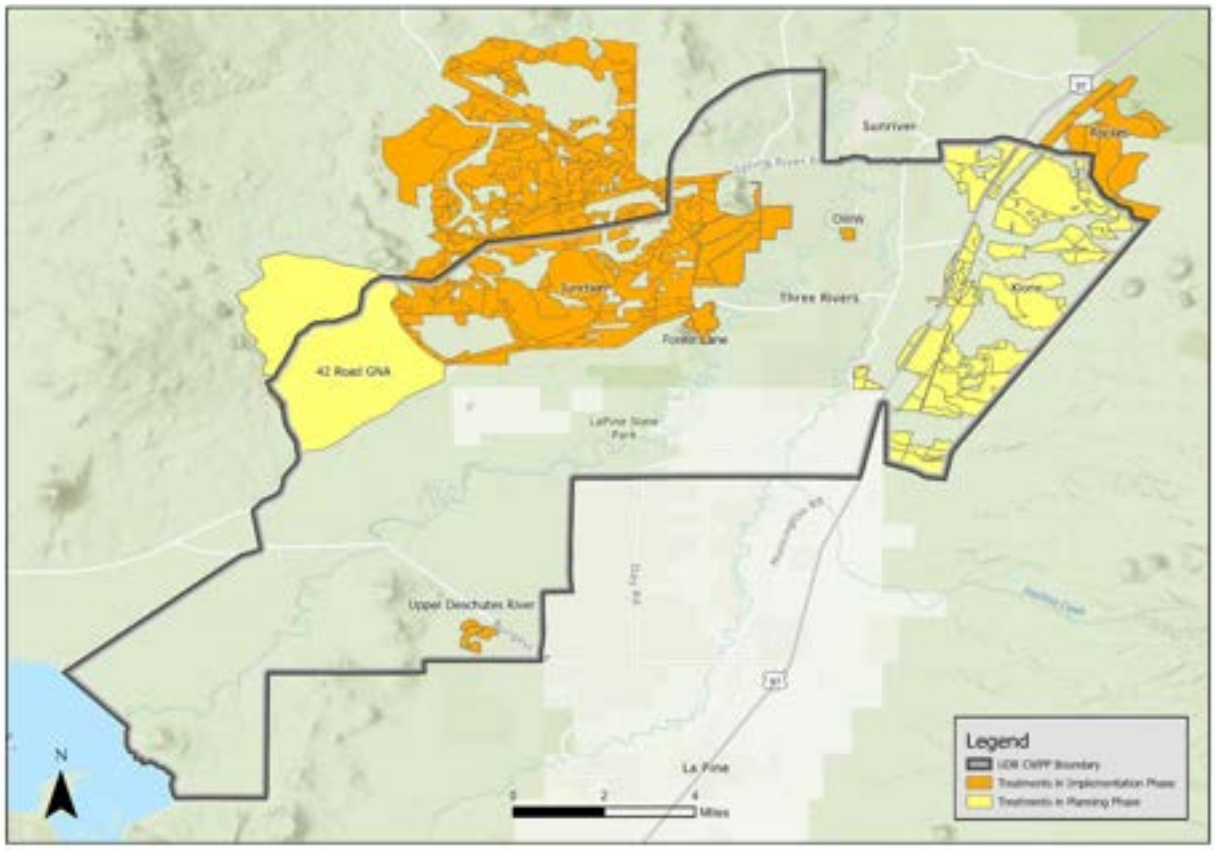
The U.S. Forest Service has numerous projects within the UDR CWPP boundary that are in varying stages of planning or implementation. These include the Junction, Upper Deschutes River, Klone, Myst (Forest Lane), Fall, and Oregon Water Wonderland projects. Ongoing implementation is occurring in Junction, where most timber harvest activity has been completed. Planning and contract development along with implementation of treatments for understory vegetation is occurring and forecasted for the next 1-4 years. Treatments primarily include mowing and small-diameter tree thinning and piling, which will follow up with pile burning. Under burning is planned in the southern portion of the Junction planning area along the 42 road after mowing treatments are complete. Vegetation management activities also continue to occur in the south (Upper Deschutes River) and northern (Forest Lane- Myst and Oregon Water Wonderland) areas of the CWPP area. Under-burning treatments in the Upper Deschutes River project area near Anne's Butte were completed in the spring of 2023.

Larger projects within the UDR CWPP boundary that are currently in the early implementation stages include Klone, Fall, and 42 Road GNA CE. Rocket is a notable ongoing project adjacent to the UDR CWPP boundary to the northeast with implementation ongoing with understory treatment contracts and planned under-burning continuing into 2025. In total, 15,291 acres of fuels treatments have been completed on USFS lands within the UDR CWPP boundary since the 2018 plan revision. *See Table 1 for specific treatments completed.

Table 1- Completed US Forest Service Treatments on Deschutes National Forest Lands (2018-2023)

Treatment Type	Acres
Overstory Thinning	1,800
Understory Thinning	3,082
Mastication/ Mowing	2,744
Under burning	1,616
Burning of Piled Material	6,049

Deschutes National Forest Ongoing and Planned Treatment Areas within the UDR CWPP



Oregon Department of Forestry

The Oregon Department of Forestry Prineville-Sisters Unit provides direct wildland fire protection to all non-federal lands within the entire CWPP area and assists federal agencies and the La Pine Rural Fire Protection District with fire protection within the CWPP area under mutual aid agreements. The Unit staffs 10 wildland fire engines, one five-person crew, and one dozer to respond to wildland fires throughout the fire season. In 2024, the Prineville-Sisters Unit added a guard station based at La Pine State Park, improving firefighter availability and response time to the CWPP area. The Prineville-Sisters Unit also provides support in fuels mitigation in the CWPP area. This support is provided through technical assistance with the development of Firewise Communities. Through close partnerships with federal and local agencies, the Unit assists in numerous other projects and prevention efforts within the area.

The Oregon Department of Forestry (ODF), Central Oregon District, Prineville-Sisters Unit provides wildland fire protection and technical forestry assistance to private landowners and non-federal agencies. The UDR CWPP area falls entirely within the Sisters sub-unit of ODF Central Oregon District, all state-owned and private lands are under ODF jurisdiction for wildland fire protection. Properties within the La PineRural Fire Protection District share this jurisdiction with ODF for wildfire response. ODF has provided several grants to residents within the CWPP, including the Greater Southern Deschutes, Greater La Pine and Greater La Pine2 defensible space grants, and Small Forestland Grant roadside chipping in Deschutes River Recreation Homes 1-5 & 9. The Landscape Resiliency Program was established through Senate Bill 762, Section 18 (2021) to improve forest restoration and resiliency. This grant program has funded landscape-scale projects that reduce wildfire risk on public and private forestlands and rangelands, and in communities near homes and critical infrastructure through restoration of landscape resiliency and reduction of hazardous fuels. Projects completed or ongoing under LRP funding have improved forest resiliency in La Pine State Park and around the Ponderosa Pines neighborhood in recent years. The Oregon Department of Forestry is signatory to a cooperative agreement with the Natural Resources Conservation Service, providing technical forestry assistance and federal funding to private landowners for hazardous fuels mitigation projects. Sisters Sub-Unit staff provided direct support in grant writing, project coordination, and field leadership to the Central Oregon Wildfire Workforce Partnership in 2022 and 2023, providing training and work experience to local youth on hazardous fuels reduction projects.

The Oregon Department of Forestry is currently in the planning phase of installing smoke detection cameras in Deschutes County. These cameras are monitored throughout fire season to aid in effective suppression response by wildland agency resources by allowing for more accurate and timely reporting of smoke size and location. ODF Central Oregon District will continue to utilize the state Multi-Mission Aircraft platform for infrared detection of new fire starts following lightning storms. The MMA successfully detected 29 new fires in the summer of 2022. Local ODF staff will also participate in aerial detection of fires by providing fire-qualified personnel to a locally-based interagency fire detection plane that can size up a fire and direct resources to its location by radio.

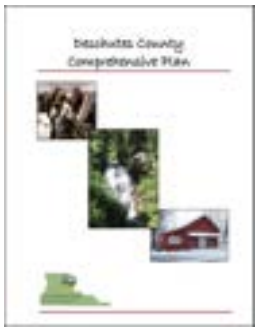
Deschutes County

In 2004, Deschutes County hired a County Forester to manage the County's land stock and work collaboratively with adjacent land managers and stakeholders including private citizens, the US Forest Service, the Bureau of Land Management, Oregon Department of Forestry and Project Wildfire to reduce the potential for catastrophic fires that impact Deschutes County citizens. The County Forester has made huge strides in those efforts including working with Oregon Department of Forestry to classify all lands within the County under the Oregon Forestland-Urban Interface Fire Protection Act.

The Upper Deschutes River planning area is located between Sunriver and La Pine, Oregon and is adjacent to US Forest Service Land and BLM public lands. It is comprised of 65,510.1 acres of land rich with ponderosa and lodgepole forests, meandering river and diverse wildlife. Since the last UDR CWPP update in 2018 there have been a total of 60 fires within the UDR boundary. There are a total of 6,614 tax lots that are either fully or partially located within the UDR boundary. Of those, 77 are county owned, totaling 1.2%. There is a total of 3,996 residential structures within the UDR boundary with an estimated population of 6,686.

Since 2022, the Deschutes County Natural Resources Program funded 5 communities a total of $39,660 through the Deschutes County Fuel Reduction Grant program. Deschutes County offers a Fuel Reduction Grant program to assist Firewise USA™ communities in defensible space and community protection projects. The Communities funded include Caldera Springs, Fall Rivers Estates, Oregon Water Wonderland #1, River Forest Acres and Wild River.

Deschutes County Comprehensive Plan



The Deschutes County Comprehensive Plan is a statement of issues, goals and policies meant to guide the future of land use in the County that covers a 20-year period from **2023-2040**. The Plan is intended to recognize the expectations and rights of property owners and the community. It also provides a blueprint for land use conservation and development. This is accomplished through goals and policies that tell a cohesive story of where and how development should occur and what places should remain undeveloped. The plan has several natural hazard policies that focus on wildfires:

- Coordinate with stakeholders to support forest management projects that contribute to public safety by treating wildland hazardous fuels, particularly in the designated Wildland Urban Interface...
- Protect people, property, infrastructure, the economy, and the environment from natural hazards.
- Support forest management practices that reduce severe wildfire hazard areas
- Support local fire protection districts and departments in providing and improving fire protection services.

- Ensure the County's built environment and infrastructure are adequately prepared for natural disasters.
- Support siting of Central Oregon Ready, Responsive, Resilient (CORE3) regional coordinated services training facility.
- Increase outreach and education for hazard awareness and natural disaster preparedness, especially for low-income, elderly, non-English speaking residents, and other vulnerable populations.
- Review and revise the County Code as needed to:
    - Address wildfire concerns to and from development, through consideration of site location, response capacity, construction and design, landscaping, defensible space, fuel management, access, and water availability.
    - Require new subdivisions and destination resorts to achieve Firewise Standards from the beginning of the projects and maintain those standards in perpetuity. "

Natural Hazard Mitigation Plan

A Natural Hazard Mitigation Plan (NHMP) is a document outlining the jurisdiction's commitment to reduce risks from natural hazards and serves as a guide for decision-makers as they commit resources to mitigation projects. A local government must have a mitigation plan approved to receive pre- and post-disaster mitigation grants. The Deschutes County Multi-Jurisdictional Natural Hazard Mitigation Plan (MJNHMP), which is required to be updated every 5 years, was last updated and approved in 2021.

The plan focuses on reducing or alleviating the losses of life, property, and injuries resulting from natural hazards through long and short-term strategies by identifying resources, information, and strategies for risk reduction. The MJNHMP is also intended to guide and coordinate mitigation activities throughout the county. Wildfire is Deschutes County's second-highest threat (winter storms are ranked first). Rank is determined using a formula that takes into consideration not only the probability of the hazard but also the severity of impact on the community and the built environment. Many of the projects and plans coordinated by and overseen by Project Wildfire, Firewise Communities, and Community Wildfire Protection Plans are noted and cross-referenced in the MJNHMP.

USDA Natural Resources Conservation Service (NRCS)

The USDA Natural Resources Conservation Service (NRCS) offers a variety of conservation programs and services to help landowners address resource concerns on their properties. Through key partnerships at the local level, the NRCS works collaboratively to get conservation on the ground. Public spatial data collection is not available due to private land privacy laws, but the NRCS has a long history of working with landowners within the UDR CWPP boundary. Due to high fuel loads and wildfire risk, the UDR CWPP area has been a priority area for treatments.

Deschutes Soil and Water Conservation District

Deschutes Soil and Water Conservation District (DSWCD) has been supporting Natural Resources Conservation Service (NRCS) with the current Buttes to Basins Joint Chiefs Landscape Restoration Initiative, which targets the Wildland Urban Interface around Bend and Sisters in Central Oregon. Currently, landowners have contracts with NRCS to implement forest health and fuels reduction projects on their properties, which equate to approximately 800 acres but continue to scale up. The Environmental Quality Incentives Program (EQIP) that NRCS delivers, is a financial incentive program, which still leaves landowners with a significant cost for landscape-scale projects. Senate Bill 762 is an opportunity to utilize additional funds to supplement these projects, which will help expedite implementation to ensure project completion in a timely manner. These projects will include the following conservation practices: Forest Stand Improvement, Brush Management, Woody Residue Treatment, Tree/Shrub Pruning, and several other practices that will help improve forest health and reduce fuels. This project supplemented project costs for 5 landowners with EQIP contracts with NRCS and 2 additional landowners that do not have EQIP contracts.
The following were completed through this project:

• 290 acres treated
• Total Project Cost: $534,704.46
• NRCS reimbursed: $233,960.58
• DSWCD SB 762 funding reimbursed: $252,722

Treatments completed included:

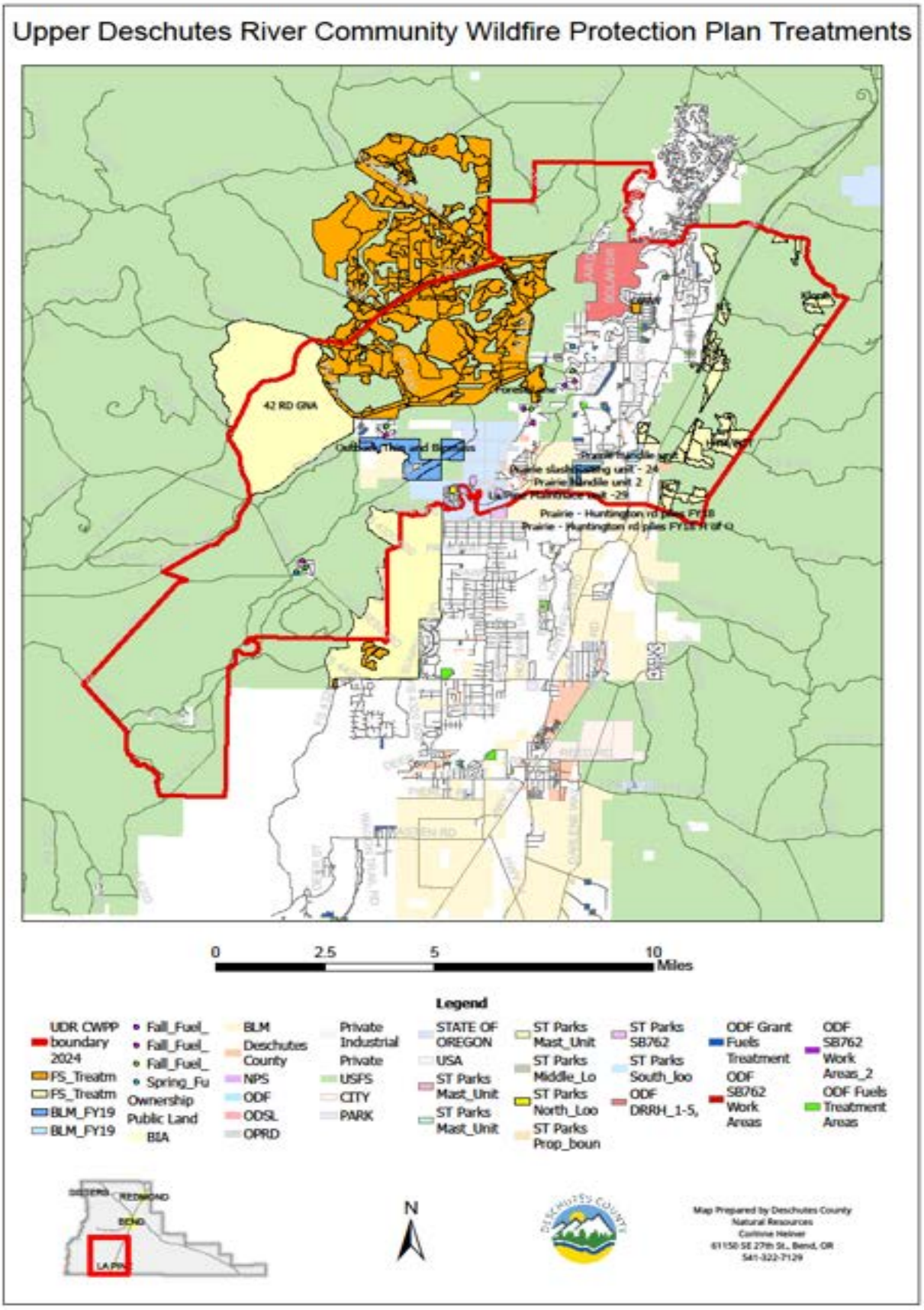
- Forest Stand Improvement (small and large stand thinning)
- Woody Residue Treatment (slash treatment, mastication, mowing)
- Chipping/Pile burning
- Fuel Break along Roads

Oregon Parks and Recreation District

The goal of the OPRD project is to reduce the fire hazard with fuel reduction and by thinning understory trees in areas that have a high density of trees and brush to improve visitor evacuation safety. Another goal is to provide defensible space for fire personnel and protect resources such as park infrastructure and the riparian management areas of the Deschutes River and Fall River should a wildfire occur. Approximately 1200 acres of fire breaks have been done in and around the La Pine State Park over the past 30 years. OPRD plans to continue with that work, a proposal has been approved through the Landscape Resiliency Program (SB762) to do fuel reduction project work on 300 acres within La Pine State Park.

The Fuels Reduction Project will include pre-commercial thinning of lodgepole pine/ponderosa pine saplings and non-merchantable trees less than eight inches diameter breast height. The project began with a total of 331 acres that are grouped in two general park areas located along the Fall River (north) and surrounding the Deschutes River (south). Treatment will include hand thinning and chipping trees less than 8-in diameter. The remaining trees less than 8-in diameter will be spaced approximately 15-20 feet (ft) apart. Saplings within the understory of larger

diameter trees will be removed. Any bitterbrush within 3-ft of the trunk of a leave tree will be removed. All remaining debris/slash will be chipped on site and left no deeper than 3-in. Mastication will be used to supplement hand cutting throughout the project area using a track mounted masticator.


Upper Deschutes River Community Wildfire Protection Plan Treatments
42 RD GNA
0
2.5
5
10
Miles
Legend
UDR CWPP boundary 2024
FS_Treatm
FS_Treatm
BLM_FY19
BLM_FY19
Fall_Fuel_
Fall_Fuel_
Fall_Fuel_
Spring_Fu
Ownership
Public Land
BIA
BLM
Deschutes County
NPS
ODF
ODSL
OPRD
Private Industrial
Private
USFS
CITY
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ST Parks Mast_Unit
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ST Parks North_Loo
ST Parks Prop_boun
ST Parks SB762
ST Parks South_loo
ODF DRRH_1-5,
ODF Grant Fuels Treatment
ODF SB762 Work Areas
ODF SB762 Work Areas_2
ODF Fuels Treatment Areas
REDMOND
BEND
N
Map Prepared by Deschutes County
Natural Resources
Corinne Heiner
61150 SE 27th St., Bend, OR
541-322-7129

Project Wildfire

Project Wildfire, in cooperation with the Deschutes County Sheriff's Office of Emergency Management Program, has helped property owners find grant funding to reduce hazardous fuels on private lands. Providing home assessments for individuals on how vulnerable a structure will be during a wildfire, and then offering recommendations that should be taken so the home will have a better chance to survive a wildfire is a free service Project Wildfire offers. As property owners work on proactive planning in preparation for wildfires, they help achieve Project Wildfire's mission to prevent deaths, injuries, property loss, and environmental damage resulting from wildfires in Deschutes County.

In partnership with Deschutes County and Republic Services, Project Wildfire plans and implements a Spring FireFree event every year. FireFree days are completely free for property owners to drop off yard debris at landfills and transfer stations throughout Deschutes County. The public has come to expect this FireFree event and there is a high level of participation each year. The event is an easy and cost-effective way for homeowners to create and maintain their defensible space.

Land Use Planning for Wildfire Prepared Communities

The Deschutes County Community Development Department (CDD) has coordinated efforts to establish planned communities with wildfire mitigation as a primary objective. In 2017, County staff facilitated the establishment of the Miller Tree Farm cluster development along the City of Bend's western Urban Growth Boundary. The Tree Farm development incorporates standards from the National Fire Protection Association (NFPA) and Firewise Communities for defensible space, fuel treatments, and construction material guidelines for all new developments that occurs onsite. These standards are codified as conditions of approval for the Tree Farm master plan and ultimately serve as a benchmark for all residential developments which occur in the Wildland Urban Interface moving forward.

Additionally, in 2019 CDD led to the adoption of a new zoning district in Deschutes County. The Westside Transect Zone (WTZ) serves as a transitional buffer between the City of Bend's western edge and heavily forested parcels further west. The WTZ is a unique zone in the County and serves as a major piece of compromise legislation between various interests in the region including developers, private property owners, environmental stewardship organizations, and wildfire protection officials. Like the Tree Farm development, the WTZ incorporates National Fire Protection Association (NFPA) and Firewise Communities standards for all new development. All land divisions, that occur in the WTZ, are required to submit Wildfire Mitigation Plans prepared by a professional forester, which outline the specific wildfire risks within the subdivision area and must include direct strategies for mitigating those risks. Mitigation strategies can include a defensible space program for individual properties, roofing, and other fire-resistant building material standards, and road access requirements for citizens and firefighting personnel. Measures outlined in individual Wildfire Mitigation Plans are ultimately included as conditions of approval and upheld by designated Homeowners Associations. These plans and designated mitigation actions must be evaluated on a regular basis or at the request of CDD. This ensures that any

changes to wildfire risk are adequately captured and factored into new and existing development plans.

Firewise USA®

Another indication of the commitment of the Upper Deschutes River residents to wildfire preparedness is the recognition of the multiple communities as Firewise USA® sites. The Firewise USA® program is a national recognition program that highlights communities that have chosen to complete and maintain defensible space; ensure adequate access, water, and signage; promote ongoing fire prevention education, and build or retrofit structures with non-combustible building materials such as siding, decks and roofing. Adequate water availability and access are also required.

The Firewise USA program recognizes communities that have demonstrated their commitment to wildfire preparedness. Through these steps, communities throughout the Upper Deschutes River CWPP boundary area have effectively lowered their wildfire risk. Partnerships have fostered collaboration between neighbors, increased awareness, and their communities' ability to respond to wildfire.

This CWPP contributes to the over-arching framework and goal of the National Fire-Adapted Communities (FAC) program. The FAC program acknowledges that people and nature are increasingly threatened by fire, despite fire's natural, beneficial role. At the same time, firefighting costs are escalating and diverting money away from proactive land management. The solution is to make natural areas and communities more fire-ready so that fire can be allowed to play its natural role at a meaningful scale. This program is in direct alignment with the Cohesive Strategy goal of creating more fire-adapted communities.

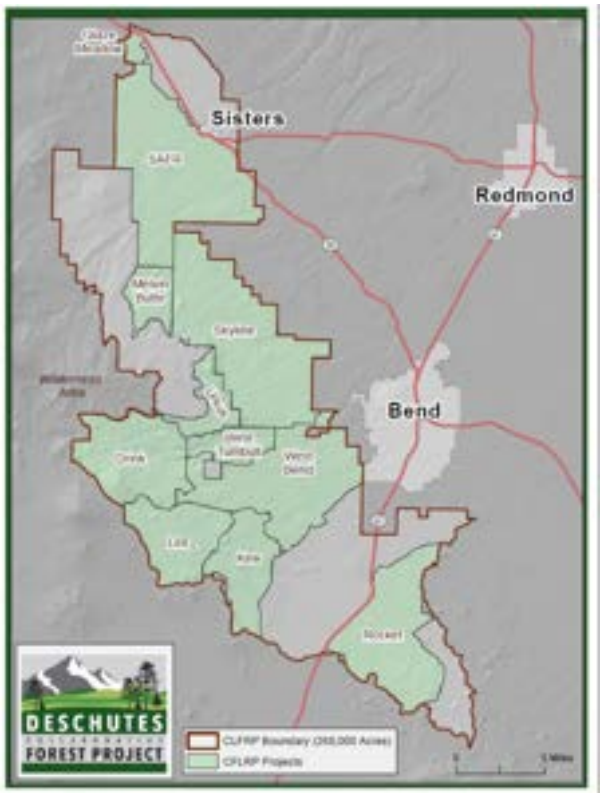
The Fire Adapted Communities (FAC) initiative and the FAC Learning Network are also helping homeowners, communities, and land managers in fire-prone areas prepare for inevitable fires -- to "live with fire" safely. Deschutes County is recognized as a pilot community in the Fire Adapted Communities Learning Network. This network encourages the development and sharing of best practices and innovations to accelerate the adoption of fire-adapted community concepts nationwide. A fire-adapted community acknowledges and takes responsibility for its wildfire risk and implements appropriate actions at all levels. Actions address resident safety, homes, neighborhoods, businesses and infrastructure, forests, parks, open spaces, and other community assets. There is no endpoint in becoming a fire-adapted community. Sustaining, growing, and adapting strategies, partnerships, and capacity through time are key. Visit https://fireadaptednetwork.org/ for more information.

Deschutes Collaborative Forest Project

In 2010, a collaborative group of local agencies and organizations formed a proposal for funding a large, collaborative forest restoration and hazardous fuels reduction project on public lands managed by the Deschutes National Forest. This landscape-level project is

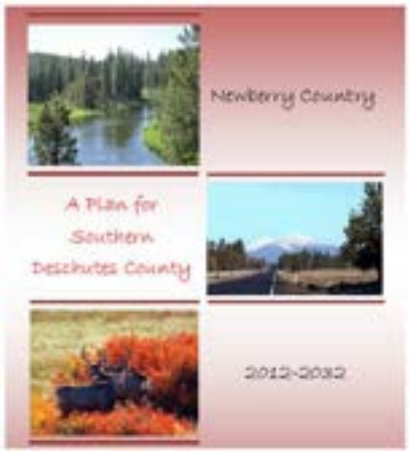
known as the Deschutes Collaborative Forest Project (DCFP). Under the federal Collaborative Forest Landscape Restoration Act (CFLRA), the proposal was approved for funding up to $10 million over ten years allowing the DCFP to provide socially driven, consensus-based recommendations to the Deschutes National Forest. Due to the success over the initial decade of work, the Deschutes Collaborative was approved in 2020 for an extension of funding under the CFLRA for 5 years to continue its work on spans the west side of the Greater Bend WUI, the western portion of the East & West Deschutes County CWPP boundary, the Sisters CWPP boundary to the north, and the Sunriver CWPP boundary to the south. The U.S. Forest Service's Wildfire Crisis Strategy has initiated a dramatic increase in pace and scale of hazardous fuels reduction work especially in the WUI throughout Deschutes County which aligns with the CWPP's priorities. The need for Collaborative engagement in forest management on the Deschutes National Forest has not diminished and the need to build community understanding of active forest management and wildfire risk reduction work has only grown along with the communities throughout the County. More information on the DCFP can be found at www.deschutescollaborativeforest.org.

As restoration projects on this landscape are implemented, the prescriptions and guidelines identified in this CWPP will be met marking a significant treatment of wildland hazardous fuels on a landscape scale, a priority in each of the CWPPs in Deschutes County. This will also allow for the creation and realization of fire-adaptive communities along much of the west side of the county. The Deschutes Collaborative Forest Project now has a website in place – www.deschutescollaborativeforest.org – along with a social media presence on Facebook to continue the stakeholder dialogue and educational outreach for this important landscape.



Newberry Country: A Plan for Southern Deschutes County

Deschutes County has amended its Comprehensive Plan to formally recognize an area-specific plan titled Newberry Country: A Plan for Southern Deschutes County. The Plan encompasses the rural areas south of Lava Butte except Sunriver and the City of La Pine, which are governed separately. It addresses the area's unique assets, local values and preferences for growth and development, the environment, natural hazards, transportation, and more.



The plan provides a framework for implementing a vision for building a stronger, more resilient rural community in Southern Deschutes County by managing growth to 2032. It recognizes the realities facing rural Deschutes County while acknowledging what governments can and cannot influence. It is part of the County's Comprehensive Plan but has more geographically specific goals and policies. It also contains a vision statement conveying the expectations of South County residents for the future, an inventory of existing conditions in the area, and the results of the public involvement process. It was developed with significant public input and calls for collaboration among all sectors: government, businesses, non-profits, and residents to achieve a shared vision.

La Pine Rural Fire Protection District

The La Pine Rural Fire Protection District provides structural, wildfire, rescue, emergency medical and other emergency services within its 115 square mile service District. The district also provides Emergency Medical Services, including Advanced Life Support paramedic transport, within an 800-square-mile service area. The district is governed by a five-member elected board and responds to emergencies from three fire stations located within the 115 square mile area. Staffing consists of 30 careers and up to 12 reserves to support operations There are two chief officers and two administrative office personnel. All operational firefighting personnel receive training in urban-wildland firefighting practices, structural fire protection and suppression techniques, rescue, and other related topics to support the service levels of the organization. The district uses the National Incident Management Systems (NIMS) when responding to and managing emergencies.

The district stations are located at Huntington Road (downtown La Pine), Burgess and Day Road, and South Century Drive. It maintains a fleet of three structural fire engines, three Advanced Life Support paramedic ambulances, three heavy brush engines, three water tenders, three light squads, and two staff vehicles.

The district is a party to the Central Oregon Fire Department Mutual Aid Agreement. In the event of a major fire or other incident, the department may request assistance from other fire departments that are signatories to the agreement. In addition to Central Oregon Fire Departments, the District cooperates with wildland fire protection agencies in the area such as the Oregon Department of Forestry, Walker Range, US Forest Service, and the Bureau of Land Management.

Fire Protection Capability

In considering the overall risk, the ability to provide a fire protection response must be considered. One structural fire district that provides fire response within the planning area. In addition, wildland fire agencies provide fire responses for areas of state and federal protection. When local

resources are fully engaged, all agencies can request additional resources through the State of Oregon and request federal resources through the Pacific Northwest Coordination Center.

In addition to this high level of coordination, all structural fire departments and wildland agencies in Central Oregon convene each year for a pre-season meeting to discuss the upcoming wildland fire season. Topics addressed at this meeting include predicted wildland fire activity, lessons learned, weather forecasts, and how agencies can/will respond to meet the needs of fire events.

COFMS -USDA Forest Service & BLM

The U.S. Forest Service and Bureau of Land Management (BLM) provide wildland fire protection on the federal lands within the Upper Deschutes River planning area. Together, they are identified as the Central Oregon Fire Management Service (COFMS). COFMS includes the Deschutes National Forest, the Ochoco National Forest, the Crooked River National Grassland, and the Prineville District of the BLM. These four units are managed cooperatively under an Interagency Fire Management organization. COFMS has a central dispatching facility in partnership with the Oregon Department of Forestry centrally located at the Redmond Air Center that serves as a coordination center for all fire and fuels operations.

Central Oregon Fire Prevention Cooperative

The Central Oregon Fire Prevention Coop has actively contributed in Deschutes County to various wildfire education events. These events include:

- Fire busters fire & life safety program each October, which is focused on kids from kindergarten to 5th grade. The video segments are aired on KTVZ for all to see and always include home and wildfire safety topics.
- Wildfire Home Protection Strategies classes, most recently, Three Rivers in Spring 2024, in La Pine in 2023 and 2024, and in Bend in 2022 and 2023 with some attendees from the UDR CWPP area.
- Wildfire prevention & preparedness PSAs in 2023, topics included prescribed fire, resident mitigation, safe debris burning, evacuation planning, safe recreation, and smoke preparedness.
- Booths at the Sportsman Show, Home & Garden Show, and Deschutes County Fair each year in Redmond touching on fire prevention and home preparedness.
- 2024 Wildfire Preparedness Fair at the La Pine Fire Station on Hunting Road.

Central Oregon Wildfire Workforce Partnership

The Central Oregon Intergovernmental Council and the Heart of Oregon Corps partnered in 2022 to form the Central Oregon Wildfire Workforce Partnership, or COWWP, under the Oregon Conservation Corps funding opportunity. Continued support has come from the Oregon Department of Forestry Small Forestland Grant and the Oregon State Fire Marshal's Community

Wildfire Risk Reduction Grant.

Young adult crews perform fuel reduction work on private and public property within Jefferson, Deschutes, and Crook Counties. Work has been prioritized in underserved and high wildfire-risk communities and has ranged from tree thinning, seedling removal, chipping, brush removal, and ladder fuel reduction in natural areas to create defensible spaces around homes, neighborhoods, and critical infrastructure.

Through the COWWP program, youth receive entry-level Wildland Firefighting certifications in partnership with the Oregon Department of Forestry & the U.S. Forest Service. Other trainings include S212 chainsaw certifications, Home Ignition Zone training in collaboration with the Oregon State Fire Marshal and Oregon State University Extension, and more. The COWWP program trains and employs local youth and young adults in wildfire reduction and related skills. In addition to gaining on-the-job training, certifications, and knowledge in fire fuel reduction practices, youth in the program will receive wages, scholarships, and additional workforce training in soft and hard skills to prepare them to enter the professional workforce.

For project information/link to the application: https://www.coic.org/cowwp/

Areas of special concern

Law Enforcement & Evacuations

The Deschutes County Sheriff's Office (DCSO) has primary law enforcement authority over the Upper Deschutes River area, and the Oregon State Police (OSP) supports with a focus on state highways. DCSO has the authority and responsibility to conduct evacuations in the event of a major emergency with support from OSP as necessary. DCSO and OSP may utilize tools such as public address systems on vehicles, emergency messages via radio and television, door-to-door notification, and Deschutes Alerts.

Deschutes Alerts utilizes Everbridge software to notify people during an emergency. Deschutes Alerts can reach people via landline telephone, cell phone, text message, email and/or TTY/TDD devices. The system contains opt-in, user-created profiles as well as data from a variety of sources including landline and cell phone user data. Every county in Oregon utilizes a similar platform for alerts and warnings. Visit oralert.gov to find a specific county's system via zip code.

Fire departments and agencies in Central Oregon convene each year for a pre-season meeting to discuss the upcoming wildland fire season. Topics addressed at this meeting include predicted wildland fire activity, weather forecasts, and how agencies can meet the needs of the community during fire events.

At the county level, the Deschutes County Emergency Operations Plan (EOP) and DCSO's Emergency Management Unit work to coordinate emergencies cross-jurisdictionally for all hazards that may befall the county.

Community-based organizations such as the American Red Cross also play a pivotal role during

evacuations. When evacuations are in place, the responsibility to shelter people falls to the County but is usually delegated to the Red Cross. The Red Cross may set up an in-person shelter(s) or may utilize a temporary evacuation point model.

The Oregon Department of Human Services' Office of Resilience and Emergency Management also has sheltering and emergency feeding capability and can be called in to support during emergencies.

Also, under the category of Protection Capabilities, the ODF Assessment of Risk examines a community's level of organization and preparedness to respond in an emergency. The assessment considers whether the area has an organized stakeholder group that looks out for its own area through mitigation efforts, a phone tree, etc. Or does the area only receive outside efforts such as newsletters, mailings or fire prevention information from other groups?

In the Upper Deschutes River WUI, the Communities at Risk varied from having a high level of organization to not having any with most efforts made by outside agencies such as the fire department's FireFree efforts and Project Wildfire's Sweat Equity projects in individual neighborhoods. The Steering Committee used local knowledge to determine the level of preparedness.

Oregon State Police assists the law enforcement efforts and cooperates with the Deschutes County Sheriff's Office for protection in the areas within the Upper Deschutes River CWPP.

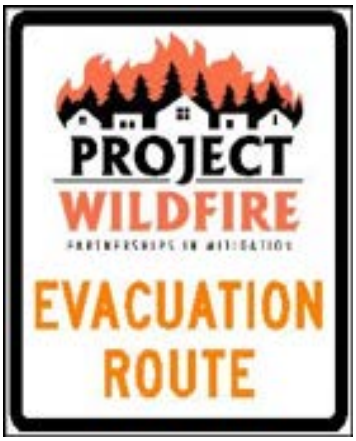
The **American Red Cross** offers a gamut of tools to boost community preparedness such as community presentations on emergency preparedness kits. The Red Cross gives presentations to church groups, HOAs, citizen groups, etc. Red Cross plays a vital role in emergency response during large wildfire events. At any time of day or night, trained Red Cross volunteers respond to the scene of structural or wildland fires and provide food, shelter, and emotional support to those affected.

Critical Transportation Routes

For purposes of this CWPP, the Steering Committee defines Critical Transportation Routes as:

- Routes needed for emergency ingress and egress to a wildland fire incident, not including unimproved or "two-track" roads.
- Routes necessary for the support of the routine flow of commerce to and/or through the greater planning areas.
- Routes that could be used for potential evacuation of citizens and/or visitors from a wildland fire threat to public safety.
- Routes needed to protect and support critical infrastructure (power substations, communication transmission lines, water and fuel storage, public service facilities, recreation facilities, etc.).

A detailed look at specific ingress/egress issues for each WUI area is included under Recommendations to Reduce Structural Vulnerability. This issue is also highlighted under Action Plan and Implementation.



Deschutes County estimates that there are thousands of additional transient populations who visit recreation sites and utilize the transportation corridors in these planning areas. Critical transportation routes are of prime concern for those agencies responsible for fire suppression and evacuation.

The Steering Committee is also concerned with the lack of maintained roads leading in and out of the high-risk areas in the WUI. Should an evacuation be necessary, the Steering Committee expressed great concern over the number and quality of the evacuation routes. Many of the egress routes people would be tempted to use are dirt roads that contribute to substantial dust and debris clouds as vehicles attempt to use them. During the summer months, after a few cars travel a road, the dust is so dense that it is not safe for vehicles to continue using the road until the dust settles. Most of these dirt roads are lack significant maintenance, which has led to deteriorated road surfaces with large potholes, ruts and washboards that slow evacuation efforts and cause some vehicles to break down, further complicating a mass departure from the area. For this reason, improved and maintained road systems should be used whenever possible.

The current condition of some of the evacuation routes is a significant life safety issue. Working with Deschutes County and Project Wildfire, neighborhoods within the Communities at Risk have taken advantage of a signage program to increase visibility of evacuation route signs along roads. The signs are made from high intensity reflective material and indicate proper exit routes from these neighborhoods.

The Steering Committee underscored the need to continue to identify, develop and protect critical transportation routes as part of this planning process. Ingress/egress issues are included under 36 Recommendations to Reduce Structural Vulnerability. This issue is also highlighted under Action Plan and Implementation.

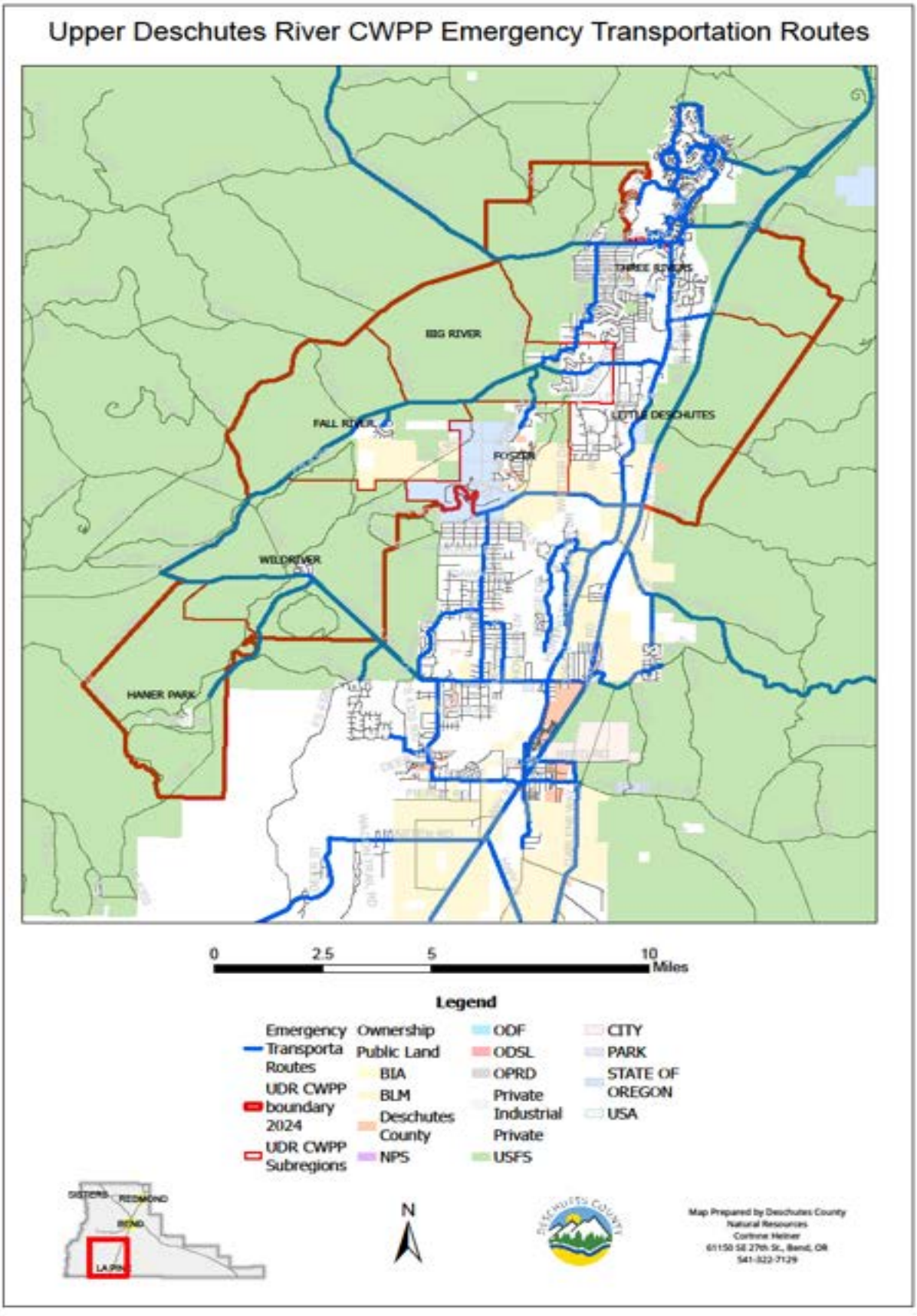
The steering committee is included in a review of critical transportation routes, which include three tiers:

Tier 1 – Primary Routes - Major arterial roadways

Tier 2 – Secondary Routes - Collector roadways

Tier 3 – Emergency Routes – may be gated, open at direction of emergency services

A detailed look at specific ingress/egress issues for each WUI area is included under Recommendations to Reduce Structural Vulnerability. This issue is also highlighted under the Action Plan and Implementation.


Upper Deschutes River CWPP Emergency Transportation Routes
BIG RIVER
FALL RIVER
LITTLE DESCHUTES
WILDRIVER
HANER PARK
0
2.5
5
10
Miles
Legend
Emergency Transporta Routes
UDR CWPP boundary 2024
UDR CWPP Subregions
Ownership
Public Land
BIA
BLM
Deschutes County
NPS
ODF
ODSL
OPRD
Private Industrial
Private
USFS
CITY
PARK
STATE OF OREGON
USA
SISTERS
REDMOND
BEND
LA PINE
N
Map Prepared by Deschutes County
Natural Resources
Corinne Heitner
61150 SE 27th St., Bend, OR
541-322-7129

Resident Evacuation Preparation

The Steering Committee emphasized the critical need for residents in the CWPP Boundary to take steps to prepare themselves for an evacuation event. One of the most important items residents can do is register for emergency alerts through Deschutes Alerts (co-managed by Deschutes County 911 and Deschutes County Sheriff's Office Emergency Management. If the emergency responders can reach the residents, they can't provide information for protective actions during local emergencies. To sign up, residents can go to Deschutesalerts.org to sign up for emergency alerts or to update your profile.

Local law enforcement officials follow the same evacuation protocols. Residents should be aware of the evacuation levels and their implications. For more information on how to prepare you and your family visit projectwildfire.org/evacuation.

Level 1: Be Ready

There is an incident in your area and residents should be aware of potential evacuation. Be aware of the danger, monitor emergency services sources and local media for information. Those persons who will need additional time to exit an area or have health conditions (especially respiratory conditions that could be made worse by smoke) should consider leaving. You are encouraged to prepare or even move livestock and pets out of the area. Be prepared to leave if conditions worsen.

Level 2: Get Set

There is significant danger in your area and residents should be prepared to leave at a moment's notice. You are encouraged to leave and should do so as soon as possible. If you choose to stay, you should be able to leave immediately if conditions worsen. You MAY have time to gather necessary items, but doing so is at your own risk. Entry to evacuated areas may be denied until the hazard subsides. This may be the only notice you receive. Emergency services cannot guarantee we will be able to notify you if conditions rapidly deteriorate.

Level 3: Go Now!

There is immediate and imminent danger, and you should evacuate immediately. **DO NOT DELAY LEAVING** to gather any belongings or make efforts to protect your home. Leave immediately and as quickly as possible. Drive carefully, turn on your headlights, and follow any directions from emergency services personnel. Entry to evacuated areas will be denied until the hazard subsides.

Water

Some of the Communities at Risk in the WUI areas have significant fire response times and rely on water transported to the scene for fire suppression. This presents significant challenges in the event of a wildland fire as there are limited water resources for fire suppression or protection. Adequate water resources were not considered in the assessment. This topic is addressed as a future item under Action Plan and Implementation.

Hazardous vegetation along railroads

The Steering Committee expressed concern over the condition of the vegetation in the railroad right of way in those Communities at Risk that the railroad transects. In some areas, the railroad right of way extends 100 feet from the center of tracks on both sides of the rails. In the past, trains traveling in the area have ignited dry weeds along the railways. In addition to the size of the railroad right of way is the amount and type of flammable vegetation. In some cases, the right of way is thick with sage, bitterbrush, cheat grass and noxious weeds – all acting as ladder fuels to the trees that share the right of way. Sheer size along with the amount and type of vegetation can lead to a large fire with high spreading potential to nearby homes and neighborhoods already at risk.

While the vegetation management of the railroad right of ways has improved in recent years, the Steering Committee strongly recommends encouraging Burlington Northern Santa Fe Railroad Corporation to maintain weeds below 4" to deter the spread of any potential fires.

Transient Population

The Steering Committee highlighted the issue of a consistent transient population and camping as both an ignition and evacuation risk. The fire agencies reported numerous fire starts that occurred in this area could be attributed to the presence of a transient population. The Steering Committee committed to working with local agencies and organizations to reduce the amount of illegal and transient camping in all rating areas.

Community Preparedness

A business resiliency study conducted by FEMA has addressed the effects of large-scale disasters on small businesses.
Catastrophic disasters often have the worst impact on unprepared businesses. Businesses wi resumption plans are usually operational sooner than businesses without plans.
Almost half (43 percent) of small businesses affected by a disaster never reopen after the disaste and an additional 29 percent go out of business within 2 years of the disaster.
Low-interest loans supplied by the Small Business Administration and local banks can facilitate th restoration of businesses. In addition, emergency assistance funding may be available through th U.S. Department of Agriculture or the State's Agricultural Stabilization and Conservation Service Farms often have special claims programs for recovery from disasters-farmers should pay speci attention to these and consult their State emergency management officials and county extensic educators on what is available. In the past, farmers have been unaware of the sources of fundir available to them to help recovery.

Values Protected

The human and economic values protected in the UDR CWPP planning area are also at risk with Three Rivers in the high category; Little Deschutes, Big River, and Fall River in the moderate category; and Wild River, Foster, and Haner Park communities in the low category. These ratings are based on home density per ten acres and community infrastructure such as power

substations, transportation corridors, water and fuel storage, etc.

The essential infrastructure includes multiple webs of utilities, roads, water and sewer systems and has an approximate replacement value of $275,000 per mile for electrical transmission lines. $150,000 per mile of electrical distribution lines; and $2 million per electrical sub-station. Loss to roads, water and sewer systems would likely be minimal in the event of a fire because most are underground or otherwise not flammable.

The US Forest Service and Oregon State Department of Fish and Wildlife have designated two sections of the WUI boundary as key elk habitat for the Ryan Ranch and Fall River elk herds. A noted deer migration route also traverses the CWPP boundary.

The loss of recreational use by visitors to the area because of scenic quality, specifically large "burn over" areas, will have an unknown economic impact not only to the area, but to the remainder of Deschutes County and neighboring cities like Bend, La Pine, Sunriver, and Sisters. If a large wildland fire occurs in this area, the result will be catastrophic loss to both the developed and dispersed recreational opportunities in the greater Upper Deschutes River area.

Structural Vulnerability

Structural vulnerability refers to the defensible space and building materials used on structures. It also includes the type and amount of fire department access such as the numbers of roads in and out, road widths and signage.

Although attitudes and behaviors towards fire are changing in Central Oregon thanks to educational programs like FireFree and Firewise, the population growth and continued development into the wildland urban interface present fresh challenges each year. The Steering Committee places high value on the importance of making structures and neighborhoods in the WUI as fire safe as possible.

Recent Legislation

During the 2022 state legislative session, several bills were introduced related to wildfire mitigation. On June 26, 2022, Senate Bill (SB) 762 was passed by the Oregon legislature, which has significant impacts on wildfire mitigation efforts across all jurisdictions in Oregon including Deschutes County.
While details are still unknown, SB 762 contains a broad range of regulatory and non-regulatory approaches to address wildfire risk. The bill focuses on the following areas:

- Plans for public electricity utilities to reduce risks associated with wildfire
- Statewide mapping of wildfire risks
- Defensible space standards for new and existing development
- Building code guidelines to reduce risks associated with wildfire
- Programs to support local communities in detecting, preparing for, communicating, or mitigating the environmental and public health impacts of wildfire smoke

- Emergency response and disaster recovery associated with wildfire events
- Programs to reduce wildfire risk through the restoration of landscape resiliency and the reduction of hazardous fuel on public or private forestlands and rangelands and in communities near homes and critical infrastructure
- The creation of an Oregon Conservation Corps Program to reduce wildfire risk to communities and critical infrastructure and to help to create fire-adapted communities
- Requirements for Counties to ensure all lands have a baseline level of fire protection
- Creation of a Wildfire Programs Advisory Council

The steering committee will continue to monitor the impact of SB762 and update the UDR CWPP as necessary.

Education

Recommendations to Reduce Structural Vulnerability including Ingress/Egress

There are approximately 8,150 structures spread across this CWPP boundary. The graphic and two tables that follow below summarize recommendations to reduce structural vulnerability. The lists are compiled with tips and suggestions from the FireFree and Firewise programs, which promote homeowner responsibility for reducing fire hazards on their property. More information about these programs can be found at www.firefree.org and www.firewise.org.

Home Safety Checklist for Home Ignition Zones:

Immediate Zone: 0-5'

- Clean roofs, gutters and the area within 5' of the residence of all dead leaves, needles, flammable debris and vegetation
- Move any flammable material away from wall exteriors – mulch, flammable plants, leaves and needles, firewood piles – anything that can burn. Remove anything stored underneath decks or porches.

Intermediate Zone: 5-30'

- Thin out dense groups of trees.
- Remove vegetation under trees and prune trees up to six to ten feet from the ground.

Extended Zone: 30-100'

- Dispose of heavy accumulations of ground debris.
- Remove dead plants and trees.
- Remove small trees growing between or under mature trees.

	What are ten steps I can do to prepare my defensible space?
❑	Define your defensible space – at least 30 feet
❑	Reduce flammable brush around your home and under nearby trees.
❑	Prune or remove trees.
❑	Keep grass and weeds cut low.
❑	Clear wood piles and building materials away from your home.
❑	Keep your yard and roof clean.
❑	Keep address signs visible
❑	Choose fire resistant building materials and lawn furniture.
❑	Recycle yard debris – avoid burning.
❑	Be prepared to respond to wildfire.

	What additional steps can I take to reduce risks to my home and neighborhood?
❑	Remove all branches and limbs that overhang roofs.
❑	Remove leaves & needles from gutters, roofs and decks.
❑	Remove dead plants and brush.
❑	Keep decks free of flammable lawn furniture, toys, doormats, etc.
❑	Screen vents and areas under decks with 1/8" metal mesh or fire-resistant siding.
❑	Trim vegetation along driveways a minimum distance of 14' wide x 14' high for fire trucks.
❑	Choose fire-resistant plants. Visit https://extension.oregonstate.edu/catalog/pub/pnw-590-fire-resistant-plants-home-landscapes to view *Fire-Resistant Plants for the Home Landscape.*
❑	Increase Homeowner education and actions with programs such as FireFree, Firewise, Urban Interface Fire Protection Act.
❑	Re-apply for Firewise USA® recognition annually, if applicable
❑	If you are interested in a free home assessment call Redmond Fire and Rescue or Oregon Department of Forestry
❑	If burning debris outside Redmond City Limits – call the Burn Line at Redmond Fire and Rescue at 541-322-6335to see if burning is allowed. Do not burn building materials

Action Plan and Implementation

The Steering Committee recognizes that the UDR CWPP is a living tool with multiple applications. The following priority actions are intended to assist individuals and agencies in the implementation of this CWPP. It is important to note that the UDRC reviews and updates an Operations Plan annually. The Steering Committee acknowledges that yearly effort and maintains that the broad recommended actions in this CWPP support the specific projects in the annual Operations Plan.

Improving Fire Protection Capabilities

Immediately following the acceptance and signed approval of this plan, the Steering Committee will forward copies of the 2024 Upper Deschutes River CWPP available to all public land managers and public safety officials including:

- Central Oregon Forest Management Service - US Forest Service and BLM
- Oregon Department of Forestry
- La Pine Rural Fire Protection District
- Deschutes County Sheriff's Office
- Oregon Department of Transportation
- Burlington Northern Santa Fe Railroad Corporation

The Steering Committee is again charged with the task of engaging community members to review the Structural Vulnerability Assessment in this CWPP and identify projects that will strengthen the potential for the neighborhoods to survive a high intensity wildland fire in the Upper Deschutes River and the adjacent WUI. Homeowners can utilize tables 7 & 8 as a resource to improve the fire resistance of their homes on an individual basis.

The Steering Committee is also charged with the task of working with La Pine Fire to identify and assess the water resources available for fire suppression in the Communities at Risk. The Steering Committee will make recommendations for projects to ensure adequate water resources are available for fire suppression.

The Steering Committee will work with La Pine Fire, Deschutes County, Deschutes County Sheriff, and Oregon Department of Transportation to identify and map existing transportation and evacuation routes in each Community at Risk. The Steering Committee will assist in conducting further assessments to determine the evacuation needs of each Community at Risk and identify potential projects developing new routes and/or improving existing routes.

The Steering Committee will assist in conducting further assessments to determine the evacuation needs of the Upper Deschutes River Area and identify at least one neighborhood per year to approach and develop evacuation signage projects.

The Steering Committee will continue to encourage federal land managers to work with local landowners to minimize closures of roads that could be used as alternate evacuation routes from Communities at Risk.

Working towards a more Fire Adapted Community

The Steering Committee intends to engage in continued discussions with landowners to facilitate fuel reduction projects on private lands utilizing the list of prioritized Communities at Risk. These actions can be accomplished through educational activities or grants for specific projects on private lands. The Steering Committee identified the need to create more access to information online for all communities at risk within the UDR CWPP boundary as a future project. This includes encouraging more advanced websites with real-time information for air quality/smoke and wildland fires. Currently some online resources include the UDRC website and Central Oregon Fire information site.
Those can be found by visiting the following:

- https://centraloregonfire.org/
- https://udrc.org/

Furthermore, the committee would like to identify contacts and do outreach to special road districts for assistance in roadside vegetation management and potential convening resources. It is also important to identify private water utilities, especially if they are private non-profit and/or provide water for fire suppression or would be willing to provide water for fire suppression activities, prioritizing them for infrastructure protection and potential funding for hydrants.

Specific action items for each Community in the UDR area at risk are listed below:

Community at Risk	Specific Action Item
Little Deschutes	There is a significant amount of vegetation present; all stakeholders are urged to mitigate their fuels to create a fire-resilient and healthy landscape. Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. Residents should develop evacuation kits for their families in case of a large wildfire. There are many communities with one way in and one way out due to river bisecting, indicating the need to further improve current evacuation routes.
Three Rivers	Given the historical and recent fire occurrence, the crown fire potential is high. Residents are urged to create and maintain defensible space, reduce ladder fuels, and thin where necessary. Ensuring the access & evacuation routes are clear of vegetation will

	ensure access for emergency personnel during large wildfires and/or other emergency incidents. Residents should develop evacuation kits for their families in case of a large wildfire. There are a high number of vacant lots in this community as well as a high concentrated population, indicating the need for individual lot treatments and engagement with absent homeowners.
Foster Road	Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. Given the historical and recent fire occurrence, the crown fire potential is high. Residents are urged to create and maintain defensible space, reduce ladder fuels, and thin where necessary. There is a need to prioritize roadside work and evacuation route improvement within this community. There is also a large amount of state land that could be treated within this area.
Haner Park	Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. Residents should develop evacuation kits for their families in case of a large wildfire. Large percentage of second homes or cabins. Limited ingress that could be improved and treated to increase the margin of safety. The committee would like to incorporate crown fire potential and expected energy release into treatments along the main road system to protect evacuating community and firefighter escape routes.
Big River	Given the historical and recent fire occurrence, the crown fire potential is high. Residents are urged to create and maintain defensible space, reduce ladder fuels, and thin where necessary. Residents should develop evacuation kits for their families in case of a large wildfire.

Fall River	Given the historical and recent fire occurrence, the crown fire potential is high. Residents are urged to create and maintain defensible space, reduce ladder fuels, and thin where necessary. Residents should develop evacuation kits for their families in case of a large wildfire. Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. This community has limited egress options, identifying the need to improve evacuation routes and egress along main roads.
Wild River	Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. Given the historical and recent fire occurrence, the crown fire potential is high. Residents are urged to create and maintain defensible space, reduce ladder fuels, and thin where necessary.

Oregon CWPP Planning Tool Advanced Hazard Report

Oregon CWPP Planning Tool - Advanced Report (Beta)

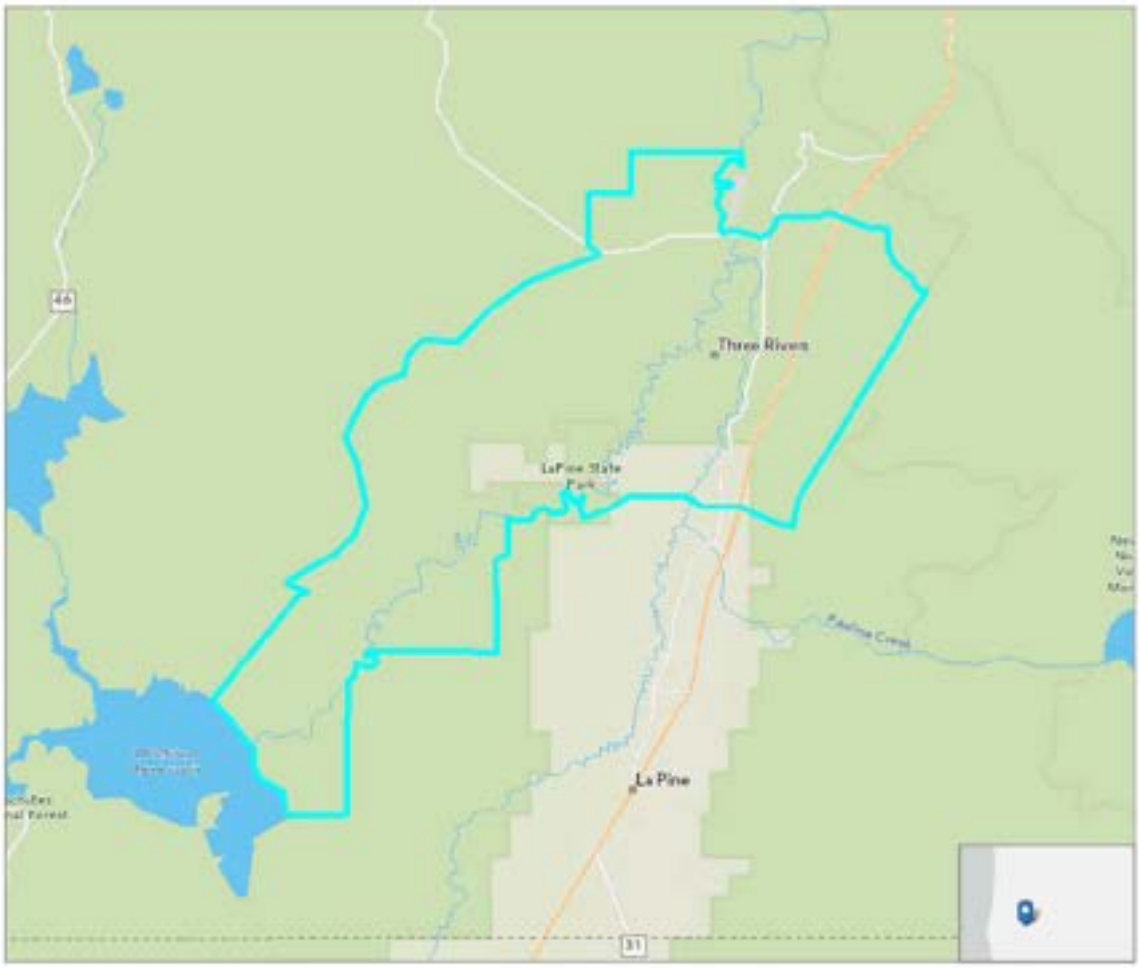
Custom Area

Area: 65,489 Acres

Report generated: October 3, 2024 04:59 PM

For current conditions and local fire restrictions, contact your local fire district or visit: www.keeporegongreen.org/current-conditions

AREA OF INTEREST



This report summarizes wildfire risk in **Custom Area** from the Oregon CWPP Planning Tool. Wildfire risk combines the likelihood of a fire occurring with the exposure and susceptibility of valued resources and assets on the landscape.

Nearly all areas in Oregon experience some level of wildfire risk. Conditions vary widely with local topography, fuels, and local weather, especially local winds. In all areas, under warm, dry, windy, and drought conditions, expect higher likelihood of fire starts, higher fire intensities, more ember activity, a wildfire more difficult to control, and more severe impacts.

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

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INTRODUCTION AND CONCEPTS

1.1 Purpose of CWPP Planning Tool Advanced Report

The Oregon CWPP Planning Tool Advanced Report summarizes wildfire risk and wildfire hazard data in order to support updates to Community Wildfire Protection Plans (CWPPs), Natural Hazard Mitigation Plans (NHMPs), and fuels reduction and restoration treatment planning.

1.2 Introduction to Wildfire Risk Concepts

he Advanced CWPP Planning Tool map viewer uses wildfire risk data from the 2023 PNW Quantitative Wildfire Risk Assessment (2023 PNW QWRA), produced by researchers at Oregon State University in collaboration with state and federal land management agencies. The PNW QWRA represents wildfire risk to a suite of resources and assets based on a 2022 landscape and recent historical climate, weather and fire observations. Analytics produced as part of the 2023 PNW QWRA support development and implementation of the Oregon Department of Forestry?s 20-year Landscape Resiliency Strategic Plan, implementation of the U.S. Forest Service?s Wildfire Crisis Strategy, and numerous other regional and local wildfire-related strategic plans. The Advanced CWPP Planning Tool offers users access to a limited selection of data layers from the QWRA. Access to the full PNW QWRA dataset and report is available here: https://oe.oregonexplorer.info/externalcontent/wildfire/2023_PNW_Quantitative_Wildfire_Risk_Assessment_Data_Access.pdf.

1.2.1 Quantitative Wildfire Risk Assessment Framework

In the 2023 PNW QWRA, wildfire risk is quantified as the spatially coincident estimates of fire likelihood (burn probability), fire intensity (e.g., flame length) and the impacts (susceptibility) to highly-valued resources or assets for which risk is being evaluated (Figure 1).

Figure 1

1.2.1.1 Wildfire Hazard

The Advanced Wildfire Risk Report includes maps and descriptions of both burn probability and fire intensity for the user-

defined area. Scientists use the term "hazard" to refer to the joint metric of burn probability and fire intensity (Figure 1).

Burn probability is an estimate of the average annual likelihood that a wildfire will occur at any given location. It is calculated using a model that integrates information about the physical landscape, historical fire occurrence, and historical weather observations, and which runs 10,000 or more simulations of plausible fire seasons. The number of times a point on the landscape is encountered by simulated fire, divided by the number of simulated fire seasons, provides the estimate of average annual likelihood of fire, or burn probability. These burn probability values reflect long-term annual averages and should not be thought of as seasonal forecasts.

Wildfire intensity is a measure of how much energy is produced at the flaming front of a wildfire. Intensity is often measured in terms of flame length for ease of relating to and representing this component of wildfire hazard. Higher flame lengths represent more intense fires. Wildfire intensity is important because it provides a cross-walk to determine the impact of fire on any given resource or asset. Similar to burn probability, fire intensity is determined by simulating fire behavior under a large range of potential weather scenarios.

1.2.1.2 Wildfire Risk

The Advanced Wildfire Risk Report includes several representations of risk. The 2023 PNW QWRA evaluated risk to eight highly-valued resources and assets (HVRAs) by quantifying the susceptibility of each HVRA (i.e. how each might be affected by fire of varying intensity) and then integrating the susceptibility values with burn probability and fire intensity data. The result is a spatially explicit evaluation of relative risk reflecting the underlying hazard as well as the unique locations and susceptibility of HVRAs.

Wildfire risk is represented several different ways in this report. Integrated risk outputs reflect the risk to all eight HVRAs integrated into a single value. In other words, where multiple HVRAs are mapped in the same location their risk values are summed to calculate a single net risk value. Non-integrated risk outputs represent the risk to a single HVRA.

This report also includes both conditional and expected risk layers. Conditional risk is the risk to any HVRA given that a fire occurs. In other words, conditional risk accounts for the presence of HVRAs, the susceptibility of HVRAs and the underlying fire intensity data, but it does not include burn probability. Conditional risk layers are frequently used during active fire response when a fire is already occurring and the burn probability is irrelevant. By contrast, expected risk layers account for all the same information, but also include burn probability in the risk calculation. Expected risk layers are designed to support strategic prioritization because by including burn probability they account the relatively likelihood of different fire impacts in any given year.

1.2.1.3 Important Wildfire Risk Concepts

Wildfire risk can reflect adverse and negative consequences of wildfire.

Quantitative wildfire risk assessments, like the 2023 PNW QWRA, account for beneficial impacts of wildfire (e.g., habitat improvement) as well as negative impacts. Where risk is reported as beneficial in the following report, it does not mean that wildfire will always have positive outcomes. Positive risk values illustrate that under average fire weather conditions, we might expect a net beneficial impact for the specific HVRA(s) included in the output; under different fire weather conditions or for different HVRAs the expected outcome at the same location might be very different. Likewise, negative risk values do not indicate that fire will always and for all HVRAs have negative consequences.

Wildfire risk is relative.

In the following report, wildfire risk values have been classified into categories from "Very High Loss" to "Very High Benefit" based on the underlying quantitative values. Importantly, these categories reflect risk values at any one location relative to all other risk values in Oregon and Washington. For this reason, it is not appropriate or accurate to compare risk outputs in this report to risk assessment outputs from sources other than the 2023 PNW QWRA.

A regional, relative perspective of risk is particularly helpful when creating regional priorities. For the purposes of a CWPP or other more local planning scenarios, regional relative measures of risk will still show a gradient of risk within the planning area that can be used to develop priorities. For detailed, local risk mitigation planning, planners can use raw risk data from the 2023 PNW QWRA and re-classify the data within their specific planning extent so that risk values are relative to their

planning area.

Risk outputs from the 2023 PNW QWRA are not the same as Oregon's Statewide Wildfire Hazard Map.

The 2023 PNW QWRA is not the same as Oregon's statewide wildfire hazard map required by Senate Bill 762 (2021). Oregon's statewide wildfire hazard map was intentionally designed to support a narrow set of state agency rules and regulations and is not adequate for broader community wildfire risk reduction planning. In contrast, the PNW QWRA provides a much more complete set of data to help communities understand their risk and develop robust strategies for mitigating it.

Additional Resources for Wildfire Risk Planning

- Oregon Department of Forestry CWPP list - https://www.oregon.gov/ODF/Fire/Pages/CWPP.aspx
- Oregon Explorer Communities Reporter Tool - demographic and other data for counties and communities https://oe.oregonexplorer.info/rural/CommunitiesReporter/
- FEMA Wildland Urban Interface resources - https://www.usfa.fema.gov/wui/
- NFPA Firewise USA ™ - teaching people how to adapt to living with wildfire and encouraging neighbors to work together and take action to prevent losses. - https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA
- Headwaters Economics - Full Community Costs of Wildfire - https://headwaterseconomics.org/wildfire/homes-risk/full-community-costs-of-wildfire/

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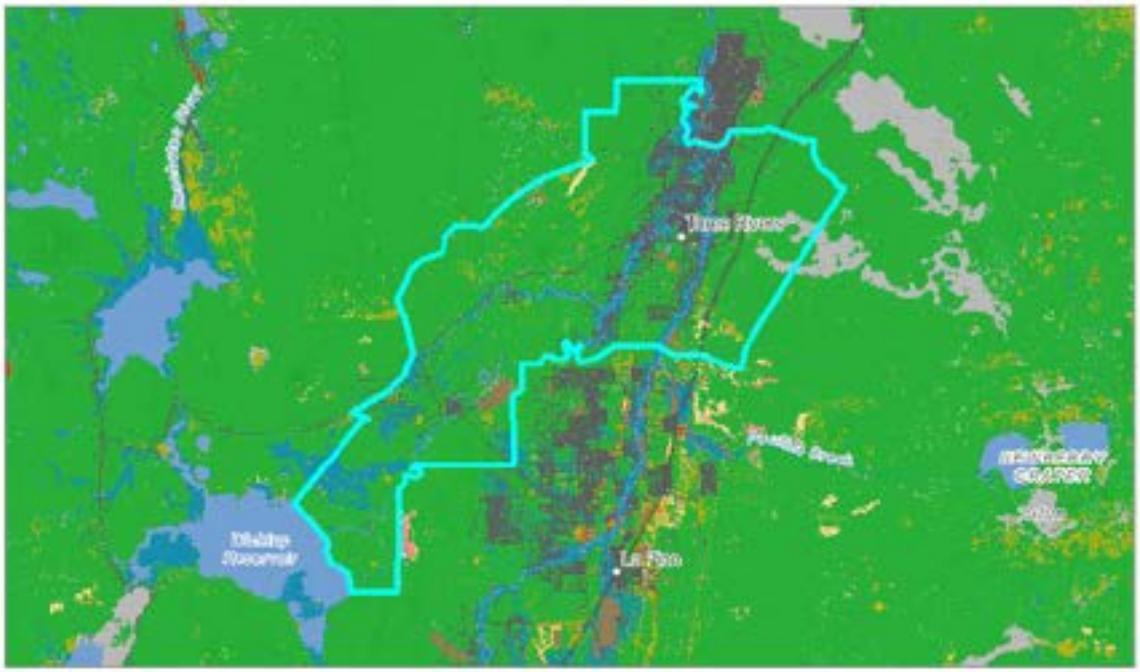
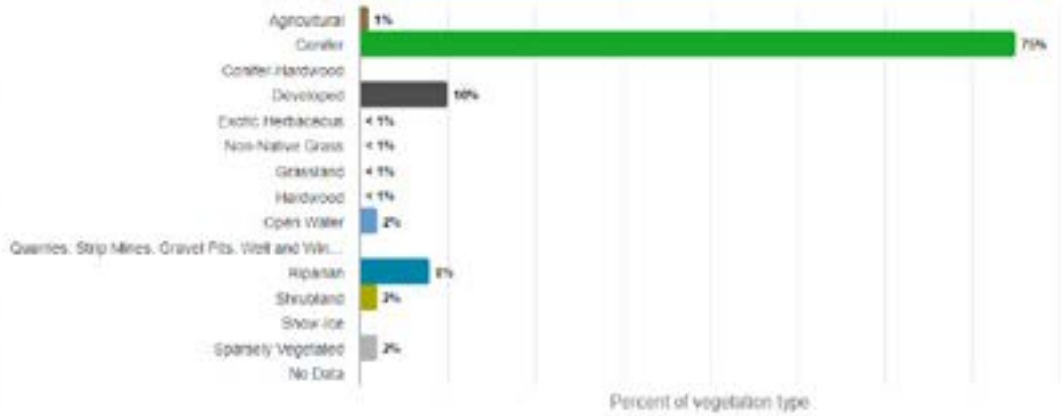
EXISTING VEGETATION TYPE



Vegetation Types in Custom Area



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Custom Area

Category	Acres	% of Total*
Agricultural	808	1
Conifer	49078	75
Conifer-Hardwood	0	0
Developed	6559	10
Exotic Herbaceous	56	< 1
Exotic Tree-Shrub	6	< 1
Grassland	282	< 1
Hardwood	0	< 1
Open Water	1006	2
Quarries, Strip Mines, Gravel Pits, Well and Wind Pads	0	0
Riparian	5155	8
Shrubland	1313	2
Snow-Ice	0	0
Sparsely Vegetated	1246	2
No Data	0	0

Existing Vegetation Type Data Dictionary https://www.landfire.gov/evt.php
Source: LANDFIRE (2022) https://www.landfire.gov

Resource:
US Forest Service Fire Regime Table
https://www.fs.fed.us/database/feis/fire_regime_table/fire_regime_table.html#PacificNorthwest

** Values may add up to over 100% due to rounding precision*

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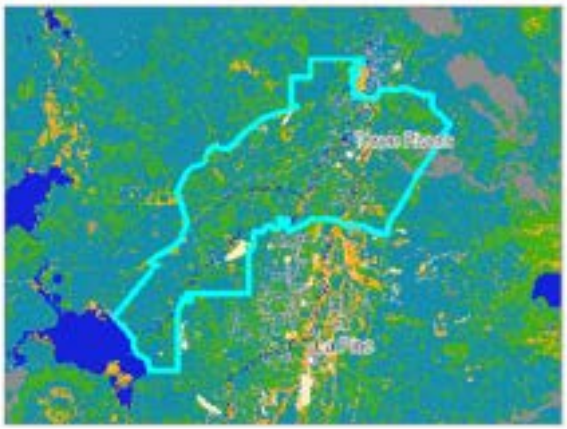
FUEL MODEL GROUPS

Fuel models describe the fire-carrying materials that make up surface fuels, such as such as grasses, shrubs and litter (see next page). Fuel models are developed from climate characteristics, existing vegetation type, cover, height, and other vegetation characteristics, and help us understand the fuels igniting and carrying fire. These fuel models can be grouped into broad categories of burnable fuels based on descriptions of live and dead vegetation that represent distinct fuel types, size classes, and load distributions (amounts), shown in the map and chart below. Fuels and other elements of the fuelscape in the risk assessment were extensively reviewed and refined by local expert consultation, and the fuelscape was updated to account for wildfires and fuel treatments that occurred through 2021.



Learn more about the Scott and Burgan Fire Behavior Fuel Models on the LANDFIRE website:
https://landfire.gov/fbfm40.php

Custom Area Fuel Model Groups (see next page for descriptions of codes)

Category	Description	Acres	%*
Grass	Fuel models 101-104, (GR1; GR2; GR3; GR4)	776	1
Grass/Shrub	Fuel models 121-123, (GS1; GS2; GS3)	3009	5
Non-burnable-other	Fuel Models 91-93,99, (NB1; NB2; NB3; NB9)	739	1
Non-burnable-water	Fuel Models 98, (NB8)	1045	2
Slash-blowdown	Fuel Models 202, (SB2)	0	0
Shrub	Fuel Models 141-147, (SH1; SH2; SH3; SH4; SH5; SH6; SH7)	174	< 1
Timber Litter	Fuel Models 181-189, (TL1; TL2; TL3; TL4; TL5; TL6; TL7; TL8; TL9)	38140	58
Timber-Understory	Fuel Models 161-163, 165, (TU1; TU2; TU3; TU5)	20067	31
Agriculture	Fuel Models 101-102 (GR2; GR1)	0	< 1
Burnable Urban	Custom fuel model designed to capture fire transmission into developed areas under severe fire weather conditions.	1557	2

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Group	Description
Grass Fuel models 101-104, (GR1;GR2; GR3;GR4)	GR1: Short, sparse dry climate grass is short, naturally or heavy grazing, predicted rate of fire spread and flame length low GR2: Low load, dry climate grass primarily grass with some small amounts of fine, dead fuel, any shrubs do not affect fire behavior GR3: Low load, very coarse, humid climate grass continuous, coarse humid climate grass, any shrubs do not affect fire behavior GR4: Moderate load, dry climate grass, continuous, dry climate grass, fuelbed depth about 2 feet
Grass/Shrub Fuel models 121-123, (GS1;GS2; GS3)	GS1: Low load, dry climate grass-shrub shrub about 1 foot high, grass load low, spread rate moderate and flame length low GS2: Moderate load, dry climate grass-shrub, shrubs are 1-3 feet high, grass load moderate, spread rate high, and flame length ismoderate GS3: Moderate load, humid climate grass-shrub, moderate grass/shrub load, grass/shrub depth is less than 2 feet, spread rate is highand flame length is moderate
Non-Burnable-Other	Fuel Models 91-93, 99, (NB1; NB2; NB3; NB9) NB1: Urban NB2: Snow/Ice NB3: Agriculture NB9: Barren
Non-burnable-Water	Fuel Model 98, (NB8): Water
Slash-blowdown	Fuel Model 202, (SB2): Moderate load activity fuel or low load blowdown, 7-12 t/ac, 0-3 inch diameter class, depth about 1 foot, blowdown scattered with many still standing, spread rate and flame low
Shrub Group Fuel Models 141-147, (SH1;SH2; SH3; SH4;SH5; SH6; SH7)	SH1: Low load dry climate shrub, woody shrubs and shrub litter, fuelbed depth about 1 foot, may be some grass, spread rate and flame low SH2: Moderate load dry climate shrub, woody shrubs and shrub litter, fuelbed depth about 1 foot, no grass, spread rate and flame low SH3: Moderate load, humid climate shrub, woody shrubs and shrub litter, possible pine overstory, fuelbed depth 2-3 feet, spread rate and flame low SH4: Low load, humid climate timber shrub, woody shrubs and shrub litter, low to moderate load, possible pine overstory, fuelbed depth about 3 feet, spread rate high and flame moderate SH5: High load, humid climate grass-shrub combined, heavy load with depth greater than 2 feet, spread rate and flame very high SH6: Low load, humid climate shrub, woody shrubs and shrub litter, dense shrubs, little or no herbaceous fuel, depth about 2 feet, spread rate and flame high SH7: Very high load, dry climate shrub, woody shrubs and shrub litter, very heavy shrub load, depth 4-6 feet, spread rate somewhat lower than SH6 and flame very high

Group	Description
Timber Litter Group Fuel Models 181-189, (TL1;TL2; TL3; TL4;TL5; TL6; TL7;TL8; TL9)	TL1: Low load compact conifer litter, compact forest litter, light to moderate load, 1-2 inches deep, may represent a recent burn, spread rate and flame low TL2: Low load broadleaf litter, broadleaf, hardwood litter, spread rate and flame low TL3: Moderate load conifer litter, moderate load conifer litter, light load of coarse fuels, spread rate and flame low TL4: Small downed logs moderate load of fine litter and coarse fuels, small diameter downed logs, spread rate and flame low TL5: High load conifer litter, light slash or dead fuel, spread rate and flame low TL6: Moderate load broadleaf litter, spread rate and flame moderate TL8: Large downed logs, heavy load forest litter, larger diameter downed logs, spread rate and flame low TL8: Long needle litter, moderate load long needle pine litter, may have small amounts of herbaceous fuel, spread rate moderate and flame low TL9: Very high load broadleaf litter, may be heavy needle drape, spread rate and flame moderate
Timber-Understory Group Fuel Models 161-163, 165,(TU1; TU2;TU3; TU5)	TU1: Low load dry climate timber grass shrub, low load of grass and/or shrub with litter, spread rate and flame low TU2: Moderate load, humid climate timber-shrub, moderate litter load with some shrub, spread rate moderate and flame low TU3: Moderate load, humid climate timber grass shrub, moderate forest litter with some grass and shrub, spread rate high and flame moderate TU5: Very high load, dry climate shrub, heavy forest litter with shrub or small tree understory, spread rate and flame moderate
Agriculture Fuel Models 101-102 (GR2; GR1)	GR1: Short, sparse dry climate grass is short, naturally or heavy grazing, predicted rate of fire spread and flame length low (used in agriculture types other than dryland agriculture) GR2: Low load, dry climate grass primarily grass with some small amounts of fine, dead fuel, any shrubs do not affect fire behavior (used in dryland agriculture types)
Burnable Urban	The Burnable Urban fuel model is a custom fuel model designed to capture fire transmission into developed areas under severe fire weather conditions.

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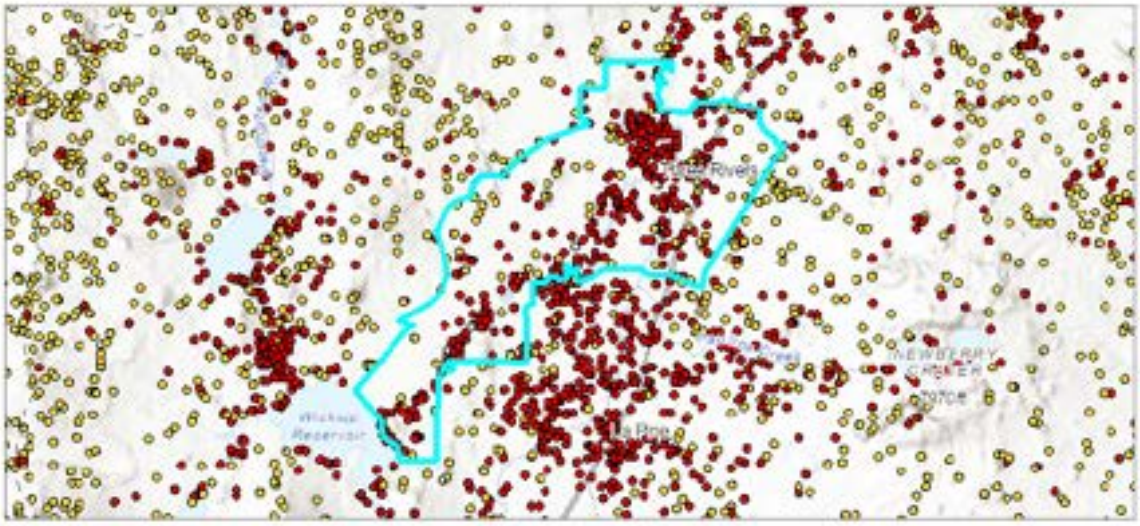
FIRE HISTORY - FIRE IGNITIONS

Knowing where and why fires start is the first step in awareness, prevention, and mitigation. Viewing local fire starts in conjunction with burn probability (provided later in this report) provides a comprehensive view of local fire history and potential.

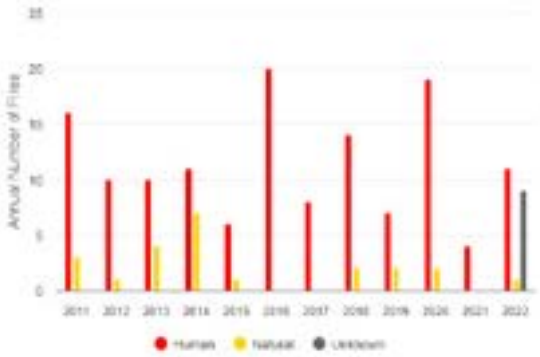
Statewide, 71% of fires recorded by ODF are human-caused, and many of these fires are near populated areas. Lightning caused fires make up 29% of fire starts.

Data Source: Short, Karen C. 2022. Spatial wildfire occurrence data for the United States, 1992-2020 [FPA_FOD_20221014]. 6th Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2013-0009.6
2021-2022: Oregon Department of Forestry



Custom Area fire starts between 2012-2022

Total Acres Burned	239
Total Number of Fires	168
Average Acres Burned Per Year	20
Average Fires Per Year	14
Percent Natural Caused	14%
Percent Human Caused	81%



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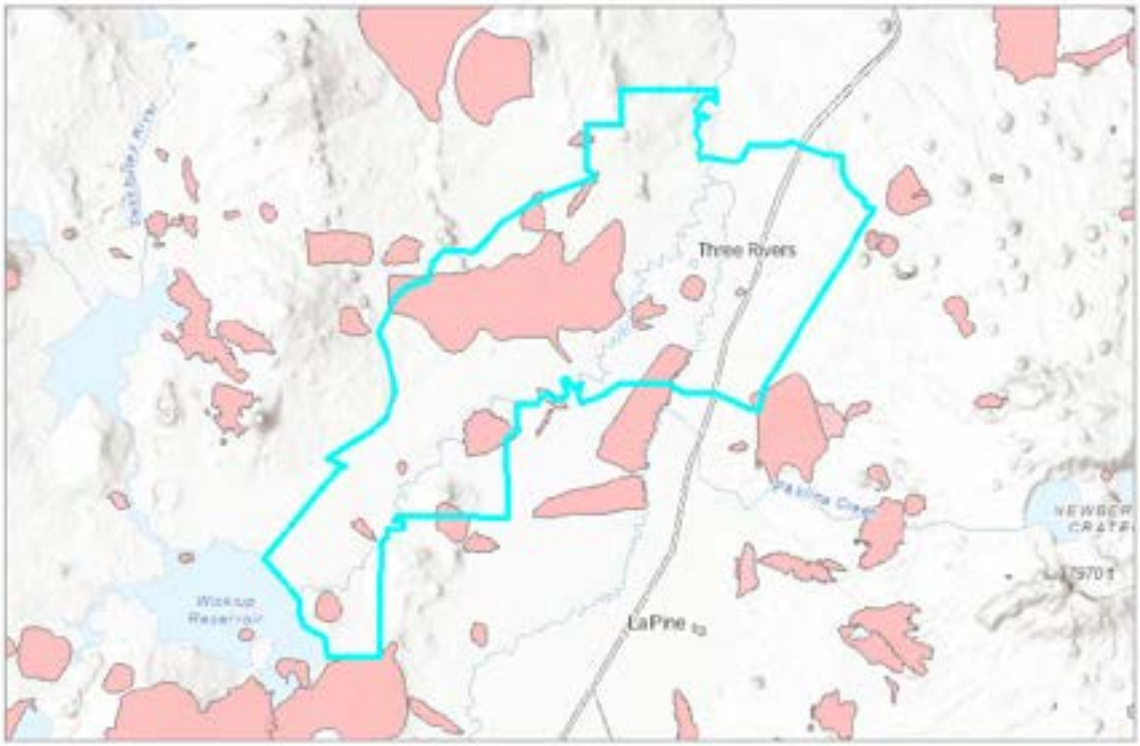
FIRE HISTORY - FIRE PERIMETERS



Wildfires >= 100 Acres Through 2021

Wildfire Name	Year	Total Acres Burned
0501 NW SHERIDAN	2016	191
SHERIDAN	2016	188
PARK	2005	139

Source: National Interagency Fire Center (Feature Service). https://data-nifc.opendata.arcgis.com/datasets/nifc::interagencyfireperimeterhistory-all-years-view/about

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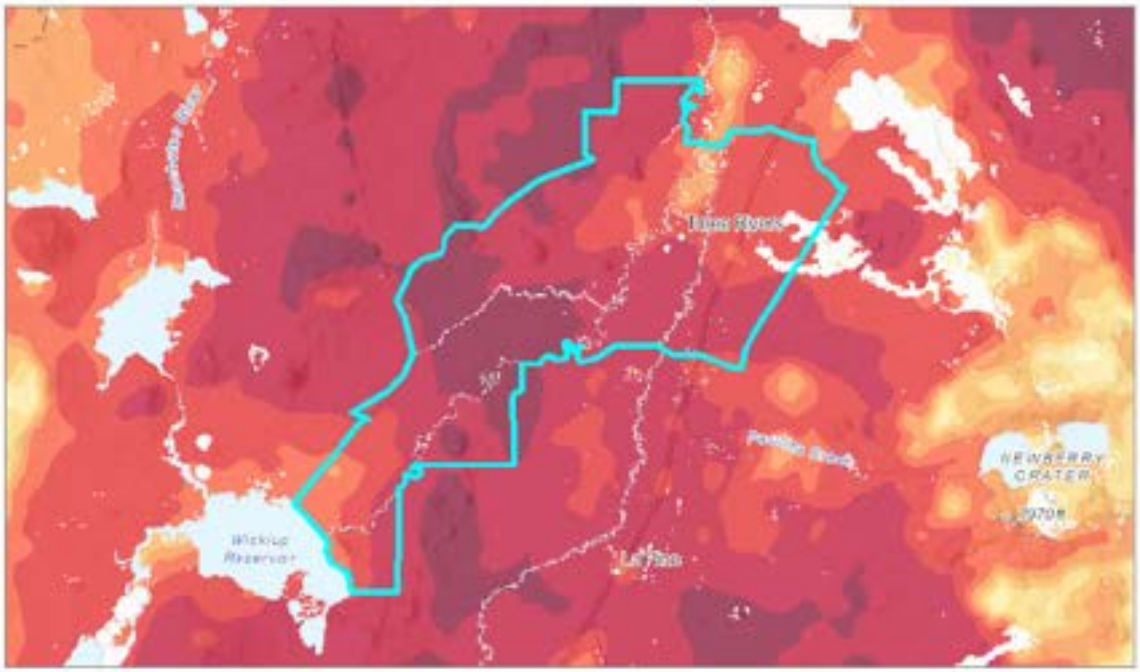
BURN PROBABILITY



Wildfire likelihood (burn probability) is an estimate of the average annual likelihood that a wildfire will occur at any given location. Burn probability is simulated using a model that integrates information about the physical landscape, historical fire occurrence, and historical weather observations. Scientists simulated 10,000 or more plausible fire season scenarios across sub-regions of Oregon and the number of times a point on the landscape was encountered by simulated fire, divided by the number of simulated fire seasons, provides the estimate of average annual likelihood of fire, or burn probability. These burn probability values reflect long-term annual averages and should not be thought of as seasonal forecasts.

Burn Probability

	0.0464159 - 0.1000000
	0.0215443 - 0.0464159
	0.0100000 - 0.0215443
	0.0046416 - 0.0100000
	0.0021544 - 0.0046416
	0.0010000 - 0.0021544
	0.0004642 - 0.0010000
	0.0002154 - 0.0004642
	0.0001000 - 0.0002154
	>0 - 0.0001000
	0

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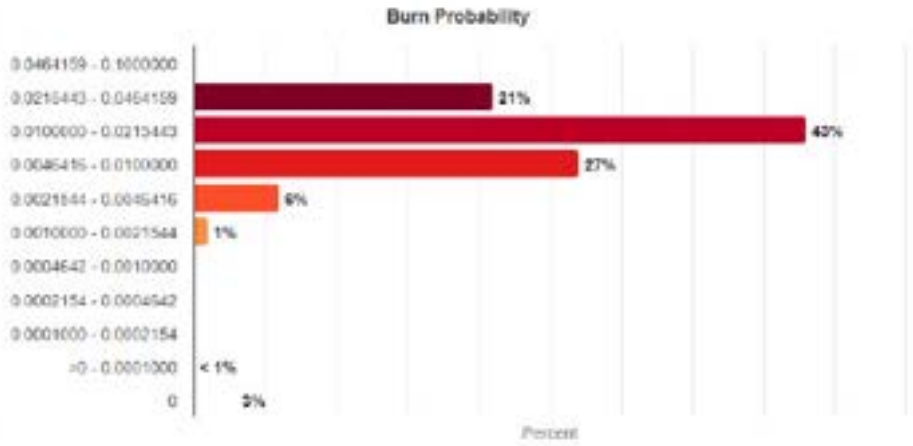
Burn Probability in Custom Area

Fire Likelihood	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
0.0464159 - 0.1000000	0	0	0	0	0	0	0	0	0
0.0215443 - 0.0464159	556	0	749	1,164	11,226	0	0	0	13,695
0.0100000 - 0.0215443	4,218	0	1,128	1,741	20,776	0	0	0	27,863
0.0046416 - 0.0100000	3,262	0	0	29	14,185	0	0	0	17,476
0.0021544 - 0.0046416	1,328	0	0	0	2,548	0	0	0	3,876
0.0010000 - 0.0021544	605	0	0	0	126	0	0	0	731
0.0004642 - 0.0010000	0	0	0	0	0	0	0	0	0
0.0002154 - 0.0004642	0	0	0	0	0	0	0	0	0
0.0001000 - 0.0002154	0	0	0	0	0	0	0	0	0
>0 - 0.0001000	105	0	0	0	<1	0	0	0	105
0	526	0	113	39	1,089	0	0	0	1,767
Total Area	10,600	0	1,990	2,973	49,950	0	0	0	65,513



Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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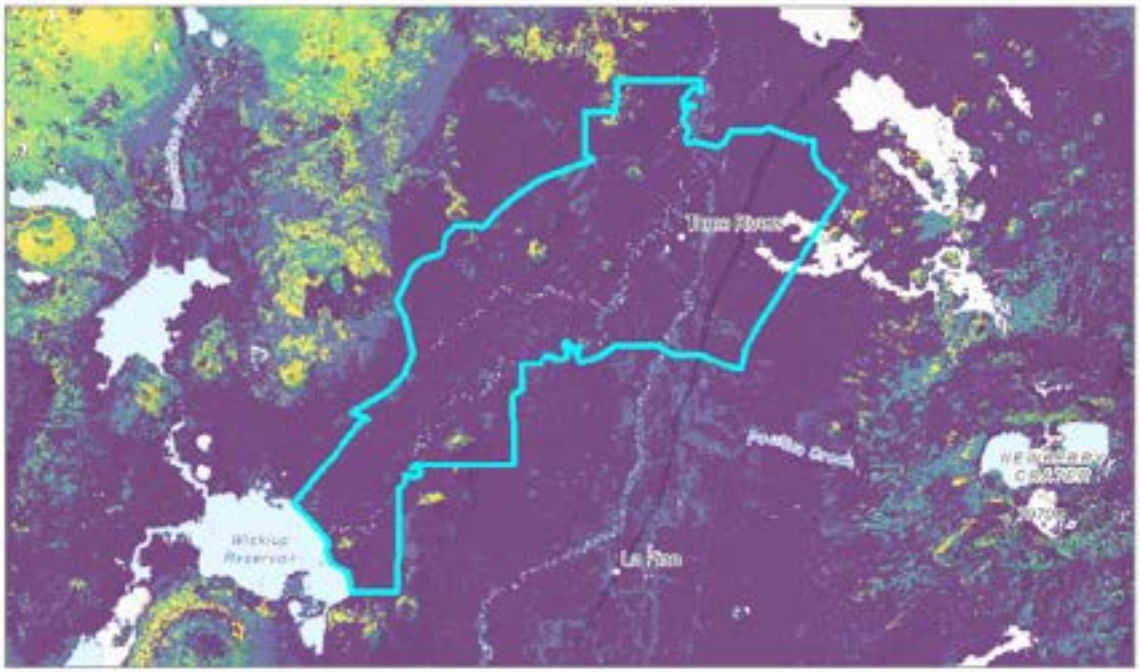
AVERAGE FLAME LENGTH - FIRE INTENSITY



Wildfire intensity is a measure of how much energy is produced at the flaming front of a wildfire. Intensity is often represented in terms of flame length for ease of relating to and representing this component of wildfire hazard. Higher flame lengths represent more intense fires. At any given location, fire intensity can vary widely depending on fuel conditions and wind speed and direction. This report represents a weighted average flame length for all locations in Oregon.

Fire intensity is an important component of wildfire risk because it is useful for estimating the likely impact on resources and assets. Fire intensity alone is not a suitable proxy for fire impacts because we also need to account for the susceptibility of the resource or asset (i.e. is the resource or asset fire hardened or otherwise fire-adapted), but when used in conjunction with susceptibility, fire intensity helps us estimate impacts. For example, two-foot flame lengths in a mature stand of timber might have mildly negative consequences, but eight-foot flame lengths would be a significant threat to the value of the timber.

Average Flame Intensity Under Normal Weather Conditions

12+ ft
8-12 ft
6-8 ft
4-6 ft
2-4 ft
0-2 ft
Non-burnable

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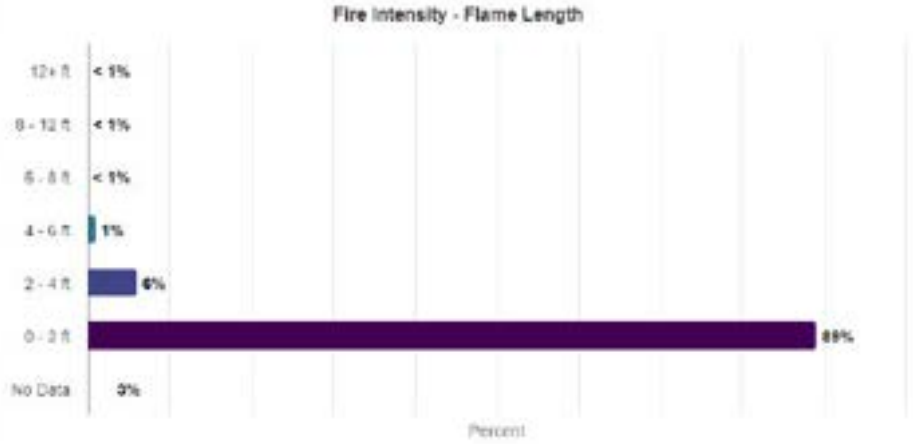
Average Flame Length Custom Area

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
12+ ft	1	0	0	0	267	0	0	0	268
8 - 12 ft	2	0	<1	0	101	0	0	0	103
6 - 8 ft	2	0	1	0	70	0	0	0	73
4 - 6 ft	39	0	12	79	740	0	0	0	870
2 - 4 ft	1,095	0	133	449	2,319	0	0	0	3,996
0 - 2 ft	8,927	0	1,731	2,406	45,364	0	0	0	58,428
No Data	533	0	113	39	1,089	0	0	0	1,774
Total Area	10,599	0	1,990	2,973	49,950	0	0	0	65,512



Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

INTEGRATED WILDFIRE RISK

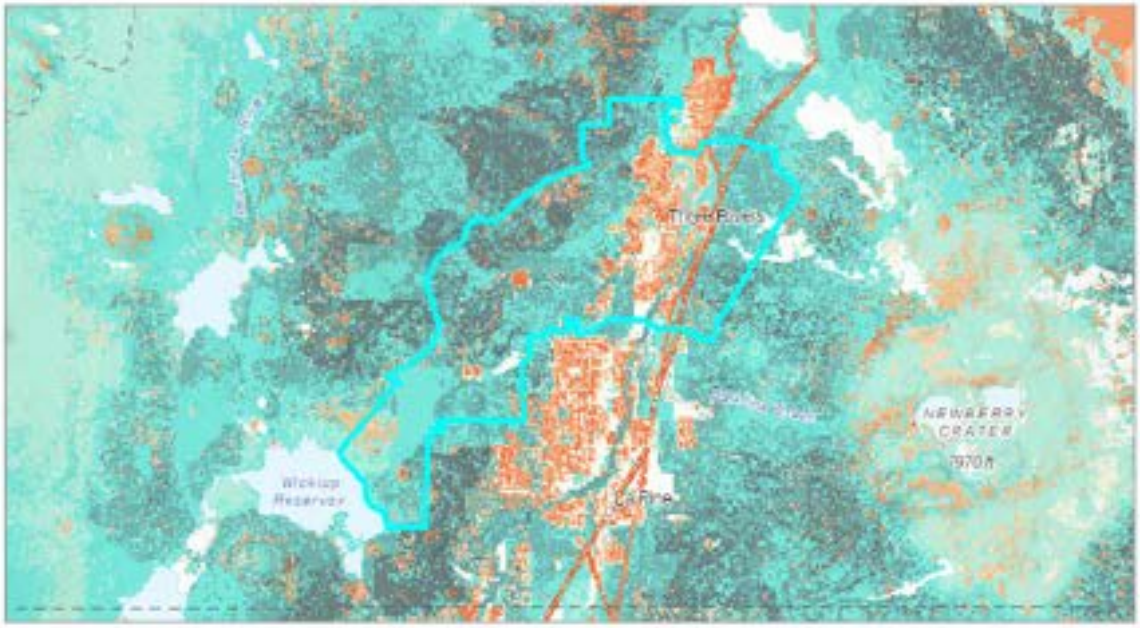
Integrated risk is a representation of cumulative risk at any location based on which resources and assets are present. For some resources and assets, wildfire may have beneficial impacts — e.g. fire can create desired forest structure conditions — while for others the impacts may be adverse — e.g. structures are damaged by fire. The integrated risk map synthesizes risk across all resources and assets present at a specific location and the result is either net beneficial or net adverse impacts.

The resources and assets included in the 2023 PNW Quantitative Wildfire Risk Assessment include: people and property, infrastructure, drinking water, timber, ecological integrity, wildlife habitat, recreation and agriculture. Not all resources and assets are present at every location and the integrated wildfire risk class at a specific location reflects only the resources and assets located there.

Integrated wildfire risk classes range from Very High Loss to Very High Benefit based on a comparison of risk values across Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area



Integrated Expected Wildfire Risk

Very High Loss
High Loss
Moderate Loss
Low Loss
Neutral
Low Benefit
Moderate Benefit
High Benefit
Very High Benefit
No Data

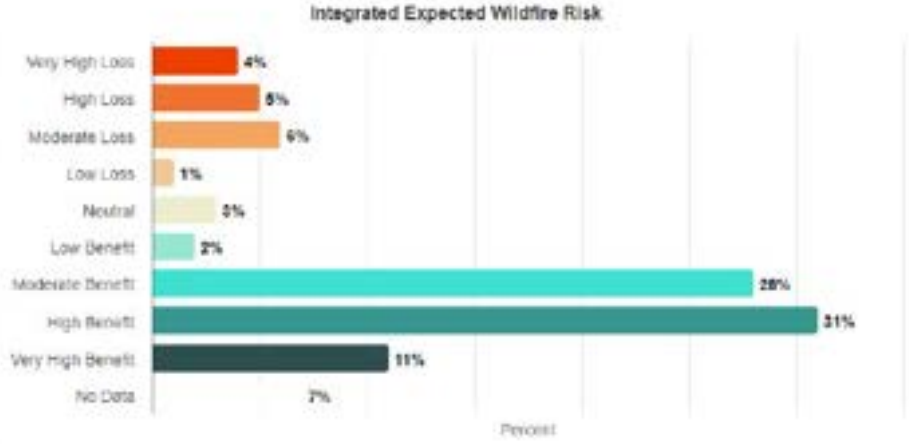
Expected wildfire risk accounts for the presence and susceptibility of highly-valued resources and assets (HVRAs), fire intensity, and the likelihood of a fire occurring (burn probability). Expected risk layers are designed to support strategic prioritization because by including burn probability they account the relatively likelihood of different fire impacts in any given year.

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

Integrated Expected Wildfire Risk in Custom Area

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
Very High Loss	1,568	0	7	119	1,076	0	0	0	2,770
High Loss	2,242	0	45	69	1,225	0	0	0	3,581
Moderate Loss	2,254	0	49	71	1,640	0	0	0	4,014
Low Loss	260	0	11	7	296	0	0	0	574
Neutral	1,429	0	73	118	520	0	0	0	2,140
Low Benefit	190	0	<1	10	1,315	0	0	0	1,515
Moderate Benefit	837	0	684	840	16,110	0	0	0	18,471
High Benefit	438	0	827	1,156	17,998	0	0	0	20,419
Very High Benefit	85	0	29	31	7,096	0	0	0	7,241
No Data	1,295	0	266	551	2,675	0	0	0	4,787
Total Area	10,598	0	1,991	2,972	49,951	0	0	0	65,512



Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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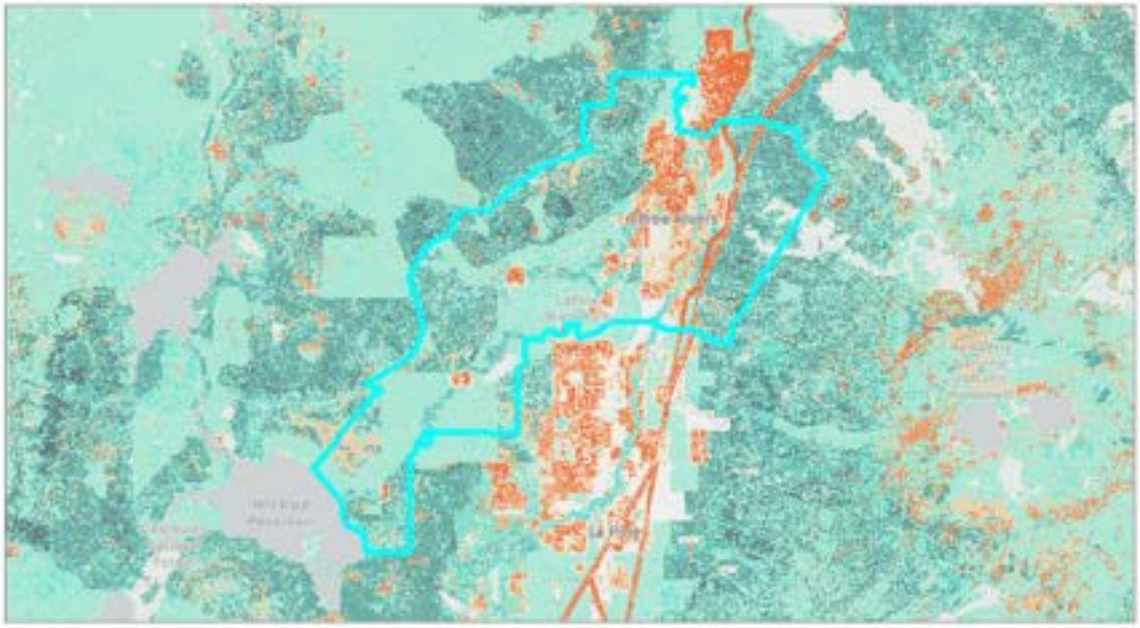
Custom Area



Integrated Conditional Wildfire Risk

Very High Loss
High Loss
Moderate Loss
Low Loss
Neutral
Low Benefit
Moderate Benefit
High Benefit
Very High Benefit
No Data

Conditional risk is the risk to any HVRA given that a fire occurs. In other words, conditional risk accounts for the presence of HVRAs, the susceptibility of HVRAs and the underlying fire intensity data, but it does not include burn probability. Conditional risk layers are frequently used during active fire response when a fire is already occurring and the burn probability is irrelevant. By contrast, expected risk layers account for all the same information, but also include burn probability in the risk calculation.

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Custom Area

Integrated Conditional Wildfire Risk Custom Area

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
Very High Loss	1,705	0	3	115	1,001	0	0	0	2,824
High Loss	2,017	0	21	33	473	0	0	0	2,544
Moderate Loss	217	0	4	5	466	0	0	0	692
Low Loss	2,330	0	73	97	2,208	0	0	0	4,708
Neutral	1,471	0	83	131	696	0	0	0	2,381
Low Benefit	833	0	1,149	1,862	21,785	0	0	0	25,629
Moderate Benefit	572	0	325	157	3,821	0	0	0	4,875
High Benefit	132	0	67	2	15,401	0	0	0	15,602
Very High Benefit	0	0	0	<1	1,422	0	0	0	1,422
No Data	1,309	0	262	574	2,688	0	0	0	4,833
Total Area	10,586	0	1,987	2,976	49,961	0	0	0	65,510

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO DRINKING WATER

This data represents the conditional wildfire risk of post-wildfire sediment delivery to drinking water surface sources. In addition to wildfire hazard, the calculation of risk accounts the population served by the surface water source area, the size of the source area, the distance to the nearest drinking water body, and the erosion hazard. With respect to this particular aspect of wildfire risk to drinking water sources there are no presumed benefits of wildfire and so risk is characterized only by the degree of expected loss. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

Conditional wildfire risk represents wildfire risk based on the susceptibility of HVRAs and underlying fire intensity information, but does not account for burn probability. In other words, conditional risk is the risk *given that a fire occurs*. Expected risk considers burn probability in addition to the susceptibility of HVRAs and underlying fire intensity information. See the Introduction and Concepts section for more details.

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Custom Area

Expected Risk to Drinking Water

Category	Acres	%*
Very High Loss	0	0
High Loss	0	0
Moderate Loss	0	0
Low Loss	0	0
Neutral	0	0
No Data	65512	100

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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Custom Area

Conditional Risk to Drinking Water

Category	Acres	%*
Very High Loss	0	0
High Loss	0	0
Moderate Loss	0	0
Low Loss	0	0
Neutral	0	0
No Data	65512	100

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO ECOLOGICAL INTEGRITY

This data represents the conditional wildfire risk to ecological integrity. In forested ecosystems, risk to ecological integrity assesses whether wildfire moves forest structure towards or away from desired restoration targets. In grass and shrub ecosystems, risk to ecological integrity assess the likely effect of wildfire on overall condition, with a particular emphasis on post-fire invasion by non-native plant species (i.e., invasive annual grasses).

Wildfire is presumed to have both beneficial and adverse impacts on ecological integrity and therefore wildfire risk is characterized in terms of the degree of expected loss and expected benefits. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

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Custom Area

Expected Risk to Ecological Integrity

Category	Acres	%*
Very High Loss	6	< 1
High Loss	8	< 1
Moderate Loss	10	< 1
Low Loss	4	< 1
Neutral	29	< 1
Low Benefit	3112	5
Moderate Benefit	22837	35
High Benefit	17690	27
Very High Benefit	4975	8
No Data	16840	26

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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Custom Area

Conditional Risk to Ecological Integrity

Category	Acres	%*
Very High Loss	4	< 1
High Loss	2	< 1
Moderate Loss	14	< 1
Low Loss	8	< 1
Neutral	56	< 1
Low Benefit	34	< 1
Moderate Benefit	46507	71
High Benefit	79	< 1
Very High Benefit	0	0
No Data	16840	26

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO INFRASTRUCTURE

This data represents the conditional wildfire risk to, critical infrastructure, namely energy, communication, transportation infrastructure, as well as other essential facilities. The risk assessment framework assumes that there are no beneficial impacts of wildfire on infrastructure and so risk is characterized only by the degree of expected loss. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

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Custom Area

Expected Risk to Infrastructure

Category	Acres	%*
Very High Loss	303	< 1
High Loss	993	2
Moderate Loss	61	< 1
Low Loss	802	1
No Data	63352	97

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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Custom Area

Conditional Risk to Infrastructure

Category	Acres	%*
Very High Loss	235	< 1
High Loss	475	1
Moderate Loss	587	1
Low Loss	53	< 1
Neutral	809	1
No Data	63352	97

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO PEOPLE AND PROPERTY

This data represents the wildfire risk to residential and non-residential structures. The susceptibility of People and Property was evaluated based on structure density. As structure density increases, the susceptibility is also presumed to increase because it is less safe for fire managers to work in high density environments and the likelihood for structure-to structure transmission increases. The risk assessment framework assumes that there are no beneficial impacts of wildfire on structures and so risk is characterized only by the degree of expected loss. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

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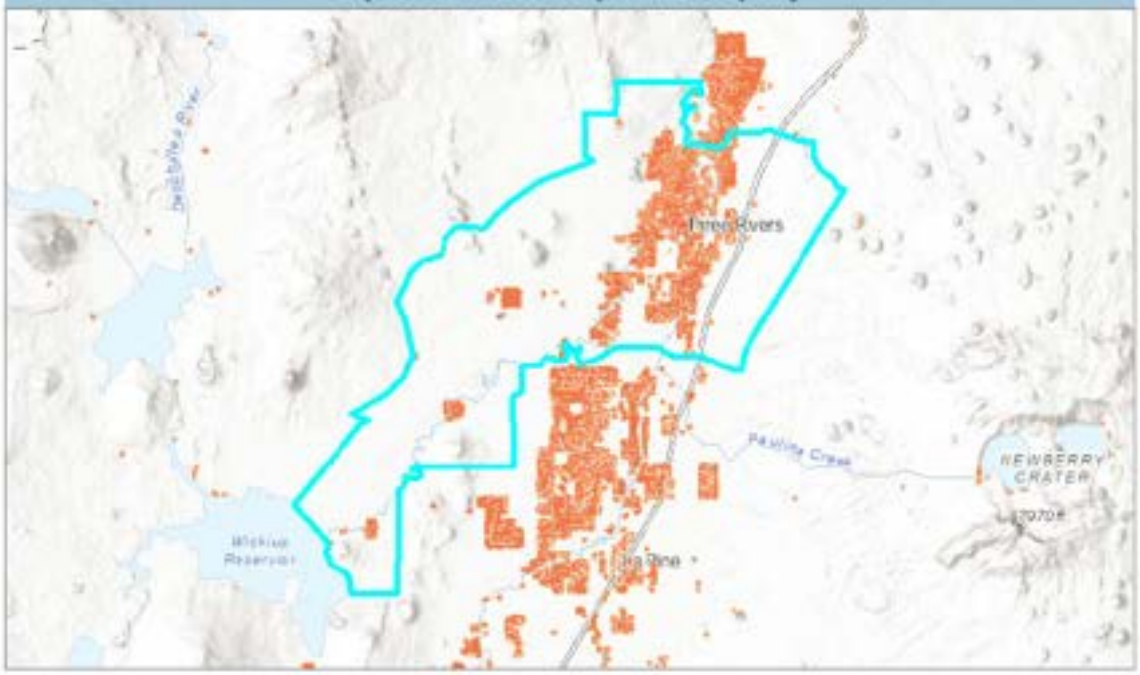
Expected Risk to People and Property



Category	Acres	%*
Very High Loss	3623	6
High Loss	3979	6
Moderate Loss	79	< 1
Low Loss	1553	2
No Data	55282	84

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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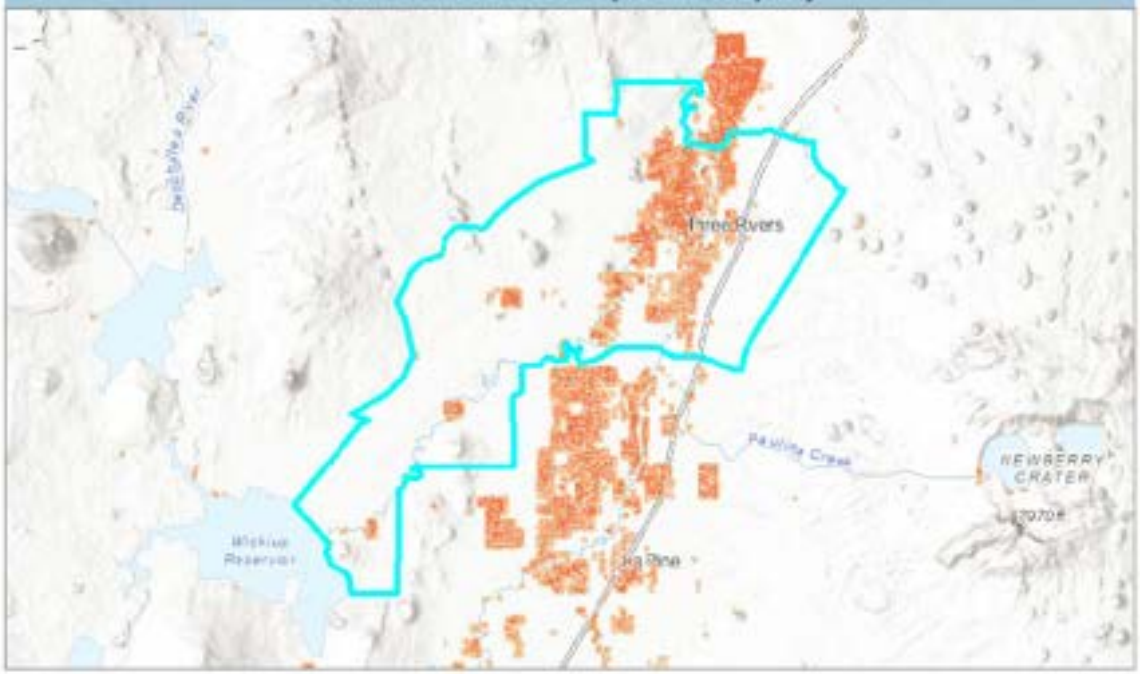
Custom Area

Conditional Risk to People and Property



Category	Acres	%*
Very High Loss	1629	2
High Loss	2647	4
Moderate Loss	2716	4
Low Loss	3238	5
No Data	55282	84

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Risk to Recreation

The Recreation HVRA is intended to evaluate wildfire risk to outdoor recreation infrastructure. This includes a very narrow set of infrastructure types including trail heads, developed campgrounds, ski infrastructure, boat launches, interpretive centers and others. The spatial footprint of these kinds of infrastructure is limited and may be hard to see in this report, or may not exist in the data. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

Conditional wildfire risk represents wildfire risk based on the susceptibility of HVRAs and underlying fire intensity information, but does not account for burn probability. In other words, conditional risk is the risk *given that a fire occurs*. Expected risk considers burn probability in addition to the susceptibility of HVRAs and underlying fire intensity information. See the Introduction and Concepts section for more details.

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Custom Area

Expected Risk to Recreation

Category	Acres	%*
Very High Loss	2	< 1
High Loss	10	< 1
Moderate Loss	2	< 1
Low Loss	0	< 1
No Data	65497	100

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

Conditional Risk to Recreation

Category	Acres	%*
Very High Loss	0	0
High Loss	0	< 1
Moderate Loss	10	< 1
Low Loss	3	< 1
No Data	65496	100

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO TIMBER

This data represents the conditional wildfire risk to commercial timber resources. The risk calculations consider:

- The land manager type, including private, state, U.S. Forest Service, Bureau of Land Management and Tribal entities
- The fire regime
- The timber size class

For some fire regime groups and timber size classes, low intensity fire was presumed to benefit commercial timber by reducing competition without damaging commercial value in the residual stand and therefore wildfire risk is characterized in terms of the degree of expected loss and expected benefits. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

Conditional wildfire risk represents wildfire risk based on the susceptibility of HVRAs and underlying fire intensity information, but does not account for burn probability. In other words, conditional risk is the risk *given that a fire occurs*. Expected risk considers burn probability in addition to the susceptibility of HVRAs and underlying fire intensity information. See the Introduction and Concepts section for more details.

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Custom Area

Expected Risk to Timber

Category	Acres	%*
Very High Loss	54	< 1
High Loss	1472	2
Moderate Loss	2670	4
Low Loss	4160	6
Neutral	1480	2
Low Benefit	324	< 1
Moderate Benefit	9302	14
High Benefit	13093	20
Very High Benefit	545	1
No Data	32413	49

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

Conditional Risk to Timber

Category	Acres	%*
Very High Loss	20	< 1
High Loss	323	< 1
Moderate Loss	912	1
Low Loss	2397	4
Neutral	6296	10
Low Benefit	6631	10
Moderate Benefit	9785	15
High Benefit	6607	10
Very High Benefit	126	< 1
No Data	32413	49

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

RISK TO WILDLIFE HABITAT

This data represents the conditional wildfire risk to wildlife habitat of four federally-threatened and endangered species: coho salmon, chinook salmon, steelhead trout, bull trout, northern spotted owl, greater sage-grouse, and marbled Murrelet. For some of the terrestrial species, low intensity fire was presumed to benefit feeding and dispersal characteristics and therefore wildfire risk is characterized in terms of the degree of expected loss and expected benefits. This data characterizes risk at any one location relative to risk across the rest of Oregon and Washington. Users may want to access the raw QWRA data and reclassify the risk data so that risk is a relativized within the user-defined area only, rather than being compared to risk across all of Oregon and Washington.

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Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

Expected Risk to Wildlife Habitat

Category	Acres	%*
Very High Loss	0	0
High Loss	0	0
Moderate Loss	0	0
Low Loss	0	0
Neutral	194	< 1
Low Benefit	31	< 1
Moderate Benefit	379	1
High Benefit	2038	3
Very High Benefit	1599	2
No Data	61271	94

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

Conditional Risk to Wildlife Habitat

Category	Acres	%*
Very High Loss	0	0
High Loss	0	0
Moderate Loss	0	0
Low Loss	0	0
Neutral	194	< 1
Low Benefit	0	< 1
Moderate Benefit	25	< 1
High Benefit	4022	6
Very High Benefit	0	0
No Data	61271	94

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

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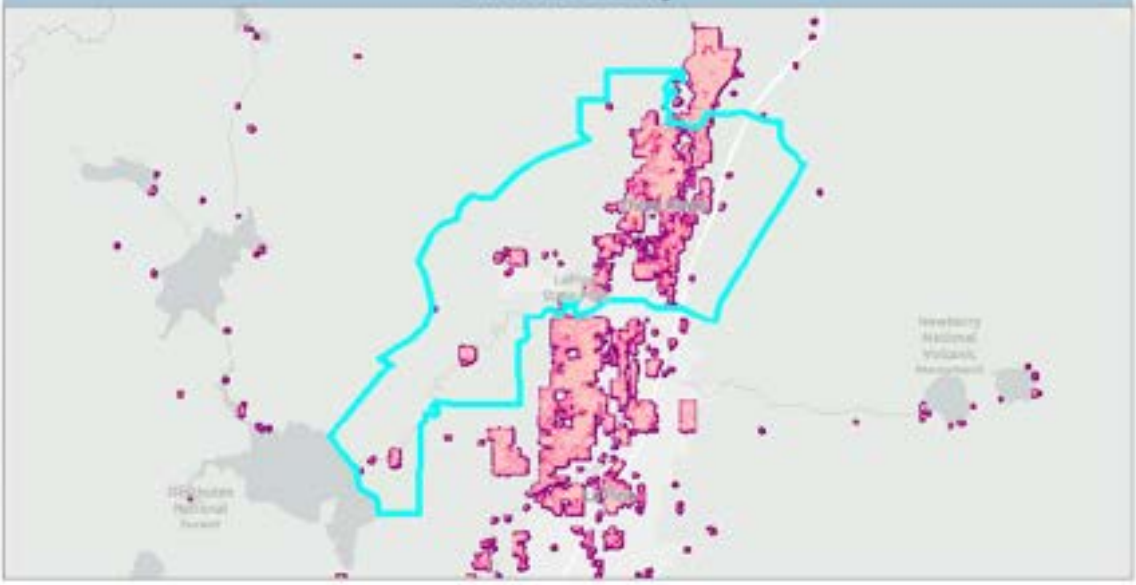
Custom Area

STRUCTURE DENSITY

Structure Density



Category	Acres	%*
1 structure per 40 acres	1739	3%
1 structure per 20 acres	846	1%
1 structure per 10 acres	1299	2%
1 structure per 5 acres	1883	3%
1 structure per 2 acres	3133	5%
3 structures per acre	1839	3%
> 3 structures per acre	0	0%
No Data	54771	84%

Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

** Values may add up to over 100% due to rounding precision*

Risk to People and Property is represented by the risk to residential and non-residential structures greater than 400 sq. ft.

We mapped the structure density across Oregon using the Statewide Building Footprints of Oregon data, the best available statewide structure location dataset (Williams, 2021), and classified seven density classes ranging from less than one structure per 40 acres to greater than three structures per acre. The footprint of the density layer captures known structure locations and the surrounding 40-acre area. Structure density is an important consideration because it represents the concentration of risk and also because it is relevant to operations and therefore to potential fire effects. For instance, as density increases so does the likelihood of structure-to-structure transmission. Likewise, as density increases it is increasingly dangerous and difficult for fire fighters to protect structures.

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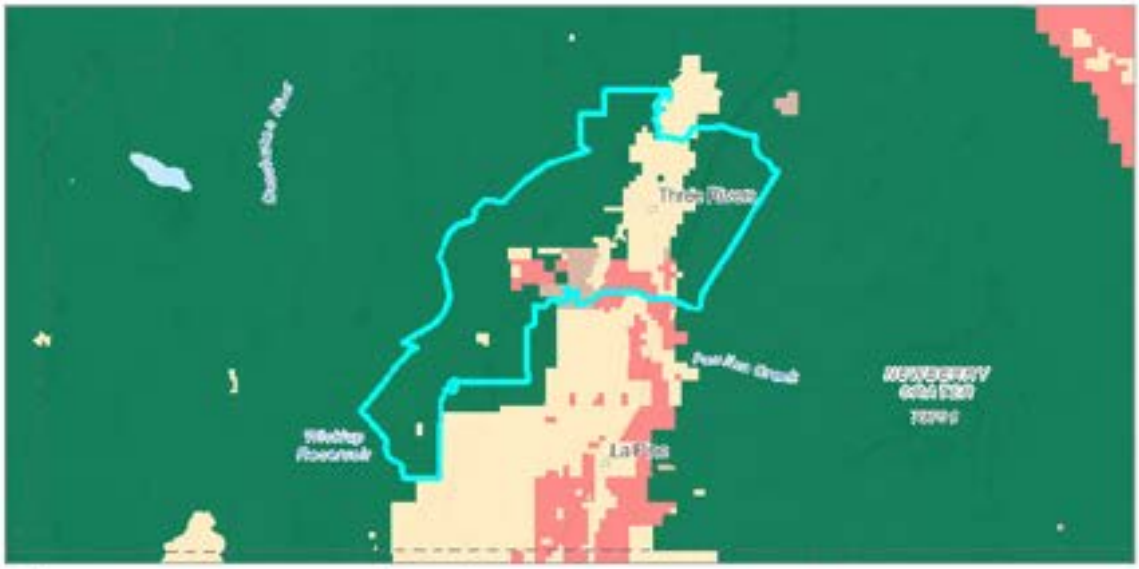
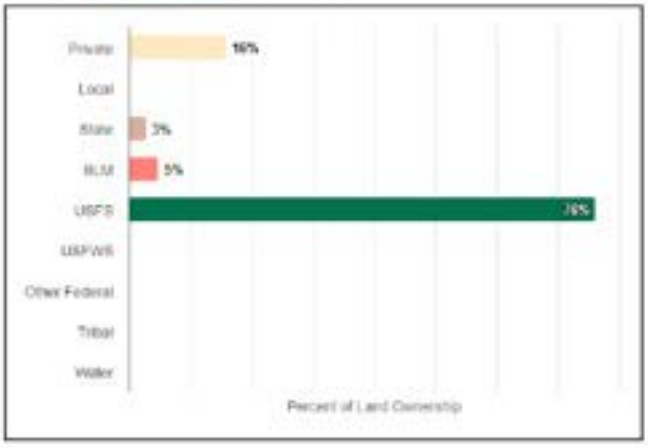
Custom Area

LAND MANAGEMENT

Knowing the land ownership and management in an area is important for hazard planning and awareness when wildfires occur. Oregon has a complete and coordinated wildfire management system between local, private, tribal, state, and federal agencies. These entities participate to fight fire in local areas and throughout the state according to their jurisdictions and protection responsibilities. Agencies differ in land use and overall management, including fire management.



	Major Landowner/Manager	Acres
	Private	10591
	Local	0
	State	1990
	Bureau of Land Management (BLM)	2979
	US Forest Service (USFS)	49956
	US Fish & Wildlife (USFWS)	0
	Other Federal	0
	Tribal	0
	Water	0



Source: Oregon Department of Forestry. 2024

** Values may add up to over 100% due to rounding precision*

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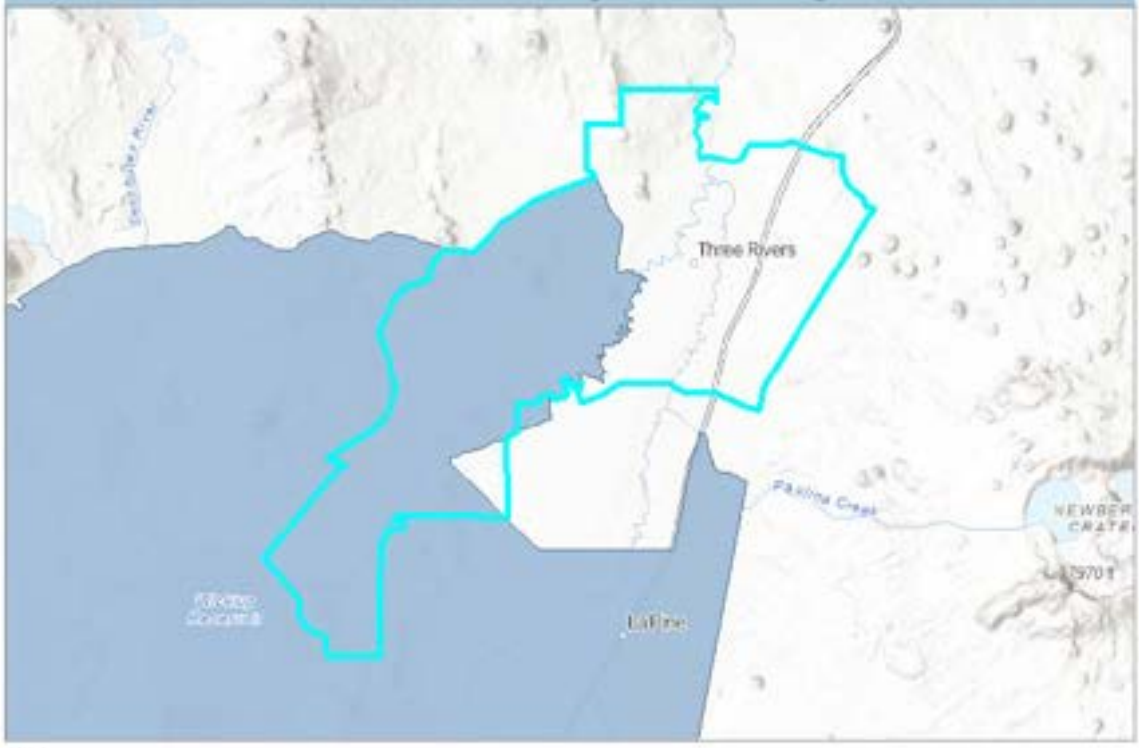
Custom Area

CLIMATE AND ECONOMIC JUSTICE

"In January of 2021, President Biden issued Executive Order 14008. The order directed the Council on Environmental Quality (CEQ) to develop a new tool. This tool is called the Climate and Economic Justice Screening Tool. The tool has an interactive map and uses datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. The tool uses this information to identify communities that are experiencing these burdens. These are the communities that are disadvantaged because they are overburdened and underserved. Federal agencies will use the tool to help identify disadvantaged communities that will benefit from programs included in the Justice40 Initiative. The Justice40 Initiative seeks to deliver 40% of the overall benefits of investments in climate, clean energy, and related areas to disadvantaged communities." (CEQ, CEJST)

The data shown here depict whether a census tract was identified as disadvantaged. Users should refer to the CEJST methodology for more information.

Climate and Economic Justice Screening Tool Disadvantaged Communities



Census Tracts Not Identified as Disadvantaged

Census Tracts Identified as Disadvantaged

Oregon CWPP Planning Tool - Advanced Report (Beta)

Custom Area

This report was generated from the Advanced Oregon Wildfire Risk Explorer map viewer:
tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning

How to Cite:

Accessed from the Oregon Explorer on October 3, 2024
URL: https://tools.oregonexplorer.info/OE_HtmlViewer/index.html?viewer=wildfireplanning
Primary data Source: Pacific Northwest Quantitative Wildfire Risk Assessment (2023)

Wildfire risk data is primarily from the 2023 Pacific Northwest Quantitative Wildfire Risk Assessment. The information is being provided as is and without warranty of any kind either express, implied or statutory. The user assumes the entire responsibility and liability related to their use of this information. By accessing this website and/or data contained within, you hereby release the Oregon Department of Forestry, Oregon State University, and all data providers from liability. This institution is an equal opportunity provider.

Glossary of Terms

• **Cohesive Strategy:** In 2009, Congress passed the Federal Land Assistance, Management, and Enhancement (FLAME) Act and called for a National Cohesive Wildland Fire Management Strategy, also known commonly as the Cohesive Strategy, to address wildland fire related issues across the nation in a collaborative, cohesive manner. The Cohesive Strategy was finalized in 2014 and represents the evolution of national fire policy: To safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and as a Nation, live with wildland fire. The primary, national goals identified as necessary to achieving the vision are: Resilient landscapes: Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives. Fire-adapted communities: Human populations and infrastructure can withstand a wildfire without loss of life and property. Wildfire response: All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

• **Crown Fires:** A fire that advances from top to top of trees or shrubs more or less independent of a surface fire. Crown fires are sometimes classed as running or dependent to distinguish the degree of independence from the surface fire.

• **Defensible Space:** Defensible Space, in the context of fire control, is the natural and landscaped area around a structure that has been maintained and designed to reduce wildfire danger by using vegetation that is fire resistant.

• **Deschutes Collaborative Forest Project:** In 2010, a collaborative group of local agencies and organizations formed a proposal for funding a large, collaborative forest restoration and hazardous fuels reduction project on public lands managed by the Deschutes National Forest. This landscape level project is known as the Deschutes Collaborative Forest Project (DCFP).

• **Dispersed Campgrounds & Recreational Sites**: Campsites or recreational sites members of the public use that are outside of a designated campground or developed recreation site. These sites do not have trash removal or facilities such as tables and fire pits. For more information on how to use dispersed recreational sites visit: http://www.fs.usda.gov/.

• **Fire Adapted Community:** One of the tenants of the Cohesive Strategy. A Fire Adapted is one that acknowledges and takes responsibility for its wildfire risk, and implements appropriate actions at all levels. Deschutes County is a pilot community for the Fire Adapted Communities Learning Network. For more information visit: https://fireadaptednetwork.org.

• **Fire Break:** A gap in vegetation or other combustible materials that acts as a barrier to slow or stop the progress of a wildfire.

• **Fire Prone Area:** A geographic area that can support a wildfire due to weather and vegetation.

• **Fire Resiliency:** A landscape or geographic location that can withstand wildfire without suffering catastrophic effects, such as loss of life, home loss or damage and/or environmental damage.

• **Fire Return Interval**: The time between fires in a defined area or landscape.

• **Fire Suppression Costs**: The financial figure that is incurred during any operations by firefighting agencies to suppress (or put out), a wildland fire.

• **FireFree:** A local program in Central Oregon that uses ten steps to educate property owners on how to defend their home from wildfire. FireFree also provides two annual events where homeowners can dispose of debris created from wildfire preparedness activities.

• **Firewise:** A national program that provides a process that empowers neighbors to work together in reducing their wildfire risk. The National Fire Protection Association sponsors the Firewise program.

• **Hazardous Fuel Reduction:** Reducing vegetation that could accelerate a wildland fire.

• **Hazardous Fuels:** Any fuel or vegetation that will sustain or accelerate a wildland fire.

• **High Intensity:** Fire intensity represents that energy releases during various phases of the fire. High intensity fires are damaging to certain vegetation and ecosystems that are not adapted to them. Much of the lower elevation forests in Central Oregon are adapted to lower intensities.

• **Overstory:** Also called the canopy. Made up of the tallest trees that stand over the rest of the plants in the landscape.

• **Pacific Northwest Coordination Center:** The Northwest Interagency Coordination Center (NWCC) is the Geographic Area Coordination Center for the Northwest Region, which includes the States of Oregon and Washington. Located in Portland, OR the NWCC serves as the focal point for interagency resource coordination, logistics support, aviation support and predictive services for all state and federal agencies involved in wildland fire management and suppression in the region. Cooperating agencies include the: Bureau of Land Management, US Forest Service, Oregon Dept of Forestry, US Fish and Wildlife Service, Bureau of Indian Affairs, Washington Dept. of Natural Resources and the National Park Service.

• **Project Wildfire:**
The local county organization responsible for education of local stakeholders, revisions of Community Wildfire Protection Plans, grant writing, and overall facilitation of wildfire mitigation in Central Oregon.

• **Resilient Landscapes:** A landscape that can recover quickly or repel disturbances that may be a departure from normal circumstances.

• **Silvicultural Treatments:** A planned series of treatment that aide in achieving the goals set forth by a diverse set of values. Silviculture is the practice of controlling the establishment, growth, composition, health and quality of forests to meet diverse needs and values.

• **Stand Dynamics:** The underlying physical and biological forces that shape and change a particular area or forest stand.

• **Structural Ignitability:** Also known as Structural Vulnerability, which refers to the probability of a home igniting during a large wildfire.

• **Structural Vulnerability Factors:** Factors that can increase or decrease a home's probability of igniting during a large wildfire. Examples include: roof composition, roof cleanliness, vent covers, deck composition & cleanliness, etc.

• **Thick Bark Pine:** a local species is Ponderosa Pines. Their thick bark makes them a fire-resistant species. The lower elevation forests that were/are dominated by Ponderosa Pines are adapted to low intensity fire that would burn through as often as every ten years.

• **Tree Crowns:** See overstory. Also known as the tree canopy.

• **Understory:** The layer of vegetation beneath the main canopy of a forest.

• **Wildfire Preparedness:** Changing behaviors and/or processes to reduce the impact a wildfire may have on the population.

• **Wildland Fire:** A wildland fire is an uncontrolled fire that occurs in a natural area, such as a forest, grassland, or prairie. Wildfires can be caused by natural events like lightning, but most are started by humans, either accidentally or intentionally.

• **Wildland Fuels:** Vegetation that is in an area in which development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities. Structures, if any, are widely scattered.

• **Wildland Urban Interface (WUI):** The line, area, or zone where structures and other human development meets or intermingle with undeveloped wildland or vegetative fuels. Describes an area within or adjacent to private and public

property where mitigation actions can prevent damage or loss from wildfire. Much of Deschutes County is considered Wildland Urban Interface.

Post Fire Recovery

During the Fire Contacts

Deschutes County 911 Non-Emergent Line	(541) 693-6911
American Red Cross (Eastern & Central Oregon Chapter)	(541) 382-2142

Web links for Fire and Evacuation Information:

- Central Oregon Fire Information — Central Oregon Fire Info
- Deschutes County Emergency Blog — Deschutes County Emergency Info
- Central Oregon Interagency Twitter Feed — twitter.com/CentralORFire
- Deschutes County Sheriff's Twitter Feed — twitter.com/DeschutesSO
- Evacuation Guide — Ready, Set, Go
- Emergency Notifications — Deschutes County Alerts

Post-Fire Recovery Community Issues to Consider

Following a wildfire, communities may be facing a host of issues. The complexities involved in mid- and long-term strategies for economic, environmental and social recovers may be daunting. Learning from the experiences of others is helpful. Consider relevant questions such as:

- How soon can or should schools reopen?
- Can debris removal efforts be expedited? If so, what is the cost and who will pay for it?
- Does the impact warrant inviting the Oregon DOJ Charitable Activities Section regulators to send a team to ensure crooks and scam artists don't take advantage of vulnerable residents?
- Are emergency grants available to restore basic public services?
- What system(s) can be used to equitably and efficiently distribute the donations that a community receives following a catastrophic fire?
- What resources are available for small businesses attempting to reestablish, and/or do new programs need to be created?
- How will tourism be affected?

Deschutes County Long-Term Recovery Efforts

The Deschutes County Sheriff's Office Emergency Management Team, working with residents and community stakeholders, is developing a Disaster Recovery Framework. The framework is part of a suite of plans that address various elements of emergency management. It aims to establish guidelines for how the Deschutes County Community will work together to restore, rebuild and reshape the physical, social, economic and natural environment in the months and years following a disaster or emergency.

After the Fire Resources for Affected Residents

Fire Management Assistance (FMAG) is available to States, local and tribal governments, for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster. The Fire Management Assistance declaration process is initiated when a State submits a request for assistance to the Federal Emergency Management Agency (FEMA) Regional Director at the time a "threat of major disaster" exists. The entire process is accomplished on an expedited basis and a FEMA decision is rendered in a matter of hours.

The Fire Management Assistance Grant Program (FMAGP) provides a 75 percent Federal cost share, and the State pays the remaining 25 percent for actual costs. Before a grant can be awarded, a State must demonstrate that total eligible costs for the declared fire meet or exceed either the individual fire cost threshold - which is applies to single fires, or the cumulative fire cost threshold, which recognizes numerous smaller fires burning throughout a State. Eligible firefighting costs may include expenses for field camps; equipment use, repair and replacement; tools, materials and supplies; and mobilization and demobilization activities.

FEMA Individual Assistance (FEMA IA) has created a set of tools to help those facilitating their community's recovery. Community Services Programs deliver a variety of services to assist in disaster recovery. Disaster Housing Resources provides links to access information on multiple disaster housing programs and strategies. FEMA Voluntary Agency and Donations Coordination delivers information, support and guidance during disaster recovery. The National Emergency Child Locator Center and National Mass Evacuation Tracking System are both tracking databases that can be activated during disasters and assist in reunifying family members. The National Shelter System is a database that supports the agencies responsible for Mass Care and Emergency Assistance.

FEMA Public Assistance (FEMA PA) mission is to provide assistance to State, Tribal and local governments, and certain types of Private Nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President. Through the PA Program, FEMA provides supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster damaged, publicly owned facilities and the facilities of certain Private Non-Profit (PNP) organizations. The PA Program also encourages protection of these damaged facilities from future events by aiding for hazard mitigation measures during the recovery process. The Federal share of assistance is not less than 75% of the eligible cost for emergency measures and permanent restoration. The grantee (usually the State) determines how the non-Federal share (up to 25%) is split with the sub-grantees (eligible applicants).

Small Business Disaster Loans through the Small Business Administration (SBA). SBA provides low-interest disaster loans to businesses of all sizes, private non-profit organizations, homeowners, and renters. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.

Oregon VOAD (Voluntary Organizations Active in Disaster) is a group of faith-based, community service organizations with disaster relief roles related to short and long-term recovery from disasters. Functions include but are not limited to damage assessment, cleanup, building repair, donations management, childcare, clothing, communication, counseling, disaster welfare inquiry, financial assistance, food, human relations, mass care, sheltering, transportation, volunteer staffing, warehousing and bulk distribution. ORVOAD coordinates disaster planning with member agencies to ensure reduction of duplication and an increase in the effective delivery of services.

Natural Resources Conservation Services (NRCS) may provide the funding they are allocated to help with fire recovery efforts for agricultural and private, non-industrial forestland owners. Program and application announcements will be made as funding becomes available.

American Red Cross Casework: Providing Emergency Assistance trains Red Cross caseworkers how to conduct effective client interviews and provide appropriate assistance to help meet a client's immediate disaster-caused or disaster-aggravated needs.

Oregon Division of Financial Regulation: Consumer advocates can help you understand your insurance coverage and navigate the claims process. A helpful resource and contact information can be found at https://dfr.oregon.gov/insure/home/Documents/5062-fire.pdf.

Fire Recovery Safety Tips

REMEMBER – use caution and good judgment. Hazards may still exist, even though the fire is controlled.

ELECTRICAL

Electrical Safety Facts

General: An important part of the disaster recovery is hazard recognition. Should you come across damaged or fallen power poles or lines, contact your local electrical power authorities. DO NOT TOUCH THE DOWNED WIRES. In the cleanup area, be especially careful when cutting trees and operating heavy equipment around power lines. Vegetation and power poles may have lost stability due to fire damage.

If a power line or pole should fall next to you while working in the area, *do not walk – hop out of the area.* (Using this technique, you will be less likely to be a conductor of electricity).

Electricity is always trying to go somewhere. It goes easily through conductors; it does not go easily through non-conductors.

- Conductors
- Non-Conductors
- Metal
- Rubber
- Water
- Glass
- Wet Things
- Plastic
- Things In Water (including animals/pets)

One of the most important fixtures in the conduction of electric current are utility poles. The fire or fire suppression actions may have dislodged or broken some of these poles, causing the wires to sag or break, resulting in extremely hazardous conditions. Do not touch anything at the scene.

Trees can also be dangerous conductors of electricity. When a tree falls or grows into contact with power wires, the electric power diverts and finds a path to the ground through the branches and the trunk. Anyone who encounters these trees is subject to tragic consequences, since electric power can easily jump from the tree to the person.

Electrical Safety Tips

• Do not overload circuits; don't operate several large appliances at the same time on the

same circuit

• Do not use extension cords to plug in many items on one outlet.

• Turn off appliances when you finish using them. Provide adequate air circulation around all appliances to prevent over-heating. Keep appliances clean, repaired and serviced.

• Check wires and plugs regularly. Replace worn or frayed wires. Do not run cords under carpets or across doorways.

• Be careful when replacing fuses or breakers. Keep the area near the circuit box dry and turn the main switch off before changing the fuse/breaker.

• Temporary lines should be removed from service.

Electrical Locations to Avoid

• Electrical meters and service lines coming into the home or other outbuildings.

• Any power supply line which appears to sag, show bare wire, or have insulation missing.

• Secured power sub-stations or any area identified as high voltage.

• Downed power lines.

Emergency Procedures for an Electrical Fire

• Call the fire department.

• Shut off power supply at the breaker if possible.

Restoring Electric Power

If, upon returning to your residence, there is no electrical power, please check to make sure the main breaker is on. If the breakers are on and power is still not present, please call to report the power outage to your local electrical power authorities.

Reporting problems like a down or broken wire will speed up the process of power restoration.
• Stand off to one side of the breaker box when turning on the main breaker. Do not stand directly in front of the box.

• If any smells of hot electrical insulation or sparking occurs, turn of the breaker immediately

and call an electrician.
• If electrical lights or appliances appear brighter than normal, turn off main breaker.
The service entrance needs to be checked.

To Change a Fuse

Try to find the cause of the blown fuse, and correct it by disconnecting the defective appliance or appliances causing the overload or short circuit. Shut off the main power switch when you change the fuse.

- Do not replace fuses with a higher amp rating fuse than you removed.
- Turn on the main switch to restore the power.
- If the fuse blows again, leave it alone and contact a certified electrician. Other problems may exist and should be investigated to remove the possibility of an electrical fire.

To Reset a Circuit Breaker

Try to find the cause of the overload or short circuit and correct it by disconnecting the defective appliance or appliances. Turn the switch to "on" to reset and restore power. If breaker trips again leave it alone and contact a certified electrician. Other problems may exist and should be found to remove the possibility of an electrical fire.

Special Information of Fuses & Circuit Breakers

Fuses and circuit breakers shut off the current whenever too much current tries to flow through a wire because of:

• A short circuit, possibly caused by a bare wire touching the ground.
• Overloading, possibly caused by too many lights or appliances on one circuit: or
• By defective parts in an appliance.

Know where the main circuit or fuse box is in your house. Be sure you can locate the main switch; it controls all the power coming into the house and is usually inside the circuit box. In some cases, however, it may be located outside of the house. Fuse or circuit boxes generally are labeled to designate which area of the house the circuits or fuses serve.

DRINKING WATER

Restoring Water Systems

Unless impacted by a fuel spill, the fire should not have affected wells at undamaged homes. If your house was damaged, your water system may potentially have become contaminated with bacteria due to loss of water pressure. In this case it is recommended that the well be disinfected, and the water be tested before consumption. To disinfect your water system, pour ½ - 1 cup of chlorine bleach inside the well casing and turn on all faucets until a chlorine scent in noticed. Allow the chlorine solution to remain in the system overnight. The following morning, open all faucets and flush the system until free of chlorine smell.

If you have a public use well or water system, contact the Deschutes County Public Health Department for specifics on testing prior to consumption of any water. The Drinking Water Program administers and enforces drinking water quality standards for approximately 175 public water systems within Deschutes County. More information can be found on their website at https://www.deschutes.org/health/page/drinking-water

Oregon implements drinking water protection through a partnership of DEQ (Department of Environmental Quality) and the OHA (Oregon Health Authority). The program provides information about drinking water, and helps Oregonians get involved in protecting drinking water quality. In general, for questions regarding groundwater sources, contact OHA. Contact DEQ for questions about protecting public water supplies using surface water.
For questions about regulations, water quality, treatment plants, and testing, contact OHA the primacy agency for the implementation of the federal Safe Drinking Water Act in Oregon is. OHA's webpages provide the most useful info for consumers about drinking water protection: https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/Pages/index.aspx

Information specific for private domestic wells is here:
https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/SOURCEWATER/DOMESTICWELLSAFETY/Pages/index.aspx

SOLID WASTE

Removing Debris

Cleanup of your property can expose you to potential health problems from hazardous materials. Wet down any debris to minimize health impacts from breathing dust particles. The use of a two-strap dust particulate mask with nose clip and coveralls will provide the best minimal protection. Leather gloves should be worn to protect your hands from sharp objects while removing debris. Hazardous materials such as kitchen and bathroom cleaning products, paint, batteries, contaminated fuel and damaged fuel containers must be handled properly. Contact your local County Officials for specific handling restrictions and disposal options.

All hazardous materials should be labeled as to their contents if known.

HEATING FUELS

Checking Propane Tanks

Propane suppliers recommend homeowners contact them for an inspection prior to reusing the system. If the fire burned the tank, the pressure relief valve probably opened and released the contents of the tank. Tanks, brass and copper fittings, and lines may be heat-damaged and unsafe. Valves should be turned off and remain closed until the propane suppliers inspect the system.

Checking Home Heating Oil Tanks

Heating oil suppliers recommend homeowners contact them for an inspection prior to reusing their system. The tank may have shifted or fallen from the stand and fuel lines may have kinked or weakened. Heat from the fire may have caused the tank to warp or bulge. Non-vented tanks are more likely to bulge or show signs of stress. The fire may have loosened or damaged fittings and filters. If the tank is intact and heating oil remains in the tank, the heating oil should still be good. If you have questions on the integrity of the tank, fuel lines, tank stand, or the fuel, or need assistance in moving the tank or returning it to service, contact your fuel supplier.

MISCELLANEOUS SAFETY AWARENESS

Ash Pits
Holes created by burned trees and stumps create ash pits, which are full of hot ashes. Mark them for your safety, as they can stay hot for many days following the fire, causing serious burns. Warn your family and neighbors, especially children. Tell them to watch for ash pits and to not put hands or feet in these holes—they are hot!

Evaluation of Trees Damaged by Fire
The following information will assist you in evaluating any trees that have been scorched or burnt by the fire. Identification of the type of tree affected is important and can easily be done. Two basic types of trees exist in this area: deciduous and evergreen. Deciduous trees are broad leaf trees that lose their leaves in the fall.

In this area we have a variety of deciduous tree species. Evergreen trees have needles and in this area we mainly have Ponderosa Pine, Lodgepole Pine and Western Juniper.

First: visually check the tree stability. Any tree weakened by fire may be a hazard. Winds are normally responsible for toppling weakened trees. The wind patterns in your area may have changed because of the loss of adjacent tree cover. Seek professional assistance before felling trees near power lines, houses or other improvements.

If the tree looks stable:
• Visually check for burnt, partially burnt or broken branches and treetops that may fall.

• Check for burns on the tree trunk. If the bark on the trunk of the tree has been burned off or scorched by very high temperatures surround the tree's circumference, the tree will not survive. This is because the living portion of the tree (cambium) was destroyed. The bark of the tree provides protection to the tree during fire. Bark thickness varies based upon tree species: check carefully to see if the fire or heat penetrated the bark. Where fire has burnt deep into the tree trunk, the tree should be considered unstable until checked.

• Check for burnt roots by probing the ground with a rod around the base of the tree and out away from the base several feet. The roots are generally six to eight inches below the surface. If you find that the roots have been burned you should consider this tree very unstable; it could easily be toppled by wind.

If the tree is scorched:
• A scorched tree is one that has lost part or all its needles. Leaves will be dry and curled. Needles will be a light red or straw colored. Healthy deciduous trees are resilient and may possibly produce new branches and leaves, as well as sprouts at the base of the tree. Evergreen trees, particularly long-needled trees, may survive when partially scorched. An evergreen tree that has been damaged by fire is subject to bark beetle attack. Please seek professional assistance concerning measures for protecting evergreen trees from bark beetle attack.

Residual Smoke in Fire Interior

Smoke may be present on the interior of the fire for several days following containment. This occurs because of stumps, roots, and other surface materials being exposed to changing temperatures and wind conditions. Smoke volume from these materials may fluctuate depending on weather conditions. This activity should not pose a risk and smoke will continue to dissipate until materials are fully consumed or extinguished by fire crews or weather.

Flooding Risk

With the recent large high intensity wildfires in Oregon certain locations within burned areas, or downhill and downstream of burned areas are much more susceptible to flash flooding and debris flows. Even areas that are not traditionally flood prone are at risk due to changes to the landscape caused by wildfire. Rainfall that would normally be absorbed will run off extremely quickly after a wildfire, as burned soil can be as water repellant as pavement. As a result, much less rainfall is required to produce a flash flood. A good rule of thumb is, if you can look uphill from where you are and see an area burned by wildfire, you are at risk.

Preparing for Flooding

In the event of moderate to heavy rainfall, do not wait for a flash flood warning to take steps to protect life and property. Thunderstorms that develop over the burned area may begin to produce flash flooding and debris flows before a warning can be issued. If you are in an area vulnerable to flooding and debris flows, plan and move away from the area. There may be very little time to react once the storms and rain start.

- Have an evacuation/escape route planned that is least likely to be impacted by Flash Flooding or Debris Flows
- Have an Emergency Supply Kit available
- Stay informed before and during any potential event, knowing where to obtain National Weather Service (NWS) Outlooks, Watches and Warnings via the NWS Pendleton Website, Facebook, Twitter, or All Hazards NOAA Weather Radio
- Be alert if any rain develops. Do not wait for a warning to evacuate should heavy rain develop.
- Call 911 if you are caught in a Flash Flood or Debris Flow
- Contact local officials for additional risk information and potential mitigation efforts
- Contact The US Army Corps of Engineers regarding their Silver Jackets Program