East & West Deschutes County Community Wildfire Protection Plan

2025

Prepared in cooperation with:

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

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Executive Summary

Purpose

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 and rangeland 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 properties by participating in programs such as Firewise and FireFree. All these activities allow the planning area to become more fire adapted.

Since its creation in December 2007, the East & West Community Wildfire Protection Plan has been reviewed twice (2012, 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 planning area.

The 2024 East & West Community Wildfire Protection Plan will assist all agencies and Alfalfa, Brothers, Hampton, and Millican area property owners in identifying and prioritizing all lands, including surrounding public lands, that are at risk from high-intensity wildland fire. The East & West 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) – resilient 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 East & West CWPP are to:

- Protect lives and property from wildland fires.
- Instill a sense of personal responsibility for taking preventive actions regarding wildland fires.

- Increase public understanding of the risks associated with living in a fire-adapted ecosystem.
- Increase the community's ability to prepare for, respond to, and recover from wildland fires.
- Restore fire-adapted ecosystems.
- Guide 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; and
- Improve the fire resilience of the landscape while protecting other social, economic, and ecological values.

The East & West CWPP integrates information from a variety of sources to present a comprehensive picture of risk and possible treatments on the landscape and enables community organizations and their partners to act in a coordinated fashion. A complete 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

The East & West CWPP is multi-jurisdictional and addresses all lands and all ownerships within the boundaries of the plan area. The planning boundary of the East & West CWPP straddles multiple other CWPPs. Each rating area in this plan is distinct in fire response, vegetation, and fire history.
The plan encompasses 1,345,763 acres or approximately 2,102 square miles. Much of this land is considered in the CWPP and action plan as outlying lands.

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

The western portion of Deschutes County and the southern region around Paulina Lake and East Lake were historically characterized by open stands of ponderosa pine and native grasslands. Following logging in the first half of the 1900s, 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 and manzanita with some areas of native bunch grasses. Due to the lack of disturbance, these stands continue to become more and more overcrowded.

In the Alfalfa area, the historical vegetation included western juniper and sagebrush. Today, the mix is predominantly western juniper and sage than 100 years ago, with sporadic ponderosa pine in areas with consistent irrigation. With larger private acreages, the Alfalfa area is also plentiful in large tracts of agricultural/farming lands.

Historically, the Brothers/Hampton/Millican area included a mix of sagebrush, scarce western juniper and some ponderosa pine. This vegetation type was maintained by frequent low to moderate intensity fires. Today the area is characterized by widespread stands of western juniper, western sage, and non-native grasses, predominantly cheat grass. This area is also abundant with large private agricultural lands.

Wildland Fire Advanced Hazard Report

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 advanced hazard report can be found on page 14.

Action Plan and Implementation

The Steering Committee recognizes the East and West 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 East and West 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

The East & West Deschutes County Community Wildfire Protection Plan (CWPP) was originally completed and signed in December 2007 and a revision was completed in 2012 and 2018. As directed by that CWPP, 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.

Under the Healthy Forests Restoration Act, the CWPP is approved by the applicable local government, the local fire department, and the state entity responsible for forest management. 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.

_____ _____

Kim Vanderford, President — Date
Brothers Hampton Rangeland Fire Protection Association

_____ _____

Chad LaVallee — Date
Chief, Alfalfa Fire District

_____ _____

Gordon R. Foster, Unit Forester — Date
Oregon Department of Forestry

_____ _____

Tony DeBone, Chair — Date
Deschutes County Board of Commissioners

Acknowledgements

In the true spirit of collaboration, the following people are acknowledged for their participation and commitment resulting in the 2025 Update of the East and West CWPP.

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Gordon R. Foster	Oregon Department of Forestry
Corinne Heiner	Project Wildfire
Sheldon Rhoden	Bureau of Land Management
Kevin Moriarty	Deschutes County Forester
Chad LaVallee	Chief, Alfalfa Fire District
Kim Vanderford	Brothers/Hampton Rangeland Fire Protection Association
Donald Tschida	Oregon Department of Forestry
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East & West Deschutes County Community Wildfire Protection Plan

Purpose

The purpose of the East & West Deschutes County Community Wildfire Protection Plan (CWPP) is to:

- Protect lives and property from wildland fires.
- Instill a sense of personal responsibility for taking preventive actions regarding wildland fire.
- Increase public understanding of the risks associated with living in a fire-adapted ecosystem.
- Increase the community's ability to prepare for, respond to and recover from wildland fires.
- Restore fire-adapted ecosystems.
- 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; and
- Improve the fire resilience of the landscape while protecting other social, economic and ecological values.

Since its creation in November 2007, the East & West Deschutes County Community Wildfire Protection Plan has been reviewed three times (2012, 2018, 2025) 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 planning area. This CWPP revision continues its legacy by outlining a clear purpose with updated priorities, strategies and action plans for fuels reduction treatments in the unincorporated and/or unprotected wildland urban interface areas in Deschutes County.

This CWPP also addresses special areas of concern and makes recommendations for reducing structural vulnerability and creating defensible spaces 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; updated and revisited regularly to address its purpose.

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 in the east, south and west portions of Deschutes County are now significantly altered, due to fire prevention efforts, modern suppression activities and a general lack of large-scale fires.

The result on the west end of the county is large tracts of overstocked ponderosa, mixed conifer and lodgepole pine forests with dense ground fuels of bitterbrush and saplings. On the east side of the county, the effect on the rangelands and grasslands is seen in the replacement of native bunchgrass and ponderosa pine with sage, juniper and cheat grass. Although vastly different in vegetation and topography, these ecosystems are now similarly altered to a state which allows fires to burn rapidly and more intensely than in the past with an increased capacity to threaten lives and property.

Within these boundaries, there is a significant amount of public land with numerous destination resorts, as well as 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 of up to 40,000 people occupy these areas, creating a seasonal challenge for those agencies responsible for fire suppression and evacuation.

In addition, the recent explosion in population has led to increased residential development into forests in the wildland urban interface (WUI). To address these and other related issues, members of fire agencies, local businesses, organizations, and individuals collaborated to develop the East & West Deschutes County Community Wildfire Protection Plan.

The identification of priority areas for hazardous fuels treatment in these areas along with the identification of treatment standards are key components of this plan.

Planning Summary

Since the most recent adoption, 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 residents have responded enthusiastically to the defensible space and preparation guidelines and recommendations to reduce hazardous fuels on their own properties.

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 East & West 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 East & West CWPP Steering Committee reconvened in the fall of 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.

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 in the Steering Committee. The Steering Committee also included members of local rangeland fire protection agencies, local businesses, homeowner/neighborhood associations, and other organizations and individuals. The Steering Committee encouraged a collaborative environment for the stakeholders to accomplish the 2018 revision of the East & West

CWPP. Collaboration and coordination between agencies, community members, and landowners is the fundamental goal of the Cohesive Strategy.

Step four: Establish a community base map.

The Steering Committee reviewed the previous maps and boundaries from the 2018 CWPP and approved the 2025 CWPP boundary. This created an accurate depiction of the WUI present in the populated areas within the planning boundary.

Step five: Develop a community risk assessment.

The Steering Committee relied on the Oregon Wildfire Risk Explorer tool, 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 items in the action plan for each rating area. The Steering Committee also made recommendations to reduce structural vulnerability 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 and the evaluation process for the CWPP itself.

Step eight: Finalize the Community Wildfire Protection Plan.

A draft of the East & West CWPP was available for public comment prior to the final signing and approval of the plan. The East & West Community Wildfire Protection Plan was mutually approved and signed by local stakeholders, Alfalfa Fire District, Oregon Department of Forestry, and the Deschutes County Board of Commissioners as demonstrated in the Declaration of Agreement.

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 land.

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 authorities 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 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 East and West CWPP Steering Committee shall include representatives from Brothers/Hampton Rangeland Fire Protection Association, representatives from the Oregon Department of Forestry (ODF), representatives from Bureau of Land Management (BLM), representatives from the US Forest Service, Deschutes County, and the Program Director from Project Wildfire, along with members of the public.

For planning in the western and southern regions of the county, these same representatives collaborated with special use permittees who lease federal lands for recreational and resort use to develop priorities and recommendations for these regions of Deschutes County.

According to Recreation Information Management data from Deschutes National Forest, the recreational areas included in this CWPP planning area are occupied by as many as 40,000 people from June 1st through September 15th of each year.

The East & West CWPP addresses three project areas: Cascade Lakes/Forest Service Recreational Sites, Alfalfa, and Brothers/Hampton/Millican.

The western portion of Deschutes County and the southern region around Paulina Lake and East Lake were historically 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.

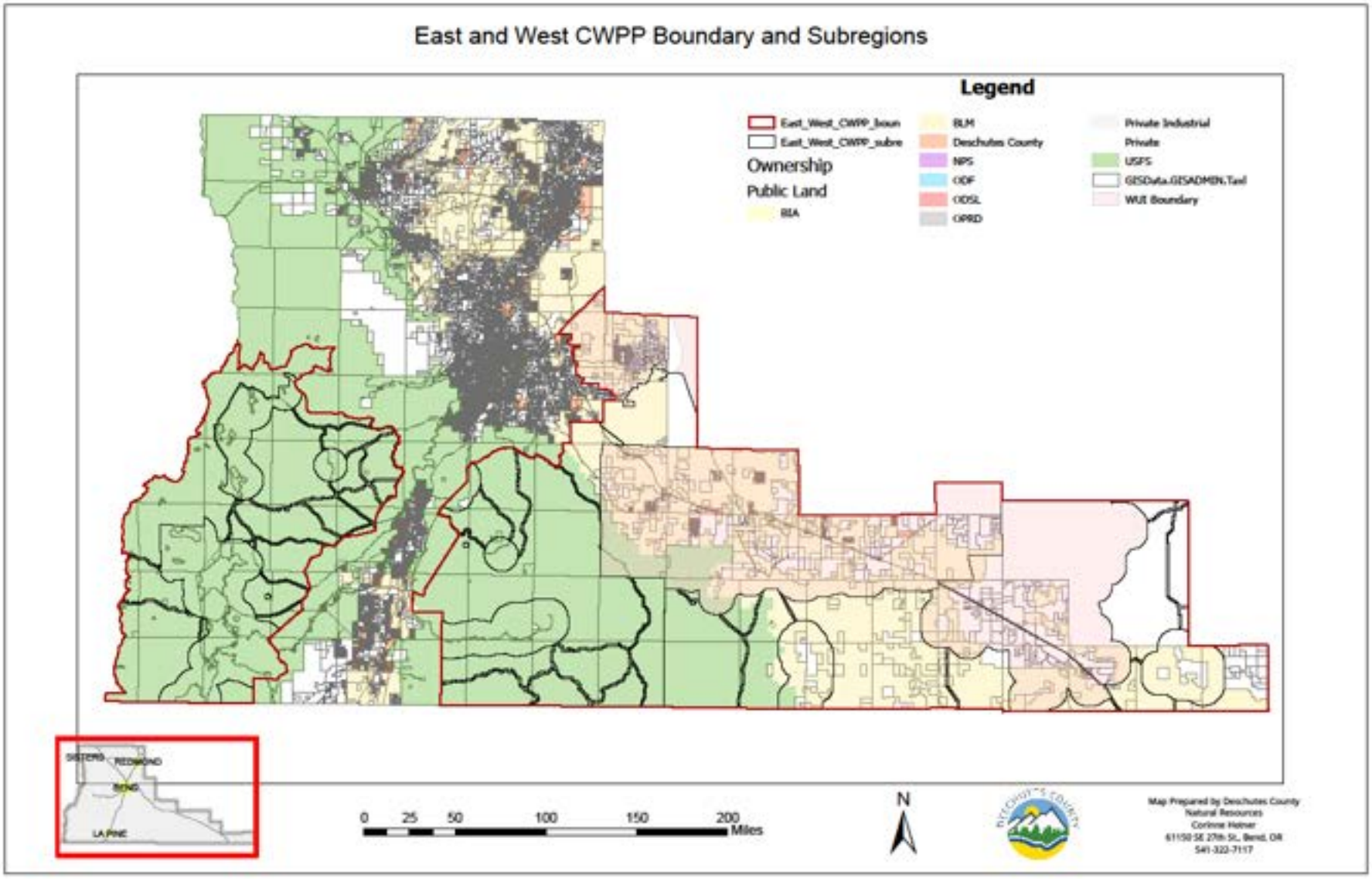
Today, with less stand management, logging activity and highly effective wildland fire suppression, the forestland is predominantly dense lodgepole pine with some mixed stands of lodgepole and ponderosa pine. Much of the understory consists of dense bitterbrush and manzanita with some areas of native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

In the Alfalfa area, the historical vegetation included ponderosa pine, scarce western juniper and sagebrush. Today, the mix is predominantly western juniper and sage than 100 years ago, with sporadic ponderosa pine. With larger private acreages, the Alfalfa area is also plentiful in large tracts of agricultural/farming lands.

Historically, the Brothers/Hampton/Millican area included a mix of sagebrush, scarce western juniper and some ponderosa pine. This vegetation type was maintained by frequent low to moderate intensity fires. Today the area is characterized by widespread stands of western juniper, western sage, and non-native grasses, predominantly cheat grass. This area is also abundant with large private agricultural lands.

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 (8”-12”) 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, five miles to the west of Alfalfa. US Highway 20 intersects Alfalfa and Brothers, running east and west in the middle of town. 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. The transportation corridors and evacuation routes will not be considered their own rating area in this plan. However, specific action items for the transportation corridors are included in the action plan.


East and West CWPP Boundary and Subregions
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SISTERS
REDMOND
BEND
LA PINE
0 25 50 100 150 200
Miles
N
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Public and Private Accomplishments

As part of the ongoing wildland fire risk management of the surrounding public and private forestlands, the US Forest Service, the Bureau of Land Management, Oregon Department of Forestry, and private landowners are engaged in hazardous fuels treatment projects across the county in or near these areas.

US Forest Service & Bureau of Land Management

Currently, 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 in WUI areas that stretch across this planning area to reduce hazardous fuels and the likelihood of high intensity wildfire.

It is important to note that each project area requires multiple types of fuels reduction activities to achieve the desired result including mechanical shrub mowing, tree thinning, hand piling, and under burning. Therefore, multiple entries are required to adequately restore forest ecosystem health and reduce hazardous fuels. The goal for these projects is 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 in Planning Phase

Twin – The Twin project area surrounds Crane Prairie and Wickiup reservoirs. Planned work includes fuels reduction around Twin Lakes Resort, Crane Prairie Resort and the numerous recreation sites surrounding the reservoirs. Nearly 22,000 acres of fuels reduction and forest restoration work are expected with this project.

Crate- Located 14 miles southeast of La Pine. Vegetation management work to improve resilience to wildfire in planning phase that will encompass approximately 24,000 acres.

New Implementation Projects

42 Road GNA- The newest project in implementation phase within west/east CWPP. Located west of La Pine State Park near Fall River Fish Hatchery extending west to Wake Butte. Approximately 3,000 acres of vegetation management activities are planned to reduce fuel loadings and improve forest resilience in the wildland urban interface. Implementation was slated to begin in 2025.

Cabin- Located 2 miles southeast of Bend, the Cabin Butte project includes vegetation management activities on 24,964 acres. Overstory treatments will take place on roughly 19,500 acres, understory treatments on 16,800 acres, prescribed burning on 15,600 acres, and mastication on 18,300 acres. Implementation began in 2024 and is ongoing.

Klone – Located east of Highway 97 and Sunriver, the Klone project includes vegetation management activities on 20,523 acres. Overstory treatments will take place on approximately 9,262 acres, 16,733 acres of understory treatments, and 24,722 acres of fuels treatments (some of these acres overlap). Implementation began in 2024 and is ongoing.

Ongoing Projects

Surveyors- 18,000 acres of thinning, mowing and under burning 13 miles east of La Pine. Work started in 2024 and is expected to continue through 2026.

Ursus- 3,600 acres of thinning and mastication work under the Baloo timber sale located approximately 8 miles west of Bend in the Bear Wallow area**.** Thinning and piling work is ongoing and is expected to continue through 2025.

Flat – 13,500 acres of thinning, mowing and under burning two miles east of La Pine. Implementation began in 2018 and is ongoing.

Junction – Project area is west Sunriver and the begins at the 40/45 road junction and includes approximately 13,000 acres of vegetation treatments along Forest Service Road 45, the primary transportation route from the Sunriver area to Mt. Bachelor and Forest Service Road 40, which is a primary access route from the Sunriver area to Cascade Lakes Highway. Implementation on this project started in 2017 and is expected to continue through 2026.

Kew – Located west of Sunriver and adjacent to FS Road 41 and the Cascade Lakes Scenic Byway. Project includes approximately 6,500 acres of commercial harvest and fuels reduction for the purpose of restoring historic stand structure and reducing fire hazards. Project is in predominantly mixed conifer stand types. Implementation began in 2020 and is ongoing.

Lex - Project area is on the south side of Cascade Lakes Highway, 10 miles southwest of Bend, surrounding the Wanoga and Kapka snow parks. Project will treat roughly 6,500 acres of lodgepole and mixed conifer forests to restore historic species composition and structure and reduce fuels. Implementation began in 2019 and is ongoing.

Rocket – 9,000 acres of fuels reduction surrounding Highway 97, Lava River Cave and Lava Butte. Project is primarily in second growth ponderosa pine forest. Thinning and mastication work is ongoing, prescribed burning began in 2022 and is ongoing.

Deadlog – Approximately 11,000 acres in size, this ponderosa pine restoration project area surrounds Quartz Mountain on the far eastern side of the Bend-Ft. Rock Ranger District. The thinning and mowing are complete with only under burning remaining. Under burning is expected to continue in this area through 2026.

Flank – This project is approximately 20 miles southeast of the city of Bend on the northeast flank of Newberry Caldera. Consists of roughly 5,600 acres of treatments with the objectives of improving forest resiliency and reducing fuels. All the thinning and mowing work has been completed, only under burning remains. The under burning began in 2023 and will likely continue through 2026.

Opine – The Opine project area surrounds Camp 2 on the east side of the Bend-Ft. Rock Ranger District. Implementation on the Opine project began in 2009 and all the mechanical hazardous fuels reduction work has been completed. Several thousand acres of prescribed under burning in the Pine Mountain and Camp 2 areas remain.

Oregon Department of Forestry

The Oregon Department of Forestry collaborates with private landowners to reduce wildfire risk and create fire-resilient landscapes within the CWPP Boundary. ODF has leveraged Community Assistance Grants, Wildland-Urban Interface Grants, and Community Wildfire Defense Grants to assist landowners with residential defensible space and hazardous fuels reduction projects. These funding opportunities have been instrumental in supporting projects that align with local and regional wildfire risk mitigation priorities.

ODF also provides critical support to the U.S. Forest Service (USFS) in implementing prescribed fire near the wildland-urban interface (WUI). This collaboration focuses on mitigating wildfire risk in high-priority areas while improving forest health. Furthermore, ODF actively participates in the Central Oregon Prescribed Fire Training Exchange (TREX), which enhances local capacity to conduct prescribed burns safely and effectively on both public and private lands.

ODF Stewardship Foresters provide ongoing technical assistance related to forest health, fire mitigation, and fire prevention. In collaboration with the Natural Resources Conservation Service (NRCS), ODF helps implement initiatives such as the Joint Chiefs' Environmental Quality Incentives Program to restore forestlands to a healthy and resilient state within the East-West CWPP area.

ODF fire and forestry program staff further contribute to wildfire preparedness by educating communities about defensible space practice, participating in the Central Oregon Fire Prevention Cooperative, and assisting with the development and administration of Firewise communities throughout the CWPP area.

Deschutes County

In 2004, Deschutes County hired a County Forester to work collaboratively with adjacent land managers and stakeholders including private citizens, the U.S. Forest Service, the Bureau of Land Management, the 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 the Oregon Department of Forestry to classify all lands within the County under the Oregon Forestland-Urban Interface Fire Protection Act.

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.

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.

Firewise Communities USA

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 Deschutes County have effectively lowered their wildfire risk. Partnerships have fostered collaboration between neighbors, increased awareness, and their communities' ability to respond to wildfires.

Fire Adapted Communities (FAC)

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 on 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.

Collaborative Forests Landscape Restoration Act – 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 the next ten years. The Steering Committee and several task-oriented sub-committees now provide input and recommendations to the Deschutes National Forest for projects located on the 257,000-acre landscape.

The entire project spans the west side of the Greater Bend WUI, the western portion of the East & West Deschutes County CWPP boundary and is also included in the Sisters CWPP boundary to the north and the Sunriver CWPP boundary to the south. An amendment to the original boundary was approved in 2012 to include additional landscape acreage near Sunriver and Black Butte Ranch. Now portions of the $10 million award can be expanded across a broader area. In 2019, the DCFP put together an extension proposal to continue work to accomplish the goals outlined in the original proposal. Due to the robust success of the collaborative efforts during the preceding years, the extension application was accepted in 2020 extending the group's participation in the Collaborative Forest Landscape Restoration Program through September 2026.

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-adapted communities along much of the west side of the county.

Beginning in 2010, the DCFP collaborated deeply with the Deschutes National Forest on several highly visible, potentially contentious vegetation management projects in the WUI resulting in the projects that were not met with any litigation. Projects such as

SAFR, West Bend, Rocket, and Drink demonstrated the effectiveness of collaborative natural resource planning efforts. In addition to the project planning engagement and to scale the effectiveness of the DCFP, efforts were made to produce Zones of Agreement on the major Plant Association Groups (PAG) that dominate the Deschutes National Forest. These Zones of Agreement have allowed the DNF to incorporate DCFP values and recommendations into projects without the extensive and time-consuming process that some of the project-based collaboratives require. Over the years, the DCFP achieved consensus recommendations for treatments in Ponderosa Pine, Lodgepole, Dry and Moist Mixed Conifer dominant areas as well as for the treatment of Dwarf Mistletoe and Core Habitat. The success that has been achieved by the DCFP/DNF partnership has garnered national attention and contributed to the selection of the West Bend project area as one of only three locations nationwide to host a prescribed fire pilot project in 2024.

The Deschutes Collaborative Forest Project now has a website in place – www.deschutescollaborativeforest.org – along with a social media presence on Facebook and Instagram to continue the stakeholder dialogue and educational outreach for this important landscape.

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 occur 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 that 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.

Private Landowner Accomplishments

Since the implementation of the original East & West CWPP, the communities of Brothers, Hampton, Alfalfa, and Elk Lake have made tremendous strides in reducing the potential for catastrophic losses on private lands. Working with Deschutes County and Project Wildfire, they have participated in fuels reduction projects, Fire Free and Sweat Equity programs annually. Since the 2012 revision of this plan, Alfalfa has formed a fire district to provide life safety services to their community.

This CWPP addresses three project areas, which are profiled below:

- Alfalfa
- Brothers/Hampton/Millican
- Cascade Lakes/Forest Service Recreational Sites

Wildland Urban Interface Description

Generally, wildland-urban interface (WUI) can be defined as any developed area 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 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 in or adjacent to federal land.
- Has conditions conducive to large-scale wildland fire; and
- Faces a significant threat to human life or property as a result of a wildland fire.

Alfalfa

The Alfalfa region of Deschutes County encompasses 77,222 acres and includes the unincorporated community of Alfalfa. The residential area of Alfalfa is predominantly agricultural, used for grazing and farming.

Approximately 80% or 61,778 acres of the land in the Alfalfa planning area are publicly owned and federally managed by Central Oregon Fire Management Service, the combined managing organization of the Bureau of Land Management and US Forest Service.

The Alfalfa planning area is bordered on the eastern and northern sides by Crook County. The southern edge of the Alfalfa planning boundary meets State Highway 20 and Crook County. The western edge borders the Greater Bend CWPP boundary.

Located southeast of the Alfalfa planning area is the Badlands Wilderness Area. Approximately 30,000 acres of public land is reserved here as a wilderness area. The Badlands was created as a wilderness study area by a BLM resource area land management plan in 1981 and the Badlands Wilderness was designated by Congress in 2009. Current management activities restrict all motorized vehicles and consequently no mechanical treatment of fuels.

The Bureau of Land Management is currently working on a Fire Management Plan for the Badlands, which will allow a full range of management strategies including the monitoring of wildland fire.

Because Alfalfa WUI does not include any portion of the Badlands Wilderness Area, there will be no effect on fuels treatments within those zones.

Wildland Urban Interface Description – Alfalfa

For assessment and prioritization purposes, the Steering Committee confirmed the following WUI area, or Community at Risk, within the Alfalfa planning area:

Alfalfa – 48,587 acres with 403 structures. Resident population 1140.

Alfalfa Fire District

Alfalfa Fire District is the community's sole fire department. Alfalfa Fire District provides first-response structural, EMS, and wildland coverage within its 65-square-mile service district. The district also employs two FT Staff. Volunteers provide the remaining coverage for the first response. EMS transport is covered by Bend Fire who holds the district's ASA.

Alfalfa Fire District utilizes a fleet of firefighting and EMS apparatus including 1 structural engine, one 105' aerial used for structural response, and carries our rescue tools, 3 off-road brush engines, 2 water tenders, and two EMS response vehicles.

The district is a party to the Central Oregon Mutual Aid Agreement. In the event of a major fire, the district may request assistance from all other fire departments that are signatories to the agreement. In addition to Central Oregon Fire Departments, this includes the US Forest Service, Oregon Department of Forestry, and the Bureau of Land Management. Conversely, when these agencies need assistance and the district has resources available, it assists them. Alfalfa Fire District is also a party to an Automatic Aid Agreement with Bend Fire, the US Forest Service, and the Oregon Department of Forestry. Through a streamlined Computer Aided Dispatch (CAD) center, Alfalfa Fire District responds automatically to certain calls in areas up to 10 miles beyond the fire district.

Brothers/Hampton/Millican

The Brothers/Hampton/Millican planning area encompasses 685,381 acres (1,070 square miles). This planning area is predominantly rangeland and agricultural with grazing and farming the principal land use with scattered structures throughout.

The Bureau of Land Management manages 548,248 acres of land in the Brothers/Hampton/Millican planning area while the Oregon Department of State Lands manages 31,227 acres. The balance of land 94,869 acres is privately owned.

The Lake County line borders the southern edge of the Brothers/Hampton/Millican planning boundary and the west side meets the Alfalfa planning area. The Deschutes/Crook County line borders the area to the east and north with a small portion of Harney County meeting the boundary on the east side.

Wildland Urban Interface Description- Brothers/Hampton/Millican

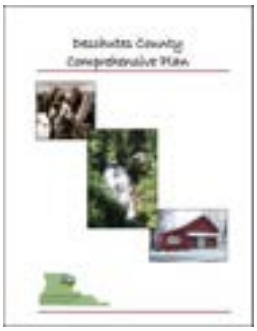
For assessment and prioritization purposes, the Steering Committee confirmed the following WUI area, or Community at Risk, within the planning area:

Brothers/Hampton/Millican

Brothers Hampton Rangeland Fire Protection Association and Post Paulina Rangeland Fire Protection Association provide wildland fire protection on private lands within the Brothers/Hampton/Millican planning area. These volunteer staff, Brothers Hampton and Post Paulina Rangeland Fire Protection Associations provide the first response to wildland coverage within their service districts. Brothers Hampton Rangeland Fire Protection Association utilizes a fleet of firefighting apparatus including 4 off-road brush engines, 2 water tenders, and a dozer. Post Paulina Rangeland Fire Protection Association utilizes a fleet of firefighting apparatus including 4 off-road brush engines, 2 water tenders, and a dozer.

Brothers/Hampton/Millican – 401,656 acres with 72 structures. Resident population 112.

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 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.

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 throughout Deschutes County.
- 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.

Deschutes Soil and Water Conservation District

Deschutes Soil and Water Conservation District (DSWCD) has been supporting the 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

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 East-West CWPP boundary. The East-West CWPP area has been a priority area for treatments due to high fuel loads and wildfire risk.

Central Oregon Wildfire Workforce Partnership

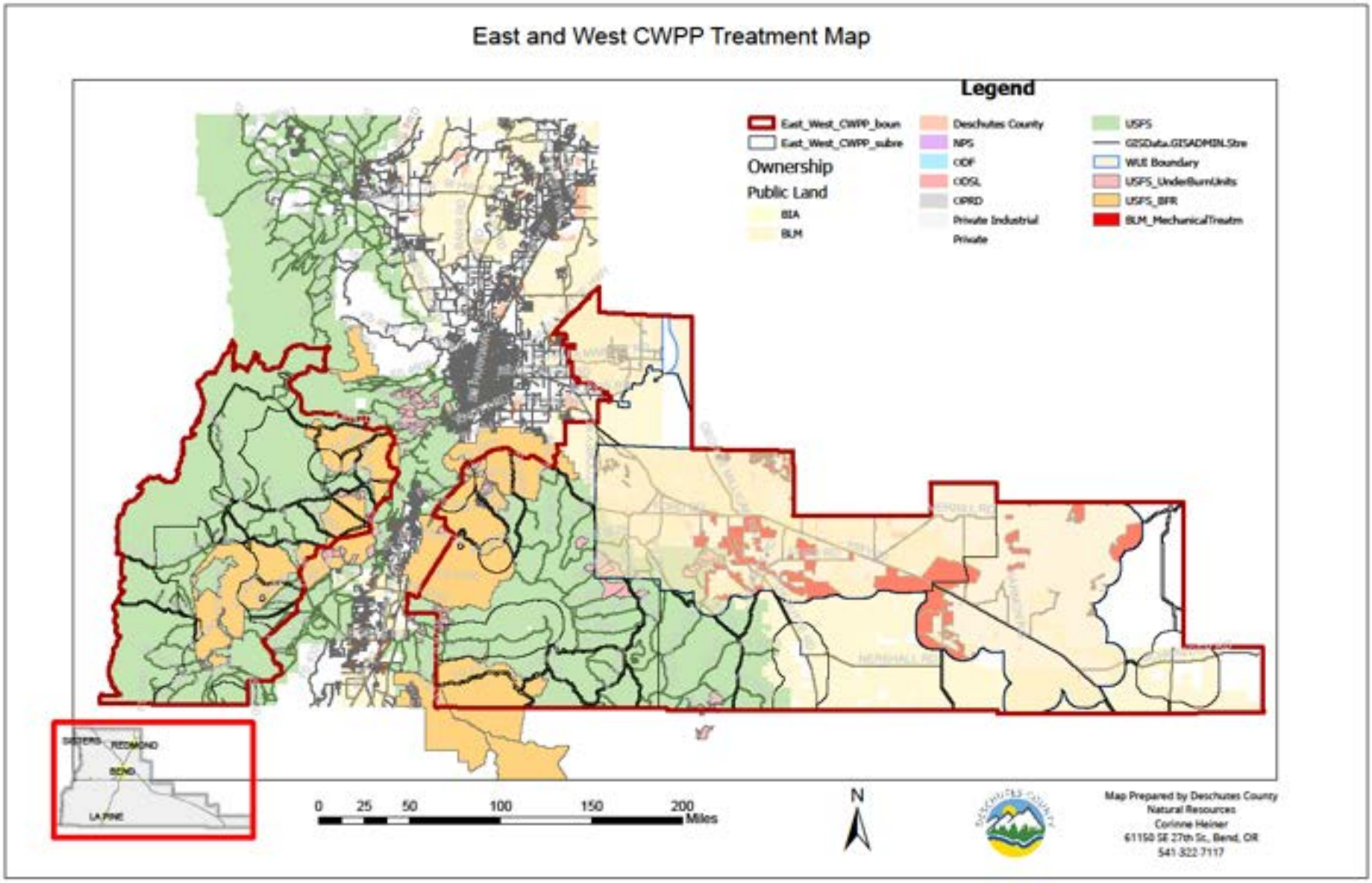
The Central Oregon Intergovernmental Council and the Heart of Oregon Corps partnered in 2022 to form the Central Oregon Wildfire Workforce Partnership, or COWWP, under the Oregon Conservation Corps funding opportunity. Continued support has come from the Oregon Department of Forestry Small Forestland 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 training courses 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/


East and West CWPP Treatment Map
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Ownership
Public Land
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USFS_UnderBurnUnits
USFS_BFR
BLM_MechanicalTreatm
SISTERS
REDMOND
BEND
LA PINE
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Map Prepared by Deschutes County
Natural Resources
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541 322 7117

Fuel Hazards and Ecotypes – Alfalfa & Brothers/Hampton/Millican

Throughout the above planning areas, western juniper, western sage, bitterbrush, and areas of cheat grass are the predominant forest fuels along with a mosaic of agricultural and farmlands.

During its first few decades, **western juniper**s are extremely susceptible to wildfire and spend most of their resources putting down major root systems instead of developing thick bark or other fire-resistant characteristics. Prior to settlement of the western United States, juniper was frequently killed by wildfires that moved through the landscape approximately every 30 years. As a result, it grew almost exclusively in rocky areas and outcrops where fire could not burn it. Over the past century, western junipers have established themselves outside the rocky outcrops and into much of central Oregon. Specifically, the increase in its range is attributed to more effective fire suppression which has allowed stands to grow unchecked by fire and past grazing practices of domestic livestock which has decreased the amount of ground vegetation needed to carry a fire.

Western sage and a variety of sagebrush species are also found throughout the planning areas. Like western juniper, sagebrush is highly susceptible to fire and rarely re-sprouts. Under historic conditions, sagebrush took approximately 20 years to reach pre-burn densities following a wildfire event. Without periodic fire, sagebrush reaches an uncharacteristic old-growth form with increased height, woody stems, and thick accumulations of leaves – all highly flammable. Changes in fire occurrence along with fire suppression and livestock grazing have contributed to the current condition of sagebrush in the planning area. Introduction of annuals, especially cheat grass, has increased fuel loads so that fire carries easily, increasing the potential for significant and dangerous fire behavior.

Bitterbrush occurs throughout the planning areas on all aspects and elevations and is frequently found with sagebrush and western juniper. 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 mature relatively quickly. Consequently, both wildland urban interface areas are rich with patches of bitterbrush that burn well on their own and provide fire-ready ladder fuels for taller tree stands.

Ladder fuels: Bitterbrush, manzanita, sagebrush and other flammable vegetation that can provide a direct path or "ladder" for fire to travel to trees or structures.

Native Bunchgrass occurs throughout the planning areas on all aspects and elevations and is frequently found with all over story species in the landscape. Most bunchgrasses in our region are cool-season grasses; they accomplish most of their growth during cooler, moister weather before the summer drought. Fire has historically been an important natural disturbance process in bunchgrass communities and remains so today.

Noxious weeds and cheat grass are found across the planning area and present yearly challenges for residents, agricultural users and fire suppression agencies. Cheat grass and other noxious weeds typically occur where the ground has been disturbed by creating 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 forests vegetation types. It cures early in the fire season and ignites during dry periods because of its very fine structure that responds readily to changes in the atmospheric moisture, tendency to accumulate litter and 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 on grounds that have been disturbed by activities such as recreation or building. There are many areas within this 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 these WUIs and outlying areas is overstocked juniper fuel beds with an abundance of sage and ground fuels that contribute to a substantially elevated risk of wildland fires that are difficult to control. These 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.

Cascade Lakes & Forest Service Recreational Sites

This planning area encompasses 87,288 acres (136 square miles) of heavily forested ponderosa, mixed conifer and lodgepole pine. The forest floor is thick with bitterbrush, rabbitbrush, downed wood and other native and non-native species.

The western region of Deschutes County presents a unique challenge for the wildfire planning process. The Forest Service manages 651,704 acres or 88% of the land in this area and allows for long-term leases by special use permittees at recreation sites. These include Crane Prairie Resort, Cultus Lake Resort, Elk Lake Resort, Twin Lakes Resort, Paulina and East Lakes, the Newberry National Volcanic Monument Lava Caves, Lava Forest, Sugar Pine Butte, and numerous other developed and dispersed recreation sites including trailheads to the wilderness areas in the Cascade Mountains.

These resorts and recreation sites are nationally recognized for outstanding camping, fishing and recreational opportunities. This area serves a transient population that numbers in the tens of thousands on any given weekend during the summer months,

during the height of fire season. In the event of a wildfire, this area presents tremendous challenges for fire suppression, evacuation and life safety.

The eastern edge of the West planning boundary meets the west side of the Bend CWPP, Sunriver, Upper Deschutes River Coalition and Greater La Pine CWPP boundaries and the northern portion of the planning area is bordered by the Greater Sisters Country CWPP boundary. The western edge of the planning area is the Deschutes/Linn and Deschutes/Lane County lines while the Deschutes/Klamath County line flanks the southern portion.

Unlike other CWPPs in Deschutes County, the standard 1½-mile boundary around the WUI areas, or Communities at Risk, does not meet the planning area boundary. For planning and assessment purposes under this CWPP, "outlying areas" refers to the lands outside the WUI boundaries described below.

Wildland Urban Interface Description – Cascade Lakes & Forest Service Recreational Sites

For assessment and prioritization purposes, the Steering Committees confirmed the following WUI area, or Community at Risk, within the planning area:

> **Cascade Lakes & Recreational Sites –** 87,288 acres with recreational structures. Permanent resident population 0.

The outlying areas that surround the WUI boundaries in the planning area include 650,710 acres with no structures and no population. These acres are not included in the assessments. There are over 1,000 individual developed campsites in the outlying areas that are also not included in the assessment.

Fuel Hazards and Ecotypes – Cascade Lakes & Forest Service Recreational Sites

The majority of the vegetation in this WUI and outlying areas includes:

- Ponderosa pine
- Lodgepole pine
- Mixed conifer
- Bitterbrush
- Riparian areas

Ponderosa pine is currently found throughout the West 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. Like other species of conifer forest types, the suppression of fire has greatly increased the stocking levels and density of trees, created ladder fuels and put 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.

Mixed conifer forests include mixed stands of ponderosa pine, Douglas-fir, grand fir, western larch, lodgepole pine, white fir and subalpine fir. Generally, these forests are adjacent to ponderosa pine stands at lower elevations and mountain hemlock or subalpine fir forests at the upper limits. Because mixed conifer forests span such a wide range of environments, they are divided into two types: warm and dry, and cool and moist. The warm, dry mixed conifer type is found at lower elevations, down to 800 feet in some cases. As elevation increases, conditions become favorable for the cool and moist mixed conifer types. While elevation is a major factor in how these forest types are distributed, other factors such as soils, aspect, topographical features, and climate patterns also play a role.

Historically, mixed conifer stands experienced both low intensity and stand replacement fires at 35 – 100-year intervals.

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 mature relatively quickly. Consequently, the West 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 eight bodies of water within the WUI areas in this planning region, 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.

The result of the fuel hazards and forest types in the Cascade Lakes & Forest Service Recreational Sites WUI and outlying areas 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.

USDA Forest Service and USDI Bureau of Land Management

"The Forest Service and BLM provide wildland fire protection on the federal lands within Central Oregon and the lower Columbia Basin of Oregon. Together with the Forest Service, 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 combined leadership, with two Fire Chiefs, five Deputy Fire Management Officers, and an executive Board including decision makers from both forests and BLM District. COFMS has a central dispatching facility in partnership with the Oregon Department of Forestry that employees 14 year-round employees and serves as a Coordination Center for fire and fuels operations, as well as safety and training issues for COFMS.

In total, COFMS provides the following resources: 29 engines, 5 initial attack hand crews, 7 prevention personnel, two dozers, 1 water tender, one Type 3 helicopter (call when needed), 35 smoke jumpers, two interagency Hotshot Crews (Redmond & Prineville), one Type 1 helicopter with 20 rappelers, one Type 1 helicopter.

Law Enforcement

The Deschutes County Sheriff's Office (DCSO), and the Oregon State Police (OSP) provide law enforcement services for the East and West area. Both organizations have the authority and responsibility to conduct evacuations in the event of a major emergency. 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. Using Deschutes Alerts, emergency services 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 land line and cell phone user data. Every county in Oregon utilizes a similar platform for alert and warning. 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.

Areas of special concern

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 the 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 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.

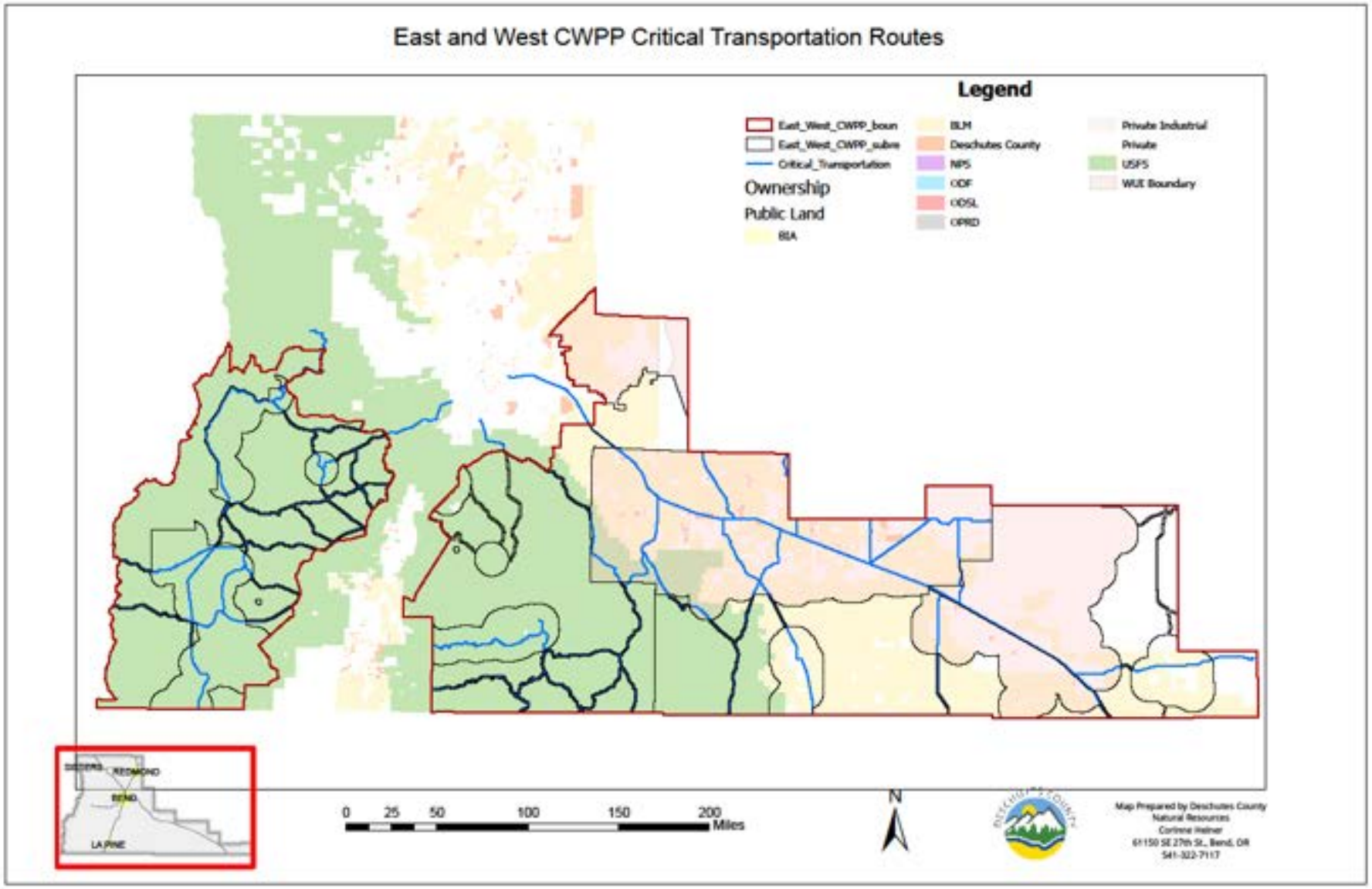
The steering committee is included in a review of critical transportation routes, which include three tiers:

- Tier 1 – Primary Routes - Major arterial roadways
- Tier 2 – Secondary Routes - Collector roadways
- Tier 3 – Emergency Routes – may be gated, open at the direction of emergency services

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 things 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). To sign up, visit Deschutesalerts.org to sign up for emergency alerts or to update your profile.

Local law enforcement officials follow a standard set of 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.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Map Prepared by Deschutes County
Natural Resources
Corinne Hellner
61150 SE 27th St., Bend, OR
541-322-7117

Resident Evacuation Preparation

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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 people 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 the Action Plan and Implementation.

Preferred treatments and goals for hazardous fuels reduction

The standard of the East & West Deschutes County CWPP is to decrease the risk of uncharacteristic wildland fire behavior by reducing fuel loads to that which can produce flame lengths of less than four feet. This enables a safe and effective initial attack.

In general, the goal is to return the public lands to a resilient condition, resembling the forests of the past, and provide for a healthy, fire-resilient landscape that supports the social, economic, and ecological values of Central Oregon area residents and visitors. In mixed conifer and lodgepole stands, however, historical conditions still present a highly volatile and fire-prone landscape. In these stands, the goal is also to reduce the potential for extreme fire behavior for firefighters and public safety.

The Steering Committees recognize the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal, state, or private projects and recommend 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 WUI in each of the project areas.

Federal and state-owned lands

Federal lands are managed by the US Forest Service and the Bureau of Land Management and occupy 85% of land in the planning area, located in all the project areas.

State-owned lands are 3% of the planning area but include blocks of land in the Alfalfa and Brothers/Hampton/Millican planning areas.

The Steering Committees intend that each of the three project areas 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 enables safe and effective initial attack. 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 and state land managers are strongly encouraged to work toward the overall standard by reducing the potential of extreme fire behavior by reducing fuel loads to that which can produce flame lengths of less than four feet:

- Within a ¼ mile buffer of adjacent WUI areas. Treatments should begin here and increase in ¼ mile increments until the WUI boundary is reached.
- Within 500 feet of any critical transportation route or ingress/egress that could serve as an escape route from adjacent 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 juniper, sage and bitterbrush dominated wildlands, federal land managers are strongly encouraged to utilize mechanical treatments including prescribed fire to reduce fuel loads to that which can produce flame lengths of less than four feet.

The standard can be achieved through a variety of treatment methodologies such as thinning, prescribed burning and mechanical treatments. These treatments shall be consistent with the current Upper Deschutes Resource Management Plan and the Prineville Ranger District Bureau Land Management (PRD-BLM) Management Plan on the federal lands.

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

Private and county-owned lands

Private lands occupy 12% of the three planning areas. This is privately owned land and is considered developed, or in rare cases intermixed with development. The County owns approximately 2,585 acres in this planning area. The Steering Committees recommend that county-owned lands be treated in the same manner as privately owned lands.

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 East and West CWPP as necessary.

Education

Recommendations to Reduce Structural Vulnerability including Ingress/Egress

There are approximately 1,725 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 the 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, and 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 the Oregon Department of Forestry
❑	If burning debris outside Redmond City Limits – call the Burn Line at Redmond Fire and Rescue at 541-322-6335 to see if burning is allowed. Do not burn building materials

Action Plan and Implementation

The East & West Deschutes County 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 all three of these goals maintains residents' commitment to aligning with national goals, which are outlined in the Cohesive Strategy.

The Steering Committees recognize that the East & West Deschutes County CWPP is a living tool with multiple applications. The value of the action plan is to establish measurable activities or actions that will further the goals outlined by the CWPP. The following actions are intended to assist individuals and agencies in the implementation of this CWPP across the planning boundary.

Improving Fire Protection Capabilities

Immediately following the acceptance and signed approval of this plan, the Steering Committee will forward copies of the 2025 East & West Deschutes County 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
- Deschutes County

Since the update in 2012, Alfalfa established a volunteer fire department that is addressing the structural and wildland fire issues in that rating area. The Steering Committee encourages residents to continue working with county and state officials to develop an organized wildland and structural response to those unprotected areas within the CWPP boundary.

The Steering Committee encourages Brother Hampton RFPA & Alfalfa Fire District to join the national Ready Set Go program to leverage small educational grants and free educational materials.

The Steering Committees also encourage residents, special use permits, and Deschutes County to identify and assess the water resources available for fire suppression and protection in the WUI areas. The Steering Committees will make recommendations for projects to improve and ensure adequate water resources.

The Steering Committees intend to engage in continued dialogue with the communities in each project area and adjacent landowners to implement the CWPP and accomplish hazardous fuels reduction projects that address the prioritized WUI areas in the most expeditious manner possible. The Steering Committees recognize the effectiveness and value of maximizing treatment efforts in areas that are adjacent to federal, state, or private projects and recommend that future projects consider these benefits when selecting areas for treatment.

The Steering Committee will work with Deschutes County, and the Oregon Department of Transportation to identify and map existing transportation and evacuation routes in each WUI area. The Steering Committee will assist in conducting further assessments to determine the evacuation needs of each Community at Risk and identify potential projects to develop new routes and/or improve existing routes.

The Steering Committee encourages exploratory discussions with fire agencies and local landowners that address the issue presented when effective evacuation from an area is not available. Are "sheltering in place" and safe staging areas an option?

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.

The Steering Committee will work with local fire and land management agencies, Deschutes County and residents to identify, map, and make recommendations to improve potential water resources that may be utilized to contribute to fire suppression during a wildland fire.

Working Towards a more Fire-Adapted Community

The Steering Committee intends to engage in continued discussions with landowners to facilitate fuels reduction projects on private lands utilizing the list of prioritized WUI areas. These actions can be accomplished through educational activities or grants for specific projects on private lands. Specific action items for each Community at Risk are listed below in Table 5.

The Steering Committee is 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 neighbors to survive a catastrophic wildland fire within the WUI areas. Tables 4 and 5 can be utilized as a resource for homeowners to improve the fire resistance of their homes on an individual basis and by groups to implement education programs in the WUI areas.

The Steering Committee will work with Project Wildfire to review the educational programs available and identify potential projects for implementation in those Communities at Risk that have limited programs or that do not already participate in fire prevention education activities. The Steering Committee will encourage and assist community groups in seeking funding for fuels reduction, education, and other projects to decrease overall risks of loss from wildland fire.

One important piece of a Fire Adapted Community is preparing for the recovery process after a wildland fire occurs. There are many resources for residents who are recovering from a wildland fire that can impact their small businesses and homes. Building community and business resiliency is the key to being fully adapted to fire.

Table 5 –Action Items

Community at Risk	Specific Action Item
Cascade Lakes/Forest Service Recreational Sites	This rating area encompasses a vast amount of land with varying vegetation types. Strategic planning and fuel projects next to critical infrastructure will be the key to success. Ensuring fire readiness and access to evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. Egress projects for fuel treatments and road rights-of-way should be prioritized. The Steering Committee has noted the importance of such projects within this CWPP boundary. Continuing education on evacuation preparedness and completing the evacuation kit project with the Deschutes County Sheriff's Office in 2025 for residents and visitors in case of a large wildfire.
Alfalfa	The presence of juniper & numerous brush species still creates a high potential for rapid spread of ground fire and spotting. Residents should reduce ladder fuels and thin where appropriate to reduce fire behavior. Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. The Steering Committee has agreed there is a need for more support in Fire Wise education and outreach in the Alfalfa community. They also noted that water supply is a critical need and should be identified. Currently, the water supply is limited, and this could hinder wildfire response activities, especially later in the fire season. It is noted that it should be a priority of the Steering Committee to locate water sources and find more available access to water. There are long helicopter transit times and the possibility of developing new dip site locations for firefighting efforts was discussed for this WUI area. Continued mapping and locating water

	sources is necessary for the safety of this community. Continuing education on evacuation preparedness and completing the evacuation kit project with the Deschutes County Sheriff's Office in 2025 for residents and visitors in case of a large wildfire.
Brothers/Hampton/Millican	Residents are encouraged to prepare and locate an evacuation point for any large animals during wildfire events. The presence of juniper & numerous brush species still creates a high potential for rapid spread of ground fire and spotting. Residents should reduce ladder fuels and thin where appropriate to reduce fire behavior. Cheatgrass and other invasives have been identified as an issue along roadsides as these can increase fire risk and treatment options should be considered. Residents should be aware of Deschutes County Noxious Weed Programs by visiting: https://www.deschutes.org/road/page/noxious-weed-program. Ensuring the access & evacuation routes are clear of vegetation will ensure access for emergency personnel during large wildfires and/or other emergency incidents. The Steering Committee has agreed there is a need for more support in Fire Wise education and outreach in the Alfalfa community. They also noted that water supply is a critical need and should be identified. Currently, the water supply is limited, and this could hinder wildfire response activities, especially later in the fire season. It is noted that it should be a priority of the Steering Committee to locate water sources and find more available access to water. There is a long helicopter transit time and the possibility of developing new dip site locations for firefighting efforts was discussed for this WUI area. Continued mapping and locating water sources is necessary for the safety of this community. Continuing education on evacuation preparedness and completing the evacuation

	kit project with the Deschutes County Sheriff's Office in 2025 for residents and visitors in case of a large wildfire.

The Steering Committees will encourage and assist community groups in seeking funding for fuels reduction, education, and other projects to decrease overall risks of loss from wildland fire.

Restoring Resilient Landscapes

This portion of the action plan is especially pertinent to the Cascade Lakes/Forest Service Recreational Sites rating area.

As stated above, immediately following the acceptance and signed approval of this plan, the Steering Committee will forward copies of the 2017 East & West Deschutes County CWPP available to all public land managers and public safety officials. The intention of the Steering Committee is to engage in continued discussions with the local community and adjacent landowners to implement the CWPP and accomplish hazardous fuels reduction projects that address the Communities at Risk in the most expeditious manner possible.

Significant fuels reduction projects continue to improve the overall health and fire resiliency of the landscape. Achieving a resilient healthy landscape, however, requires multiple entries on treatment sites, over a period of years. For example, thinning and mowing may occur over a 12–24-month project period. The prescribed burning component of the project may not occur for another year while the land recovers from the thinning and mowing; the time also produces adequate shrub content and allows for the slash to cure, to support prescribed fire activities.

Therefore, the Steering Committee recognizes that although significant fuels reduction work has been completed the need continues on the landscape as a whole. The Steering Committee supports the ongoing planning and treatment process on public lands, especially an increase in use of prescribed fire. There are multiple prescribed fire techniques that land managers may use to best suit the area they are working within. The goal is to restore low intensity fire or also known as a broadcast burn or under burn, to the local ecosystem, which has been historically dependent on fire for its health.

Treating ground fuels is a critical component of any effort designed to reduce fire threat, and it has added ecological benefits, such as recycling nutrients. Once an area, or unit, has been thinned and the slash has been treated, the site can be broadcast burned. Fire practitioners prepare the area by constructing fire lines and/or use natural breaks such as roads or existing trails for containment lines for the prescribed burn. Where site objectives dictate that standing dead trees and large downed woody material need to be protected, they can be either hand-lined or otherwise excluded from the burn block. Extra protection measures may not be necessary for many fire-tolerant cultural or

archaeological sites: treating these areas with prescribed fire has the advantage of protecting them from emergency suppression activities during a wildfire. Generally, the target flame length is under four feet, although some sites require a "hotter" burn to achieve the resource objectives.

Historically, large-scale broadcast burning has occurred in the spring. As the demands to boost prescribed fire use increase, utilizing as many "burn windows", or days when the weather conditions are favorable, will be a critical piece in achieving restoration goals. This, however, is a more challenging time to use prescribed fire and will depend on the availability and preparedness of appropriate resources and weather.

Burn operations usually begin by mid-morning following the break-up of the nighttime temperature inversion and the establishment of the daytime wind pattern. Completion of ignition should be targeted early enough to ensure adequate smoke dispersal prior to the onset of cooler nighttime temperatures.

Extensive public notification is an essential element of the program. The public can contact the Deschutes National Forest if they have health concerns that are exacerbated by smoke so that they can be notified prior to a prescribed burn. The Deschutes National Forest uses social media; Central Oregon Fire, and www.centraloregonfire.org, to notify residents of prescribed burns on the Forest. Fire personnel also rely on their local partners to notify and educate the local public through educational programs with civic groups, service clubs, homeowner associations, etc.

Once thinning, slash treatment, and first under-burning has been completed, the treated area constitutes an effective fuel break for the next several years. Follow-up thinning and maintenance burns must be scheduled as necessary to ensure the treated areas remain free of the risk of catastrophic wildfire. Adequate access must be assured, not only to conduct needed follow-up treatments but also to permit rapid response of fire suppression forces. For our area, it is not a question of whether wildfire will occur, but when, where, and how much damage will result. Working with residents before the wildfire, not during or after it, is preferred. Experience with wildfires burning in previously treated areas demonstrates the following:

- Improved access for firefighters and apparatus
- Increased efficiency when locating and constructing fire lines
- Easier detection and suppression of spot fires
- Decreased mop-up time and effort
- Reduced fire intensity, torching and mortality
- Improved public safety
- Reduction in loss
- Reduction of air emissions

Another benefit, particularly in interface areas, is reduced trash accumulation through the elimination of hiding cover necessary for transient camps and party spots.

Oregon CWPP Planning Tool Advanced Hazard Report

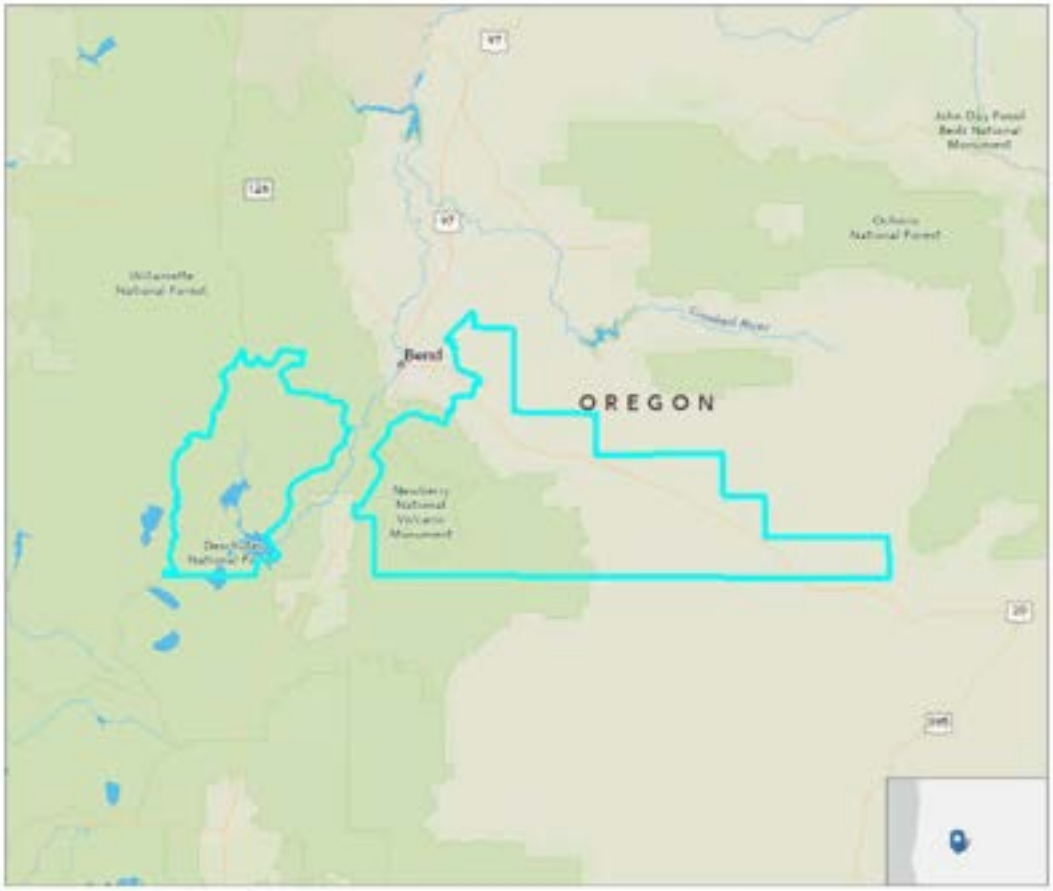
Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

Area: 1,190,481 Acres

Report generated: January 15, 2025 09:21 AM

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



This report from the Oregon CWPP Planning Tool summaries wildfire risk for a selected area of interest. 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.

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Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

REPORT CONTENTS

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

The 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 wildfirerelated 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

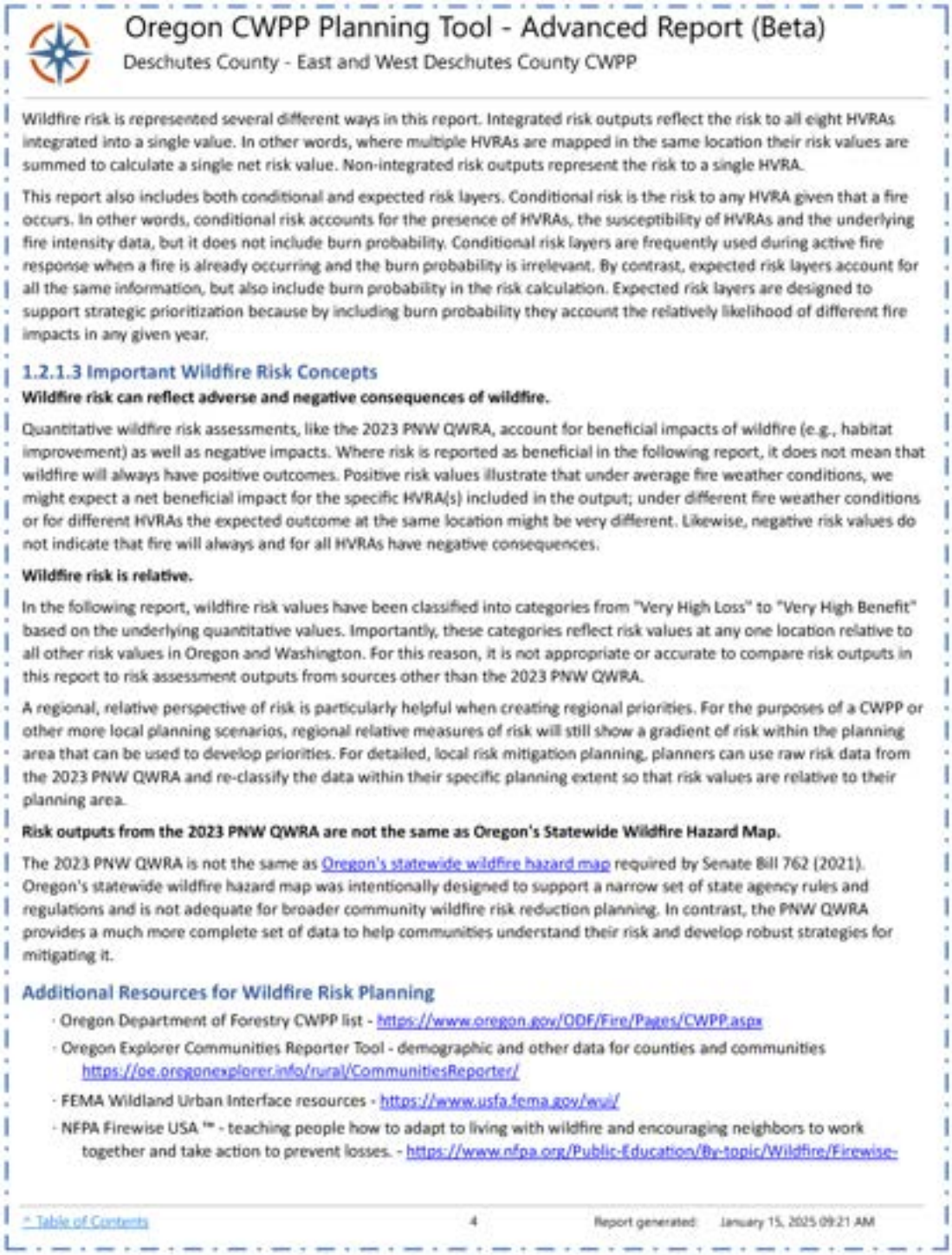
The Advanced Wildfire Risk Report includes maps and descriptions of both burn probability and fire intensity for the userdefined area. Scientists use the term "hazard" to refer to the joint metric of burn probability and fire intensity (Figure 1).

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.



Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

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-

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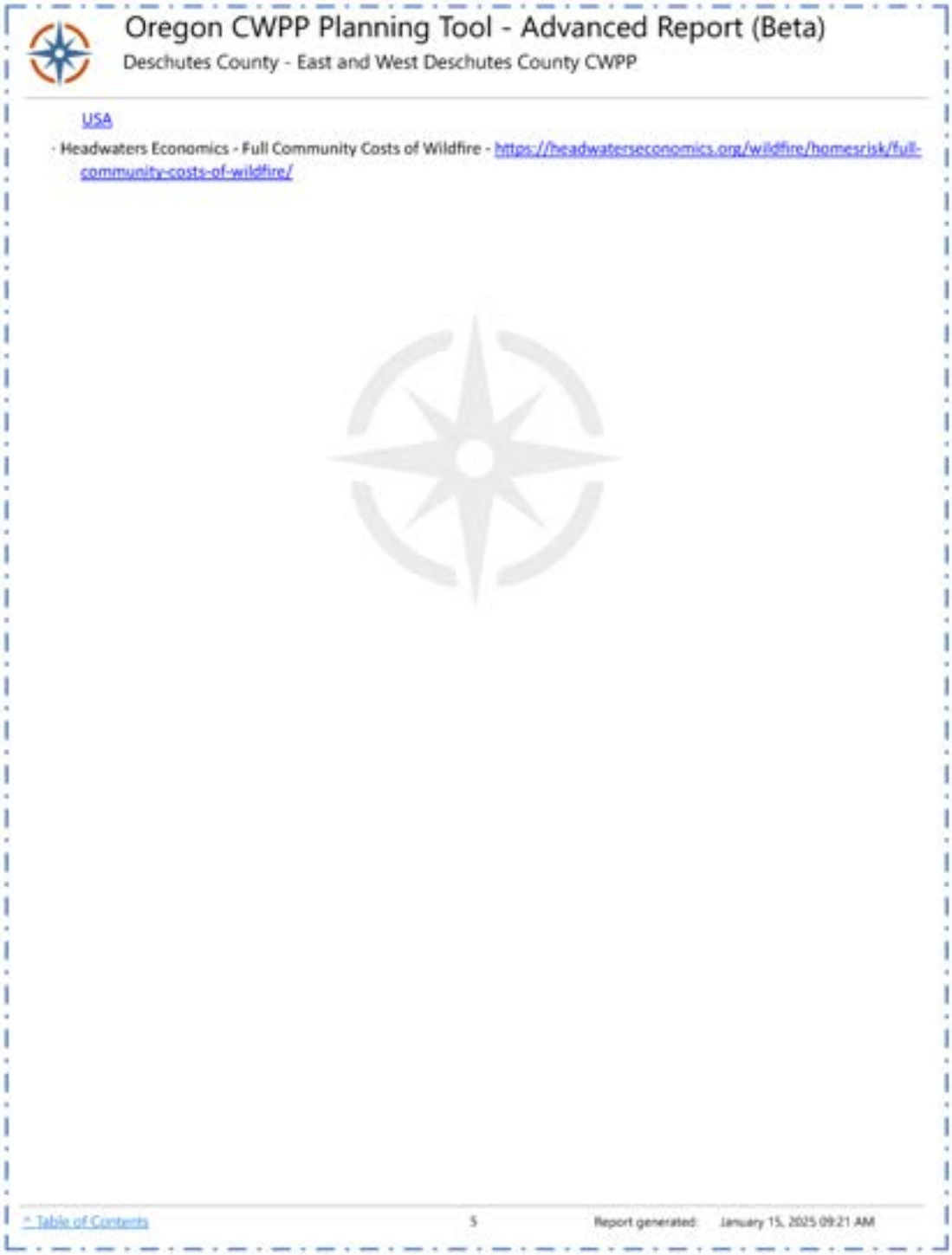
Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
USA
· Headwaters Economics - Full Community Costs of Wildfire - https://headwaterseconomics.org/wildfire/homesrisk/full-community-costs-of-wildfire/
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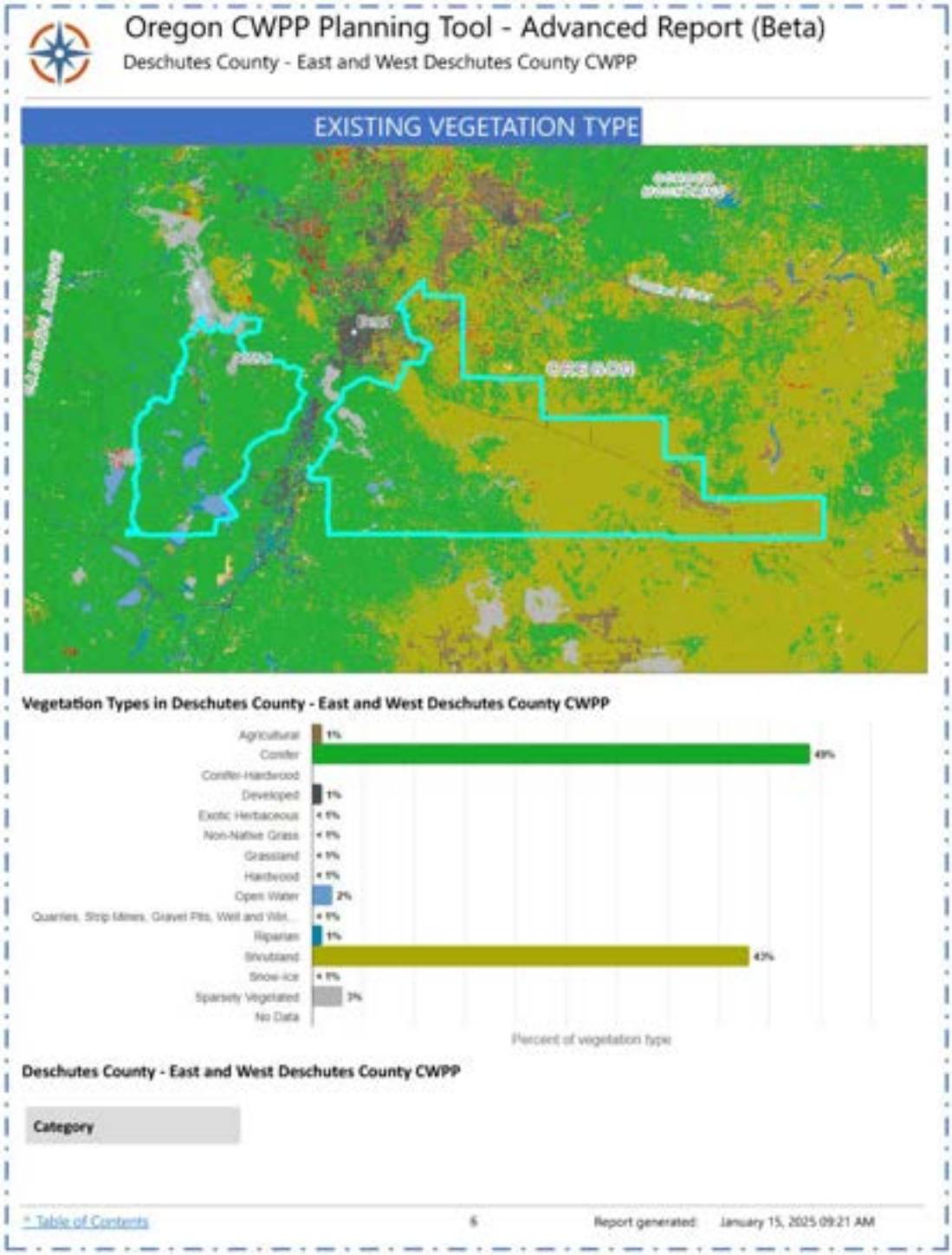
Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
EXISTING VEGETATION TYPE
Vegetation Types in Deschutes County - East and West Deschutes County CWPP
Agricultural 1%
Conifer 49%
Conifer-Hardwood
Developed 1%
Exotic Herbaceous < 1%
Non-Native Grass < 1%
Grassland < 1%
Hardwood < 1%
Open Water 2%
Quarries, Strip Mines, Gravel Pits, Well and Wat... < 1%
Riparian 1%
Shrubland 43%
Snow-Ice < 1%
Sparsely Vegetated 3%
No Data
Percent of vegetation type
Deschutes County - East and West Deschutes County CWPP
Category
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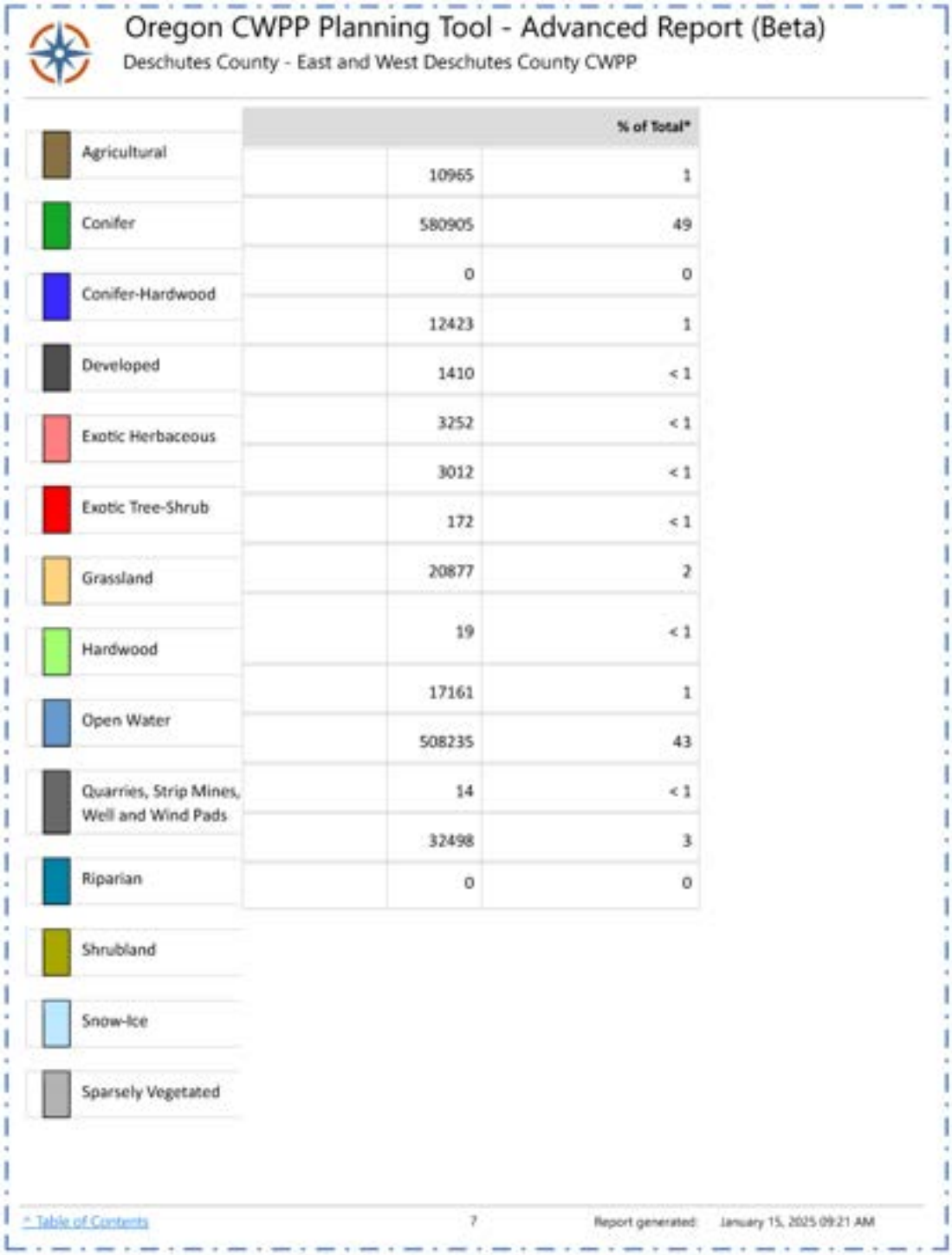


Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

		% of Total*
Agricultural	10965	1
Conifer	580905	49
Conifer-Hardwood	0	0
Developed	12423	1
Exotic Herbaceous	1410	< 1
Exotic Tree-Shrub	3252	< 1
Grassland	3012	< 1
Hardwood	172	< 1
Open Water	20877	2
Quarries, Strip Mines, Well and Wind Pads	19	< 1
Riparian	17161	1
Shrubland	508235	43
Snow-Ice	14	< 1
Sparsely Vegetated	32498	3
	0	0

Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

No Data

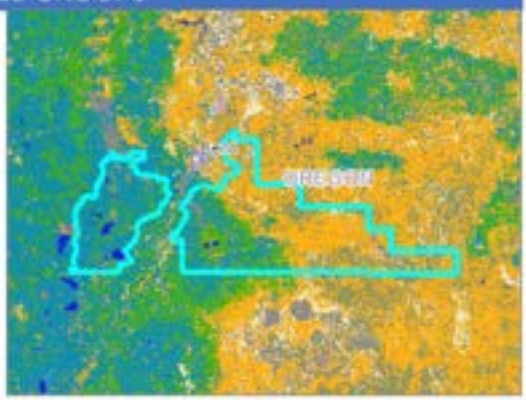
Existing Vegetation Type Data Dictionary https://www.landfire.gov/evt.php
Source: LANDFIRE (2022) https://www.landfire.gov

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*

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

Deschutes County - East and West Deschutes County CWPP Fuel Model Groups (see next page for descriptions of codes)

Category	Description	Acres	%*
Grass	Fuel models 101-104, (GR1; GR2; GR3;	36	3
	Fuel models 121-123, (GS1; GS2; GS3)	003	30
Grass/Sh	Fuel Models 91-93,99, (NB1; NB2; NB3	35 82 63	2
Non-burnable	Fuel Models 98, (NB8)	29 59 2	2

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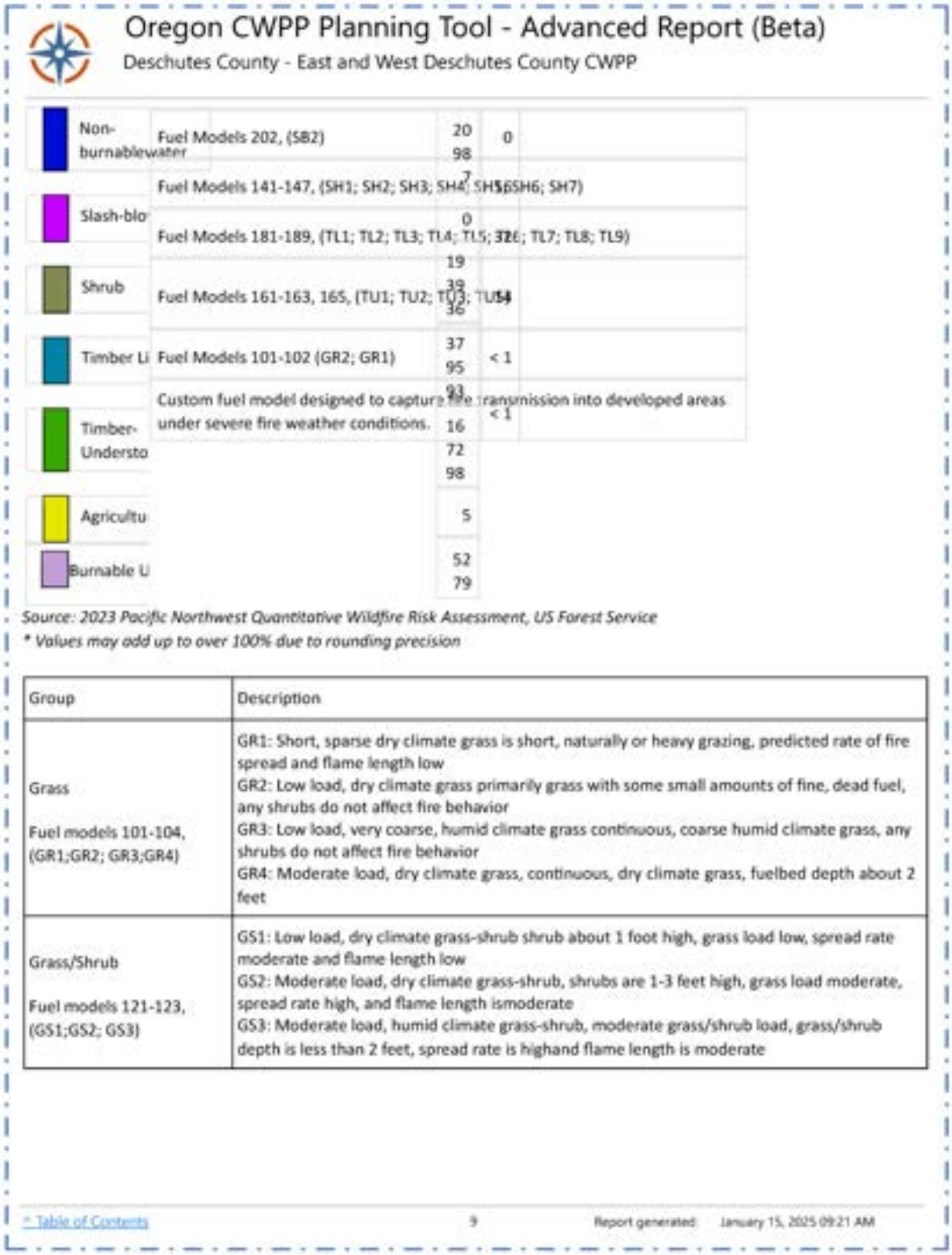

Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

Non-burnable	Fuel Models 202, (SB2)	20 98	0	
Slash-blo	Fuel Models 141-147, (SH1; SH2; SH3; SH4; SH5; SH6; SH7)	7		
Shrub	Fuel Models 181-189, (TL1; TL2; TL3; TL4; TL5; TL6; TL7; TL8; TL9)	0		
Timber Li	Fuel Models 161-163, 165, (TU1; TU2; TU3; TU4	19 39 36	54	
Timber-Understo	Fuel Models 101-102 (GR2; GR1)	37 95	< 1	
Agricultu	Custom fuel model designed to capture fire transmission into developed areas under severe fire weather conditions.	93 16 72 98	< 1	
Burnable U		5		
		52 79		

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

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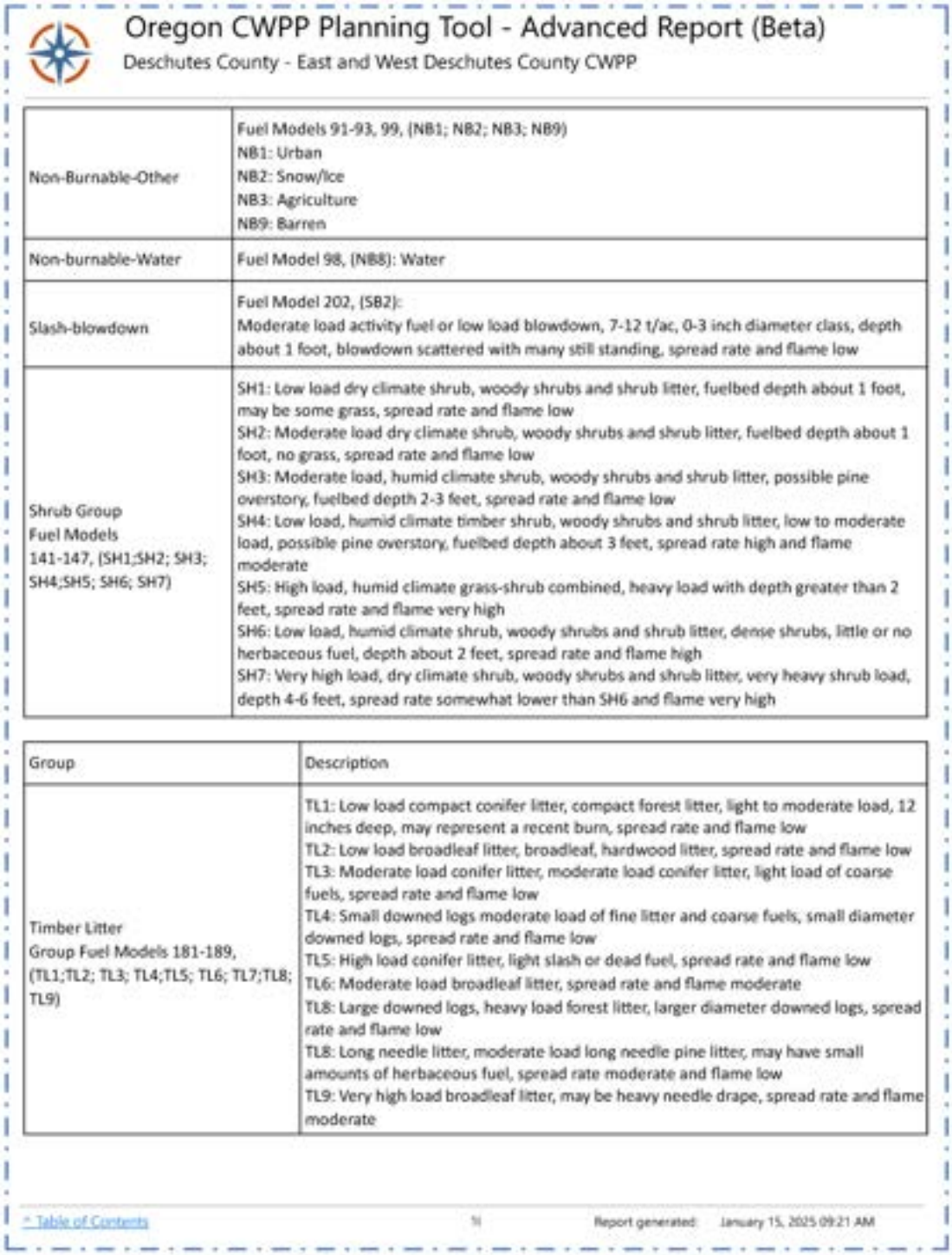

Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

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, 12 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

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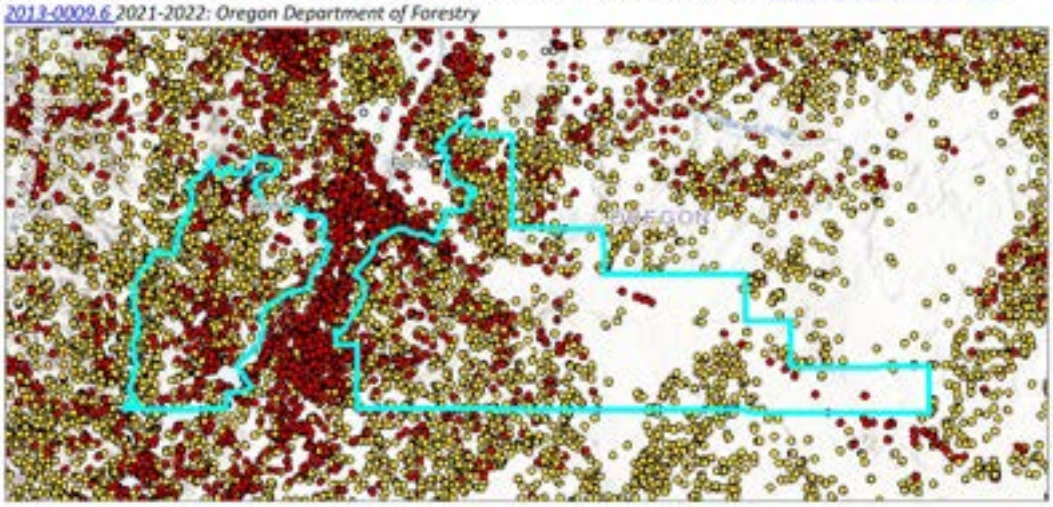
Timber-Understory Group Fuel Models 161-163, 165,(TU1; TU2;TU3; TU5)	TU1: Low load dry climate timber grass shrub, low load of grass and/or shrub with litter, spread rate and flame low TU2: Moderate load, humid climate timber-shrub, moderate litter load with some shrub, spread rate moderate and flame 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.

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

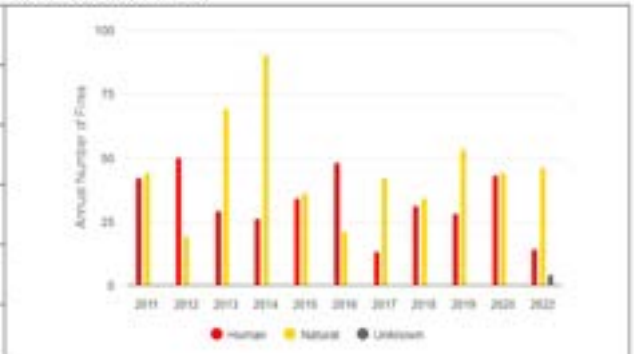


Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

Deschutes County - East and West Deschutes County CWPP fire starts between 2012-2022

Total Acres Burned	5011
Total Number of Fires	860
Average Acres Burned Per Year	456
Average Fires Per Year	78
Percent Natural Caused	58%
Percent Human Caused	42%



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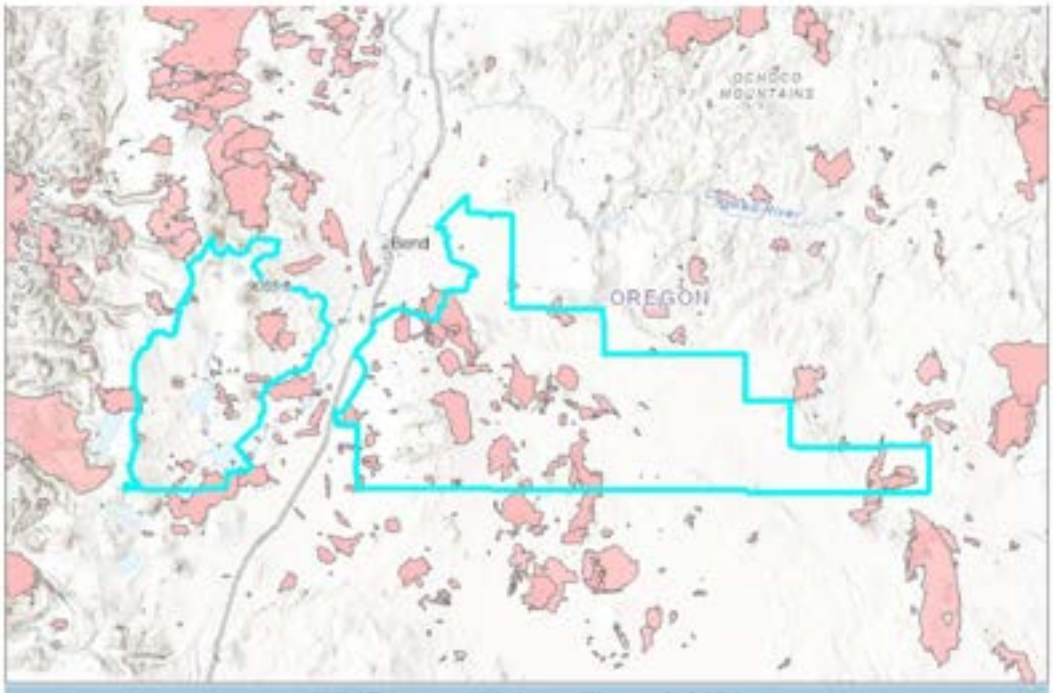
Deschutes County - East and West Deschutes County CWPP



Wildfires >= 100 Acres Through 2021

Wildfire Name	Year	Total Acres Burned
West Butte	9999	701
Petes Lake	2023	3,254
MCKAY BUTTE 0527 NE	2019	168
1144 NE TEPEE	2018	2,026
1035 NE MCKAY	2017	1,221
Hampton	2017	832
PINE MOUNTAIN	2016	244
0501 NW SHERIDAN	2016	191
SHERIDAN	2016	188
Brown's Creek	2013	107
Ice Cave	2012	119
Snow Creek	2008	390
Snow Creek 0758	2008	390

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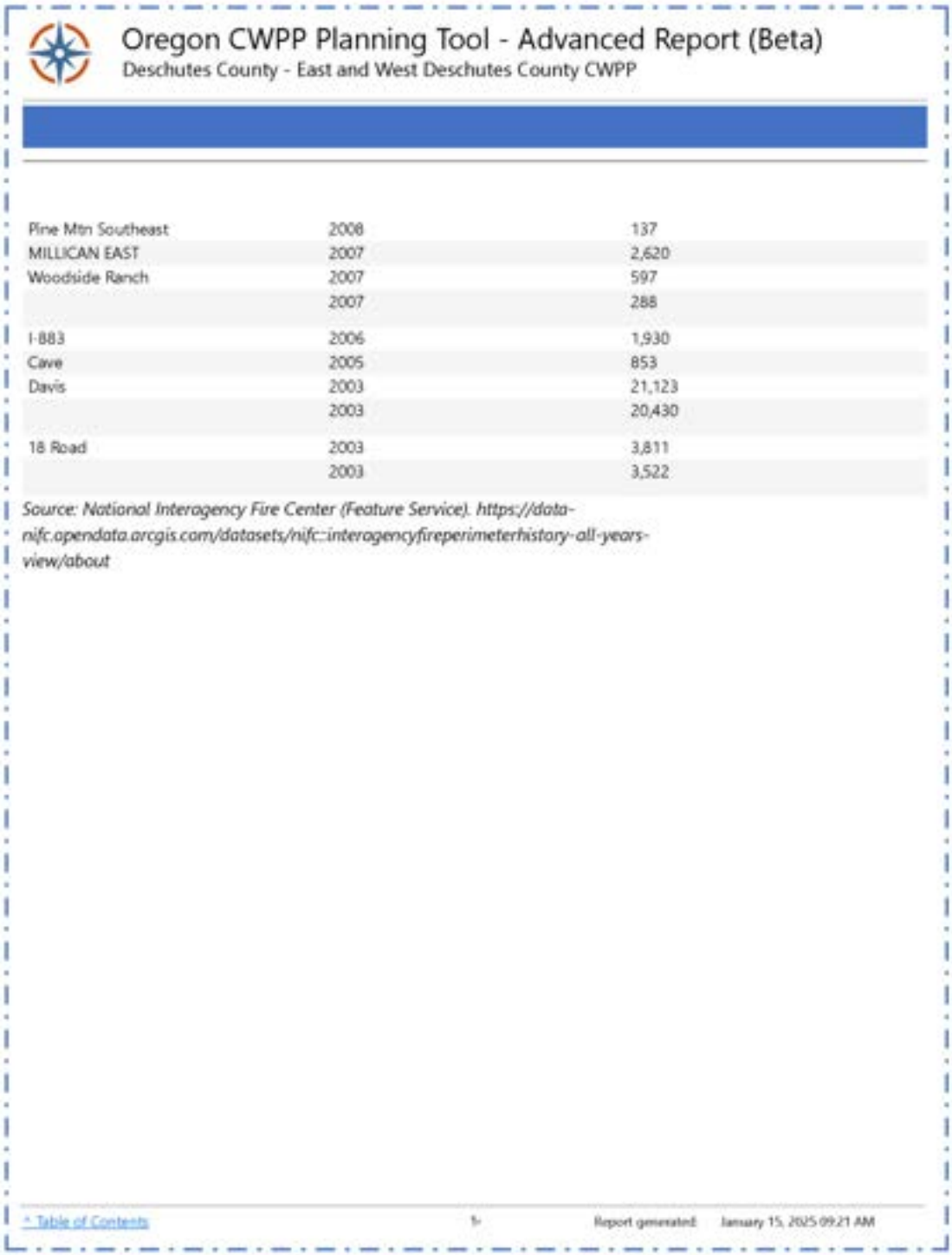

Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

Pine Mtn Southeast	2008	137
MILLICAN EAST	2007	2,620
Woodside Ranch	2007	597
	2007	288
I-883	2006	1,930
Cave	2005	853
Davis	2003	21,123
	2003	20,430
18 Road	2003	3,811
	2003	3,522

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

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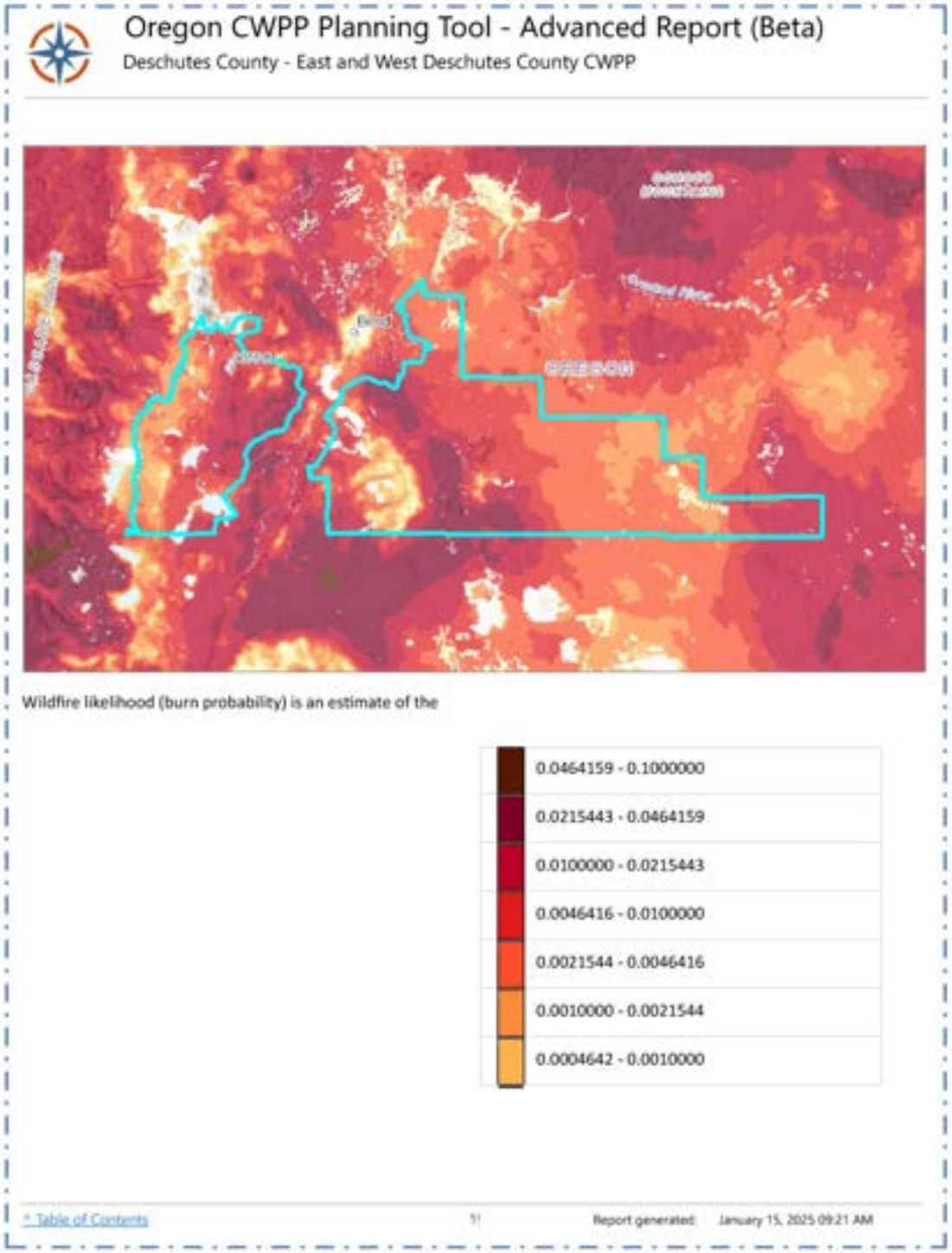
Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
OREGON
Wildfire likelihood (burn probability) is an estimate of the
0.0464159 - 0.1000000
0.0215443 - 0.0464159
0.0100000 - 0.0215443
0.0046416 - 0.0100000
0.0021544 - 0.0046416
0.0010000 - 0.0021544
0.0004642 - 0.0010000
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Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

Burn Probability

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 in Deschutes County - East and West Deschutes County CWPP

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	0	0	0	54	105,731	0	0	0	105,785
0.0100000 - 0.0215443	5,178	0	11,172	40,383	180,074	0	0	0	236,807
0.0046416 - 0.0100000	26,042	446	76	121,158	137,957	0	0	0	285,679
0.0021544 - 0.0046416	51,933	0	14,250	170,974	76,417	0	334	0	313,908
0.0010000 - 0.0021544	13,895	0	16,348	43,608	66,222	0	0	0	140,073
0.0004642 - 0.0010000	633	0	20	0	26,777	0	0	0	27,430
0.0002154 - 0.0004642	20	0	0	0	18,074	0	0	0	18,094
0.0001000 - 0.0002154	1	0	0	0	7,579	0	0	0	7,580
>0 - 0.0001000	10,060	0	657	14	1,214	0	0	0	11,945
0	1,656	<1	515	420	39,861	0	0	0	42,452
Total Area	109,418	446	43,038	376,611	659,906	0	334	0	1,189,753

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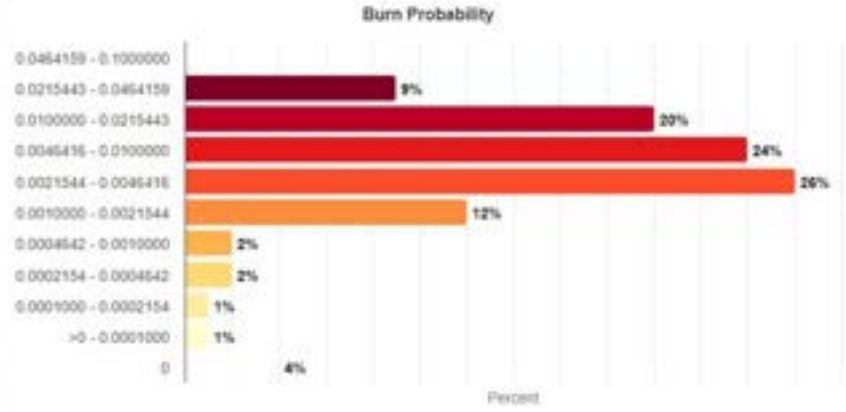
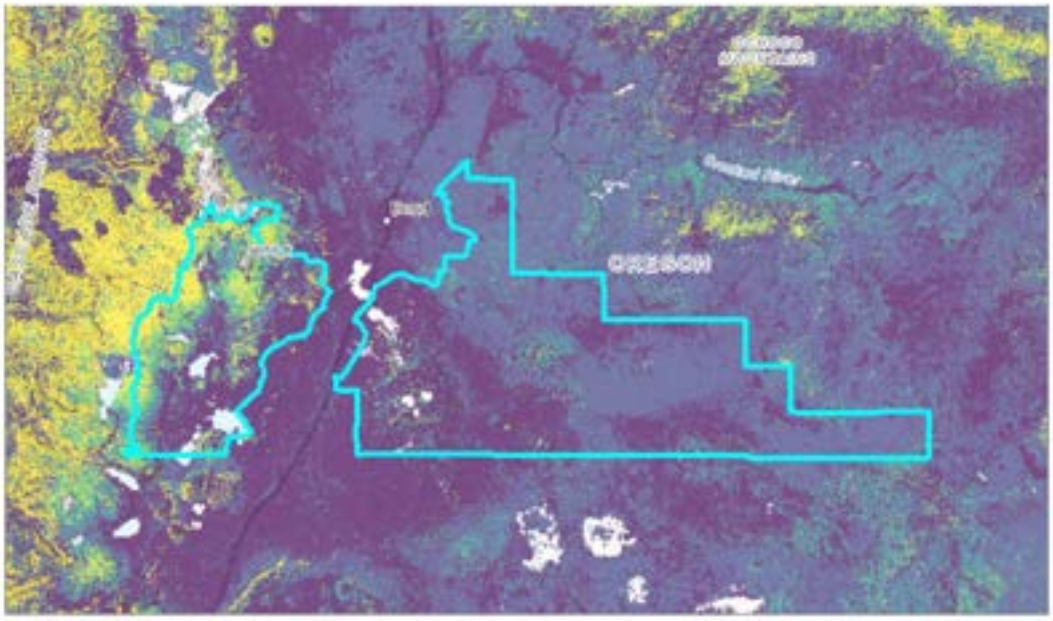
Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP



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

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



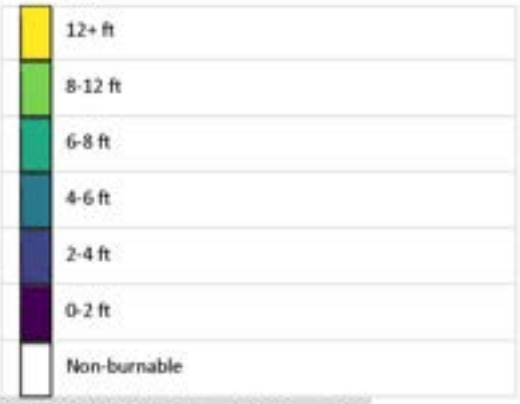
Oregon CWPP Planning Tool - Advanced Report (Beta)

Deschutes County - East and West Deschutes County CWPP

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



Average Flame Length Deschutes County - East and West Deschutes County CWPP

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
12+ ft 35 0 2 84	44,863	0 0 0	44,984	8 - 12 ft 200 0 2 608	43,204	0 0 0	44,014	6 - 8 ft 1,519 6 565	10,426	33,031 0 0 0
45,547 4 - 6 ft	4,847	<1 222	13,197	58,661 0 0 0	76,927	2 - 4 ft	64,007	324 32,119 261,976	98,217	0 56 0 456,699
0 - 2 ft	37,150	115	9,612	89,899	342,068	0	278	0	479,122	
No Data	1,659	<1	515	420	39,862	0	0	0	42,456	
Total Area	109,417	445	43,037	376,610	659,906	0	334	0	1,189,749	

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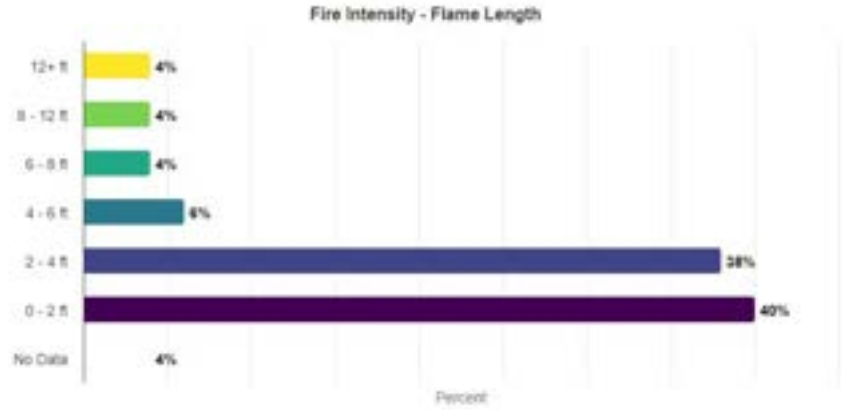
Deschutes County - East and West Deschutes County CWPP



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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Deschutes County - East and West Deschutes County CWPP

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.

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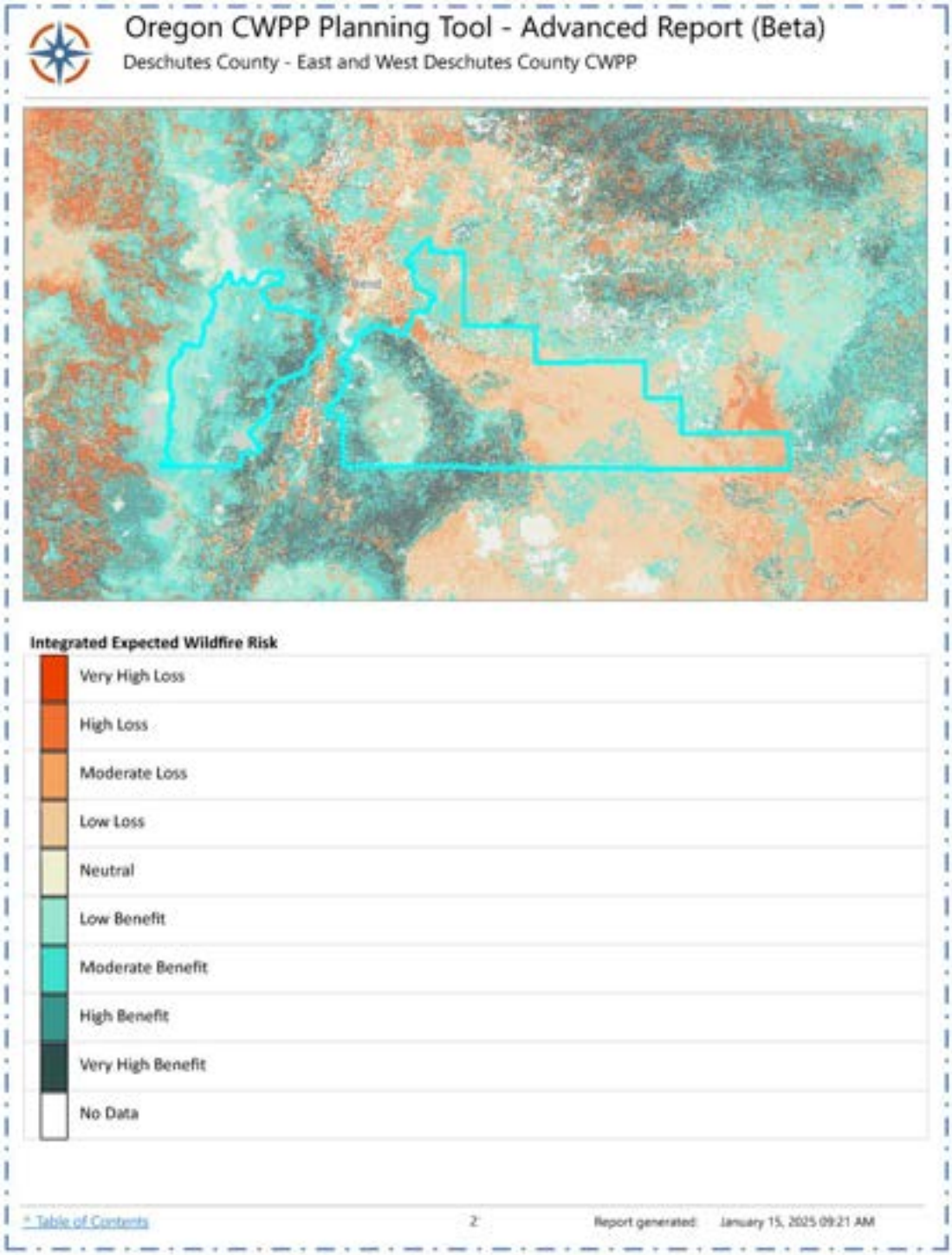
Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
Integrated Expected Wildfire Risk
Very High Loss
High Loss
Moderate Loss
Low Loss
Neutral
Low Benefit
Moderate Benefit
High Benefit
Very High Benefit
No Data
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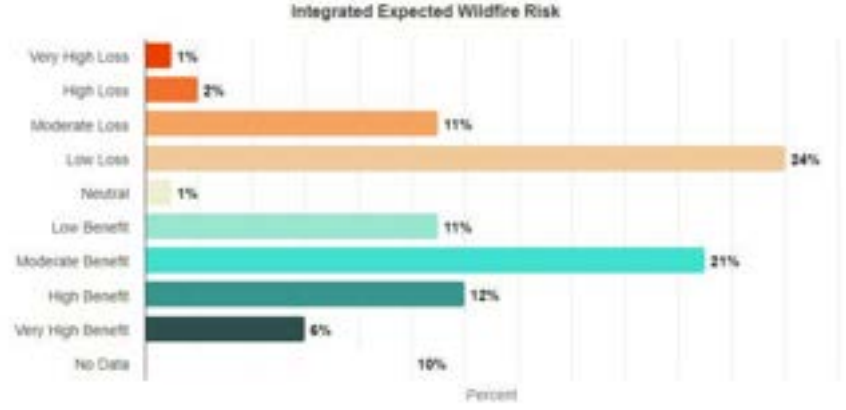
Expected wildfire risk accounts for the presence and susceptibility of highly-valued resources and assets (HVRAs), fire intensity, and the likelihood of a fire occurring (burn probability). Expected risk layers are designed to support strategic prioritization because by including burn probability they account the relatively likelihood of different fire impacts in any given year.

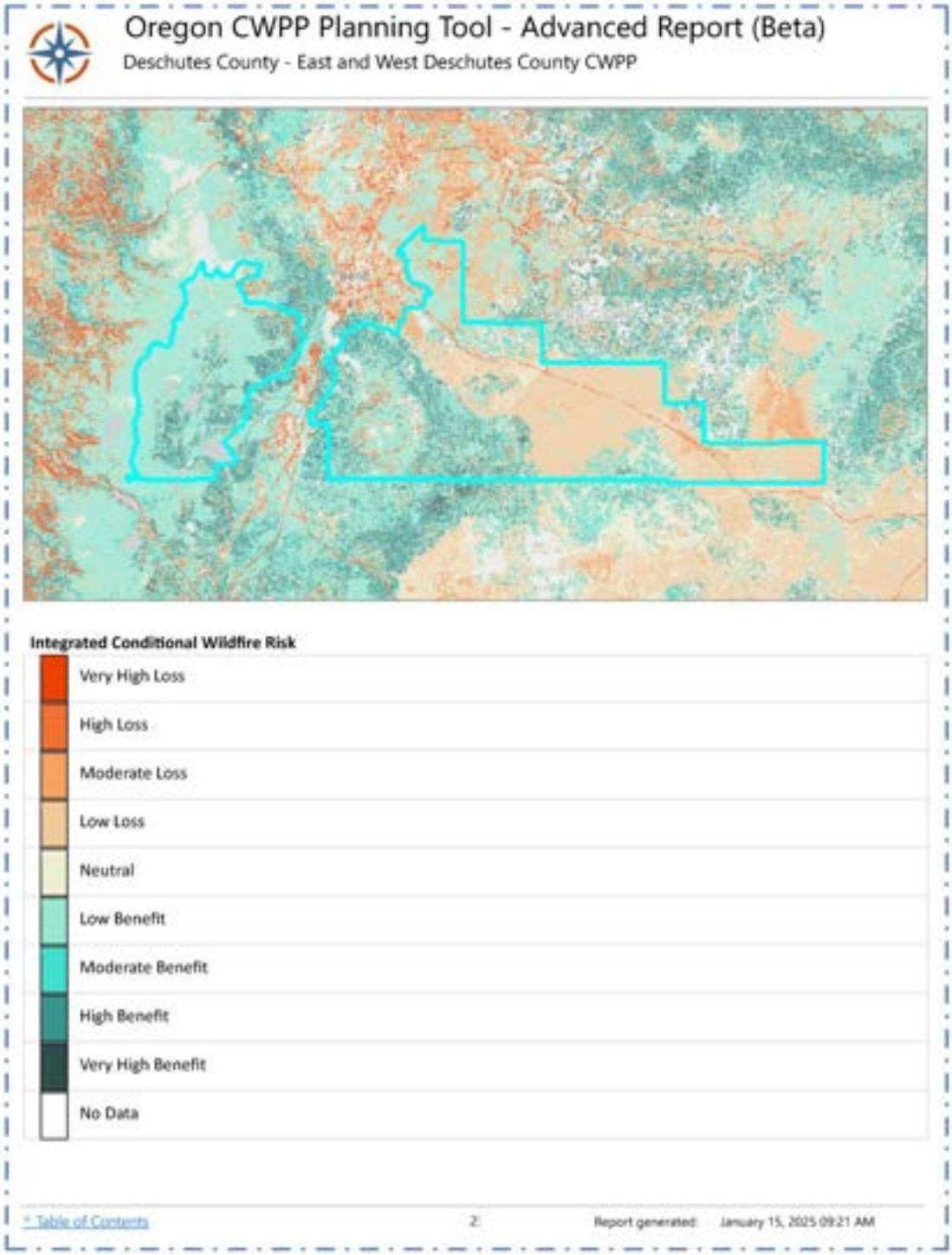
Integrated Expected Wildfire Risk in Deschutes County - East and West Deschutes County CWPP

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
Very High Loss	281	57	16	877	5,599	0	9	0	6,839
High Loss	2,402	52	846	8,753	16,899	0	0	0	28,952
Moderate Loss	18,340	89	11,441	77,296	28,571	0	<1	0	135,737
Low Loss	65,369	176	24,071	183,481	17,885	0	323	0	291,305
Neutral	3,383	38	592	3,347	4,779	0	0	0	12,139
Low Benefit	2,793	0	1,595	6,475	119,953	0	<1	0	130,816
Moderate Benefit	6,176	18	1,857	48,088	192,336	0	2	0	248,477
High Benefit	1,154	<1	182	4,123	132,355	0	0	0	137,814
Very High Benefit	1	0	0	195	72,809	0	0	0	73,005
No Data	9,518	16	2,436	43,975	68,719	0	0	0	124,664
Total Area	109,417	446	43,036	376,610	659,905	0	334	0	1,189,748



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)
Deschutes County - East and West Deschutes County CWPP
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
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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.

Integrated Conditional Wildfire Risk Deschutes County - East and West Deschutes County CWPP

Category	Private	Local	State	BLM	USFS	USFWS	Other Fed	Tribal	Total
Very High Loss	2,743	108	634	2,983	2,436	0	9	0	8,913
High Loss	2,084	0	55	637	17,955	0	0	0	20,731
Moderate Loss	10,263	2	1,147	19,383	9,033	0	0	0	39,828
Low Loss	65,145	229	30,843	222,052	35,590	0	325	0	354,184
Neutral	9,900	73	4,357	29,929	13,049	0	0	0	57,308
Low Benefit	4,152	3	1,757	30,220	310,492	0	<1	0	346,624
Moderate Benefit	3,166	16	1,516	21,926	56,947	0	1	0	83,572
High Benefit	2,417	1	282	5,466	130,464	0	0	0	138,630
Very High Benefit	4	0	<1	148	15,157	0	0	0	15,309
No Data	9,553	16	2,442	43,909	68,755	0	0	0	124,675
Total Area	109,427	448	43,033	376,653	659,878	0	335	0	1,189,774

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.

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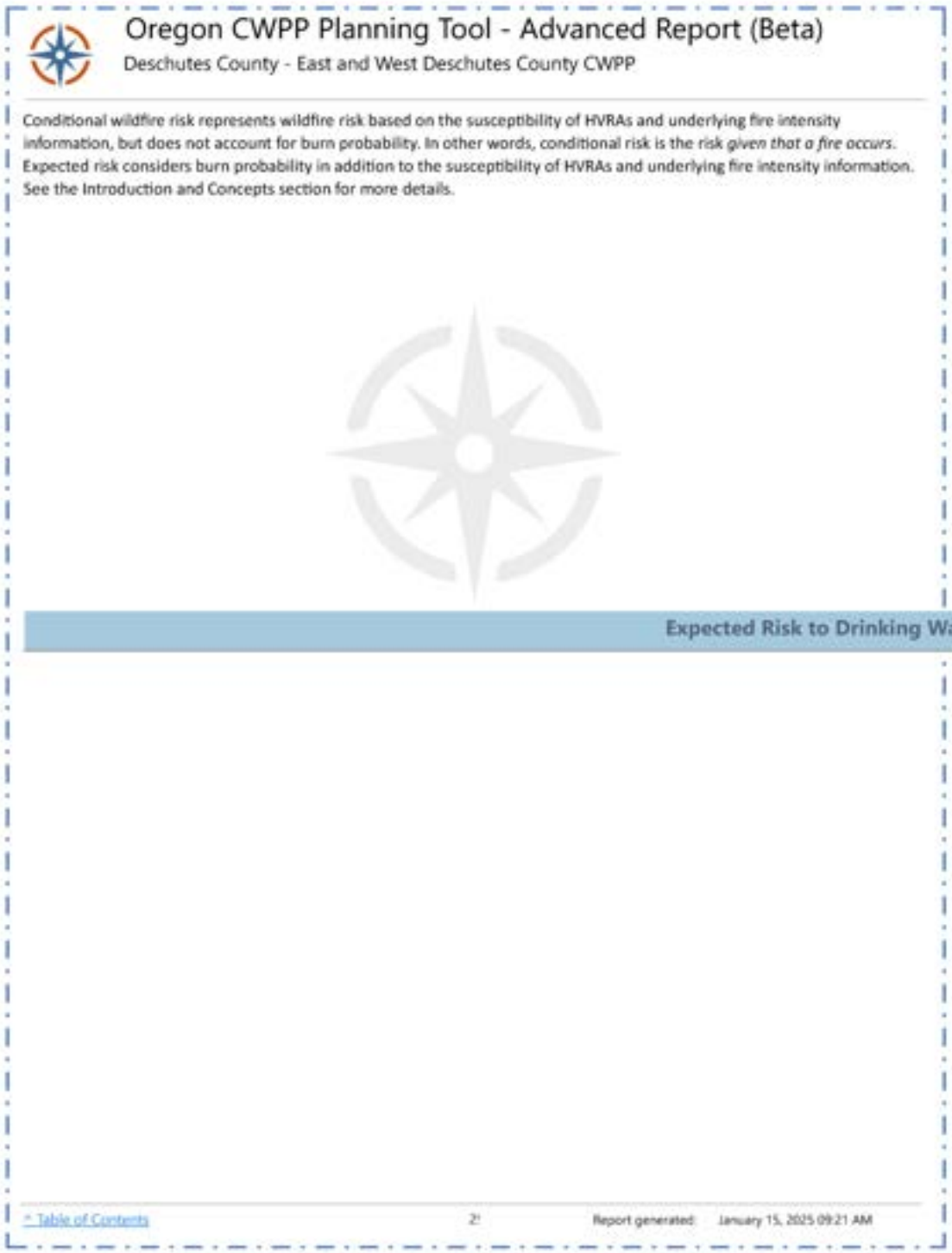
Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
Conditional wildfire risk represents wildfire risk based on the susceptibility of HVRAs and underlying fire intensity information, but does not account for burn probability. In other words, conditional 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.
Expected Risk to Drinking Wat
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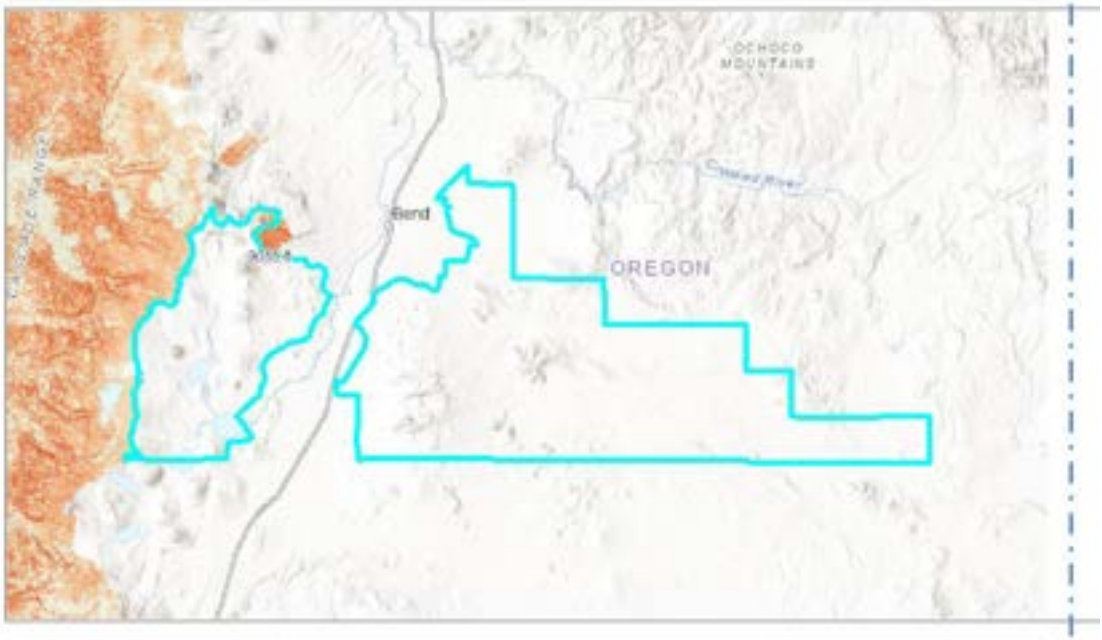

Category	Acres	%*
Very High Loss	267	< 1
High Loss	467	< 1
Moderate Loss	292	< 1
Low Loss	190	< 1
Neutral	394	< 1
No Data	1189378	100

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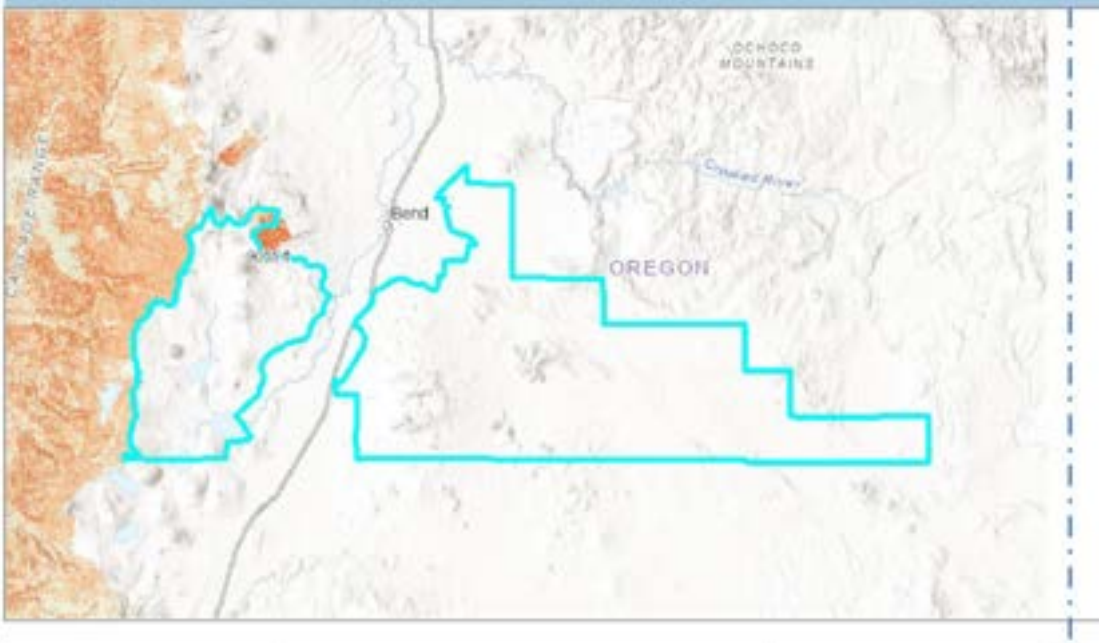
Source: 2023 Pacific Northwest Quantitative Wildfire Risk Assessment, US Forest Service

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

Conditional Risk to Drinking Wa



Category	Acres	%*
Very High Loss	405	< 1
High Loss	401	< 1
Moderate Loss	303	< 1
Low Loss	107	< 1
Neutral	394	< 1
	1189378	100


Oregon CWPP Planning Tool - Advanced Report (Beta)
Deschutes County - East and West Deschutes County CWPP
No Data
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.
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.
Expected Risk to Ecological Integ
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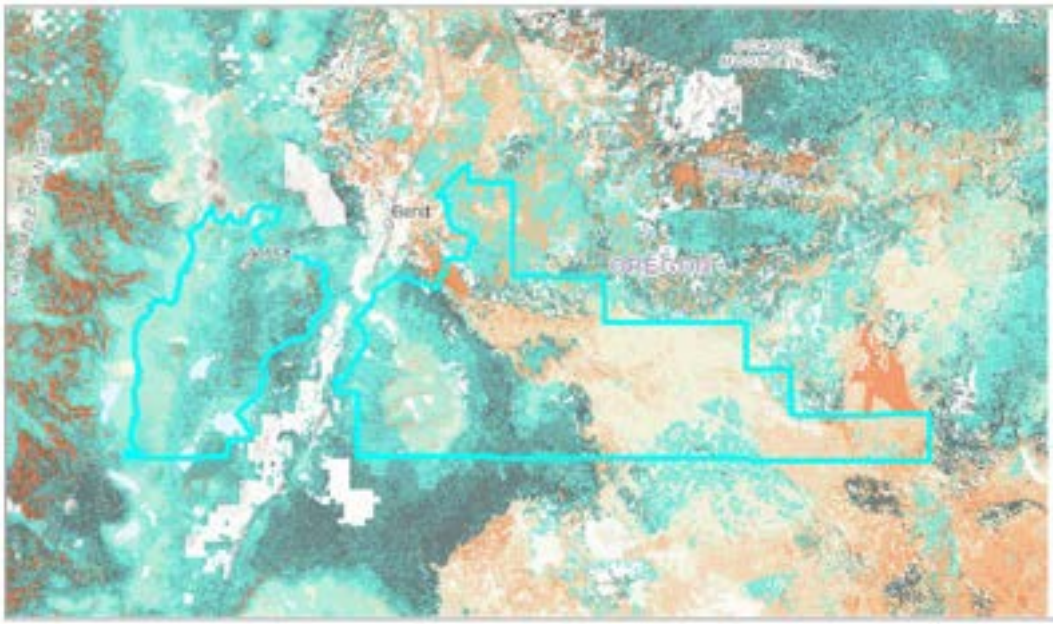

Category	Acres	%*
Very High Loss	2283	< 1
High Loss	14779	1
Moderate Loss	51248	4
Low Loss	127159	11
Neutral	202978	17
Low Benefit	151534	13
	269314	23
	164294	14

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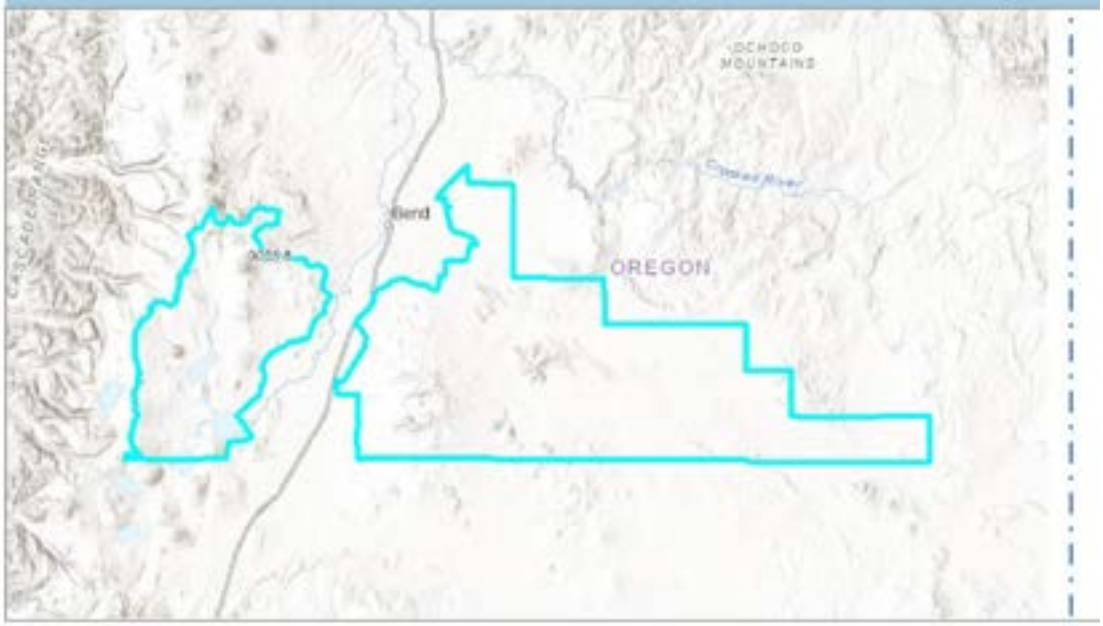
Deschutes County - East and West Deschutes County CWPP

Moderate Benefit	32115	3
High Benefit	175283	15
Very High Benefit		
No Data		

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

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

Conditional Risk to Ecological Int



Category	Acres	%*
Very High Loss	6035	1

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High Loss	13270	1
Moderate Loss	48391	4
Low Loss	119390	10
Neutral	210179	18
Low Benefit	16130	1
Moderate Benefit	535812	45
High Benefit	16315	1
Very High Benefit	0	0
No Data	175283	15

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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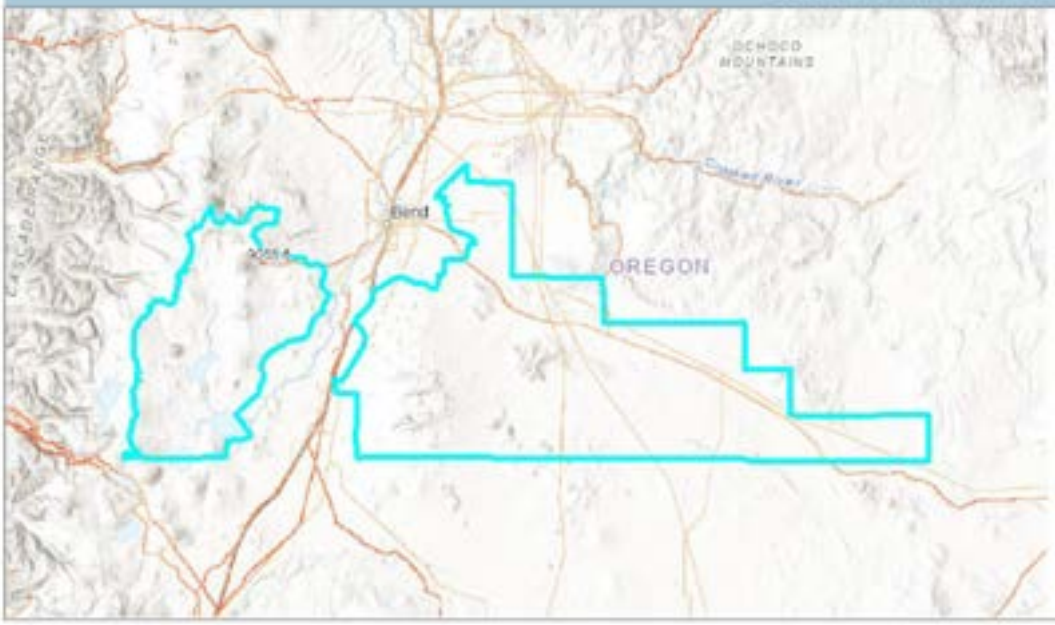
Expected Risk to Infrastructu



Category	Acres	%*
Very High Loss	108	< 1

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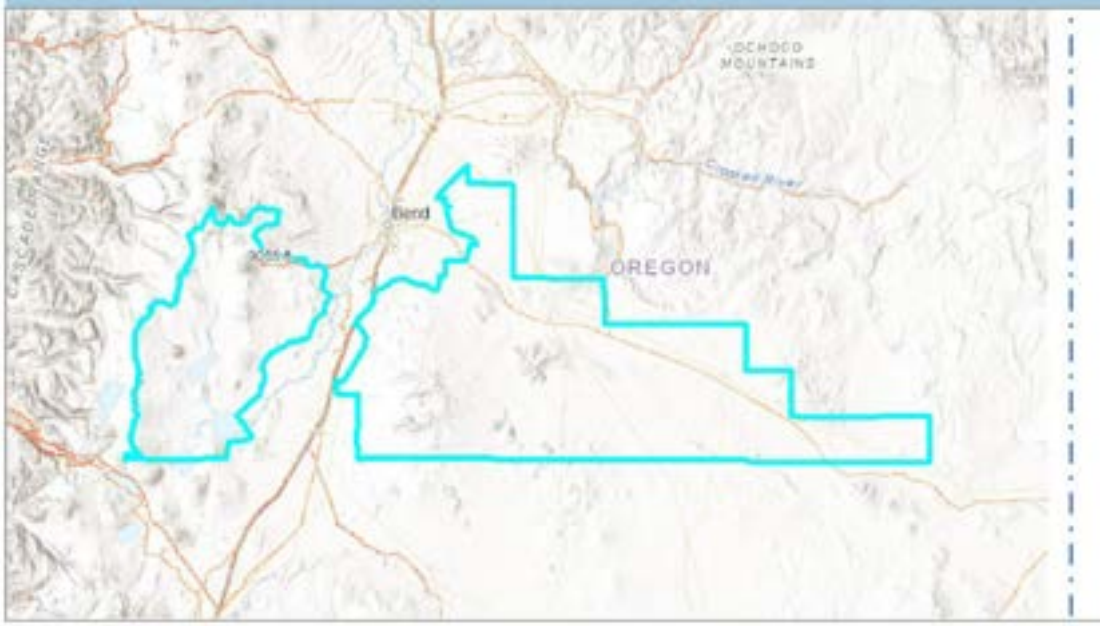
Deschutes County - East and West Deschutes County CWPP

High Loss	2344	< 1
Moderate Loss	4098	< 1
Low Loss	12447	1
No Data	1171990	98

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

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

Conditional Risk to Infrastruct



Category	Acres	%*
Very High Loss	95	< 1

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Deschutes County - East and West Deschutes County CWPP

High Loss	772	< 1
Moderate Loss	3478	< 1
Low Loss	2137	< 1
Neutral	12515	1
No Data	1171990	98

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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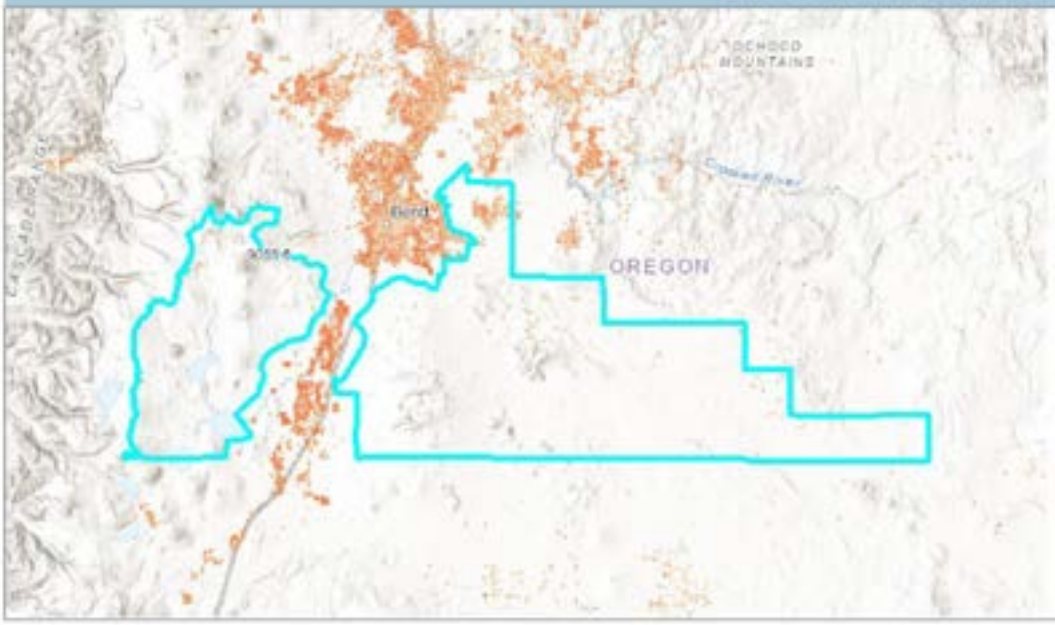
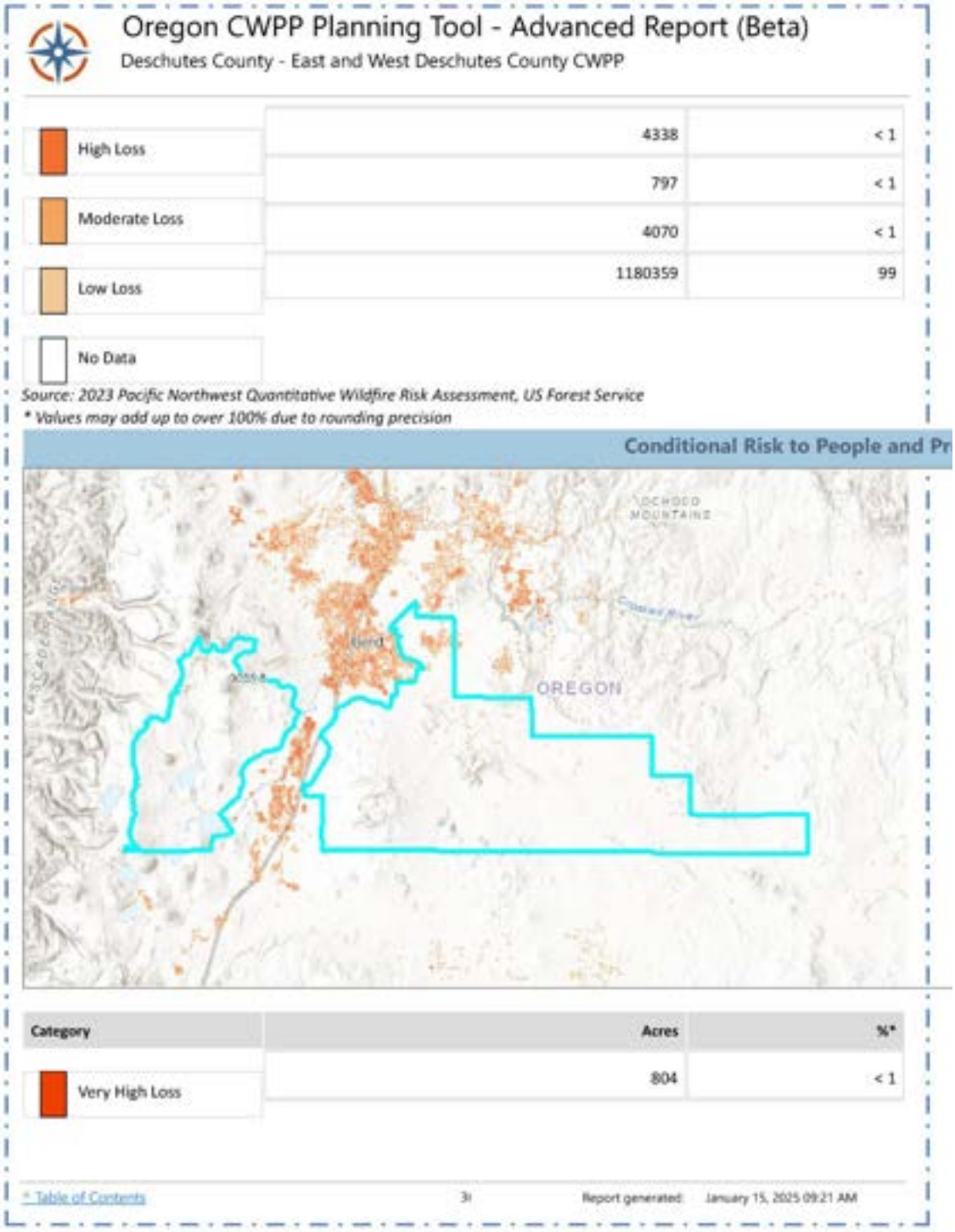
Expected Risk to People and Pro



Category	Acres	%*
Very High Loss	884	< 1



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High Loss	4338	< 1
Moderate Loss	797	< 1
Low Loss	4070	< 1
No Data	1180359	99

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

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

Conditional Risk to People and Pr

Category	Acres	%*
Very High Loss	804	< 1

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High Loss	1632	< 1
Moderate Loss	3055	< 1
Low Loss	5137	< 1
No Data	1180359	99

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.

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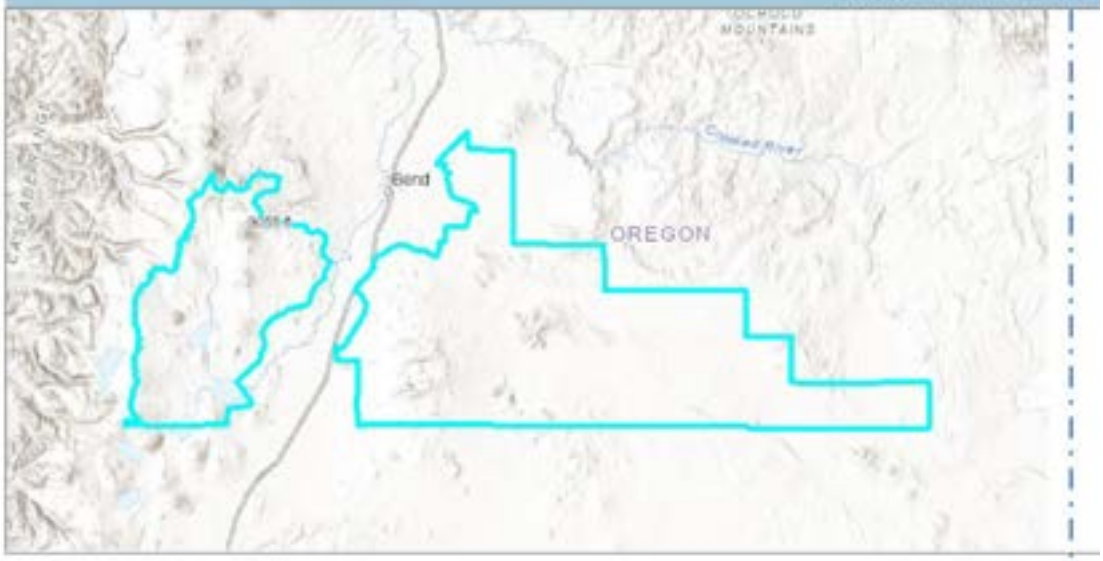
Expected Risk to Recrea



Category	Acres	%*
Very High Loss	15	< 1
High Loss	48	< 1
Moderate Loss	91	< 1
Low Loss	13	< 1
No Data	1190820	100

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

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

Conditional Risk to Recre

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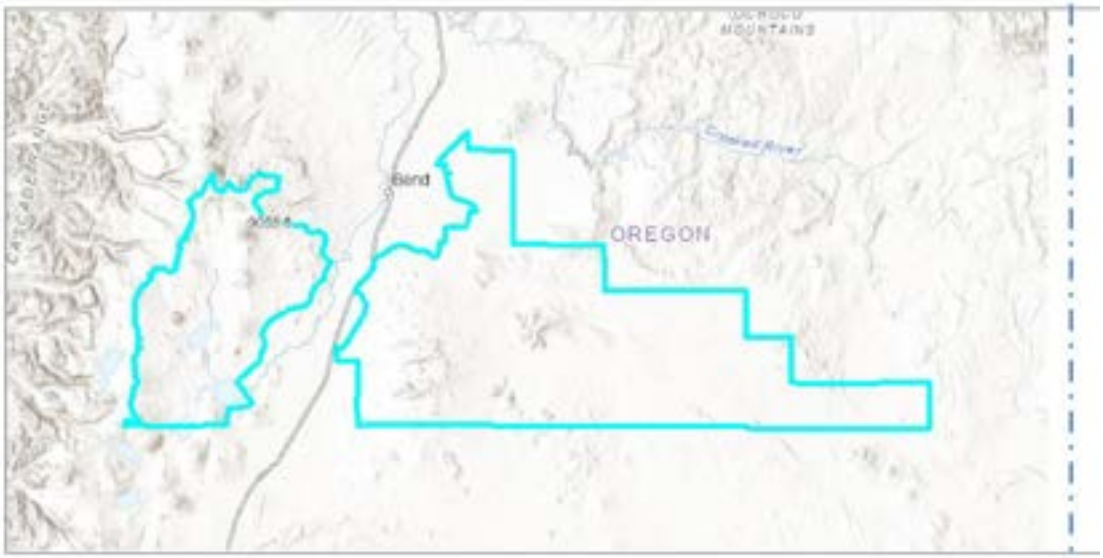

Category	Acres	%*
Very High Loss	15	< 1
High Loss	18	< 1
Moderate Loss	29	< 1
Low Loss	77	< 1
No Data	1190840	100

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.

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Expected Risk to Timber

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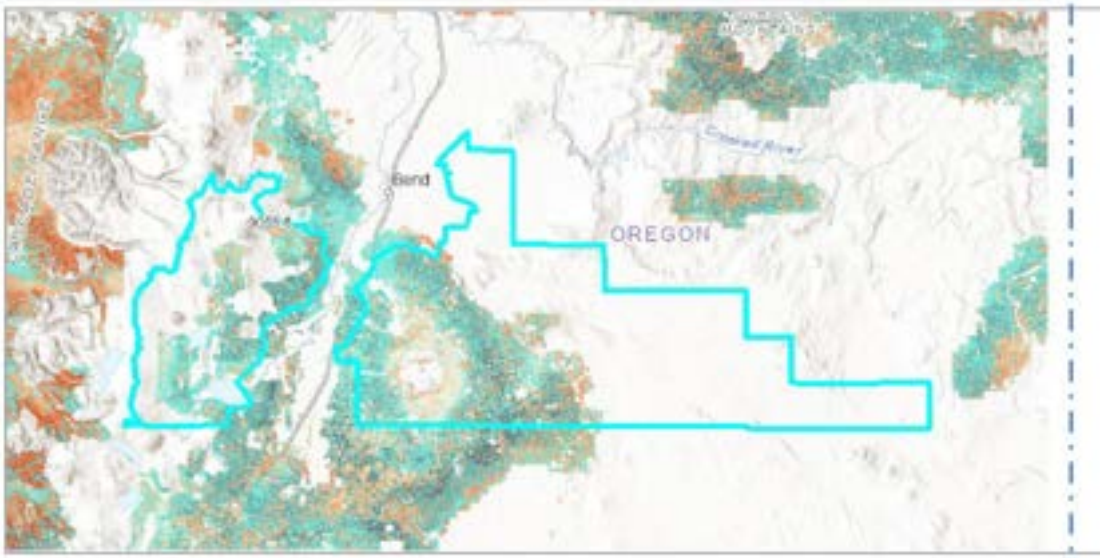

Category	Acres	%*
Very High Loss	1437	< 1
High Loss	17439	1
Moderate Loss	45639	4
Low Loss	24762	2
Neutral	36484	3
Low Benefit	25061	2
Moderate Benefit	110164	9
	94572	8
	11649	1
	823782	69

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High Benefit

Very High Benefit

No Data

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

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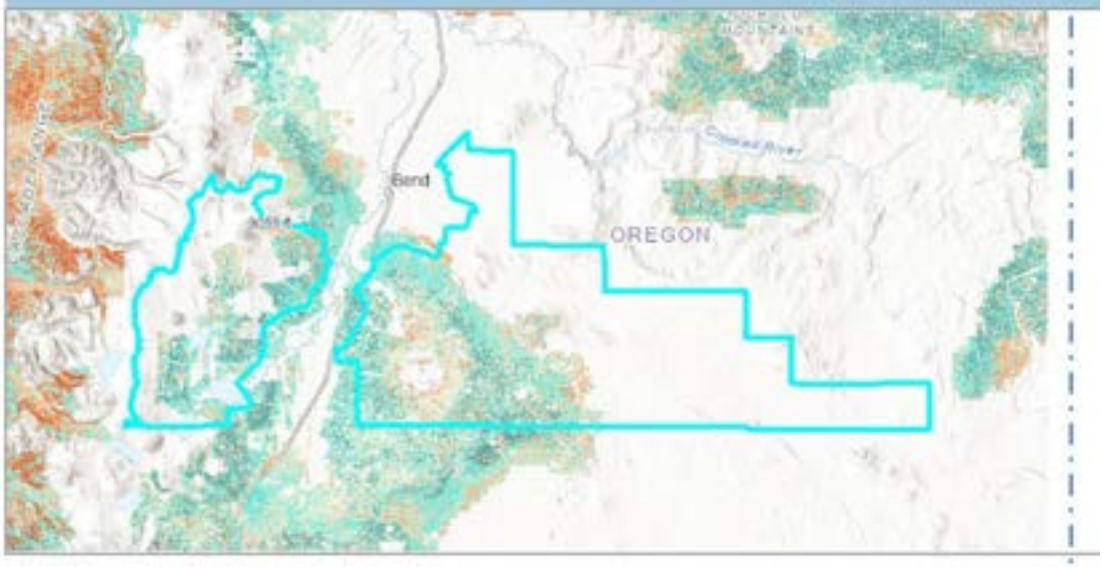
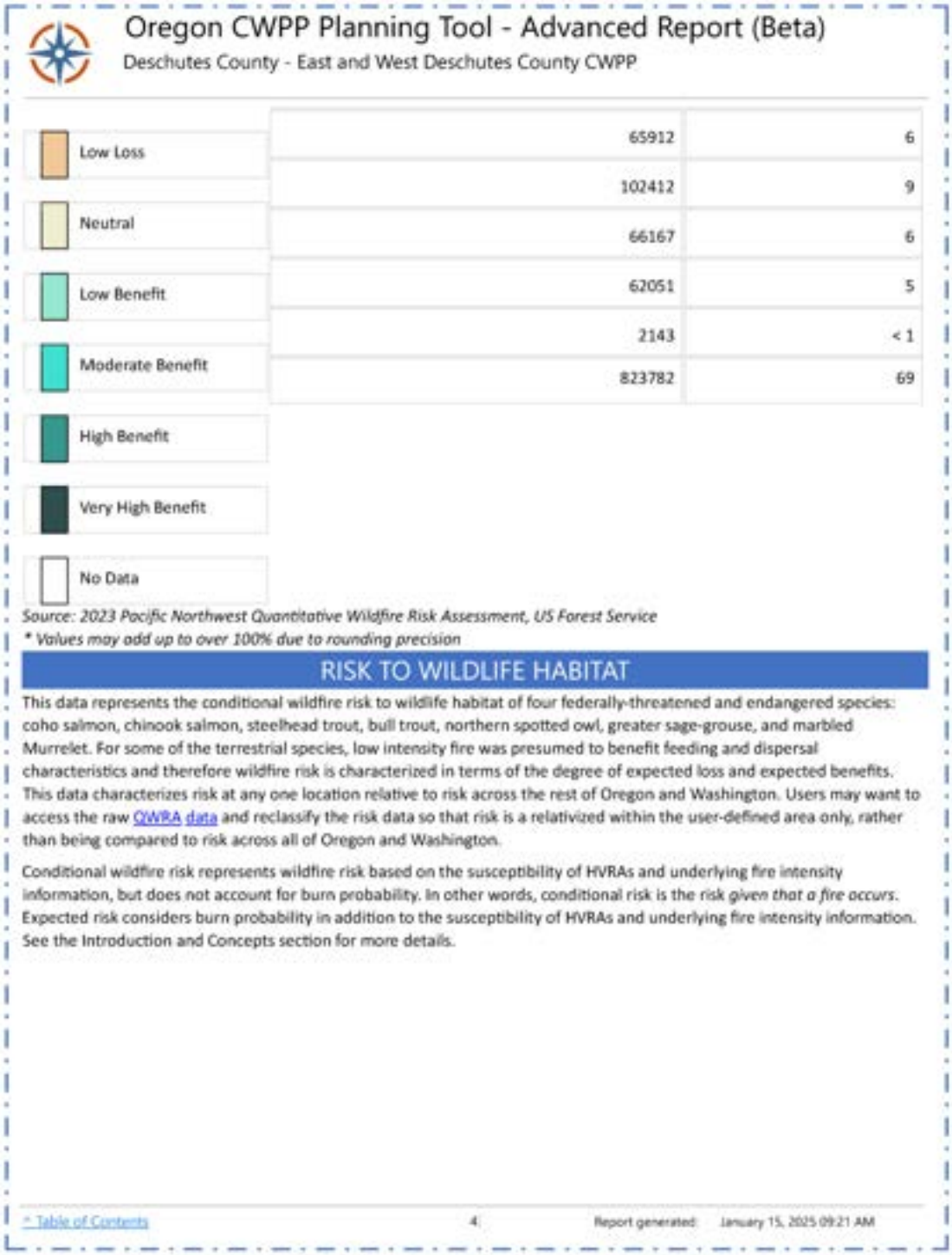
Conditional Risk to Timber



Category	Acres	%*
Very High Loss	401	< 1
High Loss	9674	1
Moderate Loss	19243	2
	39202	3



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Low Loss	65912	6
Neutral	102412	9
Low Benefit	66167	6
Moderate Benefit	62051	5
High Benefit	2143	< 1
Very High Benefit	823782	69
No Data		

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.

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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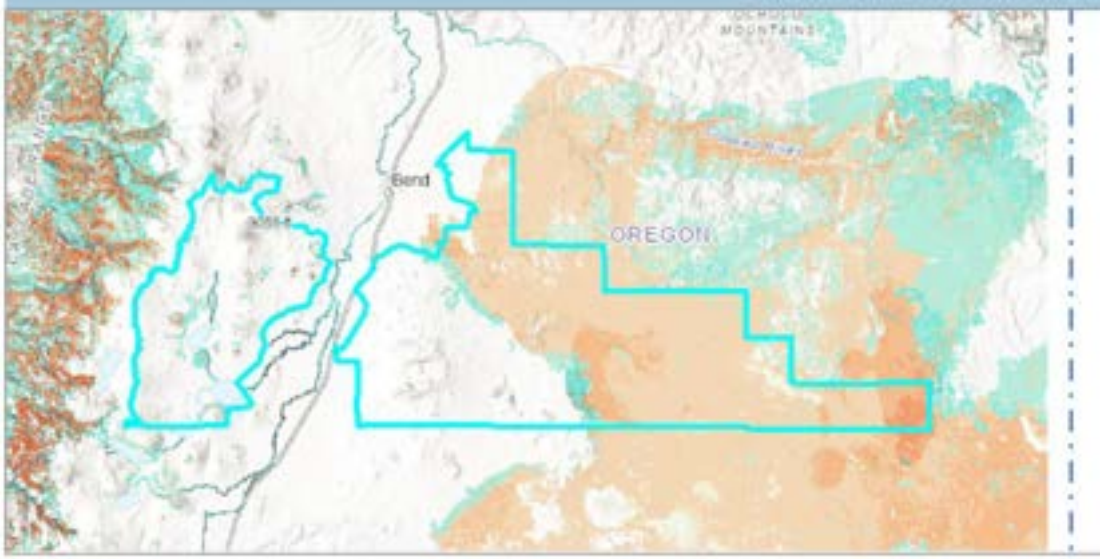
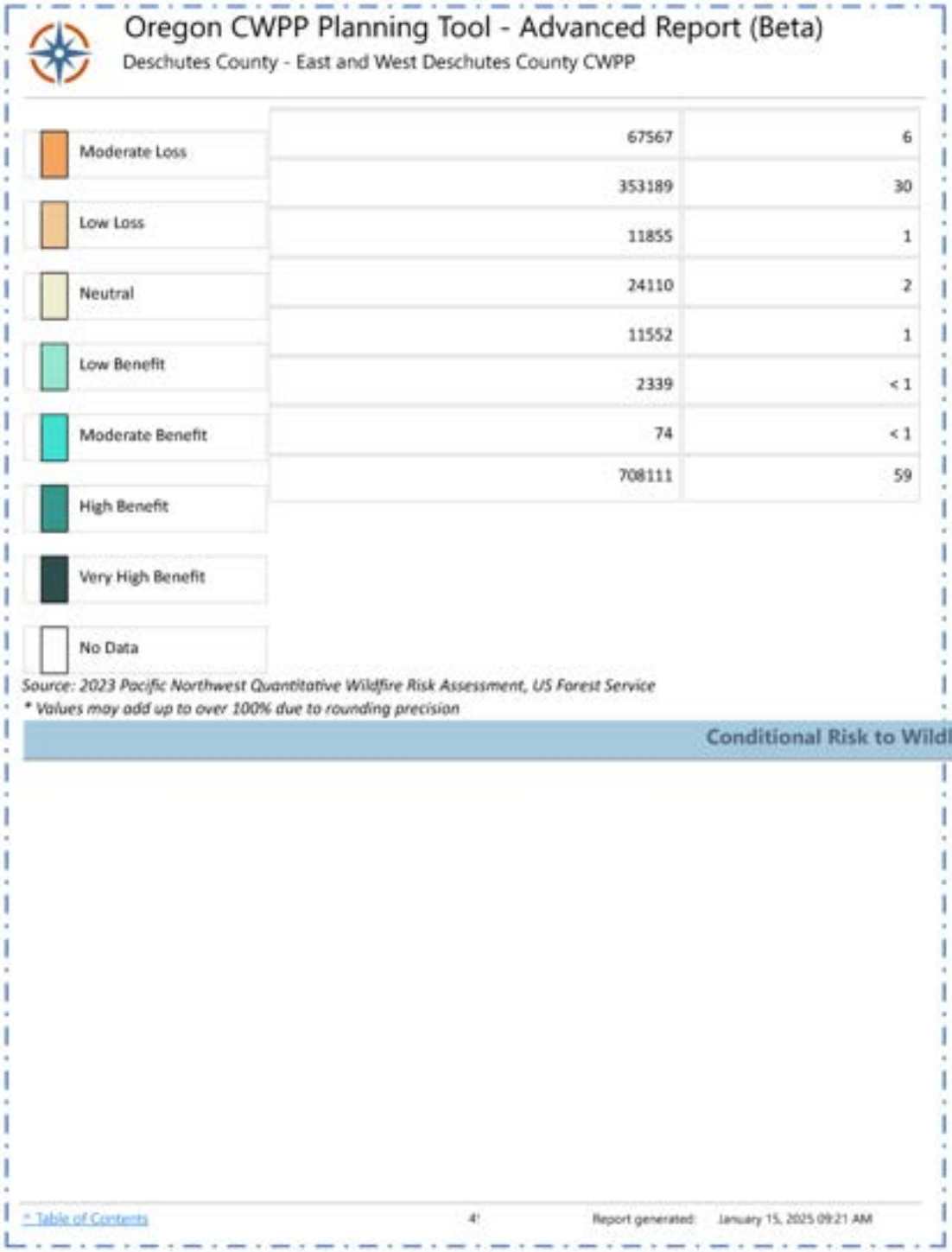
Expected Risk to Wildlife Habit



Category	Acres	%*
Very High Loss	123	< 1
High Loss	12068	1



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Moderate Loss	67567	6
Low Loss	353189	30
Neutral	11855	1
Low Benefit	24110	2
Moderate Benefit	11552	1
High Benefit	2339	< 1
Very High Benefit	74	< 1
No Data	708111	59

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

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

Conditional Risk to Wildlif

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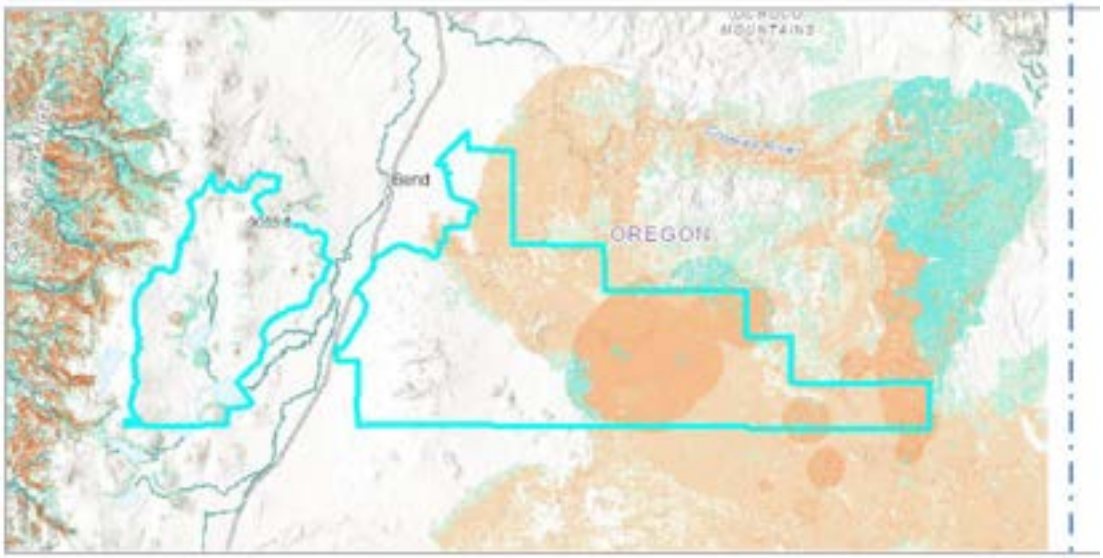

Category	Acres	%*
Very High Loss	26	< 1
High Loss	2870	< 1
Moderate Loss	221298	19
Low Loss	197084	17
Neutral	32935	3
Low Benefit	18634	2
Moderate Benefit	8491	1
	1537	< 1
	0	0
	708111	59

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High Benefit
Very High Benefit
No Data
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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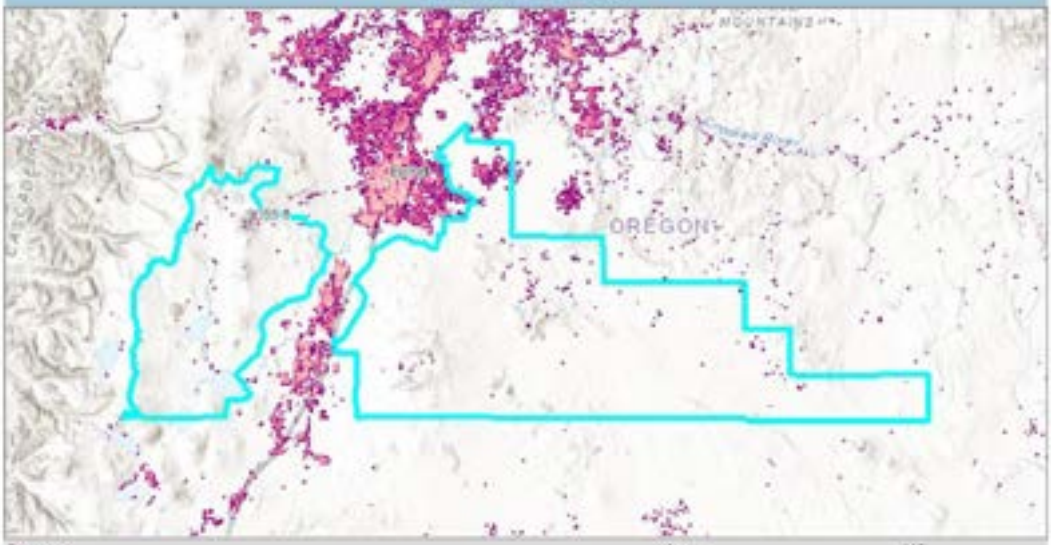
STRUCTURE DENSITY

Structure Density



Category	Acres	%*
1 structure per 40 acres	4198	< 1%
1 structure per 20 acres	1795	< 1%
1 structure per 10 acres	2134	< 1%
1 structure per 5 acres	1886	< 1%
1 structure per 2 acres	1049	< 1%
3 structures per acre	23	< 1%
> 3 structures per acre	0	0%
No Data	1179932	99%

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.

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.

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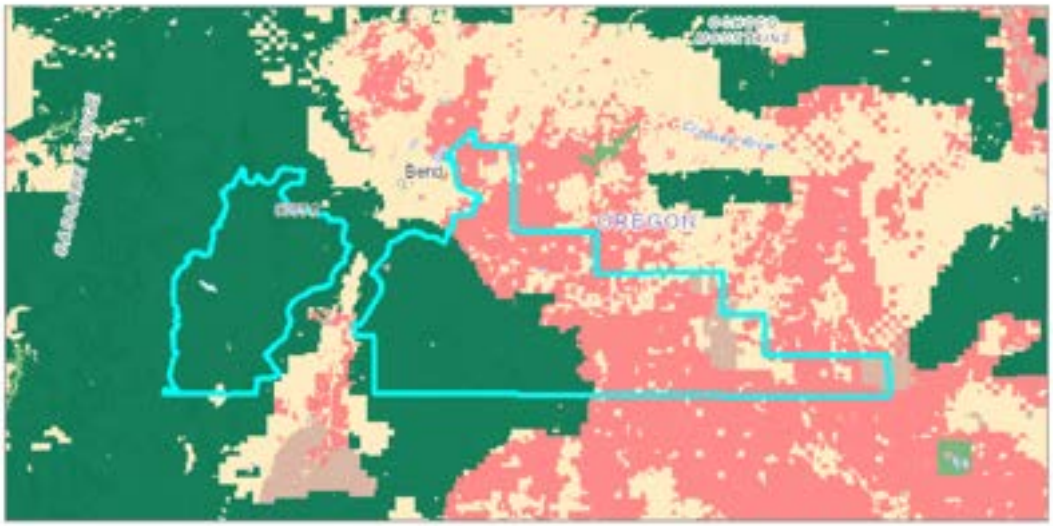
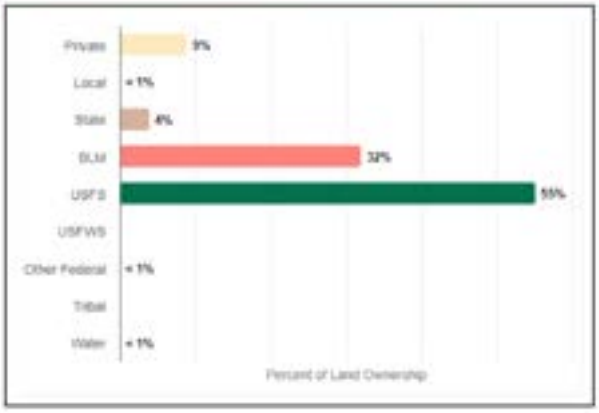


	Major Landowner/Manager	Acres
	Private	109503
	Local	448
	State	43002
	Bureau of Land Management (BLM)	376541
	US Forest Service (USFS)	659901
	US Fish & Wildlife (USFWS)	0
	Other Federal	334
	Tribal	0
	Water	1235



Source: Oregon Department of Forestry. 2024

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

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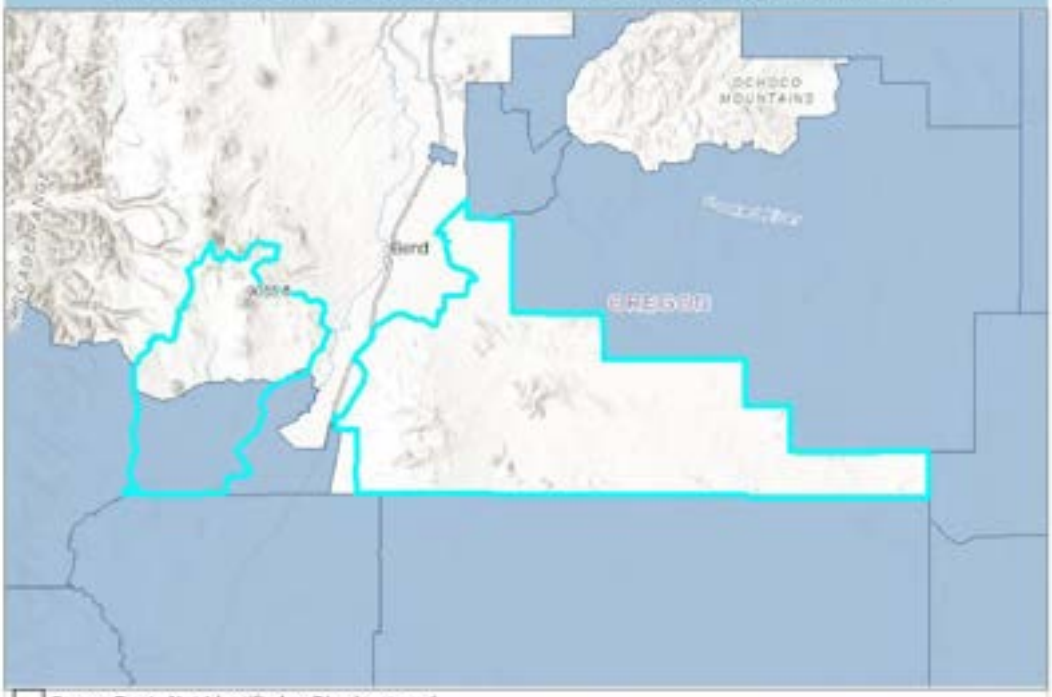
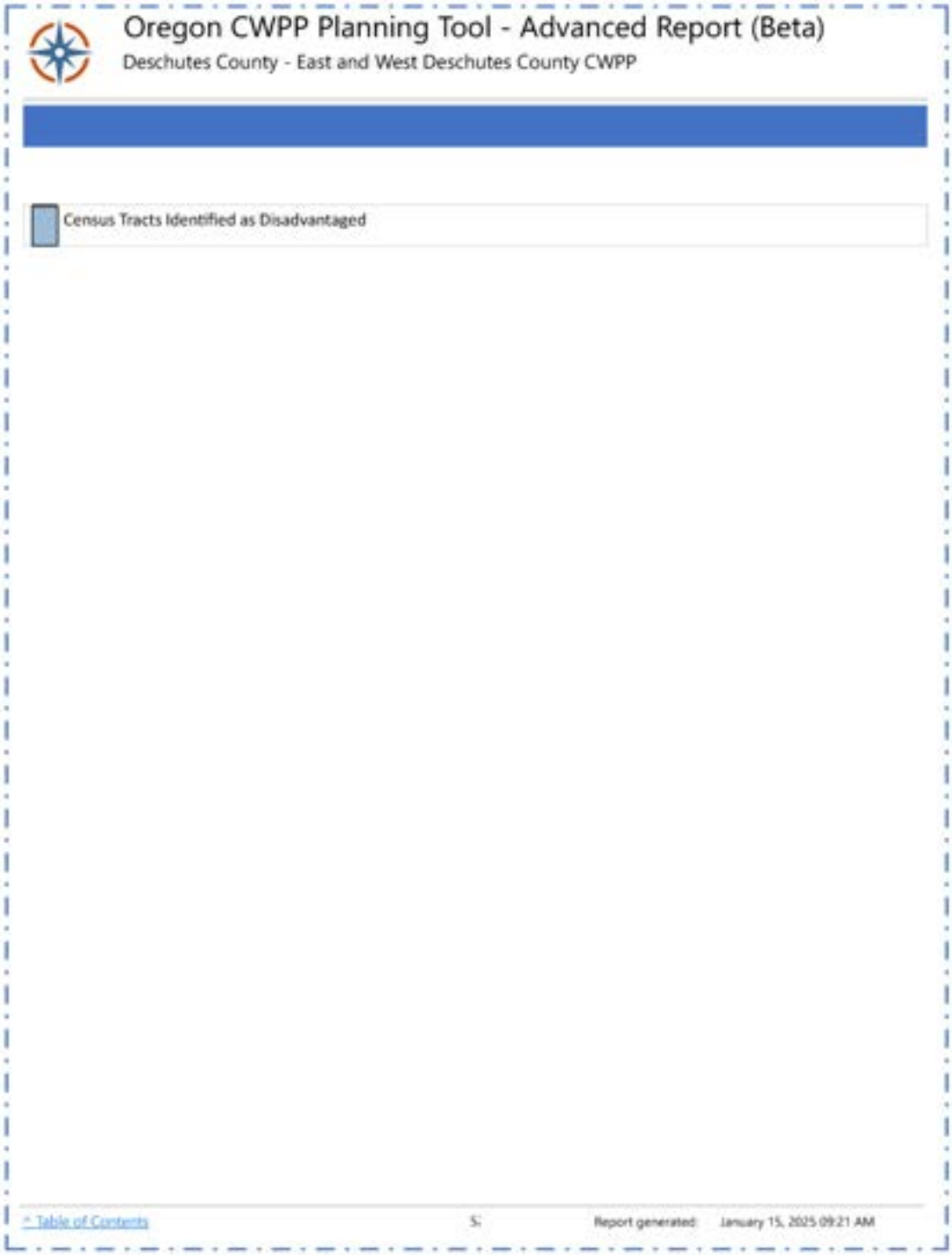
"In January of 2021, President Biden issued Executive Order 14008. The order directed the Council on Environmental Quality (CEQ) to develop a new tool. This tool is called the Climate and Economic Justice Screening Tool. The tool has an interactive map and uses datasets that are indicators of burdens 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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This report we generated by the Oregon CWPP Planning Tool on January 15, 2025:
https://tools.oregonexplorer.info/viewer/cwpp_planning

Primary data source: McEvoy, A., Dunn, C., Rickert, I., & Pyrologix LLC. (2024). 2023 Pacific Northwest Quantitative Wildfire Risk Assessment (Version 1) [Data set]. Oregon State University. https://doi.org/10.7267/br86bc642

Download wildfire risk data:
https://oe.oregonexplorer.info/externalcontent/wildfire/2023_PNW_Quantitative_Wildfire_Risk_Assessment_Data_Access.pdf

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 safety 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 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 act as a barrier to slow or stop the progress of a wildfire.

• **Fire Prone Area:** A geographic area that can support 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 homes 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 The 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 is 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 treatments that aid 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 recovery 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 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 the 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 the 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 occur, turn off the breaker immediately and call an electrician.

• If electrical lights or appliances appear brighter than normal, turn off the 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 on 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 it was 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 is 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 specifically about 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 not to 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 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 a 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 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