Crook County Community Wildfire Protection Plan

February 2025

Photo of the 2018 Laughlin Fire from the Central Oregonian.

As required by the Healthy Forest Restoration Act, the undersigned representatives of Crook County, Crook County Fire & Rescue, and Oregon Department of Forestry acknowledge that they have reviewed and approve the contents of this plan.

Crook County Commission Chair

02/05/2025

Commissioner Barney — Date

Crook County Fire and Rescue

2/10/25

Matt Smith — Date

Oregon Department of Forestry

Gordon R Foster Digitally signed by Gordon R Foster
Date: 2025.02.11 09:06:28 -08'00'

Gordon Foster — Date

This Community Wildfire Protection Plan represents the efforts and cooperation of a number of organizations and agencies working together to improve preparedness for wildfire events while reducing risk factors.

2024 Steering Committee

Chad LaVelle	Alfalfa Fire District
Kevin Corenilus	Brasada Ranch
James Purswell	Bureau of Land Management
Sheldon Rhoden	Bureau of Land Management
Janet Hutchison	City of Prineville
Brian Barney	Crook County Board of County Commissioners
Will VanVactor	Crook County Community Development
Russ Deboodt	Crook County Fire and Rescue
Amber Blanchard	Crook County Fire and Rescue
Jack Colpitt	Crook County GIS Department
Andy Pearson	Crook County Sheriff's Office / Emergency Management
Dave Dethman	Crook County Sheriff's Office / Emergency Management
Tim Deboodt	Crook County Natural Resources Committee
Bob and Jerri Bronson	Dry Creek Airpark
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Jodie Barram	Oregon Living with Fire
Jeff Priest	Ochoco National Forest / COFMS
Kevin Robinson	Ochoco National Forest / COFMS
Heather Miller	Oregon State Fire Marshal
Ariel Cowan	Oregon State University-Extension Services

You can find a digital copy of this plan online at:
https://co.crook.or.us/sheriff/page/emergency-management

Or you may request a hard copy by contacting the following:

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541-447-6555

February 2025 (v.3)
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August 2014 (v.2)
Author: Tami Geiger, Central Oregon Intergovernmental Council

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Oregon Department of Forestry – Central Oregon District
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Information available: Fire prevention and education, technical assistance, stewardship plans, Bark Beetle Mitigation and National Fire Plan grants, Firewise Community Recognition

Oregon State Fire Marshal
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Information available: Wildfire prevention and community education, support with Fire Adapted Communities efforts, grant assistance, Firewise Communities support.

Grant Funding Opportunities

For more information on grants for community prevention and mitigation activities in your area, please reach out to your local fire agency (*see the contact information below*). Please note that funding and grant availability varies year-to-year.

Oregon Department of Forestry

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Table of Contents

1.0 Introduction

1.1 Purpose

The purpose of the CWPP is to identify communities at risk, identify what constitutes the risk, and develop an action plan to mitigate the risk thereby providing for a community that is more resilient to the effects of wildland fire.

For thousands of years wildland fires have moved across Oregon's landscape. In the early 1900's, European settlers began to suppress these fires resulting in unnatural fuels buildup. As a result, wildfires have increasingly impacted communities, especially those developing in the Wildland-Urban Interface (WUI), an area where wildland fuels and residences are intermixed. The result has been an increase in the number of homes lost each decade to wildfire.

In response to a growing population living in and near the WUI, and often away from structural and wildland response, two significant pieces of legislation were passed. First was the Healthy Forest Initiative (HFI) of 2002, which reduces the number of administrative delays for federal land management agencies to accomplish hazardous fuels reduction projects. Second, was the Healthy Forests Restoration Act (HFRA) of 2003, which improves the statutory processes for hazardous fuel reduction projects on federal and private land, especially where communities are "at risk" from the effects of wildland fire. The HFRA invites communities to develop Community Wildfire Protection Plans (CWPP) in collaboration with local governments, local fire departments and state foresters in consultation with their federal partners.

The Federal Land Assistance, Management and Enhancement (FLAME) Act of 2009 prompted the development of the National Cohesive Wildland Fire Management Strategy. The Cohesive Strategy is a national fire policy that calls for stakeholders to work collaboratively on achieving three goals: resilient landscapes, fire adapted communities, and safe and effective wildfire response. In 2011, the Western Regional Strategy Committee was established to implement the goals of the Cohesive Strategy at a regional scale and in April 2014 a final phase in the development of the Strategy as written with defined goals, principles, and core values. The Committee identified CWPP's as a primary tool for implementing broad-based stakeholder collaboration and locally appropriate strategies for achieving the Cohesive Strategy goals. Consistent with the national and regional strategies, the Crook County CWPP follows a collaborative approach to achieving the goals of the Cohesive Strategy.

In 2021, the Oregon Legislature passed Senate Bill 762, a comprehensive bill that provided more than $220 million to 11 state agencies to help Oregon modernize and improve wildfire preparedness through three key strategies: creating fire-adapted communities, developing safe and effective response, and increasing the resiliency of Oregon's landscapes. The Wildfire Programs Advisory Council creates an annual report on the work of the 11 state agencies and can be found here. SB 762 is the product of years of hard work by the Governor's Wildfire Council, the Legislature, and state

agencies. The legislation provides direction and investment to many state agencies. For the Board of Forestry and the Oregon Department of Forestry (ODF) the bill, among other things, provided legislative direction regarding the wildland-urban interface (WUI); statewide fire hazard mapping; prescribed fire; directed ODF to review and clarify the enforcement of rules pertaining to forestland; baseline standards for unprotected and under-protected lands in Oregon; and established grant programs to improve forest restoration and resiliency. The bill directed the State Building Codes Division to develop and adopt a state Building Hardening Code to create more wildfire-resilient structures in the High Hazard areas situated in the Wildland Urban Interface, according to the statewide hazard map. The bill also directed the Oregon State Fire Marshal to develop a state Defensible Space Code that would also apply in areas identified as a High Hazard and within the Wildland Urban Interface. New codes will go into effect when the state hazard map is finalized. Previous legislation, such as SB 360, have been replaced by SB 762 requirements. For more information on SB 762, visit ODF's website (www.oregon.gov/odf/pages/sb762.aspx).

The Crook County Board of County Commissioners, in coordination with the Ochoco National Forest and Prineville District of the Bureau of Land Management (BLM), initiated the process to develop a CWPP for Crook County in early 2004. The Commissioners requested an integrated CWPP for the county, with a focus on communities and components of critical infrastructure. In June 2005, Crook County completed the first version of the CWPP, and it was updated in 2006-7, and again in 2013-14. This re-write was completed in 2024.

1.2 Agency & Public Participation

This plan was developed in collaboration with representatives from:

- Alfalfa Fire District
- Brasada Ranch HOA
- Bureau of Land Management (BLM)
- Citizens At-Large
- City of Prineville
- Crook County Board of County Commissioners
- Crook County Economic Development
- Crook County Fire and Rescue
- Crook County GIS
- Crook County Natural Resources
- Crook County Sheriff's Office/Emergency Management
- Dry Creek Airpark
- Ochoco National Forest / Central Oregon Fire Management Service (COFMS)
- Oregon Department of Forestry
- Oregon Living with Fire
- Oregon State Fire Marshal
- Oregon State University-Extension Services
- Rangeland Fire Protection Associations
- US Forest Service

1.3 Methodology

Following approval of the Healthy Forests Restoration Act (HFRA), two CWPP planning models predominated in Oregon. The first provided a mechanism to address both the CWPP requirements and the wildland fire component of Natural Hazard Mitigation Plans (NHMP) to meet Federal Emergency Management Agency (FEMA) guidelines. The second, entitled “Preparing a Community Wildfire Protection Plan - A Handbook for Wildland-Urban Interface Communities” (known as the NASF model) was developed by the National Association of State Foresters, National Association of Counties, Society of American Foresters and others. The NASF model was selected as the foundation for the Crook County CWPP effort because the County had already completed their NHMP.

Below is a summary of the steps identified in the NASF model:

1. Convene Decision Makers
2. Involve Federal Agencies
3. Engage Interested Parties
4. Establish a Community Base Map
5. Develop a Community Risk Assessment
6. Establish Community Priorities and Recommendations
7. Develop an Action Plan and Assessment Strategy
8. Finalize Community Wildfire Protection Plan

1.4 Wildland-Urban Interface (WUI)

The Wildland Urban Interface (WUI) designation was determined using the official definition under Oregon Senate Bill 762, which adopted the International WUI Code definition: That geographical area where structures and other human development meets or intermingles with wildland vegetative fuels.

The International WUI Code corresponds to natural or man-made features and is based on housing units. The Code provides a framework for regulations to safeguard life and property from the intrusion of wildland fire and to prevent structure fires from spreading to wildland fuels, for defensible space and ignition resistant construction requirements, and is fully compatible with all of ICC’s International Codes. It is founded on data from tests and fire incidents, technical reports, and mitigation strategies from around the world.

In the 2024 update process, the Steering Committee utilized the Oregon Wildfire Risk Explorer WUI boundaries as a base, and then used local knowledge of conditions to further identify areas of WUI within the County. You can find the final WUI map in *Appendix D - Maps*.

It should also be noted that the definition of WUI is a set of conditions as opposed to a specific location on a map. Any map used now or in the future might lead to a misunderstanding of the factors that increase fire risk around a home. Whether or not a community or home is within the “WUI” designated on these maps, the surrounding fuel conditions could translate to elevated risk, especially given the fire-prone environment in Crook County.

1.5 Goals of the Crook County CWPP

- Protect against loss of life, property and natural resources from wildfire.
- Strengthen partnerships to build and maintain active participation in mitigation and suppression of wildfire from each fire protection agency and unprotected areas.
- Instill a sense of personal responsibility to reduce the risk of intense wildfire behavior on public and private lands.
- Enhance local ability to prepare for, respond to and recover from wildfires in Crook County.
- Evaluate local site development standards and create strategic safety zones to enhance structural survivability and improve life safety in fire-prone areas.
- Develop a county evacuation planning process including local community plans and routes. Develop an update framework to keep plans current.
- Identify public education and awareness opportunities, particularly relating to unprotected areas.

It is intended that the Crook County CWPP be used as a county-wide, strategic assessment of the risks, hazards, and mitigation and prevention opportunities associated with wildfire in our communities. This plan is intended to be a living document, which will be reviewed, updated, amended and distributed (as needed) on an annual basis. The Steering Committee will convene every five years to re-evaluate the risks and overall analysis.

Photo of the 2024 Rail Ridge Fire from the Crook County Sheriff's Office Facebook page.

2.0 Crook County Community Profile

Founded in 1882, Crook County (population 26,583[1]) has a rich history with a strong commitment to its heritage. The County values its independence, authenticity, rural lifestyle, friendly people, natural resources, and vibrant agricultural sector. It also values providing a variety of economic development opportunities.

During the 2010s and early 2020s, Crook County has seen continued growth in and around the City of Prineville, as well as in unincorporated rural residential areas. According to the United States Census Bureau, based on 2022 estimates, Crook County was the fastest growing county in Oregon. The 2022 Census estimates the population of Crook County to be 26,583, with a growth rate of 6.6% between 2020 and 2022. This growth provides exciting opportunities for the community and its citizens but poses challenges that must be addressed. One such challenge is increased development in fire-prone areas and the wildland-urban interface, exposing citizens to increased risk from wildland fire.

2.1 Social Vulnerability

Social Vulnerability refers to the idea that pre-existing social and economic factors may make some communities more vulnerable to hazards than others.[2] These factors can include income levels, age, access to housing and transportation, available services, language barriers, etc.

Figure 2-1 displays overall social vulnerability in Crook County by US Census block groups.

[1] Population Research Center, PSU, April 2023.
[2] Oregon Wildfire Risk Explorer, Crook County Advanced Report, August 2024.

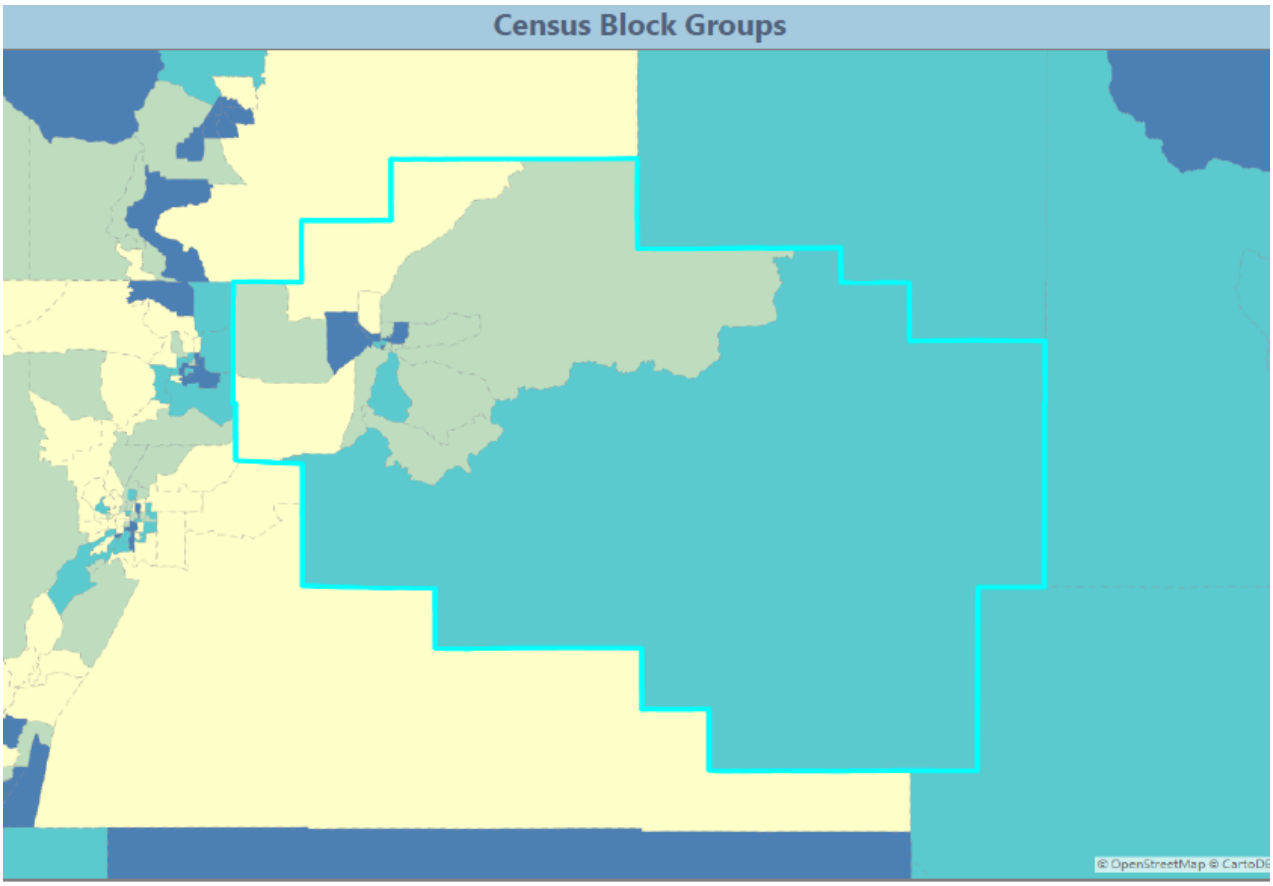


Figure 2-1 Social Vulnerability in Crook County[3]

[3] Oregon Wildfire Risk Explorer, Crook County Advanced Report, August 2024.

Table 2-1 shows data from the 5-year American Community Survey (2016-2020) that was used to calculate the overall social vulnerability index (SVI) score for Crook County. Overall, Crook County has higher social vulnerability than 22.9% of counties in Oregon. More information on Crook County's SVI can be found within the Oregon Wildfire Risk Explorer (OWRE) - Crook County Advanced Report.

	County	State
Overall Social Vulnerability Score		
Overall Social Vulnerability Score	22.9	
Socioeconomic Status Theme		
Poverty (%)	10.2%	12.4%
Unemployment (%)	5.0%	5.5%
Per Capita Income ($)	$29,923	$35,393
Less Than High School (%)	10.7%	8.9%
Socioeconomic Status Theme	**40.0**	
Household Composition & Disability Theme		
Over Age 65 (%)	24.9%	17.6%
Under Age 17 (%)	19.8%	20.8%
Single Parent Households (%)	10.1%	12.3%
Disable (%)	19.4%	14.3%
Household Composition & Diversity Theme	**100.0**	
Minority Status & Language Theme		
Minority Populations (%)	11.9%	25.1%
Limited English Language (%)	0.6%	2.4%
Minority Status & Language Theme	**22.9**	
Transportation & Housing Theme		
Multi-unit structures (%)	3.3%	12.5%
Mobile Homes (%)	15.9%	7.7%
Household Crowding (%)	3.4%	3.2%
Group Quarters (%)	0.5%	2.1%
No Vehicle Access (%)	3.4%	7.2%
Transportation & Housing Theme	**0.0**	

Table 2-1 OWRE's Social Vulnerability Index of Crook County

2.2 Geography & Environment

Crook County is located in the geographic center of Oregon on the east side of the Cascade Mountains. The Cascades contribute to gusty, turbulent, dry cold front passage that has historically contributed to high wildland fire rates of spread and spotting in many areas of the county. The rain shadow effect of the Cascades also shapes the Central Oregon high desert and is readily apparent in the western and southern portions of Crook County. These portions are located at 3000 feet in elevation and are dominated by Western Juniper and a variety of sagebrush and grass species.

The Ochoco mountain range, located in the northern and eastern portion of the county, transitions from high desert to elevations of 6,000 feet with broken terrain and a dry-forest ecotype dominated by Ponderosa Pines and interior Douglas fir. Lodgepole pine, Western larch and White fir are also common on north slopes and higher elevations. As

weather moves across and into the higher elevation of the Ochoco Mountains, precipitation increases.

2.3 Critical Infrastructure

The Healthy Forests Restoration Act (HFRA) requires that Community Wildfire Protection Plans (CWPPs) focus on fire-safety of both communities and critical infrastructure. Traditionally, development in Crook County was in valley areas, near water and grazing for livestock. However, over the last few decades, development has moved outward into areas of drier vegetation, further from main roads and more wide-spread utility systems supporting sprawling residential development.

The analysis of community resilience to the destructive effects of wildfire must address fire threat to residences as well as infrastructure used by emergency personnel including, power, electricity, transformers, telephone, water and communication systems, cameras, and roadway egress/ingress. The road system must adequately address ingress and egress issues for emergency vehicles and residential and recreational travel. Hazardous vegetation should be treated around all critical infrastructure sites to make it more resilient to withstand the impact of wildfires.

As measures are identified to expand the resiliency of Crook County's communities, hazardous fuel treatments and standards for access to infrastructure must be applied to existing developments and in the planning process for newly developed areas.

2.4 Communities at Risk

Developed areas are identified within each of the Risk Assessment Area subsections in Section 4.0. Components of critical infrastructure are identified within each of the Assessment Areas and subsequently summarized in *Appendix D – Critical Infrastructure Map.*

2.5 Fire Protection Agencies

Portions of Crook County receive fire protection from one of the following agencies. See *Appendix D – Fire Protection Map* for the boundaries of each agency. Note: the fire management functions of the Ochoco National Forest and the Bureau of Land Management have been merged with that of the Deschutes National Forest under Central Oregon Fire Management Services (COFMS).

Alfalfa Fire District #1 is an all-hazard Fire and EMS agency which serves the Residents of Alfalfa. The District encompasses 64 sq miles in both Deschutes and Crook Counties. Through various mutual aid agreements, the District provides structural and wildland resources to the tri-county area and its agencies.

Brothers-Hampton Rangeland Fire Protection Association (RFPA) operates as an independent association of landowners that provides their own protection and works in

cooperation with the Prineville BLM and Oregon Department of Forestry (ODF). The RFPA was formed as a non-profit corporation with a local Board of Directors and provides wildland fire protection under a cooperative agreement with the Oregon Board of Forestry.

The RFPA is centered on the Brothers and Hampton area south of the Maury Mountains and east of Hwy 27. It also includes areas in Deschutes County. The RFPA covers 135,229 acres of private lands in Crook County. In addition to trucks, dozers, and other equipment owned by the members of the RFPA, the RFPA is equipped with four fire trucks on loan through the Federal Excess Property Program. ODF provides technical support in the form of grants, grant writing, equipment procurement, and firefighter training.

Bureau of Land Management (BLM) see COFMS.

Central Oregon Fire Management Services (COFMS) provides wildland fire response for fires burning on, or threatening, all federal lands within the county.

Crook County Fire and Rescue (CCF&R) provides responses to structural and natural vegetation fires within Crook County Rural Fire Protection District No. 1 (CCRFPD#1).

Oregon Department of Forestry (ODF) provides wildland fire response for fires burning on or threatening private forestlands paying Forest Patrol Assessment within the ODF-Central Oregon District. Some wildland-urban interface areas receive dual protection from ODF and CCF&R because they are located within the rural fire protection district and are also classified as forest land within the ODF district.

Post-Paulina Rangeland Fire Protection Association (RFPA) operates as an independent Association of landowners that provide their own protection and works in cooperation with the Prineville BLM and ODF. The RFPA was formed as a non-profit corporation with a local Board of Directors and provides wildland fire protection under a Cooperative Agreement with the Oregon Board of Forestry.

The Post-Paulina Rangeland Fire Protection Association is centered on the Post and Paulina area north of the Maury Mountains and to the southeast including the GI Ranch. It also includes areas in Deschutes and Harney counties. The RFPA covers 347,017 acres of private lands in Crook County. In addition to trucks, dozers and other equipment owned by members of the RFPA, the RFPA is equipped with four fire trucks on loan through the Federal Excess Property Program. ODF provides technical support in the form of grants, grant writing, equipment procurement, and firefighter training.

In addition, all the above-listed agencies are signatory to the Central Oregon Cooperative Wildland Fire Agreement that provides for mutual aid wildland fire support among all of the wildland and structural agencies and departments in Crook, Deschutes and Jefferson counties. The multiple-agency structural/wildland fire response in Central

Oregon has been recognized as one of the most efficient and best coordinated in the state.

2.6 Unprotected Lands

The majority of Crook County has some level of wildland fire protection (*see Appendix D - Fire Protection Map*). A smaller portion of the county has structural fire protection from Crook County Fire & Rescue and Alfalfa Fire District. A small, 4 square mile section of the County is truly unprotected with no wildland or structural fire protection.

Further discussion of local support and the establishment of two Rangeland Fire Protection Associations within Crook County is included in *Section 6.0 Unprotected Lands and Communities.*

3.0 The Crook County Fire Environment

Crook County ecosystems, particularly those adjacent to development at low and mid elevations, are described as “fire-adapted”. Vegetation in fire-adapted areas requires fire to remain healthy and sustainable over time. Over the last century, fire suppression and forest management activities have altered the natural period between fires for these ecosystems (fire return interval). This has resulted in tree species shifts, increase in tree stand density and overgrowth of forest fuels, all of which increase the susceptibility of the forest to insects, disease and to wildfire.[4]

3.1 Wildfire Causes

Lightning is a main fire starter in Crook County. While fire cause data is incomplete, patterns show that lightning historically causes about three times as many fires as are caused by humans in the County.

Human Caused fires are typically started by accident. Frequent ignition sources include out of control yard debris burning, malfunctioning equipment, fireworks, cigarette butts, inadequately suppressed campfires, and heated catalytic converters in dry grass.

3.2 Fire Behavior Factors

Wildland fire behavior is influenced by three components: fuels, topography and weather. The interaction between these three factors offers insight into how a fire behaves after it is ignited. It is important to note that fuel is the only factor that can be mitigated. Weather and topography can be understood, but not influenced.

Fuels describe anything that can burn in a fire. Dry fuels burn easier and fuels that are close together allow fire to spread quickly. There are three general categories of fuels: ground fuels, surface fuels and canopy fuels.

> **Ground Fuels** lie just under the ground’s surface, such as buried logs or roots. These fuels burn slowly because of higher moisture and lower oxygen levels.
>
> **Surface Fuels** are just above the surface and include anything from pine needles, grass, leaves, shrubs, or home porches. Because of the dry nature of most wildland-urban interface areas of Crook County, many of the brush species contain a significant amount of volatile, highly flammable oils and resins (e.g. bitterbrush and sagebrush). The south and western areas of Crook County are dominated by Western Juniper and a variety of sagebrush and grass species. These relatively low fuels can generate very intense, high *flame length* fire.

[4] Personal communication with Stephen Fitzgerald, retired OSU Extension Silviculture Specialist, quoted in Crook County Natural Hazards Mitigation Plan, Section 7: Wildfire.

Flame Length describes the distance between the tip and the base of a flame and is used as an indicator of fire intensity. Fire managers try to reduce fuels, so wildfires generate flame lengths under four feet.

Crown Fuels refer to the crowns (tops) of trees and are typically the most dangerous fuel type. A crown fire is significantly harder to suppress and can quickly spread away from the ground fire where it originated. The northern and eastern portions of Crook County have a dry-forest ecotype dominated by Ponderosa Pines and interior Douglas fir. Lodgepole pine, Western larch and White fir are also common on north slopes and higher elevations.

Ladder Fuels are the small trees and brush that carry fire from the surface into the crowns. Reducing ladder fuels significantly reduces the risk of crown fire.

Topography is the elevation and slope, steepness, aspect and shape of the country – the “lay of the land”. Fire intensity and speed varies greatly depending on the topography of the land. Fire generally travels rapidly uphill as it dries out the fuels above it. Steep terrains are also more difficult for firefighters to access.

Crook County’s western boundary is located at approximately 3,000 feet in an area of high desert vegetation. Elevation increases, up to 6,000 feet, as the terrain becomes more broken in the northern and eastern portions of the county, which are part of the Ochoco Mountains. Fire behavior is also affected by the aspect, or direction the slope faces. Southern-facing slopes get the most direct sunlight and are the driest side of any mountain or foothill. Some features of the landscape can be beneficial to controlling fire, like rivers and lakes that can impede its path and help firefighters contain the fire. However, river canyons can also channel and amplify winds, so fires move faster and burn hotter. The Crooked River runs east-west from the Ochoco Mountains and into the Prineville Reservoir, created by the Bowman Dam. Below the dam, the river flows through Prineville and continues northwest until it empties into Lake Billy Chinook (Jefferson County).

Weather Patterns in Crook County are strongly affected by the Cascade Mountain range. Wind, humidity, temperature and precipitation are the aspects of weather that have the greatest influence on fire behavior. Wind propels fire by injecting oxygen for combustion and pushing the flame onto unburned fuel. The Cascades contribute to the gusty, turbulent, dry cold front passage that has historically contributed to high wildland fire rates of spread and spotting in many areas of Crook County. Humidity and precipitation (as well as temperature to a lesser degree) control the level to which fuels are saturated with water. The rain shadow effect of the Cascades affects precipitation

patterns with the western and southern portions of Crook County having an annual average precipitation of 8-10 inches, while the northern and eastern portions at higher elevations receive increased precipitation. **Figure 2-2** below illustrates Crook County precipitation patterns, the rain shadow effect from the Cascades and the precipitation effect of the higher elevation Ochoco Mountains.

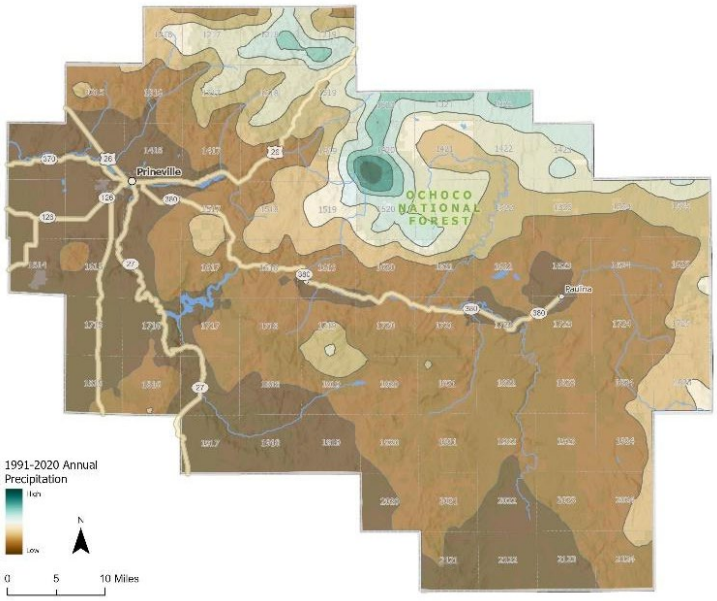


Figure 2-2 Crook County Precipitation Map (2024).

4.0 Risk Assessment Areas & Analysis Process

In addition to meeting the assessment needs for the CWPP, one of the objectives of the planning process is to facilitate any near-term pending prevention or mitigation initiatives. The CWPP uses the ODF Risk Assessment process so that assessment data is compatible with implementation of Senate Bill 762 by Oregon Department of Forestry.

4.1 Identification of Risk Assessment Areas within Crook County

To facilitate a more manageable analysis process, the county was broken up into six geographical blocks referred to as *Risk Assessment Areas*. Each of these blocks contains multiple communities and multiple components of critical infrastructure.

1. Powell Butte
2. McKay
3. Juniper Canyon
4. Maury
5. Paulina
6. Twelve Mile

Analysis summary data, priorities and recommendations, mitigation recommendations and action plan items are identified for each risk assessment area.

4.2 The Analysis Process

In the development of the 2005 CWPP, an inventory of existing natural resource data was developed from all participating agencies. The analysis process then proceeded in a series of progressive steps outlined below.

1. Review, screen and consolidate appropriate GIS natural resource data layers from land management agencies. Produce county base maps.
2. Screen GIS data layers through the ODF assessment model, *Identifying and Assessment of Communities at Risk in Oregon.* Incorporate fire occurrence data from all fire service agency records and transportation infrastructure data. Identify unique operational and tactical challenges based on topography and transportation infrastructure limitations.
3. Identify developed community areas throughout the county.
4. Review potential wildfire-driven special needs limitations and opportunities.
5. Develop draft recommendations for wildland-urban interface (WUI) boundaries.
6. Incorporate input from community meetings and presentations.
7. Identify mitigation priorities and recommendations for each Risk Assessment Area.
8. Finalize WUI boundary, mitigation and priority recommendations.
9. Finalize action plan and further assessment needs.

The 2024 CWPP re-write reviewed the steps and updated information as needed. The committee reviewed mitigation work that had been completed in each of the Risk Assessment Areas since 2014; however, most of the overall risk assessment ratings remained unchanged.

4.3 Crook County Assessment Results

Each of the County's geographical assessment areas were screened through the ODF assessment model. This process resulted in conditions labeled as "extreme, high, moderate or low" for each of the categories shown below for each of the assessment areas:

- ***Risk*** - What is the likelihood of a fire occurring? (Fire occurrence per 1000 acres per 10 years)
- ***Hazard*** - What is the resistance to control once a wildfire starts, including weather, topography and fuels?
- ***Protection Capabilities*** - What are the risks associated with wildfire protection capabilities, including capacity and resources to undertake fire prevention measures?
- ***Values Protected*** - What are the human and economic values associated with communities or landscapes? *Note: This is based on structural/population density and the presence of critical infrastructure with an assessment area, not assessed valuation.*
- ***Structural Vulnerability*** - What is the likelihood that structures will be destroyed by wildfire? *Note: All assessment areas were given a "high" listing for this standard. Crook County does not have a database or field assessment for acreage treated or defense measures homeowners have taken (discussed further in Section 5.0).*

All data for the assessment results are in tabular form in Appendix C and in narrative form on the following pages.

4.3.1 Powell Butte Risk Assessment Area

The Powell Butte assessment area includes the portions of Crook County to the west of Highway 26 beginning at the Jefferson County line and extending to the City of Prineville, then south on Highway 27 extending to the Deschutes County line. The unit contains a substantial number of developed areas, agricultural land in the vicinity of the Powell Butte community and an extensive amount of grazing and wildland, both private and public.

The unit is traversed by highways U.S. 26 and Oregon 126. Both routes are heavily traveled by residents, visitors and commercial traffic and provide the only major east-west travel options across the county.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	40	High
Hazard (Fuels, Topography, Weather)	67	Extreme
Protection Capabilities (High Score=High Risk/Low Protection Capability)	15	Moderate
Values Protected (Structural Density and Critical Infrastructure)	27	Moderate
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within Powell Butte Assessment Area

Between 2015 and 2024 the Bureau of Land Management completed approx. 1000 acres mitigation work in the Juniper Acres area and along Millican road. The Oregon Department of Forestry completed some scattered work as well.

Notes highlighting the fuels treatment completed in each community are included below.

Communities within the area include, but are not limited to the following:

- Prineville, western edge including the Baldwin Road Industrial Park, Prineville-Crook County Airport, and Les Schwab Warehouse
- Red Cloud Ranch
    - Became a Firewise Community in 2022
    - The Central Oregon Wildfire Workforce Partnership (COWWP) completed 30.15 acres of fuels reduction projects
- Powell Butte
    - COWWP completed 10 acres of fuels reduction projects along McDonald Dr.
- Prineville Ranch Subdivision
- Twin Lakes Ranch
- Westwood
- Westridge Estates
- Old West Road Subdivision
- West Powell Butte Estates
- Mountain View Estates
- Steelhammer Ranch
- Sinclair-Davis Tract 2
- Carrero-Cowan
- Powell Butte View Estates
- River Lake Ranches

- Juniper Acres
- Alfalfa-eastern portion including Willard Estates
- Brasada Ranch
    - Became a Firewise community in 2022
- Hidden Canyons
- Grandview Subdivision
- Lone Pine Area

Critical Infrastructure within the Powell Butte Assessment Area

1. Transportation and Road System: Highways 26 and 126 provide for critical transportation across the county and to/from adjoining counties to the east. The Millican Road bypass provides a direct route from Highway 20 east of Bend, north through Prineville to either Redmond via Hwy 126 or to Madras via Hwy 26. The generally mild terrain within the unit allows for a variety of alternative access routes in the agricultural areas and in areas of substantial residential development. With the exception of the Bend-Powell Butte Highway, in the larger blocks of wildland/grazing lands developed travel routes are limited.

2. Utilities: Electrical infrastructure is extensive within the unit. The BPA-managed Pacific Northwest/Pacific Southwest transmissions lines cross this area from north to south. Substations and transmission/distribution lines are located throughout developed areas. Telephone, natural gas and water systems are in place to support residential development, the Baldwin Industrial Park, the Prineville-Crook County Airport and the area surrounding the Powell Butte School.

3. Emergency and Communications Facilities: Several agencies have communications facilities within the assessment area. Hazardous fuels assessments for these critical infrastructure sites and commercial electrical service to them (including hazardous trees adjacent to rights-of-way and critical infrastructure) is needed.

4. Public Agency Facilities: Crook County Fire and Rescue has a substation in the Powell Butte community. In addition to its fire station function, during a large-scale fire event, it may also be needed as an Incident Command Post, medical aid station or evacuation staging site. This station is adjacent to agricultural lands where wildland fuels present little risk.

5. School Facilities: Powell Butte School is located in the unit.

6. Campgrounds and Recreation Facilities: The BLM campgrounds along the Crooked River receive large visitor use, particularly during holiday weekends. Evacuation planning should be assessed to address this need. Refer to *Appendix D – Recreation & Communities Map.*

7. Other Critical Facilities: Prineville-Crook County Airport, Crook County Emergency Operations Center, the National Guard Armory, Les Schwab Tire Warehouse and

the Baldwin Industrial Park are clustered on the western edge of the City of Prineville. Meta and Apple data centers are also located on the southwestern edge of the city. Three large solar farms are located along George Millican Road, totaling approximately 1,100 acres in size. Popular OHV trails and associated dispersed camping are also located along George Millican Road.

The portion of the National Guard training area in Crook County extends, in part, nearly to the Crooked River and south of Highway 126. Most of that area is already within the identified WUI of the Powell Butte Assessment Area. As the Training Center completes its fire planning process, the Crook County CWPP Review Committee should confer with National Guard staff to ensure that no conflicts unintentionally develop between the CWPP and the training center document. Subsequent review committees should also review and identify which portions of the training center are most apt to have a potential fire-related impact on adjoining residents in Crook County.

The Review Committee recognizes the importance of this Center for National Guard resources to maintain a high level of readiness.

4.3.2 McKay Risk Assessment Area

The McKay assessment area covers most of the northwest portion of the county. It includes the area north and east of Hwy 26 beginning at the Jefferson County line including most of the City of Prineville. The boundary then follows Combs Flat Road (Paulina Hwy) to the break between the Ochoco Creek and Crooked River watersheds; then following the watershed break to the northeast and east to the Ochoco National Forest boundary; then north to the Ochoco Ranger Station Road near the confluence of Ochoco Creek and Wolf Creek; then past the Ranger Station running northeast to the Wheeler County line near Walton Lake. The Wheeler and Jefferson County lines form the northeast and north boundaries back to Highway 26 at the Jefferson County line.

This area includes large expanses of wildland; however, the CWPP will focus on those areas within the wildland-urban interface. Most developed areas with more traditional wildland vegetation are either on or adjacent to major travel routes.

The unit includes the majority of the Ochoco Valley agricultural lands, the suburban areas north of Prineville and the community adjacent to Ochoco Reservoir. Reduced levels of hazardous fuels are present in some of the areas closer to the valley floor.

Portions of the Ochoco National Forest (Maury, Paulina, and McKay assessment areas) are experiencing an increase in tree mortality due to a combination of influences, insect damage and disease coupled with a long-term drought are primary influences.

These areas are being inventoried and assessed to determine their impact on fire behavior and fire effects. The tree mortality has or will increase fuel loading, that will

likely create negative fire effects like increased mortality in residual trees and plants, and possibly soil damage.

Using PODS to track the affected areas the Forest is working on treatment options to address this hazard.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	40	High
Hazard (Fuels, Topography, Weather)	69	Extreme
Protection Capabilities (High Score=High Risk/Low Protection Capability)	10	Moderate
Values Protected (Structural Density and Critical Infrastructure)	28	Moderate
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within the McKay Assessment Area

The U.S. Forest Service completed 67,417acres of mitigation work in the area from 2005-2014. Between 2015 and 2024, the U.S. Forest Service thinned and burned 40,726 acres.

Notes highlighting the fuels treatments completed in each community are included below.

Communities within the area include, but are not limited to the following:

- City of Prineville (majority)
- Ochoco West
    - A large fuel break was completed on the north side of the community. This fuel break is approximately 45' wide and stretches from the west side to the east side of the community.
- Ochoco Reservoir area including Lakeshore RV Park, Crystal Corral RV Park, North Shore Estates, Ochoco Lake Lots and the County Park
    - 2008 FEMA Summary: Treatment was somewhat scattered with approximately 20% participation overall.
- Lofton Creek/Turner Creek
- Sunset Hills Subdivision
    - Became a Firewise Community in 2019
- Pleasant View Heights
- Meadow Ridge
- Mill Creek Ranches
- Johnson Creek

- McKay Creek
- Ochoco Christian Conference Center and Ponderosa Ranch

Critical Infrastructure within McKay Assessment Area

Most of the urban and suburban areas of Prineville fall into this area. While much of this area is not considered to be at high risk, many areas are very susceptible to damaging natural vegetation fire due to landscaping choices around homes and inadequate vegetation management on undeveloped lots or in open areas. These areas are particularly vulnerable where un-maintained vegetation covered slopes lead from focal points of human activity (e.g. streets) upslope to residential development. Hazardous fuel mitigation actions in these areas should receive high priority attention.

1. Transportation and Road System: The extensive transportation system throughout this unit links to a wide variety of uses. Highway 26 either flanks or travels through the unit from Jefferson County to Wheeler County. The potential for economic and public safety impacts due to fire impingement on this route are substantial. McKay Creek Road, Johnson Creek Road, Mill Creek Road and Ochoco Ranger Station Road provide access to developed areas over substantial distances and with more severe terrain and higher levels of vegetative fuel load. Additional secondary side roads and long driveways access many residences. Assessment of initial and maintenance-level fuels treatment is needed for all of this transportation infrastructure system.

2. Utilities: An extensive electrical distribution and telephone infrastructure accesses the residential development within the unit. These systems are generally located along the road systems referenced above. Vegetative assessment and treatment actions taken to protect access routes will confer similar protection to these utilities' corridors. Special attention should be placed on right-of-way maintenance of both utility poles and encroachment of trees and limbs. Continuing drought and forest health challenges may increase the number of snags and trees with unsound root systems adjacent to and within right-of-way (R/W) corridors. Landowners and land management agencies may have an opportunity to contribute to this maintenance effort by taking appropriate action to remove hazardous trees adjacent to rights-of-way.

3. Emergency and Communications Facilities: Several agencies have communications facilities within the assessment area. Hazardous fuels assessments for these critical infrastructure sites and commercial electrical service (including hazardous trees adjacent to rights-of-way and critical infrastructure) is needed. Oregon Department of Forestry (ODF) has a detection camera site at Foley Butte Lookout. This lookout has good visual coverage of the lower Ochoco Valley around Prineville.

4. Public Agency Facilities: The Ochoco Dam (title held by the Ochoco Irrigation District) and several parks are located within the assessment area.

5. School Facilities:
    - Crooked River Elementary
    - Crook County High School
    - Crook County Middle School
    - Barnes Butte Elementary
    - Steins Pillar Elementary
    - High Desert Christian Academy
    - Pioneer
    - Crook County Christian School
    - Central Oregon Community College

6. Campgrounds and Recreation Facilities: Ochoco Reservoir. Residential development and the County Park at the reservoir receive a significant level of use by local residents and visitors to Crook County. Fuels treatment assessment is of high priority, particularly to the north of the reservoir, including the Highway 26/utilities corridor.

    U.S. Forest Service campgrounds and dispersed camping areas are present on nearly all main roads leading into the forest including:
        - Dispersed sites along Forest Road 33 to Harvey Gap and Wildcat Campground. and along Forest Road 27(McKay Creek) to McKay Saddle.
        - Wildcat Campground on Mill Creek
        - Dispersed sites and Ochoco Divide Campground and Ochoco Forest Campground along Highway 26

    Refer to *Appendix D – Recreation & Communities Map.*

4.3.3 Juniper Canyon Risk Assessment Area

Juniper Canyon assessment area is located east of the Crooked River from Prineville to Bowman Dam; north of Prineville Reservoir from Bowman Dam and the Crooked River to the Paulina Highway; and west of the Paulina Highway back to Prineville. The unit includes dense residential development in the Juniper Canyon area but is essentially wildland in nature to the east and south of currently developed areas. Significant additional development is being planned to the north of the reservoir. Areas of extensive rimrock are present along the Crooked River and the reservoir.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	40	High
Hazard (Fuels, Topography, Weather)	72	Extreme
Protection Capabilities (High Score=High Risk/Low Protection Capability)	2	Low
Values Protected (Structural Density and Critical Infrastructure)	35	High
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within the Juniper Canyon Assessment Area

Between 2005 - 2014 Prineville District BLM has completed approx. 1228 acres of hazardous fuels reduction (Thinning, piling, Prescribed burning) in the Juniper Canyon area, and since 2015 approx. 1000 acres of fuels reduction treatments have been implemented on BLM lands in the Juniper Canyon assessment area.

Notes highlighting the completed fuels treatment are included below.

Communities within the area include, but are not limited to the following:

- Highlands Subdivision
  - 2007 FEMA Summary: Limited, scattered mitigation work was completed.
- High Desert Estates
  - 2007 FEMA Summary: Approximately 50% of the parcels in the development participated. More importantly, nearly 80% of the parcels at greatest topographic risk along the major drainage running through the development and those adjacent to Juniper Canyon Road participated.
- Ochoco Land and Livestock
  - 2007 FEMA Summary: Limited, scattered mitigation work was completed.
- Lost Lake Estates
  - 2007 FEMA Summary: Limited, scattered mitigation work was completed.
- Idleway Acres

    - 2007 FEMA Summary: Limited, scattered mitigation work was completed.
- Prineville Lake Acres #1 (PLA1)
    - The Bureau of Land Management has performed some mitigation/fuels reduction work.
- Prineville Lake Acres #2 (PLA2)
    - 2007 FEMA Summary: Approximately 6 miles of road R/W was treated to reduce fire behavior under overhead utility lines. These same roads function as the primary evacuation routes out of the subdivision back to Upper Davis Road.
- Prineville Reservoir State Park
    - 2013/2014 treatment work was performed by the Oregon Parks and Recreation Department on the main roadway into State Park.
- Indian Rock Estates
    - 2007 FEMA Summary: Road construction slash piles were abated along about a mile of road running through Phase 2 of the development. This section of road will eventually provide an alternate emergency egress route from Prineville Reservoir State Park for traffic traveling to the north back toward Prineville.
- Longhorn Ridge
    - 2007 FEMA Summary: Limited, scattered mitigation work was completed.
- Hood's Subdivision
- Dry Creek Airpark
    - Became a Firewise Community in 2018
- Conifer Heights
- Ironwood Estates
- Chuckwagon Acres
- Lakeview Cove
- Juniper Hills
- Jasper Knolls
- Botero Park Subdivision
- Grandridge Subdivision

Critical Infrastructure within the Juniper Canyon Assessment Area

1. Transportation and Road System: The transportation infrastructure was determined to be the most at-risk item within the analysis unit. Juniper Canyon Road provides the only major access option. In addition to lack of other travel choices, this route would be further compromised by the presence of significant fuel loading and constricted canyon walls/chimney effect on fire behavior. In 2006, the CWPP identified the need to establish a county standard requiring the development of multiple alternate access routes, for both existing and newly planned communities. To date, Juniper Canyon Road remains the only major access option to the communities. A large-scale fire-related evacuation would generate heavy traffic that would affect the safety of the public and responding firefighting resources. Juniper Canyon Road, Davis Loop and all other primary access routes linking to development areas should be high priority for access corridor fuels treatment.

2. Utilities: The fuel type in the area potentially provides an adequate heat source to compromise electrical power lines throughout the unit. The electrical substation at the intersection of Juniper Canyon Road and Upper Davis Loop is significant. Hazardous fuels reduction adjacent to all these assets is appropriate.

3. Emergency and Communications Facilities: The Crook County Fire and Rescue Substation and an emergency power generator are in the assessment area. In addition to its fire station function, during a large-scale fire event, CCF&R may also be needed as an Incident Command Post, medical aid station or medical evacuation staging site.

   Several agencies have communications facilities within the assessment area, including critical radio infrastructure. Hazardous fuels assessments for these critical infrastructure sites and commercial electrical service to them (including hazardous trees adjacent to rights-of-way and critical infrastructure) is needed.

4. Public Agency Facilities: Crook County Fire and Rescue has a substation in the Juniper Canyon community. In addition to its fire station function, during a large-scale fire event, it may also be needed as an Incident Command Post, medical aid station or evacuation staging site.

5. School Facilities: N/A

6. Campground and Recreation Facilities: Prineville Reservoir. These facilities (state and county parks and private campground/resort) are utilized by significant numbers of Crook County residents and visitors, particularly during the summer. Ongoing assessment of hazardous fuels treatment opportunities and development of shelter-in-place contingency plans will be important to wildfire preparedness and increased public safety resiliency for people using these facilities. Along the Lower Crooked River from Milepost 11 to the Dam there are twelve BLM campgrounds and day-use recreation areas including: Castle Rock, Upper Palisades, Cobble Rock, Stillwater, Lone Pine, Lower Palisades, Chimney Rock, Post Pile, Poison Butte and Big Bend; and the day-use areas: Greenwood and Upper Lone Pine. Refer to *Appendix D – Recreation & Communities Map.*

7. Other Critical Facilities: In the event of a large-scale wildland fire, the Dry Creek Airpark's airport facility may be used for medical evacuation and general air support. The need for additional planning for this type of use should be assessed.

4.3.4 Maury Assessment Area

The Maury assessment area is bordered by the Powell Butte area on the west, the Juniper Canyon and Paulina areas on the north, Camp Creek Road on the east and the Deschutes County line on the south. This assessment area is predominately public (USFS and BLM) and private wildland with vegetation types varying from rangeland at the lower elevations and Ponderosa pine/mixed conifer at higher elevations and on the north aspect of the Maury Mountains.

Expansion of western juniper in shrub steppe ecosystems, such as the Maury risk assessment area, has increased fire frequency and intensity because of its fire-prone characteristics. In addition to being highly hazardous, western juniper consumes large amounts of water and crowds out native plants. These factors largely alter the shrub steppe ecosystem and make it difficult for vital wildlife species (such as sage grouse and mule deer) to find food. Juniper removal projects have been underway in this risk assessment area to decrease western juniper quantities, restore the ecosystem for essential wildlife species and reduce wildfire risk.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	20	Moderate
Hazard (Fuels, Topography, Weather)	67	Extreme
Protection Capabilities (High Score=High Risk/Low Protection Capability)	40	High
Values Protected (Structural Density and Critical Infrastructure)	22	Moderate
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within the Maury Assessment Area

Between 2005 - 2014, the U.S. Forest Service completed 22,473 acres of hazardous fuels reduction in the Maury Assessment area. Between 2014 - 2024, they completed 13,576 acres of hazardous fuels treatment in the area.

Between 2005 - 2014 Prineville District BLM completed approx. 2,200 acres of hazardous fuels reduction (Prescribed burning) in the Maury Assessment area.

- Post (on the border with, and addressed in with the Paulina area)
- Riverside Ranch (portion south of the Crooked River)
- Conant Basin
    - The Natural Resources Conservation Service (NRCS) and Crook County Soil and Water Conservation District have removed some juniper in the area.

Critical Infrastructure within the Maury Assessment Area

1. Transportation and Road System: The Paulina Highway is located just across the Crooked River on the north edge of this area. Access to/from the south to the highway is via the four primary access routes (Newsome Creek Road, Pine Creek Road and Drake Creek Road from the Maury Mountains and Camp Creek Road located east of the Maury Mountains). Primary alternative access to the south is via a variety of forest roads in the Klootchman Creek/Antelope Flat Reservoir area and in the Double Cabin Creek drainage.

   These north-south road systems provide critical access for both public and agency fire response needs. In addition, the access road from Riverside Ranch traveling south into the Conant Basin area is essentially a dead end. It is strongly recommended that arrangements, including any necessary security provisions, be made with adjoining landowners to provide at least one but preferably two alternate emergency access routes out of the Conant Basin. These alternative routes could be gated with provision made for appropriate authorized use in case of a fire emergency. The current condition of these routes should be assessed and improved as necessary to allow adequate vehicle passage.

2. Utilities: N/A

3. Emergency and Communications Facilities: Several agencies have communications facilities within the assessment area, including critical radio infrastructure.

4. Public Agency Facilities: The BLM (COFMS) staffs Tower Point Lookout near the east end of the Maury Mountains during fire season. This lookout provides good visual coverage of the entire Maury and Twelve Mile assessment areas and across the Crooked River into the Paulina assessment area.

5. School Facilities: N/A

6. Campgrounds and Recreation Facilities: There are numerous USFS campgrounds throughout the Maury Mountains, including Antelope Flat Reservoir. Assessment of evacuation planning for these areas should be conducted. Refer to *Appendix D – Recreation & Communities Map.*

7. Other Critical Facilities: N/A

4.3.5 Paulina Risk Assessment Area

The Paulina assessment area is bordered by the McKay and Juniper Canyon assessment areas on the west and northwest and the Paulina Highway to the south. The south boundary continues east along the road toward Rager Ranger Station, then east on the Pruitt Road to the junction with Forest Road 58, then east on Road 58 to the Grant County line. The Grant and Wheeler County lines form the northeast and north boundaries back to Walton Lake.

This assessment area is predominantly Ochoco National Forest and BLM-managed public land, and large ranches with varying amounts of private timberland. The focus of the assessment and the CWPP will be identified wildland-urban interface around communities and critical at-risk infrastructure.

Expansion of western juniper in shrub steppe ecosystems, such as the ecosystem within the Paulina risk assessment area, has increased fire frequency and intensity because of its fire-prone characteristics. In addition to being highly hazardous, western juniper consumes large amounts of water and crowds out native plants. These factors largely alter the shrub steppe ecosystem and make it difficult for vital wildlife species (such as sage grouse and mule deer) to find food. Juniper removal projects have been underway in this risk assessment area to decrease western juniper quantities, restore the ecosystem for essential wildlife species and reduce wildfire risk.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	20	Moderate
Hazard (Fuels, Topography, Weather)	62	Extreme
Protection Capabilities (High Score=High Risk/Low Protection Capability)	25	High
Values Protected (Structural Density and Critical Infrastructure)	26	Moderate
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within the Paulina Assessment Area

Communities within this assessment area are focused along the Paulina Highway to Rager Ranger Station transportation route and include the following:

- Riverside Ranch (north of the Paulina Highway)
- Post (located on the boundary with the Maury assessment area)
- Paulina

    - The Natural Resources Conservation Service (NRCS) and Crook County Soil and Water Conservation District have removed some juniper in the area.
- Rager Ranger Station (structures only, no staff)

Between 2014 and 2024, Prineville District BLM has completed approx. 17,195 acres of hazardous fuels reduction in the Paulina Assessment area.

Between 2005 - 2014, the U.S. Forest Service completed 29,329 acres of hazardous fuels reduction in the Paulina Risk Assessment area. Between 2014 - 2024, they completed 90,568 acres of hazardous fuels treatment in the area.

Critical Infrastructure within the Paulina Assessment Area

1. Transportation and Road System: The Paulina Highway to Post, Paulina and Rager Ranger Station provides the only all weather, year-round route to the east end of the county. A variety of alternative travel routes on secondary gravel and BLM/USFS roads could be utilized for emergency access. During the winter, these routes should normally be considered unusable due to snow accumulations. Visitors unfamiliar with these routes would have difficulty following and using them unless equipped with a map of the area. Secondary roads accessing widely scattered ranches in the area provide the connection to the Paulina Highway. Of particular concern is the road system in the Wickiup Creek drainage that provides access for the north portion of Riverside Ranch. Options for alternative access routes should be assessed.

2. Utilities: These systems provide critical support for the communities and ranches in this area. Electrical feeder lines, substations, distribution lines and telephone lines are generally along or adjacent to access routes. Periodic assessment of hazardous fire fuels in rights-of-way and the presence of snags and trees lacking firm root systems outside of the right-of-way but capable of reaching the lines should be completed. Risk from falling snags can both start fires and interrupt electrical service that supports pumps to make water available for fire fighting.

3. Emergency and Communications Facilities: Several agencies have communications facilities within the assessment area (such as Rager Ranger Station, Wolf Mountain, Pisgah, Round Mountain and Pilot Butte Lookouts). Hazardous fuels assessments for these critical infrastructure sites and commercial electrical service to them (including hazardous trees adjacent to rights-of-way and critical infrastructure) is needed.

4. Public Agency Facilities:
    - USFS Rager Ranger Station, which has limited infrastructure to support evacuation. Wolf Mountain Lookout, located about ten miles north of the Ranger Station, supports fire detection in the area. Although this lookout is located a couple of miles into Wheeler County, it offers visual monitoring capability throughout the entire eastern portion of Crook County.

- Pisagh Lookout, located 4 miles north of Big Summit Prairie, supports fire detection for a significant part of this area. Although this lookout is located within Wheeler County, it offers visual monitoring capability throughout the entire eastern portion of Crook County.
- The BLM Paulina Guard Station located on the Paulina Highway about ten miles west of Paulina. The facility is closed; however, still needs protection and may be able to operate as a heli-base in the event of a large-scale wildland fire.
- Oregon Department of Forestry has a detection camera site at Gerow Butte Lookout, located about 20 miles east of Prineville. This lookout has good visual coverage of the McKay area, Juniper Canyon area, Maury Mountains and to the east as far as Lookout Mountain.

5. School Facilities: The Paulina School is a Crook County School District facility located in Paulina. This facility could be utilized as a shelter.

6. Campgrounds and Recreation Facilities: The USFS maintains several popular campgrounds within the Paulina assessment area including Wolf Creek, Sugar Creek, Walton Lake and numerous campgrounds around Big Summit Prairie. Visitor use of these campgrounds varies during the year, with heavy use during late summer and fall hunting seasons. Road systems accessing these recreational facilities are considered critical infrastructure due to their public safety access value. Refer to *Appendix D – Recreation & Communities Map.*

7. Other Critical Facilities: The Crook County Road Department has a facility in Paulina with varying amounts of heavy equipment, including dozers and road graders, in the area depending on the nature and location of work projects.

4.3.6 Twelve Mile Assessment Area

The Twelve Mile assessment area is bordered on the west by Camp Creek Road and the Maury assessment area; on the north by the Paulina Highway and the Paulina assessment area; on the east by the Grant County line and on the south by the Deschutes and Harney County lines. This area is characterized by widely spaced ranches and public and private grazing lands.

Expansion of western juniper in shrub steppe ecosystems, such as the ecosystem within the Twelve Mile risk assessment area, has increased fire frequency and intensity because of its fire-prone characteristics. In addition to being highly hazardous, western juniper consumes large amounts of water and crowds out native plants. These factors largely alter the shrub steppe ecosystem and make it difficult for vital wildlife species (such as sage grouse and mule deer) to find food. Juniper removal projects have been underway in this risk assessment area to decrease western juniper quantities, restore the ecosystem for essential wildlife species and reduce wildfire risk.

CATEGORY	SCORE	ADJECTIVE RATING
Risk (Fires/1000 Acres/10 Years)	5	Low
Hazard (Fuels, Topography, Weather)	51	High
Protection Capabilities (High Score=High Risk/Low Protection Capability)	40	High
Values Protected (Structural Density and Critical Infrastructure)	12	Low
Structural Ignitability ('High' Rating Assigned to All Until Otherwise Verified)	40	High

Communities and Mitigation Work Completed within the Twelve Mile Assessment Area

- Paulina - Located on the northern edge of the assessment area. Discussed with the Paulina Assessment Area.
- Aside from the Paulina community, the next greatest concentration of residential development is associated with some of the larger ranch headquarters locations.
    - The Natural Resources Conservation Service (NRCS) and Crook County Soil and Water Conservation District have removed some juniper in the area.

Between 2014 and 2024 Prineville District BLM has completed approx. 88,500 acres of hazardous fuels reduction in the Twelve Mile Assessment area.

Critical Infrastructure within the Twelve Mile Assessment Area

1. Transportation and Road System: Due to the large distances separating ranch headquarters areas, the road system is essential. However, due to the nature of the vegetative fuel in this area, while roads may be briefly made impassable due to fire front passage, they quickly become usable again due to the light, flashy nature of the fuels. Where individual locations may have concentrations of juniper or other heavier vegetation, some fuel loading treatment may be appropriate.

2. Utilities: Where these utility facilities may be compromised by concentrations of vegetation, treatment options should be considered. Assessment of treatment needs should be made as needed to support this effort.

3. Emergency and Communications Facilities: N/A

4. Public Agency Facilities: N/A

5. School Facilities: N/A

6. Campgrounds and Recreation Facilities: N/A

7. Other Critical Facilities: Developed ranch facilities - where not already present, assessment and establishment of “defensible space” around residences and ranch buildings is recommended. Development and distribution of recommended hazardous fuels treatment options will be addressed as an action plan component.

5.0 Recommendations to Reduce Structural Ignitability

Based on recommendations and concurrence of members of the CWPP Committee, all assessment areas within the county received a Structural Ignitability rating of 'High' due to lack of on-the-ground assessment. CCF&R is attempting to secure further grant funding to support staffing of this needed assessment with the CCFRPD#1.

When addressing the impacts of wildland fire on communities, it is helpful to focus on two distinct, yet complementary efforts:

- **Fire Ignition Prevention:** examples include traditional structural and wildland initiatives including Firewise Communities, Smokey Bear, Firebusters Fire & Life Safety Program, Keep Oregon Green, seasonal debris burning restrictions, etc.
- **High Intensity, Catastrophic Fire Prevention**: this facet is particularly important in Crook County because we live and recreate in ecosystems where fire is a common and natural component.

In High Desert fuel types typically found throughout Crook County, thinning of smaller trees, brush and other ground fuels allows fire to burn through an area with lower intensity fire behavior. The same principle applies to areas around and adjacent to our homes and communities. Appropriate vegetation treatments, depending on the type of vegetative present (native bunch grass areas vs. sage/Juniper vs. Ponderosa pine, etc.) will result in lower intensity fire behavior with less potential to damage homes and lower resistance to control for firefighters. These lower intensity fires are more easily controlled with routine initial attack fire suppression actions with lower levels of damage and suppression cost.

This dual initiative approach applies to both existing areas of community development and new development. Both avenues to lower the impact of fire on our communities are important and both depend on commitment from landowners, the fire services, community planning and the public.

5.1 General Recommendations

It is generally recognized that the three most effective measures (**"**the big three**"**) that a homeowner can take to decrease structural ignitability and the potential of structural damage or loss from a wildland fire are:

1. Install and maintain an ignition-resistant structure, also known as "Home Hardening". The roof should be covered with asphalt composition, metal, concrete, slate or tile materials. Install corrosion-resistant metal mesh with 1/8 to 1/16-inch over attic & foundation vent openings. Also, ensuring that building siding is either made of an ignition-resistant material, or at least kept in good condition to prevent an ember from igniting the material. Also, any attachments to a structure, whether it be fencing, decks or a roof structure, should be kept in good condition and made of ignition-resistant materials if possible. A focus

should be made on keeping the first 5 feet of an attachment non-combustible if possible.

2. Establish and maintain **defensible space**[5] around structures. This means reducing the amount, type, and vertical and horizontal arrangement of the flammable vegetation adjacent to structures by:

    - Maintaining your Home Ignition Zone (HIZ), by ensuring a 5-foot non-combustible area immediately surrounding structures, and keeping property 30-100+feet surrounding structures "lean, clean and green" (discourage fire-prone, flammable vegetation within 30 feet of the house to keep it "lean." Maintain separation between trees and plants to reduce the spread of fire across the landscape, generally 10-feet between tree crowns and clumps of trees or plants. Keep it "clean" by preventing the accumulation of dead vegetation or flammable debris within this area. Keep plants healthy and "green" by watering sufficiently during fire season). A good rule of thumb for grass height should be a maximum of 4 inches.
    - Landscape with fire resistant plants (those that are not easily ignited by an ember or flame) and remove flammable plants (such as those that accumulate fine, dry or dead material within the plant, may have loose or papery bark, and often contain volatile waxes, terpenes, or oils in their leaves, twigs and stems).
    - Create fuel breaks with driveways, walkways, paths and other hardscapes to break up the continuity of fuels.
    - Reduce ladder fuels by reducing fire spread from ground fire to tree canopies. This can be accomplished by trimming trees ⅓ of the tree or 6 feet if the tree is taller than 18 feet.

    These actions will reduce the amount of heat that will impinge on the structure if a fire passes nearby and provides a safe area for firefighters to work while defending the structure.

3. Maintain aggressive **debris management,** particularly on roofs, below eves and in gutters. This includes reducing the amount of bark mulch, leaves, conifer needles, and debris built up. This effectively reduces areas for embers to ignite fuels.

Wildland fire most often spreads to structures from:

- Radiant heat from wildland fuels;
- Ember spotting on the roof;
- Spotting onto other flammable materials adjacent to the structure (for example, gutters full of flammable material); or

[5] OSU Extension Service "The Home Ignition Zone: Protecting Your Property from Wildfire". OSU, 2020.

- By first igniting other materials like landscaping, wooden fences, woodpiles or wooden decks and then carrying fire to the structure.

Breaking the continuity of the flammable materials can help break the fuse that can carry fire from the vegetation to the structure. The fire-resistant roof and lack of flame-receptive vegetation adjacent to the structure can reduce the potential for spotting to carry fire to the structure.

5.2 Defensible Space - Minimum Hazardous Fuels Treatment Standards[6]

The following are recommended minimum hazardous fuels treatment standards. It is intended that these standards mirror the best science as we learn more about how wildfire destroys communities. Researchers from the Insurance Institute of Business and Home Safety and the National Fire Protection Association are studying fire impacts in communities and conducting experiments to learn more about how embers travel and impact the built environment. It is recognized that slightly differing treatment regimens are needed for Ponderosa pine and Western Juniper/sage/grass ecotypes. The differences in fuel components of the two eco-types will result in slightly differing fuel treatment approaches, however similar treatment distances around structures are still appropriate.

Noncombustible/Immediate Zone (0-5ft): the first five-feet surrounding a structure should be noncombustible, meaning there should be no flammable materials near the structure. Materials could include dirt, rock or metal.

Primary Fuel Break/Intermediate (5-30ft): establish a 30-foot primary fuel break around structures. Correctly developed, this break should slow the rate of spread and reduce the intensity of advancing wildfire and create an area where suppression operations may safely occur. This primary fuel break begins five feet from the outside edge of a structure's furthest extension. This may be the edge of a roof eave, or the outer edge of a deck attached to the structure.

In the primary fuel break zone:

- Ground cover should be substantially non-flammable. Examples include asphalt, bare soil, gravel/rocks, pavement, irrigated grass or fire-resistant plants.
- Dry grass should be cut to a height of less than four inches.
- Cut grass, leaves, conifer needles, twigs and similar small vegetative debris to break up sources of continuous fuel.
- Shrubs and trees should be fire-resistant and healthy in this area, be substantially free of dead plant material and have any potential "ladder fuels" removed.

[6] Oregon Forestland-Urban Interface Fire Protection Act "Property Evaluation and Self-Certification Guide", Oregon Department of Forestry, 2006. Pages 8-10.

- Trees and shrubs should also be arranged so that fire cannot spread or jump from plant to plant. Trees should be pruned at least ⅓ of the height of the tree, or 6-feet in height (if taller than 18 feet). Shrubs should be kept low or removed from under the drip line of the tree. Some thinning may be necessary to accomplish this.

Secondary Fuel Break/Extended Zone (30-100+ft): The secondary fuel break extends another 70 feet or to the property line. If this area encompasses a slope, then fuel breaks may need to be extended due to more dramatic fire behavior. This area may also be extended in the direction that prevailing summer winds come from. The table below provides recommended distances based on the slope percentage.

Percent Slope	Up Slope Distance	Down Slope Distance
Flat	30'+	30'+
10	35'+	40'+
20	40'+	50'+
30	45'+	60'+
40	50'+	75'+
50+	55'+	100'+

Characteristics of the secondary fuel break include trees and shrubs that are:

- Green and healthy
- Substantially free of dead branches
- Pruned where necessary to keep fire from "laddering" into tree crowns
- Thinned to 10-foot spacing of individual or small groups of trees and at least 2 ½ times the height for shrubs to prevent fire from transferring from plant to plant

5.3 Become a Firewise Community

The Firewise USA program is a national recognized program through the National Fire Protection Association (NFPA) that empowers neighbors to work together in reducing their wildfire risk.

Firewise communities currently take action and ownership in preparing and protecting their homes against the threat of wildfire. Participation in the Firewise Communities program would reduce the risk of wildland fire to people's homes and property in Crook County. The program requires participation from 8 or more homeowners in the community, which provides the critical mass necessary to greatly reduce fire risk. There are currently four Firewise Communities in Crook County - Brasada Ranch, Dry Creek Airpark, Red Cloud Ranch and Sunset Hills.

Becoming a Firewise Community is a five-step process where communities develop an action plan that guides their residential risk reduction activities, while engaging and encouraging their neighbors to become active participants in building a safer place to

live.

The following steps will get a community started and on the way to receiving official Firewise Communities USA recognition status, and the honor of proudly displaying high-profile signage along with many other benefits. The five steps of Firewise recognition:

- **Form a board or committee, and create an action plan** based on the assessment. The community plan can be elaborate or simple. Generally, the plan should include at least three agreed-upon, doable action items that will improve the community's wildfire readiness. The action plan can be modified over time.
- **Develop a wildfire risk assessment** with your state forestry agency or fire department**.** Your Firewise state liaison can help direct you to experts who can conduct an evaluation for your community. Your local fire department may also be able to assist.
- **Conduct a "Firewise Day" event**. Your community and Firewise Board can decide what kind of event you want to do. Whether it's a "chipper day" that gathers equipment and volunteers to chip brush and limbs, a state fair exhibit, or a community clean-up day, the Firewise event helps you get the work done to make your community safer.
- **At a minimum, annually invest in the equivalent of one volunteer hour per dwelling unit in wildfire risk reduction actions**. If your site has identified 100 homes within its boundary, then 100 hours of work or the monetary equivalent, based on the independent sector value of volunteer time, need to be completed for that year.
- **Submit an application to your state Firewise liaison.**

More information on the Firewise program and becoming a Firewise community is available at www.firewise.org**.**

6.0 Unprotected Lands and Communities

6.1 Unprotected Lands

The majority of Crook County has some level of wildland fire protection (*Appendix D - Fire Protection Map*). A smaller portion of the county has structural fire protection from Crook County Fire & Rescue and Alfalfa Fire District. A small, 4 square mile section of the County is truly unprotected with no wildland or structural fire protection.

6.2 Local Support & Establishment of Rangeland Fire Protection Associations

The Brothers-Hampton and Post-Paulina Rangeland Fire Protection Associations (RFPA) are each formed as non-profit corporations with a local Board of Directors and provide wildland fire protection under a Cooperative Agreement with the Oregon Board of Forestry. In addition to trucks, dozers and other equipment owned by the members of the RFPA, they are each equipped with four fire trucks on loan through the Federal Excess Property Program.

The Post-Paulina Rangeland Fire Protection Association is centered on the Post and Paulina area north of the Maury Mountains and to the southeast including the GI Ranch. It also includes areas in Deschutes and Harney counties. The RFPA covers 347,017 acres of private land in Crook County.

The Brothers-Hampton Rangeland Fire Protection Association is centered in the Brothers and Hampton area south of the Maury Mountains and east of Hwy 27. It also includes areas in Deschutes County. The RFPA covers 135,229 acres of private land in Crook County.

6.3 Hazardous Fuels Treatments Adjacent to Structures

Crook County, in collaboration with other agencies, created a “Crook County Fire Ready” booklet to aid people who own property within the wildland-urban interface. The information in the booklet is intended to help property owners evaluate a property and structure’s vulnerability to damage or destruction by wildfire and choose measures which will make a property easier to defend against wildfire. The booklet is available in *Appendix E: Wildfire Preparedness Resources*, and on Crook County Fire and Rescue’s website at: www.crookcountyfireandrescue.com/resources.

7.0 Action Plan & Assessment Strategy

7.1 Action Plan & Assessment Strategy

Function or Assessment Area	Action	Lead Agency	Comments / Strategy Notes	Completed Items (2005-2014)	Completed Items (2014-2024)
County-Wide	Organize and publicize maintenance opportunities for landowners and community members.	All	Work with landfill and county to develop clean-up days. Hold clean-up days during good weather months/active clean-up times (one in spring and one in fall). Continue to pursue additional opportunities to get the materials out to the public (HOA, Firewise communities, road districts, Central Oregon Fire Cooperative, etc.)	Facilitated development of the Crook County Fire Ready booklet with ODF.	Crook County Landfill established two free yard debris days every spring and fall titled “Fire Free Days.” CCFR regularly distributes booklets at Defensible Space Assessments, community events, HOA Meetings, etc. Central Oregon Fire Prevention Cooperative supported “Wildfire Home Protection Strategies” workshops and a wildfire preparedness fair.
	Develop county standards for access infrastructure that provides for alternate, site-specific access routes consistent with hazardous fuels and topographic / landform features surrounding the development site. Develop similar alternative access	Crook County	Because of the wide variety of landforms within the county, alternative / emergency access routes are more constrained in some areas. Emergency fire evacuation can present one of the most serious threats to life safety. The development of adequate solutions in various locations throughout the county	Preliminary work has been completed to identify potential roads/routes.	Oregon Fire Code has new minimum requirements for fire prevention and fire protection systems for new developments. Addressing legacy properties is still an ongoing challenge. County TSP is being updated in 2024 and will provide a feasibility analysis for Juniper Canyon.

	standards solutions for retroactive application in existing areas of community development. Craft solutions to meet site-specific landform constraints.		may require the development of agreements with other private landowners/public land managers that provide security gates to limit non-landowner use to true emergency applications.		
	Coordination of efforts with electrical utilities: Initiate action to assess the condition of electrical rights-of-way. Vegetation management within R/Ws may be more critical in some vegetation types than others.	All + Utilities	Utility activities are generally constrained to R/Ws. Snags and other hazard trees outside of an R/W may require landowner coordination with utilities. As forest health and drought-related low-elevation tree mortality occur, windfalls from this source may become a greater potential ignition source than the historical norm. Where co-location of telephone and electrical lines is present, attention to this type of mitigation can additionally help protect critical communications infrastructure.	No updates.	CCFR educates individuals on adequate First Responder Access and having vegetation 10 feet from power poles in coordination with utility companies.
	Assess the opportunity to develop a coordination plan with all users/managers of remote electronic communications sites within the county to	All	Communications sites support routine commercial and emergency response coordination needs. Recommend near-term attention to initiating this discussion.	ODF developed a plan for a remote lookout fire detection camera system. Connected with CEC in 2013-14.	AlertWest has installed additional remote lookout fire detection cameras.

	increase wildfire detection capability and to support hazardous fuels treatments.				
	Encourage the development of Firewise communities.	ODF, CCFR		No updates	CCFR provides information on Firewise during all Defensible Space Assessments and at public events. First Firewise community recognized in 2018 in Crook County with three additional communities recognized, with the latest being in 2022. Dry Creek Air Park 2018, Sunset Hills 2019, Red Cloud Ranch 2019, and Brasada Ranch 2022.
	Evacuation Planning	Crook County Sheriff's Office – Emergency Management	Develop a standard county-wide framework that can be used to develop local, site-specific evacuation plans.	No updates	Improvements on how we notify people – Ready, Set, Go and Everbridge.
	Support community members in identifying and conducting defensible space projects.	CCFR		No updates	CCFR has developed a Defensible Space Program, including hiring a Fire Prevention Technician to provide Defensible Space education to the community in conjunction with partners such as OSU Extension OSFM, Central Oregon Fire Prevention Co-Op and ODF as well as provide 1 on 1 assessments of

					properties with homeowners.
Juniper Canyon	The transportation system/emergency access egress/ingress function is the single most at-risk infrastructure component in this assessment area.		Juniper Canyon Road currently presents the only significant volume access route into or out of this area. Assess and develop multiple alternate access routes for the area. Consider alternatives including limited-use authorized emergency-only routes across BLM and private lands if necessary. Ensure that route conditions are adequate to allow travel by passenger cars.	No updates	Meetings / conversations with partners – barriers have been funding and agreeing on the best solutions. County TSP is being updated in 2024 and will provide a feasibility analysis for Juniper Canyon.
	Evacuation Planning	Sheriff's Office, Crook County Community Development	Develop Juniper Canyon evacuation plan. Keep updated as additional development occurs and alternative access routes are identified and become operational. Explore alternatives such as evacuation safety zones.	No updates	Crook County has developed improvements to alert systems using Everbridge. The Emergency Notification system is geographical-based. Residents can sign up here: https://co.crook.or.us/sheriff/page/emergency-management CCFR provides information to homeowners about creating an emergency preparedness kit, having an evacuation plan with family members, educating them on Oregon's evacuation levels, etc.

	Complete Structural Vulnerability Assessment		Lack of adequate information on current and needed levels of hazardous fuels treatment and driveway access to structures are needed to develop a comprehensive fuels strategy for this assessment area, including infrastructure like bridges.	No updates	No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Coordination with BLM to facilitate and expedite WUI fuels treatment actions.	BLM	A substantial amount of private/BLM interface is present with the identified WUI area.	Prineville Lake Acres, ongoing BLM fuels treatment work.	Ongoing BLM fuels treatment work in the area.
	Assess options to initiate near-term fuels treatment on private land and around residences to coincide with BLM fuels treatment actions.	BLM	Option to utilize BLM expertise in the development of treatment regimes appropriate to juniper/sage ecotype on private land to minimize disturbance, and cheatgrass encroachment into the area.	In progress.	Ongoing/in progress.
Powell Butte	Complete Structural Vulnerability Assessment		Lack of adequate information on current and needed levels of hazardous fuels treatment and driveway access to structures are needed to develop a comprehensive fuels strategy for this assessment area.	No updates.	No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Evacuation Planning		Develop an evacuation plan with particular attention to areas with limited alternate access routes. Keep the plan updated as new development occurs and	No updates	Crook County has developed improvements to alert systems using Everbridge. The Emergency Notification system is geographical-based. Residents can sign

			new access routes become operational		up here: http://co.crook.or.us/sheriff/page/emergency-management CCFR provides information to homeowners about creating an emergency preparedness kit, having an evacuation plan with family members, educating them on Oregon's evacuation levels, etc.
	Coordination with BLM to facilitate and expedite WUI fuels treatments.	BLM	Resident support for public land fuels treatments is important. A significant amount of private/BLM interface is present with the identified WUI area.	Ongoing work on the Millican project.	Millican Road and Williamson Creek projects have been completed.
	Identify and implement defensible space projects for Brasada.	BLM, Brasada, CCFR			Brasada is a Firewise Community, and holds a Firewise meeting annually - CCFR, ODF, and BLM provided a Defensible Space Presentation at the 2024 Firewise Meeting and had 1 on 1 Defensible Space Assessments with a handful of community members following the presentation. BLM has identified potential areas for fuels reduction and continues to seek funding for treatment in the area.

					Brasada Ranch HOA provides its clean-up days for common areas. Providing dumpster clean-up events a few times a year for removing fire fuels. Partnering with CCFR on educational events.
McKay	Complete Structural Vulnerability Assessment		Lack of adequate information on current and needed levels of hazardous fuels treatment and driveway access to structures are needed to develop a comprehensive fuels strategy for this assessment area.		No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Evacuation Planning		Develop an evacuation plan with particular attention to areas with limited alternate access routes. Keep the plan updated as new development occurs and new access routes become operational.		Crook County has developed improvements to alert systems using Everbridge. The Emergency Notification system is geographical-based. Residents can sign up here: https://co.crook.or.us/sheriff/page/emergency-management CCFR provides information to homeowners about creating an emergency preparedness kit, having an evacuation plan with family members, educating them on

					Oregon's evacuation levels, etc.
	Coordination with Ochoco NF, BLM, and private forestland owners and managers to facilitate and expedite WUI fuels treatments.		Local resident support for public land fuels treatment is important. Assess options to encourage needed hazardous fuels treatment on private land with the WUI.	Treatments have been conducted since 2012 by BLM.	Treatments have been conducted since 2014 by BLM and USFS, including cross-boundary work with private landowners.
Paulina	Complete Structural Vulnerability Assessment.		Lack of adequate information on current and needed levels of hazardous fuels treatment and driveway access to structures are needed to develop comprehensive fuels strategy for this assessment area.		No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Evacuation planning and alternative access route development.		Develop an evacuation plan with particular attention to areas with limited alternate access routes. Examples include Riverside Ranch in the Wickiup Creek drainage. Keep the plan updated as new development occurs and new access routes become operational.		Crook County has developed improvements to alert systems using Everbridge. The Emergency Notification system is geographical-based. Residents can sign up here: http://co.crook.or.us/sheriff/page/emergency-management CCFR provides information to homeowners about creating an emergency preparedness kit, having an evacuation plan with family members, educating them on Oregon's evacuation levels, etc.

	Identify opportunities to encourage public/private coordination on WUI fuels treatment opportunities.		Most of the WUI areas along the Paulina Highway include a significant amount of private ranch and forestland. Coordinate information with NRCS-SWCD who completes some general fuels treatment.	Ongoing fuels treatment is being completed.	Fuels treatment has been completed by USFS, BLM, and private landowners since 2014.
Maury	Complete Structural Vulnerability Assessment		Lack of adequate information on current and need levels of hazardous fuels treatment and driveway access to structures are needed to develop comprehensive fuels strategy for this assessment area.		No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Evacuation planning and alternate access route development.		Develop an evacuation plan with particular attention to areas with limited alternate access routes. Examples include Riverside Ranch south of the Paulina Highway and the Conant Basin area. The development of an alternate access route out of this drainage to the south is of particular concern. Keep the plan updated as new development occurs and new access routes become operational.		Crook County has developed improvements to alert systems using Everbridge. The Emergency Notification system is geographical-based. Residents can sign up here: http://co.crook.or.us/sheriff/page/emergency-management CCFR provides information to homeowners about creating an emergency preparedness kit, having an evacuation plan with family members, educating them on

					Oregon's evacuation levels, etc.
	Identify opportunities to encourage public/private coordination on WUI fuels treatment opportunities.		Most of the WUI areas along the Paulina Highway include significant amount of private ranch and forestland.	Ongoing general fuels treatment completed by the Forest Service.	Ongoing fuels treatment by Forest Service, BLM, and private landowners.
Twelve Mile	Complete Structural Vulnerability Assessment		Lack of adequate information on current and needed levels of hazardous fuels Treatment and driveway access to structures are needed to develop a comprehensive fuels strategy for this assessment area.		No work – defensible space assessments have created an overall idea for vulnerability, but the capacity/funding to assess county-wide structural vulnerability has been a challenge.
	Identify opportunities to encourage public/private coordination on WUI fuels treatment opportunities.	BLM	Encourage private landowner/BLM cooperative fuels treatment efforts.		BLM staff have attended meetings hosted by Crook County Soil and Water Conservation District as well as wildfire education and fire prevention events.

8.0 Monitoring & Annual Review/Update Process

8.1 Annual Review

The Crook County CWPP Steering Committee will conduct an annual review of the overall CWPP effort. They will identify changes or updates needed in the Plan, evaluate effectiveness of coordination between cooperating agencies, community groups and neighborhoods, evaluate progress in meeting Action Plan goals and adjust monitoring protocols as needed. Coordination and communication will be the critical operative requirement.

The CWPP Steering Committee will be made up of the following positions or their designee at a minimum:

- Fire Chief, Crook County Fire and Rescue.
- Emergency Management Director, Crook County Sheriff's Office
- Unit Forester, Oregon Department of Forestry
- Representative from the Crook County Natural Resources Planning Committee or other representative of the Crook County community at-large.
- Recommended additional representation would include: *ex officio* representation from Central Oregon Fire Management Services (Ochoco National Forest Service and Prineville District, Bureau of Land Management), Brothers-Hampton Rangeland Fire Protection Association, Post-Paulina Rangeland Fire Protection Association, and Alfalfa Fire District #1.

8.2 Monitoring

Recommended performance measures to be monitored include the following:

1. Understand the scope of wildfire risk and potential in Crook County.

- Communities and at-risk infrastructure identified and mapped. Updates completed, documented and incorporated into the CWPP.
- Wildland-urban-interface (WUI) identified and mapped. Any need for updates is evaluated and documented.
- Fire Atlas compiled and updated annually.

2. Reduce hazardous fuels.

- Lowered risk assessment scores for communities within the county.
    - Change in Condition Class from 2 or 3 to 1 (number of acres of land where Condition Class is improved on both federal and non-federal lands.)
    - Total number of acres treated through fuel reduction measures.
    - Total amount of debris collected during Fire Free days.

3. Reduce structural ignitability.

- Number of acres/local community areas where defensible space is established around individual homes or clusters of homes.
- Creation of Firewise communities.
- Number of structures lost to wildland fire.

4. Coordinate WUI treatment activities on adjoining public and private lands.

- Number or percentage of WUI areas where complementary treatments occurred (within two years).
- Number or percentage of WUI treatment areas where public and private mitigation measures were conducted simultaneously or under a unified plan.

5. Provide safety to the public during wildfire incidents.

- County-wide and local community evacuation processes developed.
- Number of fire response or evacuation drill exercises performed.

6. Promote community involvement and awareness.

- Number of outreach or education events held.
- Assessment of overall participation in neighborhood fuels treatment initiatives.
- Creation of new Firewise communities.
- Volunteer hours per house per year of fuels mitigation per Firewise community.
- Number of individuals signed up for Everbridge Alerts.

The use of predicted treatment effects on fire behavior could be a powerful tool in gaining community understanding, acceptance, and support for engaging in fuels treatments around homes. This approach could be used to enhance community involvement.

Appendix A: Summary of Public Comments

Appendix B: Crook County Ratings by Subdivision

Table B-1 Assessment Result by Subdivision and Adjective Rating

Risk Assessment Area	Subdivision/Area	Risk	Hazard	Protection	Values	Total	Adjective Rating	Needs
Powell Butte	Willard Estates	40	65	2	12	119	Low	Fuels hazard reduction
Powell Butte	Juniper Acres	40	65	40	12	157	Very High	Fire Protection, fuels hazard reduction
Powell Butte	Red Cloud Subdivision	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Sinclair-Davis Tract 2	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Powell Butte View Estates	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Prineville Ranch Subdivision	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Westwood	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Westridge Estates	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Twin Lakes Ranch	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Baldwin Road Industrial Park	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Mountain View Estates	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Steelhammer Ranch	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Old West Road Subdivision	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Carrero-Cowan	40	65	4	12	121	Low	Fuels hazard reduction
Powell Butte	Structures along O'Neil Highway	40	65	4	12	121	Low	Fire Protection, fuels hazard reduction
Powell Butte	West Powell Butte Estates	40	65	2	35	142	High	Fuels hazard reduction

Risk Assessment Area	Subdivision/Area	Risk	Hazard	Protection	Values	Total	Adjective Rating	Needs
Powell Butte	Brasada Ranch	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Hidden Canyons	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Grandview Subdivision	40	69	4	35	148	High	Improved Access, fuels hazard reduction
Powell Butte	Lone Pine Area	40	65	4	12	121	Low	Fuels hazard reduction
Juniper Canyon	Jasper Knolls	40	72	10	35	157	Very High	Improved Access, fuels hazard reduction
Juniper Canyon	High Desert Estates	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Highlands Subdivision	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Conifer Heights	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Ochoco Land and Livestock	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Ironwood Estates	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Dry Creek Airpark	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Lost Lake Estates	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Prineville Lake Acres	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Hood's Subdivision	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Chuckwagon Acres	40	72	2	35	149	High	Improved Access, fuels hazard reduction

Risk Assessment Area	Subdivision/Area	Risk	Hazard	Protection	Values	Total	Adjective Rating	Needs
Juniper Canyon	Idleway Acres	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Juniper Hills	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Lakeview Cove	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Prineville Reservoir State Park	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Botero Park Subdivision	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Indian Rock Estates	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Longhorn Ridge Estates	40	72	2	35	149	High	Improved Access, fuels hazard reduction
Juniper Canyon	Grandridge Subdivision	40	72	2	35	149	High	Improved Access, fuels hazard reduction
McKay	Lofton Creek	20	72	17	22	131	High	Fuels hazard reduction
McKay	Turner Creek	20	72	17	22	131	High	Fuels hazard reduction
McKay	Sherwood Creek	20	72	17	22	131	High	Fuels hazard reduction
McKay	Ochoco Valley	20	72	17	22	131	High	Fuels hazard reduction
McKay	Ochoco Christian Center	20	72	17	22	131	High	Fuels hazard reduction
McKay	Ponderosa Ranch	20	72	17	22	131	High	Fuels hazard reduction
McKay	Ochoco West	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Miles Puddy Ranches	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Meadow Ridge	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Sunset Hills Subdivision	20	67	2	35	124	Moderate	Fuels hazard reduction

Risk Assessment Area	Subdivision/Area	Risk	Hazard	Protection	Values	Total	Adjective Rating	Needs
McKay	Pleasant View Heights	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Ochoco Lake Lots	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	North Shore Estates	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Lakeshore Trailer Park	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Mill Creek Ranches	20	67	2	35	124	Moderate	Fuels hazard reduction
McKay	Johnson Creek	20	72	2	22	116	Low	Fuels hazard reduction
Maury	Newsome Creek	20	66	40	22	148	High	Fuels hazard reduction
Maury	Pine Creek	20	66	40	22	148	High	Fuels hazard reduction
Maury	Drake Creek	20	66	40	22	148	High	Fuels hazard reduction
Maury	Conant Basin	20	68	40	22	150	Very High	Fuels hazard reduction
Twelve Mile	All	5	51	40	12	108	Low	Fuels hazard reduction
Paulina	Rager Ranger Station	20	61	17	35	133	High	Fuels hazard reduction
Paulina	Post	20	49	40	22	131	High	Fire Protection
Paulina	Riverside Ranch	20	68	40	22	150	Very High	Fire Protection, fuels hazard reduction
Paulina	Paulina	20	49	19	35	123	Moderate	Fire protection

Appendix C: Comprehensive Risk Assessment

Risk: Fire Occurrence: The number of fires within the risk assessment area for the 10-year period, 2002-2011. In cases when historic fires from Crook County Fire and Rescue (CCF&R) were not available, an estimate was made.

A fire occurrence of:

- >1.1 per 1000 acres resulted in a High rating (40 points)
- .1-1.1 was assigned a Moderate (20 points)
- <.1 was assigned a Low rating (5 points)

Hazard: Weather Factor Value: We used the Oregon state factor value which classifies the entire eastern portion of the state as high, 40 points.

Topographic Factor Value: GIS topographic data was available to the group to help assign point ratings for slope, aspect, and elevation.

- Slope: All areas assigned to 26-40% slope class, 2 points.
- Aspect: All areas assigned to moderate to high rating, 4 points.
- Elevation: All areas assigned to 3500- 5000 feet class, 1 point.

Vegetation/Fuels: GIS vegetation and fuel classification, developed through a contract with the County is available and used to help the group address this factor.

Protection Capability: Protection capability is a combination of the capacities of the fire protection agencies, local government and community organizations. A high score represents high risk/low protection capability.

Community Preparedness: Mitigation efforts of the community that will make the fire response effective.

Values Protected - Structural Density and Presence of Critical Infrastructure: Values-at risk and priority setting is best accomplished locally. For a general assessment of life, either population density or home density is appropriate. Identification and evaluation of additional human and economic values is needed for community fire planning. An estimate was made of home density (homes per 10 acres) and community infrastructure based on available data and team member judgment.

Community Infrastructure: This category indicates presence of identified community infrastructure. Examples include power substations and corridors, communication sites and facilities, transportation corridors, major manufacturing and utilities facilities, municipal watersheds, water storage and distribution, fuel storage facilities, hospitals and health care facilities, landfills and waste treatment facilities, schools, churches, community centers, and stores.

Table C-1 Hazard Overall Rating

	Weather	Slope	Aspect	Elevation	Fuel Model	Crown Fire Potential	Total Hazard Score	Adjective Rating
Powell Butte: Red Cloud, Sinclair-Davis Tract 2, Brasada Ranch, Hidden Canyons, Grandview Subdivision & Powell Butte View Estates	40	2	5	2	15	5	69	Extreme
Powell Butte: All Other	40	0	3	2	15	5	65	High
Juniper Canyon	40	2	4	1	20	5	72	Extreme
McKay: Lofton, Turner, Sherwood & Johnson Creek Areas, Ochoco Valley, Mt. Bachelor Academy & Ponderosa Ranch	40	2	4	1	20	5	72	Extreme
McKay: All Other	40	2	4	1	15	5	67	Extreme
Maury: Conant Basin	40	2	5	1	15	5	68	Extreme
Maury: All Other	40	2	3	1	15	5	66	Extreme
Twelve Mile	40	2	3	1	5	0	51	High
Paulina: Riverside Ranch	40	2	5	1	15	5	68	Extreme
Paulina: Rager	40	0	5	1	15	0	61	High
Paulina: All Other	40	0	3	1	5	0	49	High

Notes

Adjective Rating
0-65 points = High
65+ points = Extreme

Table C-2 Total Protection Capabilities Points

	Protection	Community Preparedness	Total	Adjective Rating
Powell Butte: West Powell Butte Estates	0	2	2	Low
Powell Butte: Willard Estates	0	2	2	Low
Powell Butte: Juniper Acres	36	4	40	High
Powell Butte: All Other	0	4	4	Low
Juniper Canyon: Jasper Knolls	8	2	10	Moderate
Juniper Canyon: All Other	0	2	2	Low
McKay: Within CCF&RD	0	2	2	Low
McKay: Outside CCF&RD	15	2	17	High
Maury	36	4	40	High
Twelve Mile	36	4	40	High
Paulina: Rager	15	2	17	High
Paulina: Riverside	36	4	40	High
Paulina: Paulina	15	4	19	High
Paulina: Post	36	4	40	High

Notes

Structural and Wildland Protection

0 points = Organized structural response < 10 minutes
8 points = Inside fire district but structural response > 10 minutes
15 points = No structural protection, wildland response <20 minutes
36 points = No structural response and wildland protections >20 minutes

Community Preparedness

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

Table C-3 Home Density

Homes Per 10 Acres	Rating
Powell Butte: Red Cloud, Sinclair-Davis Tract 2, Powell Butte View Estates, West Powell Butte Estates, Brasada Ranch, Hidden Canyons, Grandview Subdivision	2
Powell Butte: All Others	15
Juniper Canyon	15
McKay: Subdivisions within WUI	15
McKay: All Others	2
Maury	2
Twelve Mile	2
Paulina: Rager & Paulina	15
Paulina: All Others	2

Notes
2 points = .1-.9 homes/10 acres Rural
15 points = 1-5.0 homes/10 acres Suburban
30 points = 5.1+ homes/10 acres Urban

Table C-4 Community Infrastructure

Presence of Community Infrastructure	Rating
Powell Butte: Red Cloud, Sinclair-Davis Tract 2, Powell Butte View Estates, West Powell Butte Estates, Brasada Ranch, Hidden Canyons, Grandview Subdivision	20
Powell Butte: All Others	10
Juniper Canyon	20
McKay	20
Maury	20
Twelve Mile	10
Paulina	20

Notes
0 points = No identified infrastructure present
10 points = One present
20 points = More than one present

Powell Butte Assessment Area

Size: 220,354 Acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
Willard Estates	2	10	40	65	2	12	131	High
Juniper Acres	2	10	40	65	40	12	157	Very High
Red Cloud Subdivision	15	20	40	69	4	35	148	High
Sinclair-Davis Tract 2	15	20	40	69	4	35	148	High
Powell Butte View Estates	15	20	40	69	4	35	148	High
West Powell Butte Estates	15	20	40	65	2	35	142	High
Prineville Ranch Subdivision	2	10	40	65	4	12	121	Low
Westwood	2	10	40	65	4	12	121	Low
Westridge Estates	2	10	40	65	4	12	121	Low
Twin Lakes Ranch	2	10	40	65	4	12	121	Low
Baldwin Road Industrial Park	2	10	40	65	4	12	121	Low
Mountain View Estates	2	10	40	65	4	12	121	Low
Steelhammer Ranch	2	10	40	65	4	12	121	Low
Old West Road Subdivision	2	10	40	65	4	12	121	Low
Carrero-Cowan	2	10	40	65	4	12	121	Low
Structures Along O'Neil Highway	2	10	40	65	4	12	121	Low
Brasada Ranch	15	20	40	69	4	35	148	High
Hidden Canyons	15	20	40	69	4	35	148	High
Grandview Subdivision	15	20	40	69	4	35	148	High
Lone Pine Area	2	10	40	65	4	12	121	Low

Notes

Risk: Fire Occurrence: 115 fires (FS, BLM, ODF) within the 10 years period, 2002-2011. Historic fires from Crook County Fire and Rescue (CCF&R) are not available. An estimate was made that if CCF&R fires were available then fire occurrence would include 160 additional fires. This would result in a fire occurrence rate of 1.2 per 1000 acres per 10 years. Rating: High or 40 points.

Topographic Factor: GIS topographic data was available to help assign point ratings for slope, aspect, and elevation.

- Slope**:** Red Cloud, Sinclair-Davis Tract 2 and Powell Butte View Estates Subdivisions assigned to 26-40% slope class, 2 points. All other areas assigned to 0-25% slope class, 0 points.

- *Aspect*: Red Cloud, Sinclair-Davis Tract 2 and Powell Butte View Estates Subdivisions assigned to S, SW, E aspect, 5 points. All other areas assigned to moderate rating, 3 points.
- *Elevation*: All areas assigned to 0-3500 feet class, 2 points.

Vegetation/Fuels: GIS vegetation and fuel classification were used to help address this factor. The Powell Butte area was assigned to fuel hazard factor 2 (dominantly fuel models 2 and 6, with varying amounts of juniper overstory), 15 points. There is potential for active crown fire, a moderate rating, 5 points.

Juniper Canyon Assessment Area

Size: 67,707 acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
Jasper Knolls	15	20	40	72	10	35	157	Very High
High Desert Estates	15	20	40	72	2	35	149	High
Highlands Subdivision	15	20	40	72	2	35	149	High
Conifer Heights	15	20	40	72	2	35	149	High
Ochoco Land and Livestock	15	20	40	72	2	35	149	High
Ironwood Estates	15	20	40	72	2	35	149	High
Dry Creek Airpark	15	20	40	72	2	35	149	High
Lost Lake Estates	15	20	40	72	2	35	149	High
Prineville Lake Acres	15	20	40	72	2	35	149	High
Hood's Subdivision	15	20	40	72	2	35	149	High
Chuckwagon Acres	15	20	40	72	2	35	149	High
Idleway Acres	15	20	40	72	2	35	149	High
Juniper Hills	15	20	40	72	2	35	149	High
Lakeview Cove	15	20	40	72	2	35	149	High
Prineville Reservoir State Park	15	20	40	72	2	35	149	High
Botero Park Subdivision	15	20	40	72	2	35	149	High
Indian Rock Estates	15	20	40	72	2	35	149	High
Longhorn Ridge Estates	15	20	40	72	2	35	149	High
Grandridge Subdivision	15	20	40	72	2	35	149	High

Notes

Risk: Fire Occurrence: 17 fires (FS, BLM, ODF) within the 10-year period 2002-2011. Historic fires from Crook County Fire and Rescue (CCF&R) are not available. An estimate was made that if CCF&R fires were available then fire occurrence would include 70 additional fires. This would result in a fire occurrence rate of 1.3 per 1000 acres per 10 years. Rating: High or 40 points.

Vegetation/Fuels: GIS vegetation and fuel classification, developed through a contract with the county is available and used to help address this factor. The Juniper Canyon area was assigned to fuel hazard factor 3 (abundance of ladder fuels and cheat grass, fuels are often a combination of shrubs with moderate to heavy juniper component), 20 points. There is potential for active crown fire, a moderate rating, 5 points.

Protection Capability: Access into and out of the Juniper Canyon area is constrained by a single route, Juniper Canyon Road. In the event of a large fire, heavy traffic would affect the safety of the public and firefighting resources.

McKay Assessment Area

Size: 327,900 acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
Lofton Creek	15	20	40	72	17	22	131	High
Turner Creek	15	20	40	72	17	22	131	High
Sherwood Creek	15	20	40	72	17	22	131	High
Ochoco Valley	15	20	40	72	17	22	131	High
Ochoco Christian Center	15	20	40	72	17	22	131	High
Ponderosa Ranch	15	20	40	72	17	22	131	High
Ochoco West	15	20	40	67	2	35	124	Moderate
Miles Puddy Ranches	15	20	40	67	2	35	124	Moderate
Meadow Ridge	15	20	40	67	2	35	124	Moderate
Sunset Hills Subdivision	15	20	40	67	2	35	124	Moderate
Pleasant View Heights	15	20	40	67	2	35	124	Moderate
Ochoco Lake Lots	15	20	40	67	2	35	124	Moderate
North Shore Estates	15	20	40	67	2	35	124	Moderate
Lakeshore Trailer Park	15	20	40	67	2	35	124	Moderate
Mill Creek Ranches	15	20	40	67	2	35	124	Moderate
Johnson Creek	15	20	40	72	2	22	116	Low

Notes

Risk: Fire Occurrence: Approximately 278 fires (FS, BLM, ODF) have occurred within the 10-year period, 2002-2011. This would result in a fire occurrence rate of .85 per 1000 acres per 10 years. Occurrence category would be .1-1.1 fires per 1000 acres per 10 years. Rating: Moderate or 20 points.

Vegetation/Fuels: GIS vegetation and fuel classification was used to address this factor. Fuels and vegetation data is also available from the Ochoco National Forest. The vegetation and fuels classification focuses on the WUI areas within the McKay Area. Much of the area is national forest and not identified as WUI. Most of the McKay Area was assigned to fuel hazard factor 2 (grass/timber, moderate brush and conifers, fuel models 2 and 6), 15 points. A higher hazard was assigned to the Lofton, Turner, Sherwood and Johnson Creek areas to indicate potential for higher spread rates and more intense fire behavior. There is potential for active crown fire, a moderate rating, 5 points.

Values Protected-Structural Density and Presence of Critical Infrastructure: Values for the McKay Area subdivisions within the WUI were separated from other areas for assignment of values. Identified subdivisions within the WUI: Ochoco West,

Miles Puddy Ranches, Meadow Ridge, Sunset Hills Subdivision, Pleasant View Heights, Ochoco Lake Lots, North Shore Estates, Lakeshore Trailer Park, Mill Creek Ranches.

Maury Assessment Area

Size: 330,170 acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
Conant Basin	2	20	20	68	40	22	150	Very High
Newsome Creek	2	20	20	66	40	22	148	Very High
Pine Creek	2	20	20	66	40	22	148	Very High
Drake Creek	2	20	20	66	40	22	148	Very High

Notes

Risk: Fire Occurrence: Approximately 111 fires (FS, BLM, ODF) occurred in the ten-year period, 2002-2011. This would result in a fire occurrence rate of .33 per 1000 acres per 10 years. Rating: moderate or 20 points.

Topographic Factor Value: GIS topographic data was available to the group to help assign point ratings for slope, aspect, and elevation.

- Slope: All areas assigned to 26-40% slope class, 2 points.
- Aspect: The Conant Basin Area (Riverside Ranch) is given a rating of 5, all other areas assigned to moderate, 3 points.
- Elevation: All areas assigned to 3500 - 5000 feet class, 1 point.

Vegetation/Fuels: GIS vegetation and fuel classification, developed through a contract with the county was used to help address this factor. Fuels and vegetation data is also available from the Ochoco National Forest. The vegetation and fuels classification focuses on the WUI areas within the Maury Area. Much of the area is national forest or BLM and not identified as WUI. The Maury Area was assigned to fuel hazard factor 2 (grass/timber, moderate brush and conifers, fuel models 2 and 6), a moderate rating for 15 points. There is potential for active crown fire, a moderate rating, 5 points.

Twelve Mile Assessment Area

Size: 461,200 acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
All	2	10	5	51	40	12	108	Low

Notes

Risk: Fire Occurrence: Approximately 35 fires (FS, BLM, ODF) occurred within the ten-year period, 2002-2011. This would result in a fire occurrence rate of .075 per 1000 acres per 10 years. Rating: low or 5 points.

Vegetation/Fuels: Very little GIS vegetation and fuel classification is available for the Twelve Mile Area. The Twelve Mile Area was assigned to fuel hazard factor 1 (grass, low/less flammable brush, fuel models 1 and 5), a low rating for 5 points. Much of the area is grazed by livestock which reduces the amount of fuels available to support a fire. There is potential for active crown fire, a moderate rating, 5 points.

Paulina Assessment Area

Size: 504,830 acres

Subdivision	Home Density	Infrastructure	Risk	Hazard	Protection	Values	Total	Adjective Score
Riverside Ranch	2	20	20	68	40	22	150	Very High
Rager Ranger Station	15	20	20	61	17	35	133	High
Post	2	20	20	49	40	22	131	High
Paulina	15	20	20	49	19	35	123	Moderate

Notes

Risk: Fire Occurrence: Approximately 188 fires (FS, BLM, ODF) occurred within the 10-year period, 2002-2011. The results in a fire occurrence rate of .37 per 1000 acres per 10 years. Rating: Moderate or 20 points.

Topographic Factor Value:

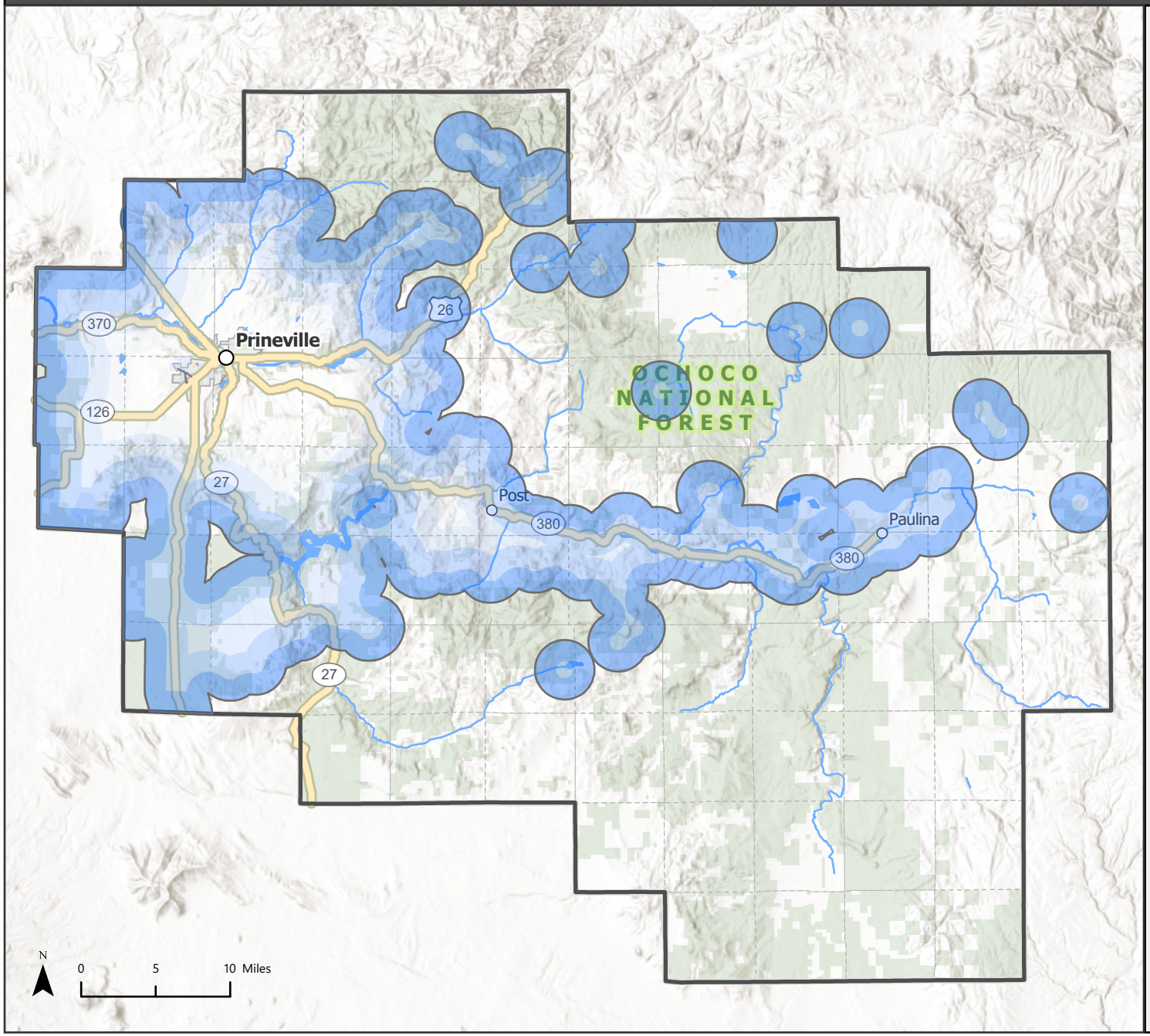
- Aspect: Rager Ranger Station and Riverside Ranch were assigned a value of High, 5 points. All other areas assigned to moderate, 3 points.
- Elevation: All areas assigned to 5000+ feet class, 1 point.

Vegetation/Fuels: The vegetation and fuels classification focus on the WUI areas within the Paulina Area. Much of the area is national forest or BLM and not identified as WUI. Rager and Riverside Ranch are assigned a fuel hazard value of 2 (grass/timber, moderate brush and conifers, fuel models 2 and 6), moderate for 15 points. The remainder of the Paulina Area was assigned to fuel hazard factor 1, low for 5 points. There is potential for active crown fire for the Riverside Ranch area, a moderate rating, 5 points. The remainder of the Paulina Area has low potential for crown fire, 0 points.

Appendix D: Maps

Wildland Urban Interface

Crook County CWPP



Wildland Urban Interface (WUI)

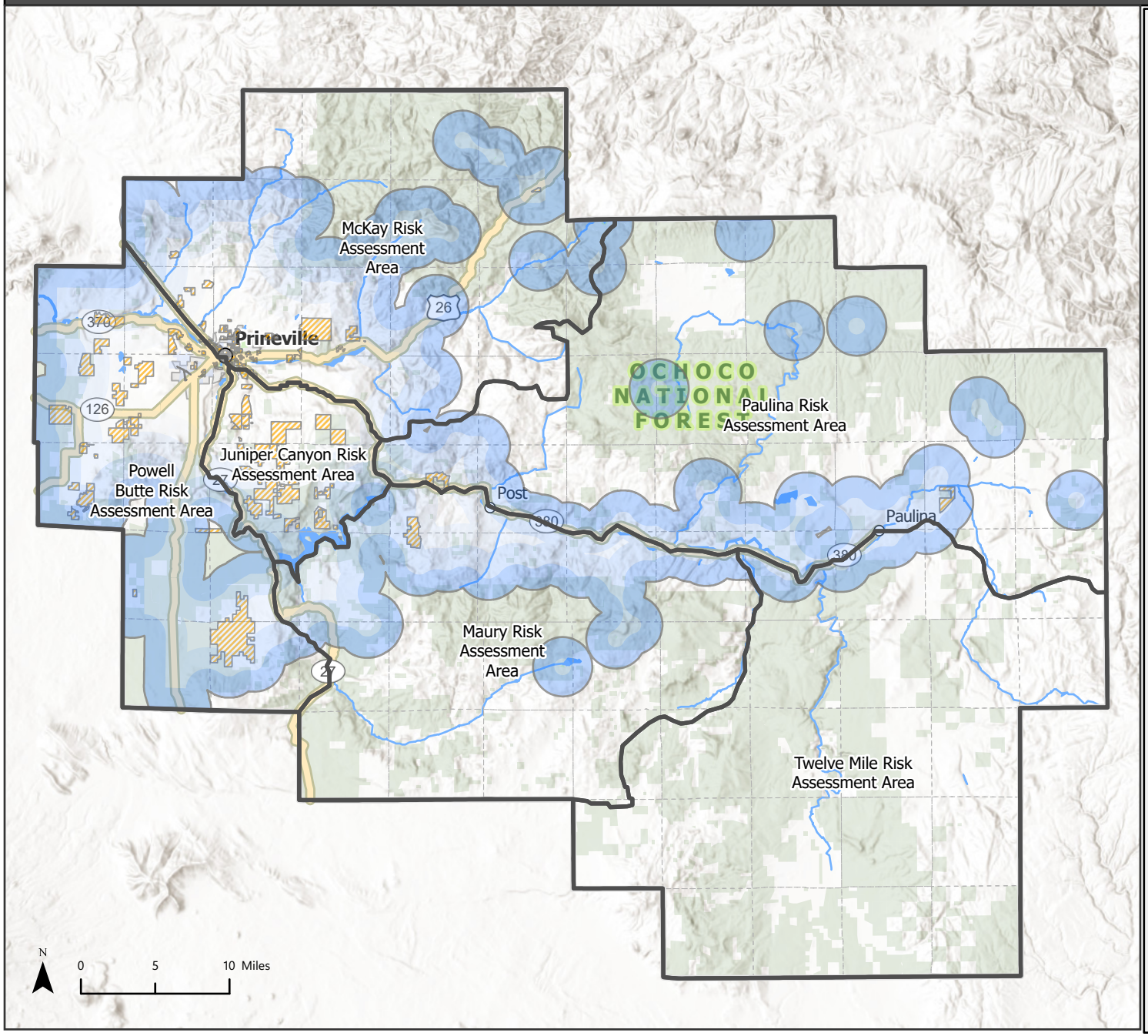
Map Notes

Map created by Crook County GIS - 8/20/2024. All data is maintained by Crook County GIS. The WUI was determined by the 2024 Crook County CWPP Committee. Selected area is a 2 mile buffer from structures, selected roads, campgrounds, and communication towers.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

Risk Assessment Areas

Crook County CWPP



Risk Assessment Areas

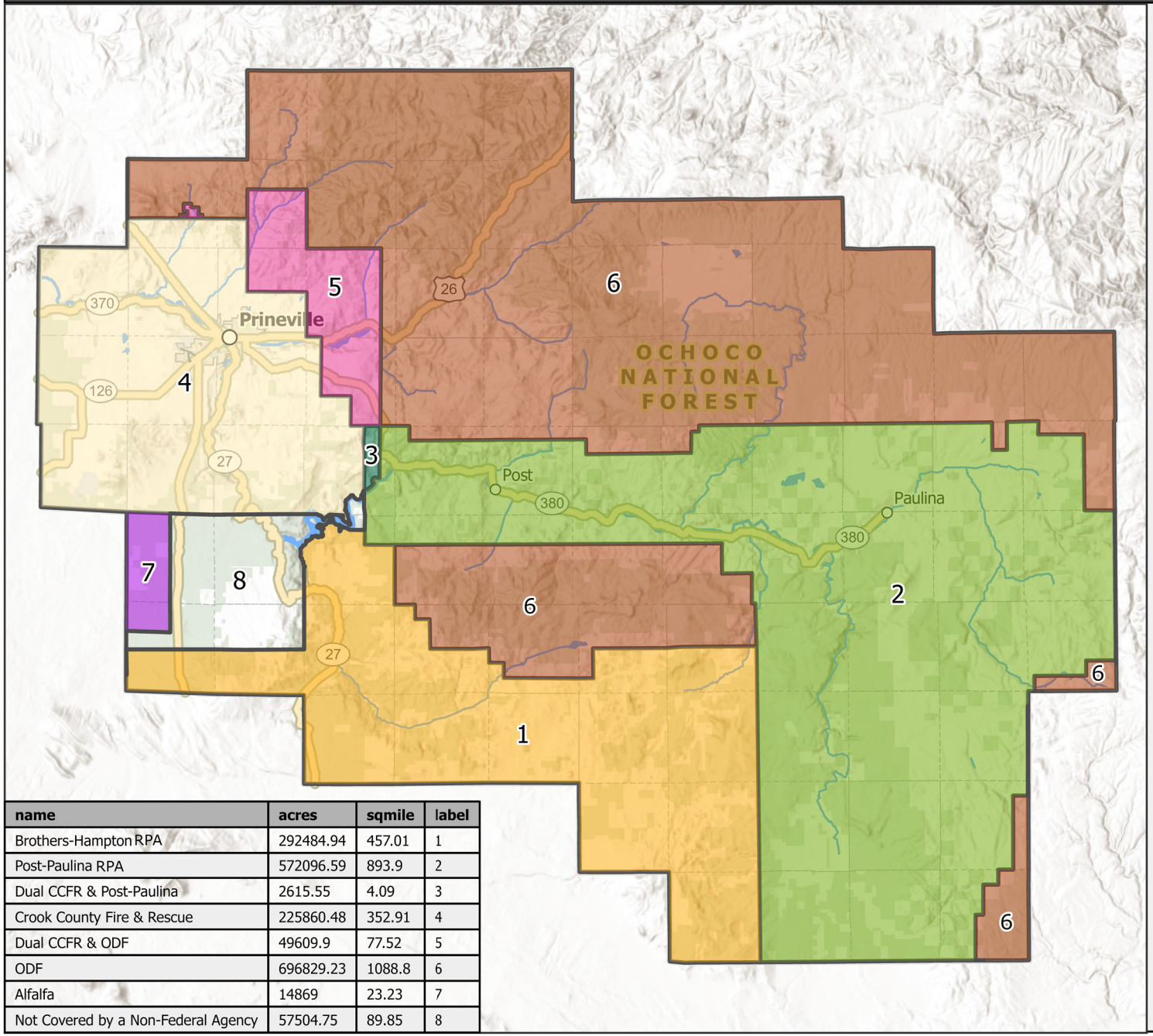
Subdivisions

Map Notes

Map created by Crook County GIS - 8/20/2024. Risk Assessment Areas based on 2005 CWPP. All other data is maintained by Crook County GIS.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

Non-Federal Fire Protection Agencies



name	acres	sqmile	label
Brothers-Hampton RPA	292484.94	457.01	1
Post-Paulina RPA	572096.59	893.9	2
Dual CCFR & Post-Paulina	2615.55	4.09	3
Crook County Fire & Rescue	225860.48	352.91	4
Dual CCFR & ODF	49609.9	77.52	5
ODF	696829.23	1088.8	6
Alfalfa	14869	23.23	7
Not Covered by a Non-Federal Agency	57504.75	89.85	8

Fire Protection Agencies

- Alfalfa
- Brothers-Hampton RPA
- Crook County Fire & Rescue
- Dual CCFR & ODF
- Dual CCFR & Post-Paulina RPA
- ODF
- Post-Paulina RPA
- Not Covered by a Non-Federal Agency

Map Notes

Map created by Crook County GIS 12/11/2024. All data is maintained by Crook County GIS.

N

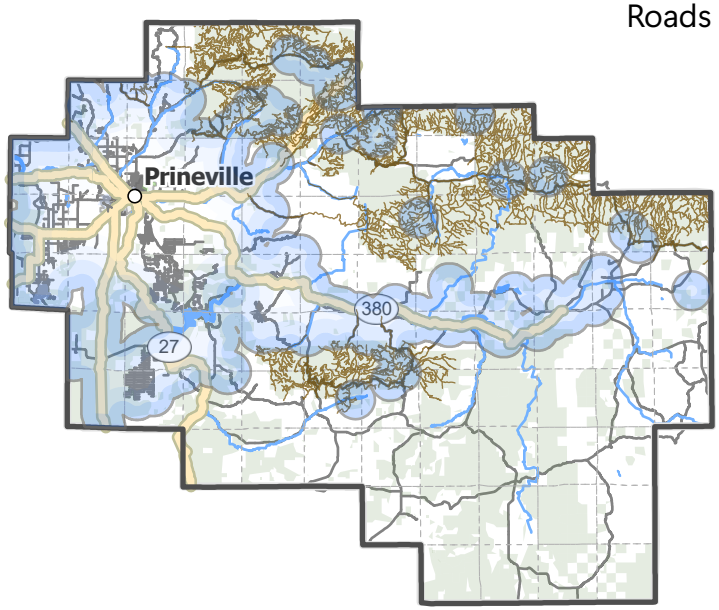
0 5 10 Miles

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

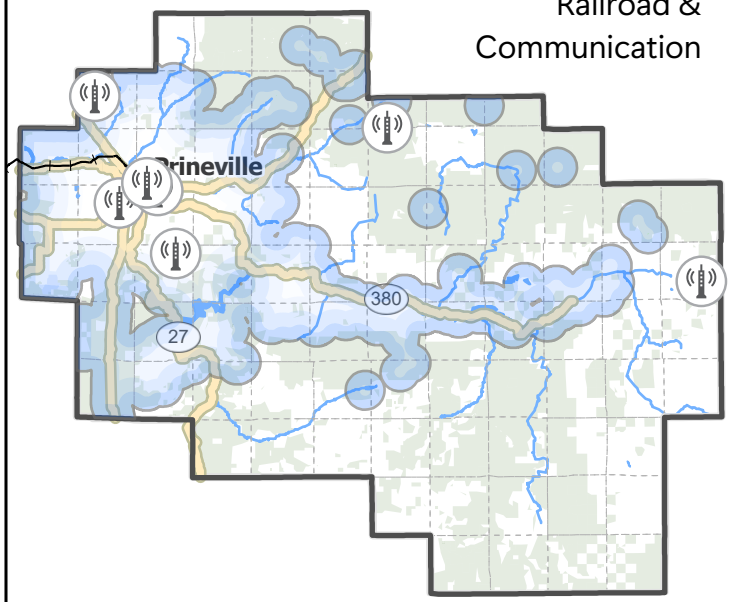
Critical Infrastructure

Crook County CWPP

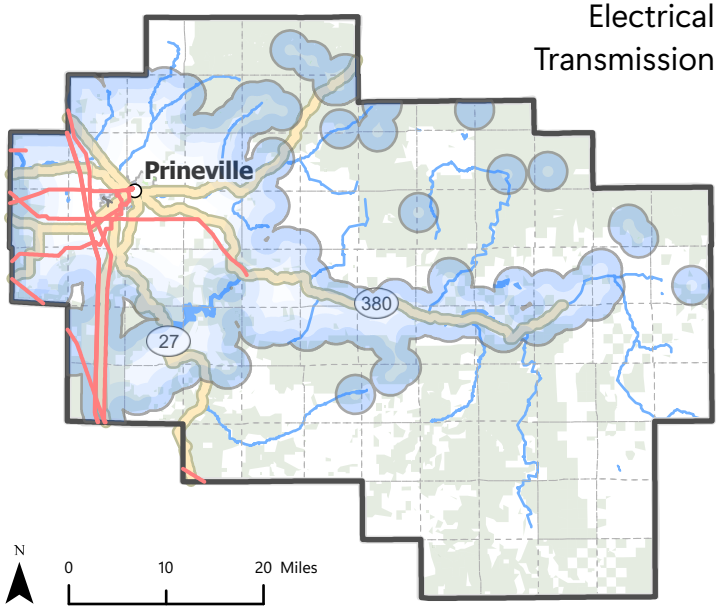
Roads



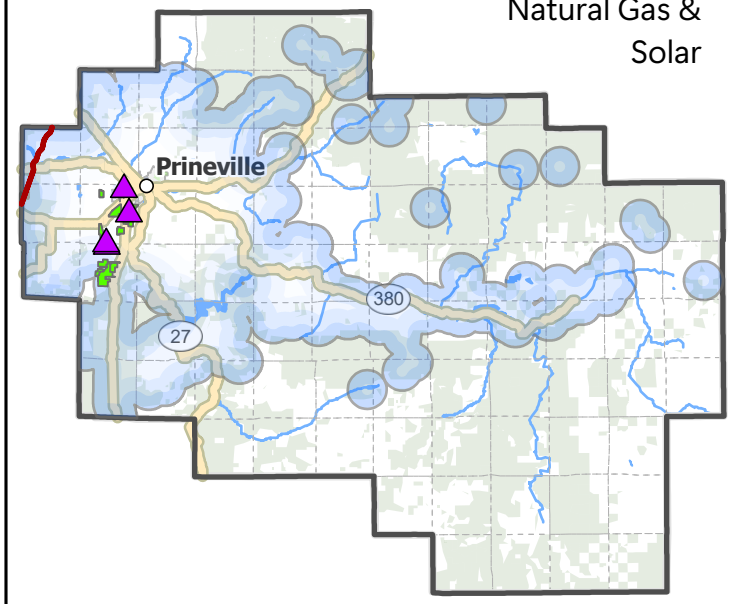
Railroad & Communication



Electrical Transmission



Natural Gas & Solar



Infrastructure

- Crook County Roads
- USFS Roads
- Communication Towers
- Railroad
- Transmission Lines
- Substations
- Gas Transmission Pipeline
- Solar Farm

Map Notes

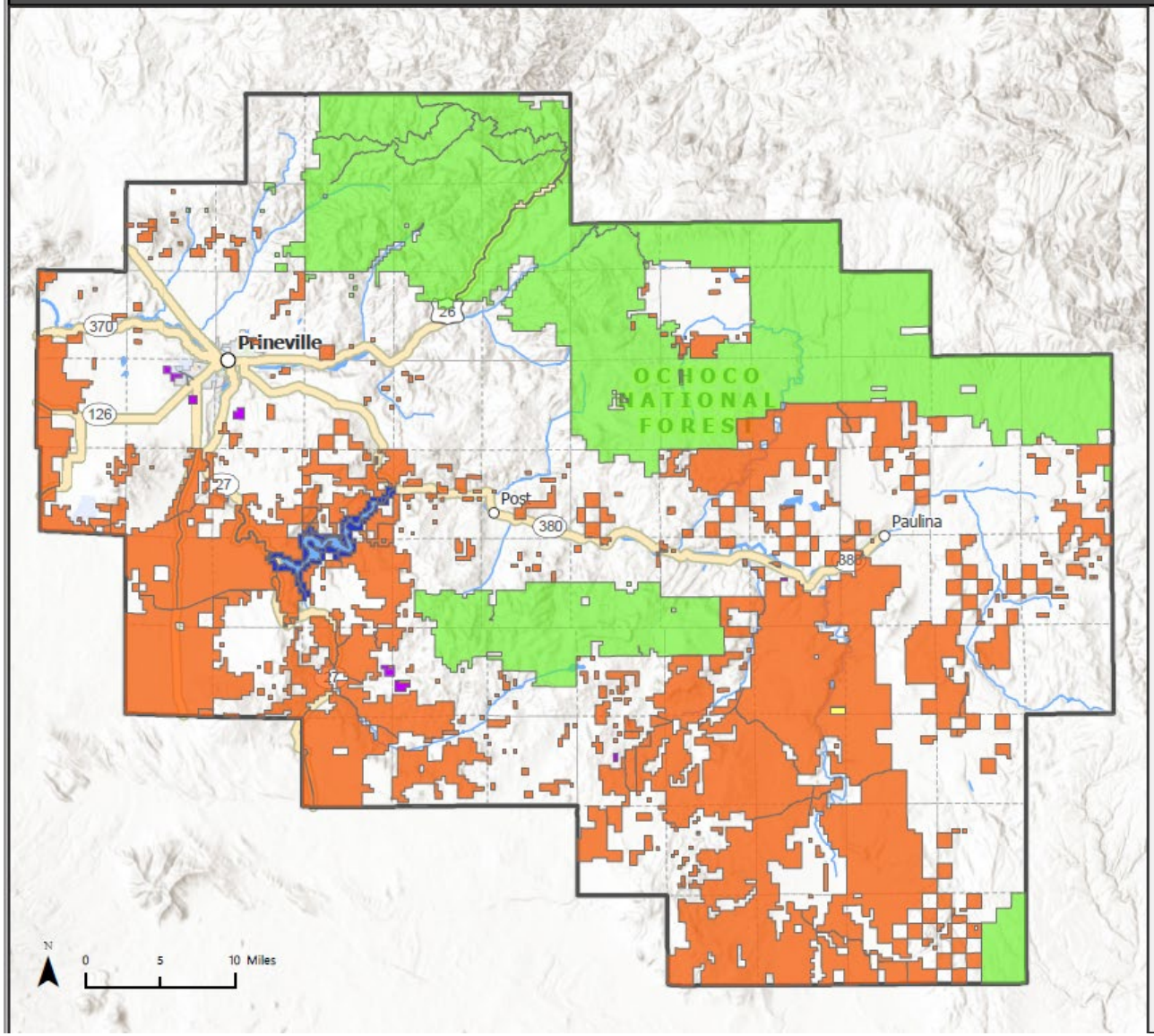
Map created by Crook County GIS 8/27/2024. Electrical transmission lines were sourced from Oregon Explorer -- Natural Resources Digital Library. All other data is maintained by Crook County GIS.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

5/29/2024

Land Management

Crook County CWPP



Land Management

- County of Crook
- State of Oregon
- US Bureau of Reclamation
- US Department of Agriculture
- US Forest Service
- Bureau of Land Management

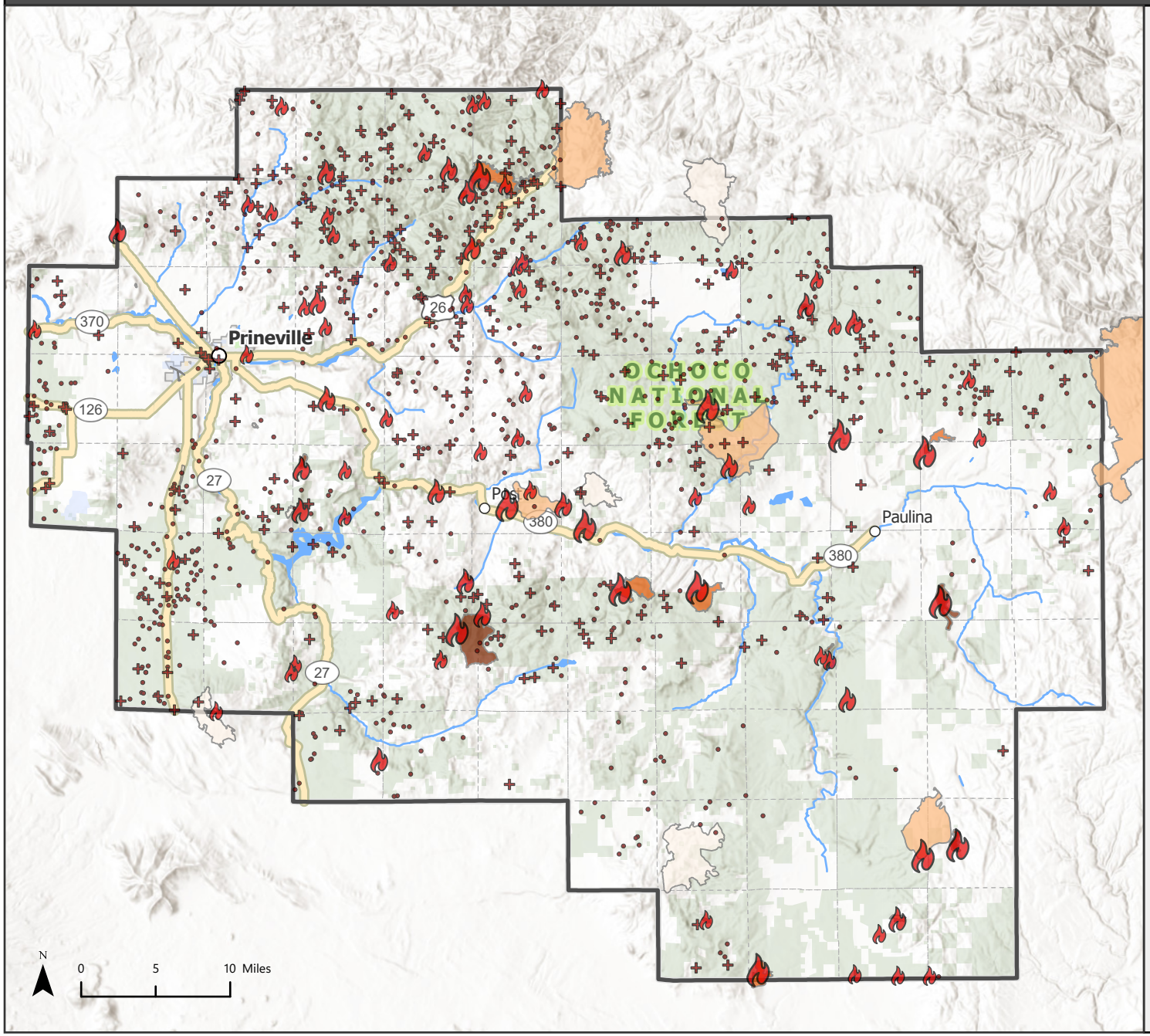
Map Notes

Map created by Crook County GIS 8/27/2024. Land Management data was created by the State of Oregon. All other data is maintained by Crook County GIS.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

Fire History

Crook County CWPP



Fire Size (Acres)

- ≤ 0.25
- 0.25 - 10
- 10 - 100
- 100 - 300
- 300 - 10000

Fire Perimeter History

- 2005 - 2010
- 2011 - 2015
- 2016 - 2018
- 2019 - 2023

Map Notes

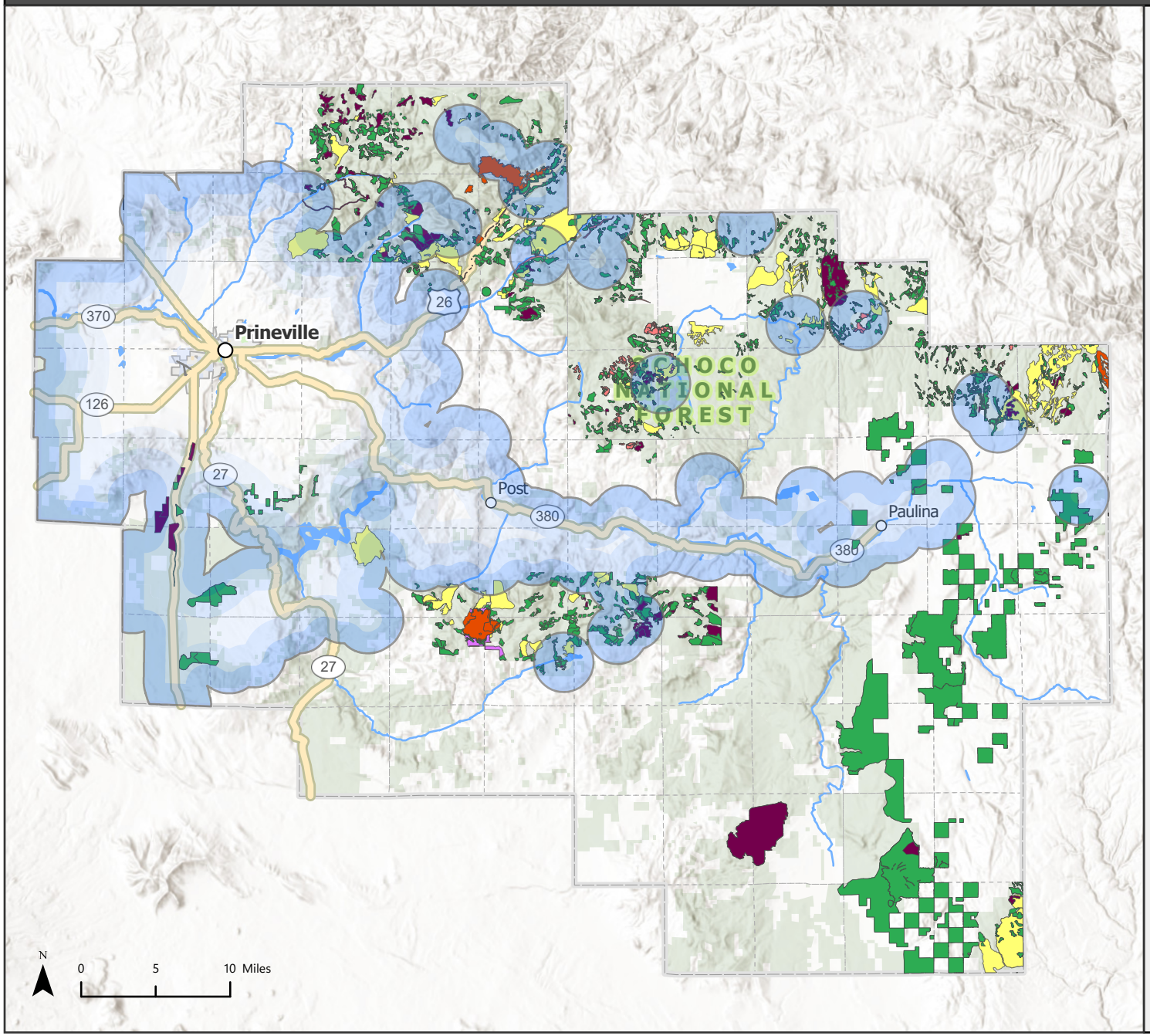
Map created by Crook County GIS 8/27/2024. Historical fire data was sourced from the USFS.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

5/29/2024

Fire Treatments

Crook County CWPP



Integrated Interagency Fuels Treatments

- Fire - Broadcast Burn
- Fire - Fire Use
- Fire - Hand Pile, Jackpot, and Machine Pile Burn
- Mechanical
- Chemical / Grazing
- Wildfire Non-Treatment

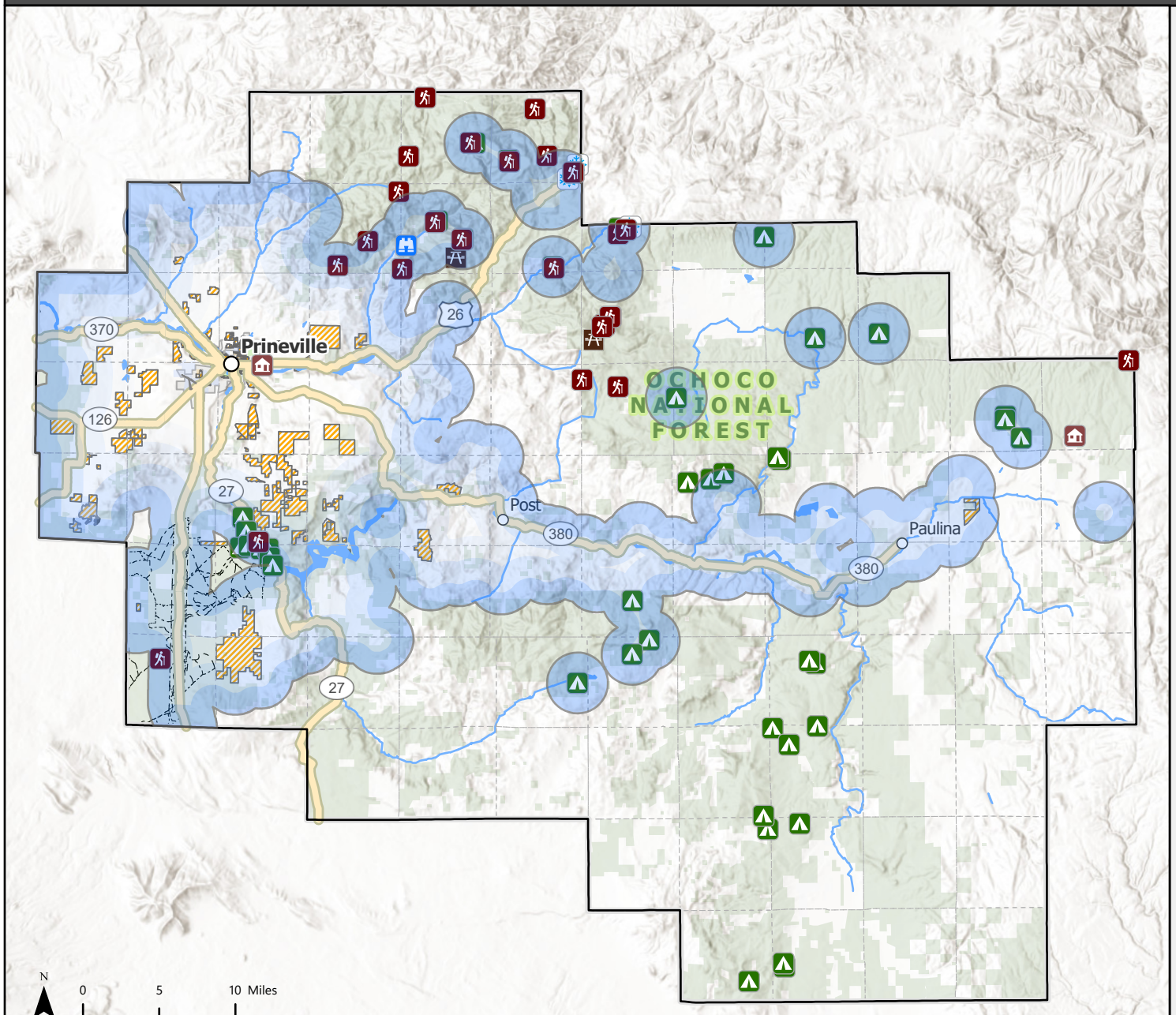
Map Notes

Completed treatments compiled from the BLM and USFS spanning from 1988 to 2024. Map created by Crook County GIS.

Data Sources: Interagency Wildland Fire Data Management Program.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

5/29/2024



Recreation Sites

- Campground
- Day Use Area
- Info Site / Fee Station
- Observation Site
- Snowpark
- Trailhead
- OHV Trails
- Subdivisions

Map Notes

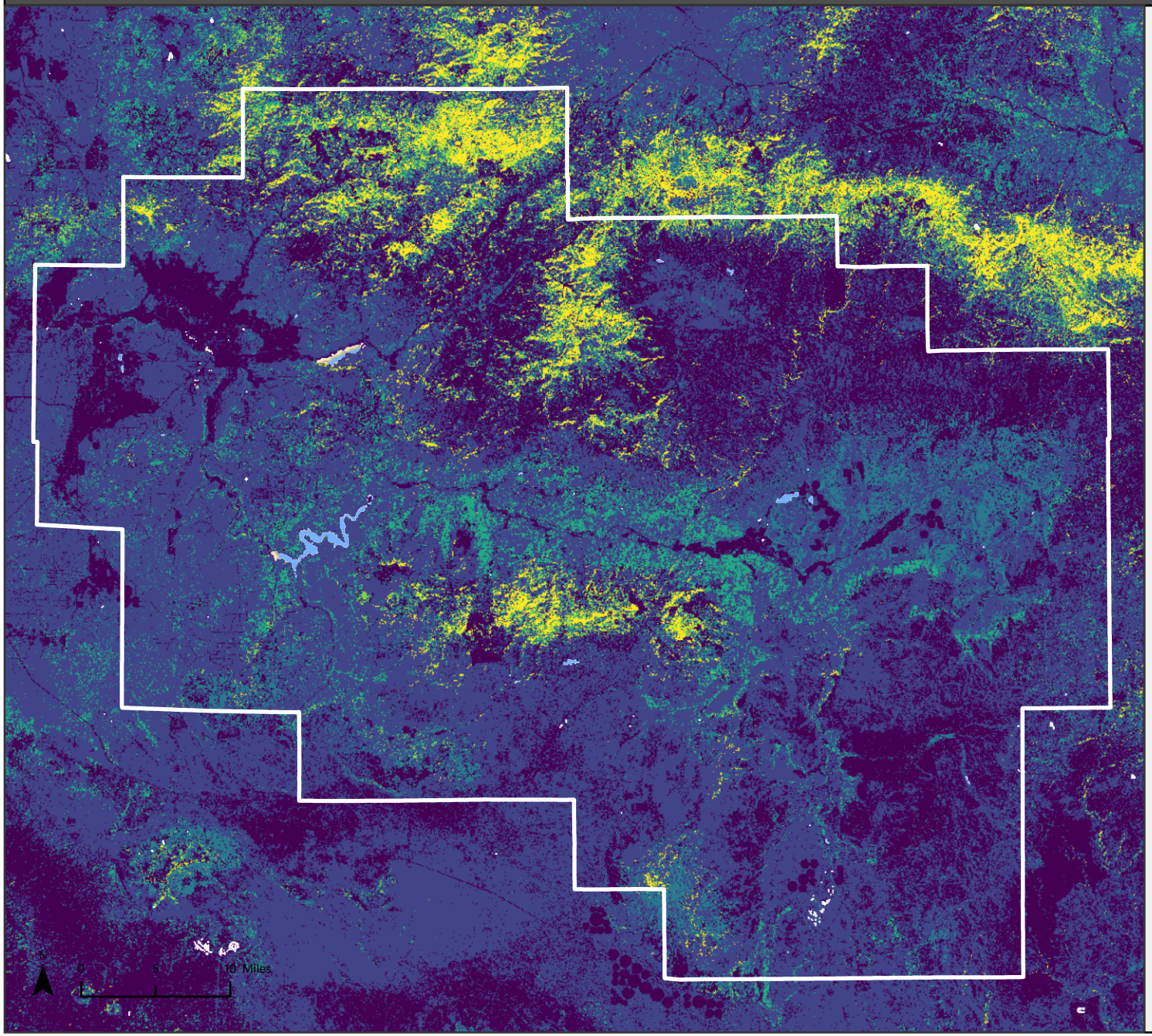
Map created by Crook County GIS.

Data Sources: Recreation data compiled from the USFS & BLM. All other data is maintained by Crook County GIS.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

5/30/2024

Flame Length



Average Flame Length

- 0 - 2 ft.
- 2 - 4 ft.
- 4 - 6 ft.
- 6 - 8 ft.
- 8 - 12 ft.
- greater than 12 ft.

Map Notes

Fire intensity is represented as flame lengths. A range of fire intensity is possible at any location because fires can coincide with a variety of weather conditions which might either exacerbate or mitigate fire intensity (PNW Quantitative Wildfire Risk Assessment, 2023). Data was derived from the Oregon Wildfire Risk Explorer.

Crook County GIS
GEOGRAPHIC INFORMATION SYSTEMS

8/20/2024

Appendix E: Wildfire Preparedness Resources

Crook County Fire & Rescue Fire Ready Booklet

Crook County Fire and Rescue is available to help residents with wildfire risk assessments of their home and/or property. Along with the guidelines in CCFR's Fire Ready program, staff will help property owners better understand how to protect their homes from wildfire. The Crook County Fire and Rescue Fire Ready Booklet, a guide to protecting homes and businesses against wildfire damage, can be found on Crook County Fire & Rescue's website (crookcountyfireandrescue.com/resources), as well on pages 85-86 of this CWPP.

Central Oregon Wildfire Workforce Partnership

Young adult crews perform fuels reduction work on private and public property within Jefferson, Deschutes, and Crook Counties. Work has been prioritized for underserved and low-income communities and has ranged from tree thinning, chipping, brush removal, and ladder fuels reduction in natural areas to create defensible spaces around homes, neighborhoods, and critical infrastructure. To discuss a potential fuels reduction project in your community, fill out a COWWP application on www.coic.org/cowwp.

OSU Extension Services Fire Program

OSU Extension's Fire Program fosters healthy communities and landscapes by empowering people to live well with fire. The OSU Extension Service website (extension.oregonstate.edu/forests/fire) contains resources on how to maintain defensible space, how to remain safe from wildfire smoke, information on fire resistant plants and much more.

Oregon Residential Specialty Code

The Oregon Residential Specialty Code applies to the construction, reconstruction and repair of one- and two-family dwellings and townhouses. Crook County has locally adopted this code, which has specific provisions relating to wildfire hazard mitigation. The provisions of this code can be found here: https://codes.iccsafe.org/content/ORRC2023P1/chapter-3-building-planning#ORRC2023P1_Pt03_Ch03_SecR327.

Resources for Emergency Alerts & Information

A comprehensive list of resources for emergency alerts & information community members can utilize to stay updated on active and predicted emergency events is attached on pages 87-106 of this CWPP.

Resources for Emergency Alerts & Information

The Crook County Emergency Management website includes a comprehensive list of resources for emergency information, emergency alerts, preparedness, utility outages, and also contains the Crook County Community Wildfire Protection Plan.

Scan the QR Code to take you to Crook County's Emergency Management Website!

SCAN ME

Link to Website:

https://tinyurl.com/yfsake6a

Additional resources on the back of this page!

EMERGENCY MANAGEMENT
CROOK COUNTY

Resources for Emergency Alerts & Information

Crook County Emergency Information Map

The map shows active fires within Crook County along with road closures and evacuation routes.

Link to Map:
https://tinyurl.com/mnys5bpp

Crook County Sheriff's Office Facebook

CCSO provides news on active wildfires in the area and also posts evacuation alerts on the page.

Link to CCSO Facebook Page:
https://tinyurl.com/fatuckv6

Crook County Fire & Rescue

Staff are available to help you prepare for wildfire events. More information can be found below.

Link to Website:
https://tinyurl.com/nhhapn5b

Fire Specific Facebook Pages

Facebook pages are made for wildfires in the area. The page includes updates on wildfire activity, as well as progress and efforts made by wildland firefighting crews.

Watch Duty App

An iPhone and Android app and webpage that alerts you of nearby wildfires and firefighting efforts.

Link to Webpage:
https://app.watchduty.org/

Crook County Sheriff's Office

(541) 447-6398

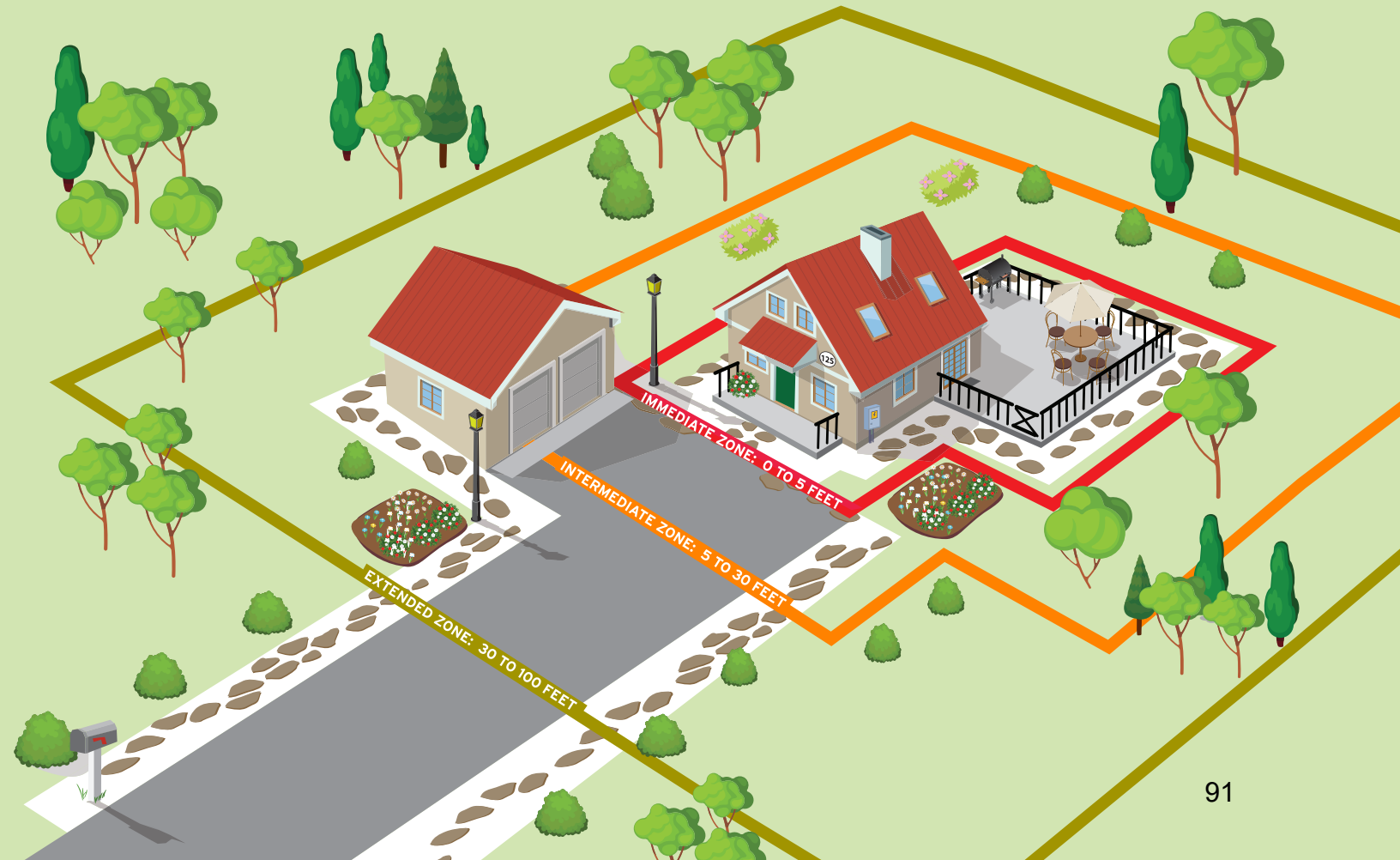
Crook County Non-Emergency Line

(541) 447-4168

Crook County:

ARE YOU FIRE READY?

A guide to protecting homes and businesses against wildfire damage.



> ***"Fire does not behave capriciously; it either meets the requirements for combustion or not."*** — *Jack Cohen, USFS*

View of the Laughlin Fire outside of Prineville in 2018. Photo ©Central Oregonian.

ARE YOU FIRE READY?

Anyone who has lived through a fire season in Crook County has experienced the impacts of wildfire. From air pollution to property damage, wildfire is a major threat to our homes, health, livelihoods, and natural resources. National trends show that wildfires are happening more frequently and growing in size and severity. You don't have to be a victim. Understanding how fire behaves and what you can do to reduce the risk in your community helps firefighters protect all of us more effectively.

Fire needs three fundamental elements to occur: oxygen, heat, and fuel. This is known as the "fire triangle". Remove any one of these elements and a fire will go out. You can't control the amount of oxygen in the atmosphere and you have limited control over natural sources of heat (like lightning), but you do have control over the final element of the triangle: fuel. Once a fire has started, the way it moves is also controlled by three factors: weather, topography, and available fuel. In most cases, you can't change the weather or flatten mountains but you can control the amount of fuel available to burn. The common denominator in both the fire triangle and fire behavior is fuel. In the following pages, we'll give you a range of helpful suggestions to reduce the amount of fuel on your property and in your neighborhood.

Wildfires do not have to burn everything in their path! By following the standards outlined in this guide, you can help protect your home and property against wildfire damage. Consider working with your neighbors to develop an action plan that guides wildfire risk reduction activities to make an even bigger impact. Thank you for being an active participant in building a safer Crook County.

THE HOME IGNITION ZONE

It's time to evaluate your property! The home ignition zone was developed by retired USDA Forest Service fire scientist Jack Cohen. His research demonstrated how fuel reduction work can significantly increase the chance of your home surviving a wildfire. Here's what to look for:

Gutters

Finding and eliminating rooftop fuels is a big step toward protecting a home against wildfire damage. Check your gutters for dry leaves or needles, especially in the downwind direction.

Roof

Not all roofs are created equal. Metal, tile, and slate roofs are nonflammable. Asphalt shingles are fire-resistant. Cedar shakes are highly flammable.

Chimneys

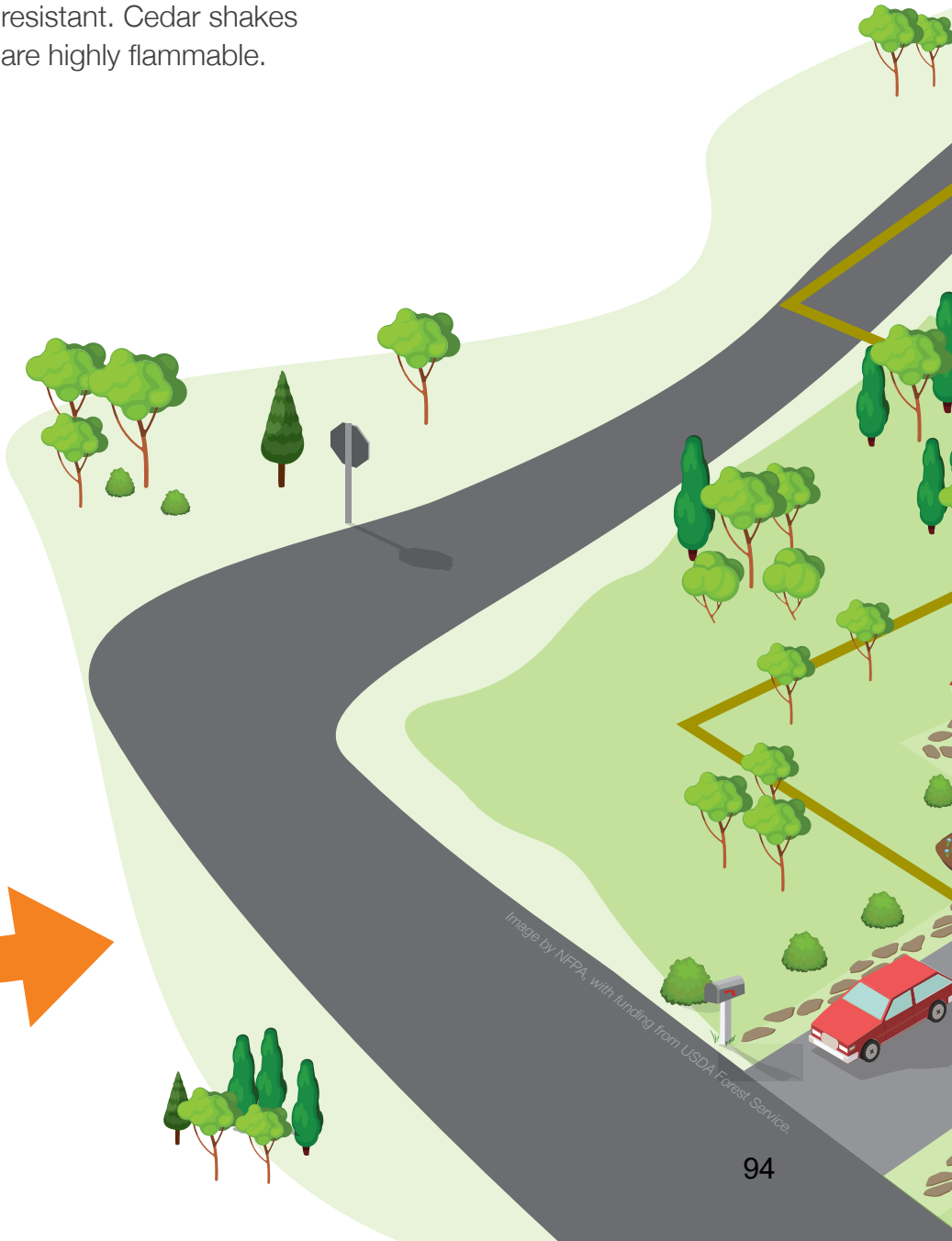
Clear all brush away from your chimney or stovepipe exits and cover with metal spark arrester screens.

Attic and Eave Vents

Cover all attic and eave vents with metal screen to keep out hot ash and airborne embers. This will also prevent leaves, needles or other potential fuels from accumulating in hidden places.

Access

Firefighters can't defend your home against a wildfire if they can't get to it! Learn how to create a driveway and roadside fuel break on page 7.

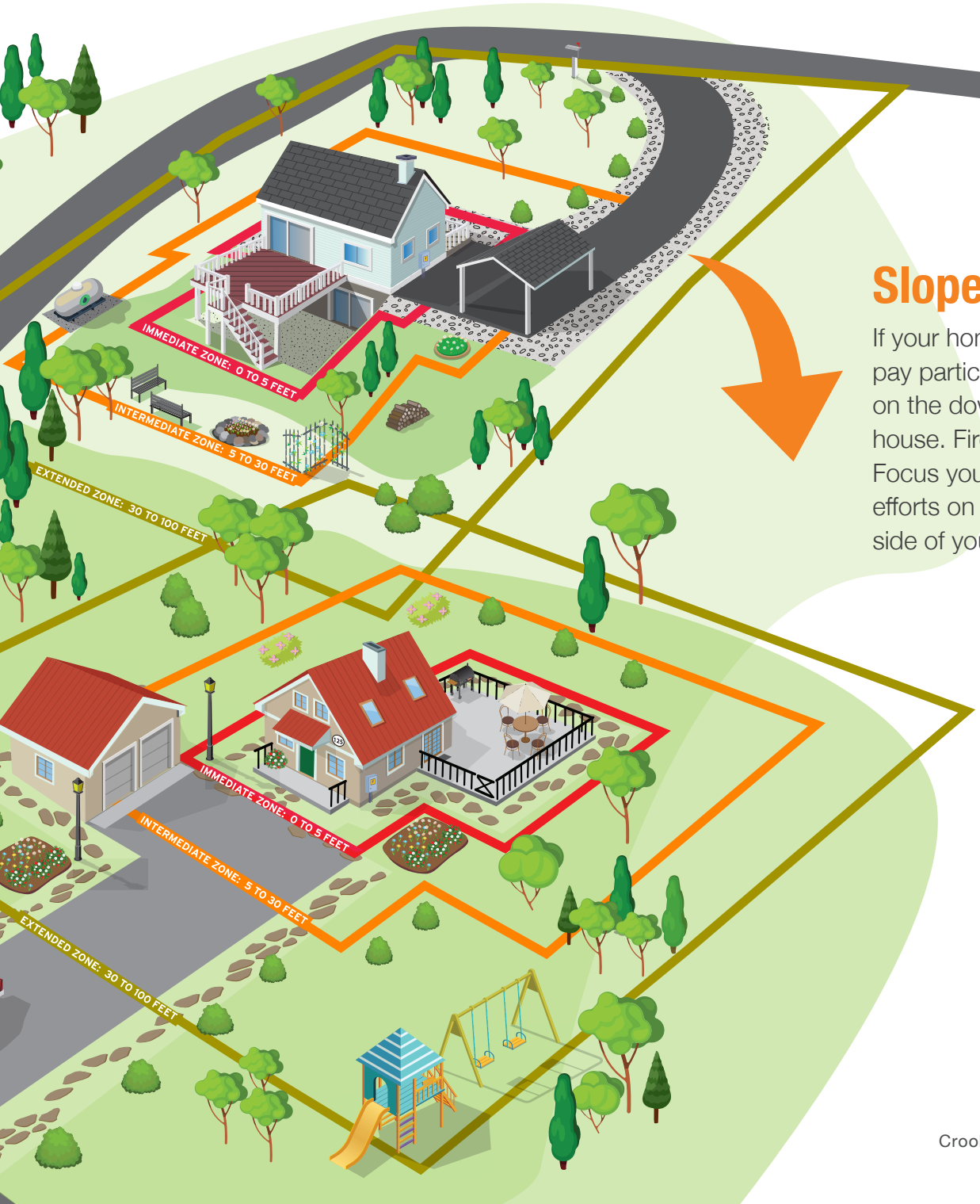


Wind

Do you know the prevailing wind direction during the hot summer months? If a hot summer wind could push a fire toward your home: focus fuel reduction on the upwind side of your home.

Water

How quickly can you respond to a spot fire on your property? Be sure to keep hoses and sprinklers where you can easily find them. If possible, develop a water source that isn't dependent on municipal power for flow and pressure.



Slope

If your home sits on a slope, pay particular attention to fuels on the downhill side of the house. Fire burns rapidly uphill! Focus your fuel reduction efforts on the downhill slope side of your home.

FUEL BREAK FUNDAMENTALS

Step 1

Immediate Zone

The first 0-5 feet around your home is the most important place to take immediate action, because it is the most vulnerable zone to embers from a wildfire. Start with your home itself, and then turn your attention to creating fire-resistant landscaping.

The immediate zone includes your house, and the first 5 feet from the outside edge of a structure's farthest attached extension. This may be the edge of the roof eave or the outside edge of a deck attached to the structure.

To create a fire-resistant home:

- Replace or repair any loose or missing shingles or other roofing materials to prevent embers from penetrating.
- Cover all attic vents, roof eaves, chimneys and stovepipes with 1/8 inch metal mesh screening to keep flammable debris from accumulating in hidden spaces and to prevent embers blowing into your home.
- Repair or replace damaged or loose window screens and any broken windows. Screen or box-in areas below patios and decks with wire mesh to prevent debris and other combustible materials from accumulating.
- Consider installing double-paned windows to increase heat resistance.
- Move any flammable material, including firewood piles, away from wall exteriors.
- Ensure grills, outdoor fireplaces, and similar devices are in good condition and have spark arresters with 1/8 inch metal screens over all openings.
- Ensure all exterior doors and windows close tightly and have good weather stripping.

Your landscaping in this zone should be non-flammable or very fire-resistant. Examples of this include: asphalt, concrete, rock, bare soil, clover, green grass, ivy, or succulent ground cover.

To create fire-resistant landscaping in the immediate zone:

- No dry grass or weeds.
- Trees and shrubs should be maintained in a green condition and be free of dead material.
- Replace fire-vulnerable plant varieties with fire-resistant species. *See page 7 for suggestions*.
- Arrange trees and shrubs so that fire cannot spread or jump from plant to plant. *See page 8.*

What is Fuel Reduction?

The arrangement of trees, shrubs, and other fuel sources in a way that makes it difficult for fire to transfer from fuel source to fuel source. This also includes the selection of fire-resistant plants and trees around or near structures.

Avoid Invasion!

Keep noxious weeds off your property. Learn to identify them and remove them whenever you find them. Treat bare soil areas with weed-free seed to deprive noxious weeds of growing space. For more information, contact your County Extension Service office.

Step 2 Intermediate Zone

The intermediate zone begins where the immediate zone ends and extends out to 30 feet from the farthest exterior point of your home. The focus in this zone is creating fire-resistant landscaping and fuel breaks that can help slow the rate of spread and intensity of an advancing wildfire, and create an area in which firefighting activities can take place more safely. Consider the direction of the wind, steepness of slope, access to water sources, and location of debris in this zone.

To establish an effective fuel break:

- Clear vegetation from under large stationary propane tanks.
- Use walkways or paths to create fuel breaks.
- Keep lawns and native grasses mowed to a height of no more than 4 inches.
- Remove ladder fuels (vegetation under trees) so a surface fire can't reach the crowns of your trees. *See page 8-9.*
- Prune tree limbs and branches up off the ground. Never exceed 1/3 of the overall tree height when trimming. *See page 8-9.*

What should you look for around home?

How healthy are the trees and shrubs around my home? How big are they? What species are they?

Will thinning trees around my home keep fire from transferring to other trees?

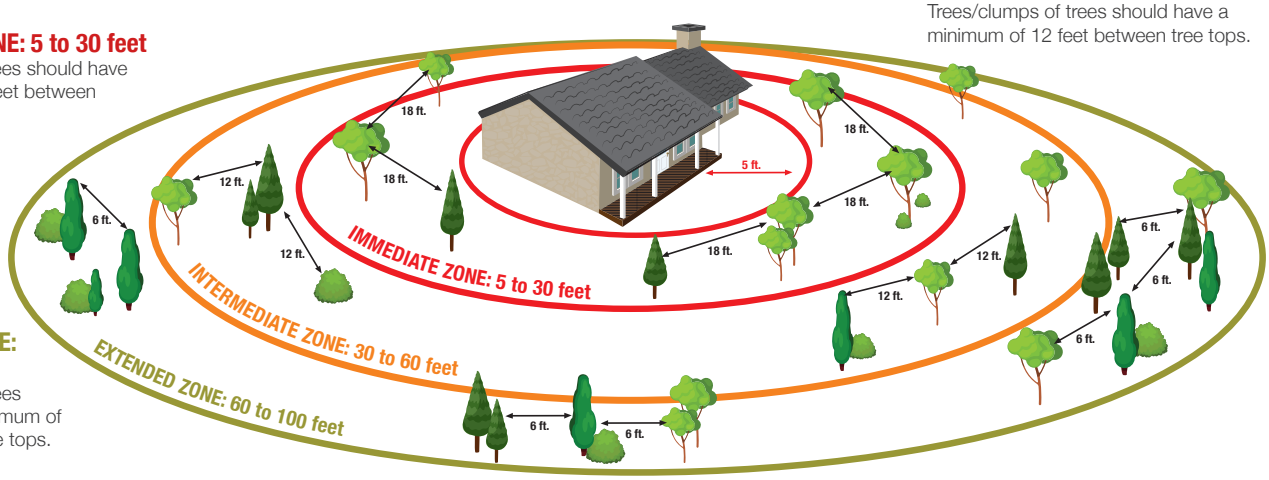
Will thinning shrubs from under trees keep fire from climbing into the crown?

- Create enough space between the crowns of your trees to prevent fire from "jumping" from fuel source to fuel source. Trees in the intermediate zone should have at least 18 feet between crowns, more if your property is on a steep slope.
- Tree placement should be planned to ensure the mature canopy is no closer than 10 feet to the edge of your home or other structures.
- Trees and shrubs should be limited to small clusters of a few each to break up the continuity of the vegetation across the landscape.

Tree Spacing by the Zone

IMMEDIATE ZONE: 5 to 30 feet
Trees/clumps of trees should have a minimum of 18 feet between tree tops.

INTERMEDIATE ZONE: 30 to 60 feet
Trees/clumps of trees should have a minimum of 12 feet between tree tops.



EXTENDED ZONE: 60 to 100 feet
Trees/clumps of trees should have a minimum of 6 feet between tree tops.

Step 3

Extended Zone

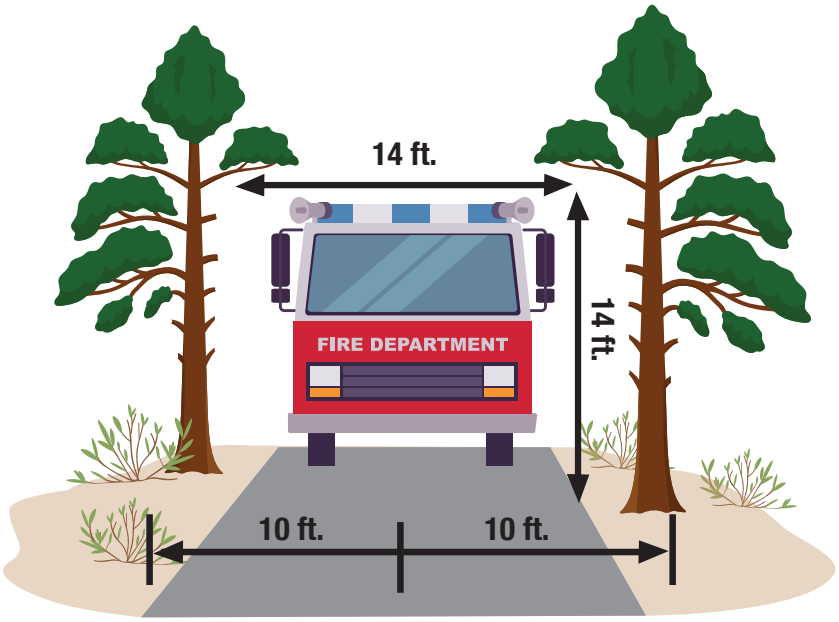
The extended zone includes the area 30-100 feet from your home's farthest point, or all the way to your property line. The goal in this zone is not to eliminate fire but to interrupt its path and keep flames smaller and on the ground. You also need to consider access for fire personnel and equipment in this zone. If firefighters can't easily and safely access your property, they won't stop to try to defend it! Consider a variety of potential access issues. Private gates should have a designated access code for emergency personnel. Private bridges must be able to bear the weight of fire equipment. Private driveways need enough horizontal and vertical clearance to accommodate fire equipment. For more information about potential access issues and recommendations for your property, call CCF&R at 541.447.5011.

In the extended zone:

- Dispose of any large accumulations of ground litter or debris, including dead plant and tree material.
- Remove small conifers growing between mature trees.
- Remove vegetation adjacent to storage sheds or other outbuildings.
- Trees 30 to 60 feet from your home should have at least 12 feet between canopy tops, or more on a steep slope.
- Trees 60 to 100 feet from your home should have at least 6 feet between canopy tops, or more on a steep slope.

DRIVEWAY FUEL BREAK

The driveway fuel break is intended to create clearance for a fire truck, as well as to slow the rate of spread and intensity of a wildfire. It's also a "safe zone" where fire suppression can more safely occur. These recommended standards for driveways apply to driveways longer than 150 feet.



The fuel break should have these characteristics:

- The horizontal clearance must be at least 14 feet
- The vertical clearance must be at least 14 feet
- The fuel break must extend 10 feet from each side of the driveway's centerline, creating an area that is at least 20 feet wide, including the driving surface.
- The ground cover must be substantially nonflammable. Healthy trees and shrubs must be thinned and pruned. See guidelines for primary fuel breaks.
- Plants must be substantially free of dead material. See secondary fuel break, thinning, and pruning guidelines.

Fuel Reduction

Don't

Cut down all the trees and shrubs around a structure, or create a bare-earth ring around a home, also known as "moonscaping".

Do

Choose fire-resistent trees and shrubs, and arrange them with other fuel sources in a way that makes it difficult for fire to transfer from fuel source to fuel source.

Fire-Resistant Trees & Shrubs	Fire-Vulnerable Trees & Shrubs
✓ Ponderosa Pine	✗ Bitterbrush
✓ Douglas Fir	✗ Manzanita
✓ Quaking Aspen	✗ Ceanothus
✓ Pacific Rhododendron	✗ Juniper
✓ Oregon Boxwood	✗ Arborvitae
✓ Mock Orange	

ROADSIDE AND PROPERTY LINE FUEL BREAKS

Property line and roadside fuel breaks reduce the potential of a wildfire crossing from a neighboring property onto your property, and vice versa. These fuel breaks will also act as safety zones for firefighters working to defend homes against wildfire damage.

A roadside fuel break:

- Begins at the edge of any road that is adjacent to or runs through the property
- Extends for a distance of at least 20 feet from the roadside, or to the property line, whichever is shortest.

Natural features, such as rock fields and water bodies, may be incorporated into the fuel breaks. In general, the fuel breaks should have these characteristics:

- Ground cover should be covered with nonflammable material, such as asphalt or concrete, or with fire-resistant plants, such as green grass, ivy or wildflowers
- Dry grass should be mowed to a height of four inches or lower
- Areas of continuous cut dry grass, leaves, needles and other fine, dry natural fuel should be broken up or separated with fuel breaks to prevent the transfer of fire
- Trees and shrubs should be green and healthy, and free of dead vegetative material
- Potential ladder fuels should be removed
- Trees and shrubs should be thinned to an extent that the potential transfer of fire from one plant to another is disrupted

Step 4

Pruning and Trimming Vegetation

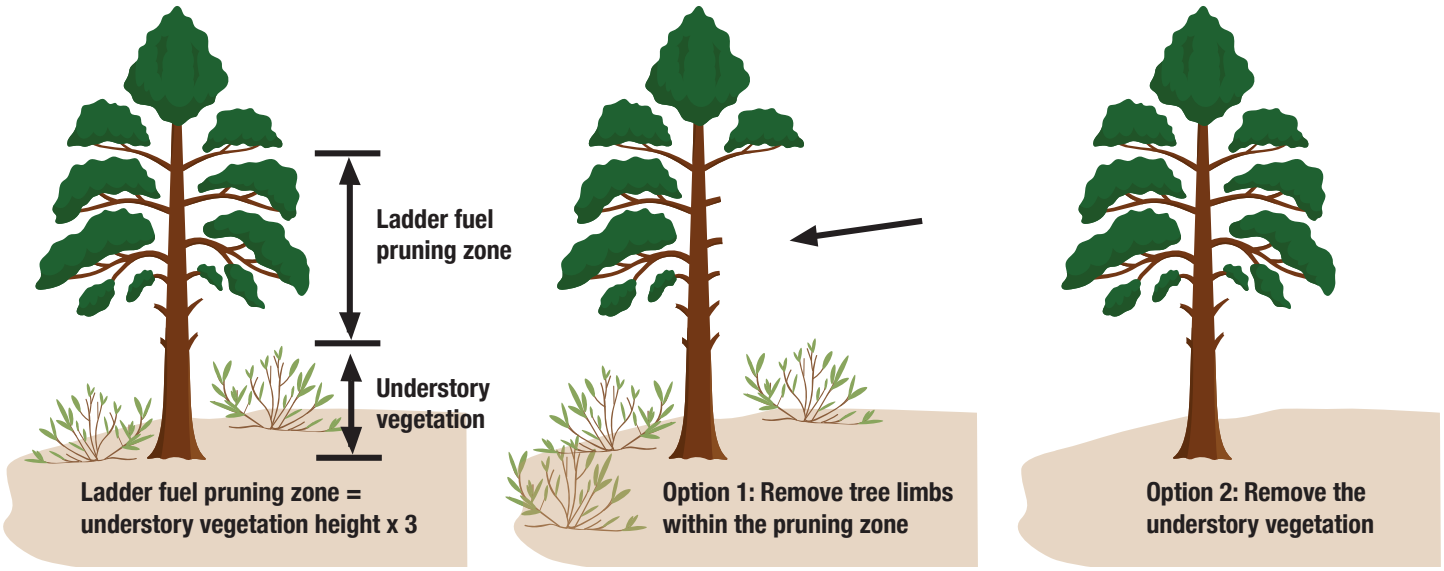
In any zone, knowing how to correctly prune and trim your trees and shrubs is vital to successfully creating a fire-resistant property. Follow the tips below for a basic guideline. If you have more specific questions, call **Crook County Fire and Rescue** at **(541) 447-5011** or **Oregon Department of Forestry** at **(541) 447-5658** to schedule a site visit with a professional forester or fire professional.

LADDER FUELS

To keep fire out of tree crowns, it's necessary to disrupt a fire's pathway to branches, needles and leaves. The strategic removal of lower tree limbs, which act like rungs of a ladder that a fire can climb, can make the difference between a scorched trunk and a tree stripped of all foliage.

Most wildfires start on the ground in the smallest fuels —needles, leaves and dry grass. Fire will continue to spread upward — up a hill or a tree — unless pathways to fresh fuel are interrupted. Removing ladder fuels helps to keep fire on the ground, where it is manageable, rather than in the tree crowns, where fire is difficult to control.

Lader Fuels Pruning Zone



How high can flames fly?

About three times taller than the height of the understory plant that is burning!

Understory Vegetation Height	1 ft.	2 ft.	3 ft.	4 ft.	5 ft	6 ft.	7 ft.	8 ft.	9 ft.
Ladder Fuel Prunning Zone Distance	3 ft.	6 ft.	9 ft.	12 ft.	15 ft.	18 ft.	21 ft.	24 ft.	27 ft.

PRUNING VEGETATION

Do:

- Remove live branches from hardwood trees during late winter or early spring, when the tree is dormant.
- Limb Conifer trees any time of year, except during early summer.
- When deciding which live branches to remove, first choose those with poor health or little green foliage. Next, choose branches that are damaged, diseased, or interfering with other branches.
- Remove dead branches any time of the year.
- Use sharp tools and make clean cuts.

Don't:

- Paint wound dressing on pruning cuts. It's unnecessary and can actually hurt the tree by causing the pruning cut to seal slower
- Cut branches flush with the trunk. This will rob the tree of natural chemicals used to close the wound, and lead to decay in the tree.
- Remove more than one-third of a tree's live crown.

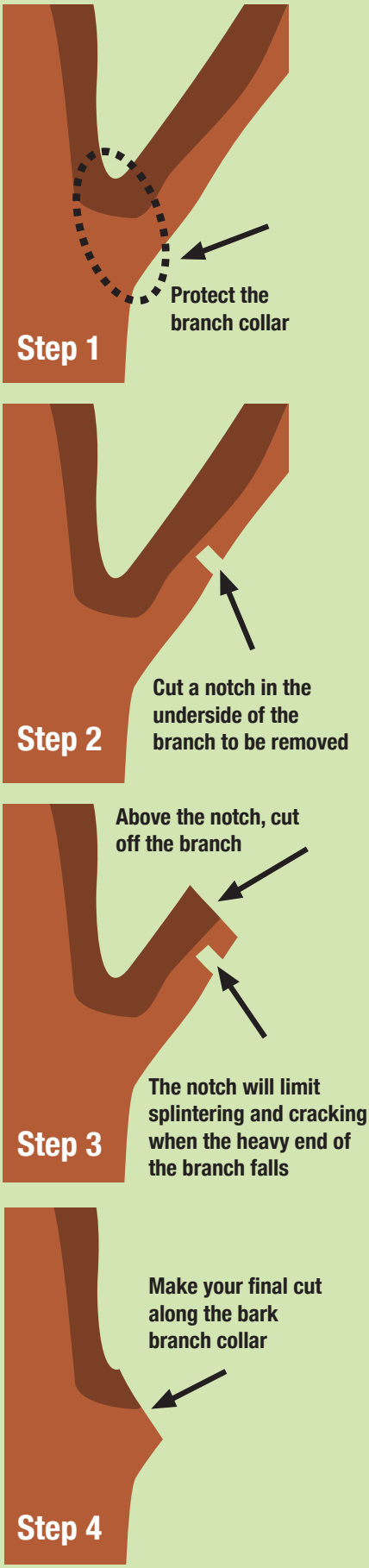
THINNING BASICS

The purpose of thinning trees and shrubs is to reduce the likelihood that fire will jump from plant to plant. Once a fire's ability to transfer to other plants is reduced, it will quickly and dramatically lose intensity.

When choosing which trees or shrubs to remove, choose the ones that have the poorest vigor. Signs of poor vigor include numerous bare or spindly branches, poor color in the leaves or needles, and evidence of parasites, such as insects or fungus.

No moonscaping. Thinning is good but don't overdo it! Healthy trees can shield a home from airborne firebrands. If you aren't sure what to cut, consult a forester or tree care professional before using the saw.

Pruning Tips



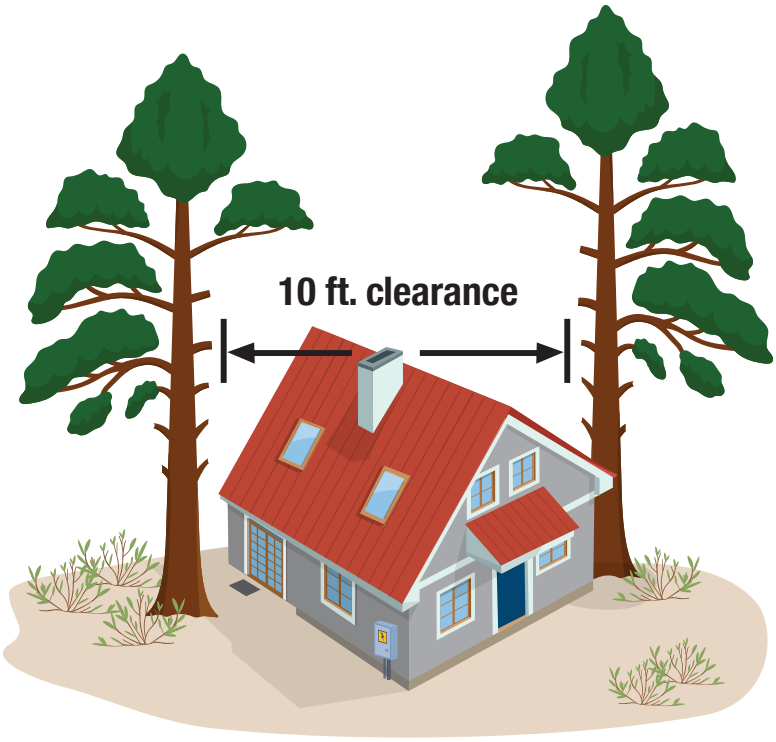
Step 5

Roof and Chimney Clearance

Sparks from a chimney connected to a fireplace or wood-burning stove could catch tree branches on fire. To reduce the chance of this happening, trim all branches 10 feet away from a chimney that vents a wood-burning fireplace or stove.

All dead branches overhanging any portion of the roof must be removed. Dead wood catches fire easier than live, green wood. Airborne embers could cause dead branches to ignite, starting a crown fire in the trees above your home's roof, or dropping burning debris onto your roof's surface.

Trimming limbs hanging over the roof can be dangerous. Consider hiring a certified arborist or tree care professional for this job.



Step 6

Under-Deck Flammables

A burning wooden deck or stairway may catch the rest of the house on fire. The best way to keep that from happening is to clean flammable material out from beneath exterior wooden decks and stairways.

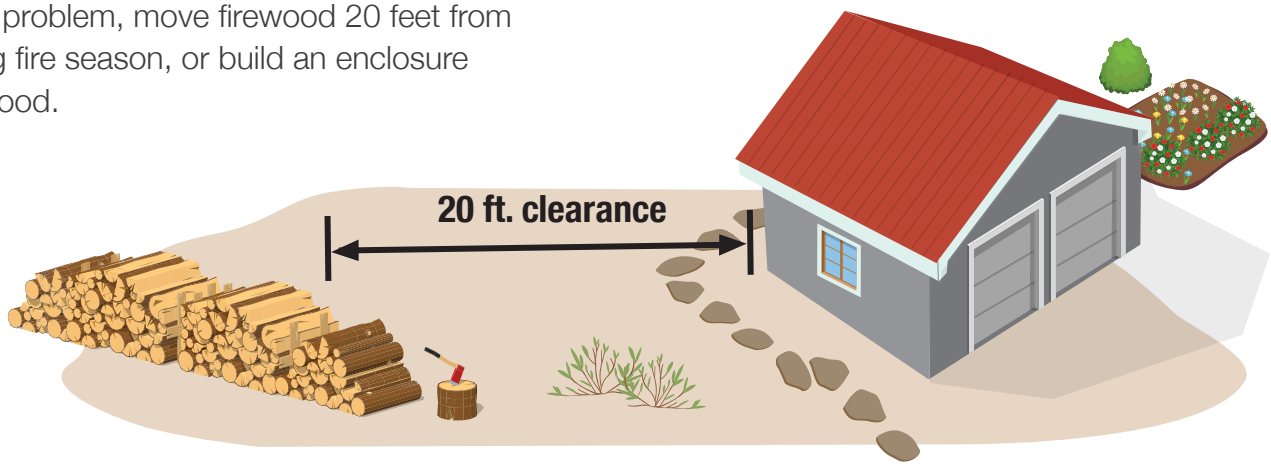
Firewood and lumber must be removed. Dry needles, leaves and other litter needs to be raked out and removed. Keeping the space under wooden decks and stairways clean and enclosed is one of the best ways to keep a house safe during fire season.

Step 7

Firewood Pile Location

Firewood stacked next to a house is a ready source of ignition and can become a source of intense, sustained heat if it should catch fire. This could ignite the house's siding or eaves, and cause the windows to break, allowing fire to enter the home's interior.

To eliminate this problem, move firewood 20 feet from the house during fire season, or build an enclosure around the firewood.



Step 8

Responsibly Manage Debris

Following steps 1-7 will generate yard debris. How can you safely and responsibly dispose of this material? In Crook County, you have several options:

- Mulching. Chipping your woody debris to create mulch is a safe, environmentally friendly option for disposal. For more information, call the Crook County Landfill at 541.447.2398.
- FireFree Program. A free yard debris recycling program that is open to all residents of Central Oregon. Call CCF&R at 541.447.5011 for more information, and to find current dates and locations.
- Burning. Open burning is risky; please use caution and careful preparation to prevent the chance of a wildfire starting on your property. Any open burning in Crook County requires a permit. Always make sure you have all applicable burning permits, and call the Crook County Burn Line to check the daily burn designation before starting an open burn on your property. Call CCF&R at 541.447.5011 or ODF at 541.447.5658 before you burn to get current information about permits and regulations that apply to your property.

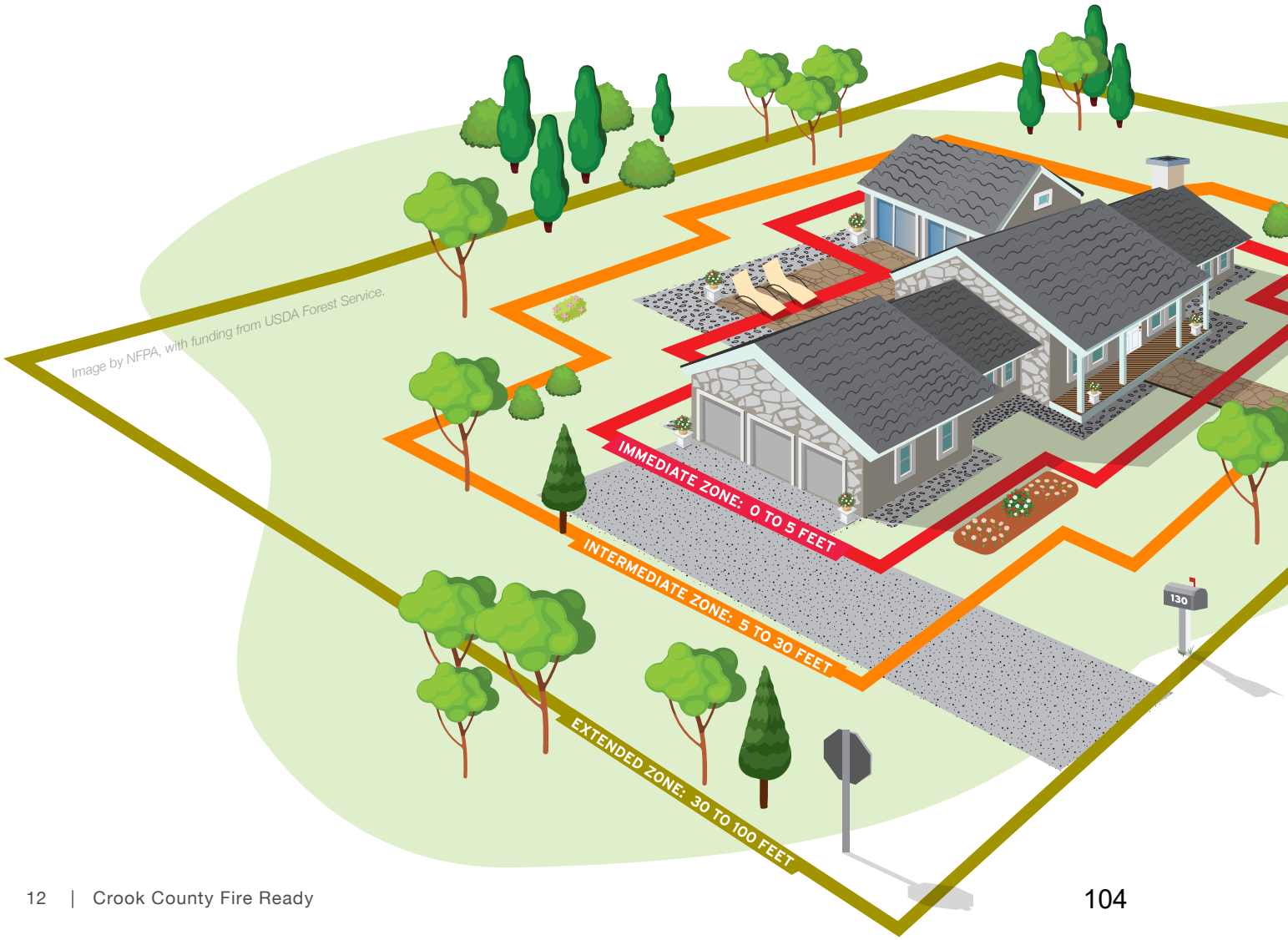
Before you burn:

Call the Crook County burn line to check the daily burn designation at 541-447-BURN before starting an open burn on your property.

BECOMING A NATIONALLY RECOGNIZED FIREWISE USA® SITE

The Firewise USA® program provides a collaborative framework for neighbors to reduce wildfire risks at the local level. The national recognition program's annual criteria is designed to empower and engage residents living in wildfire prone areas with a plan and actions that can increase their home's chances of surviving a wildfire; while also making it safer for firefighters.

NFPA® | FIREWISE USA™
RESIDENTS REDUCING WILDFIRE RISKS



STEPS TO ACHIEVING NATIONAL RECOGNITION:

Wildfire Risk Assessment

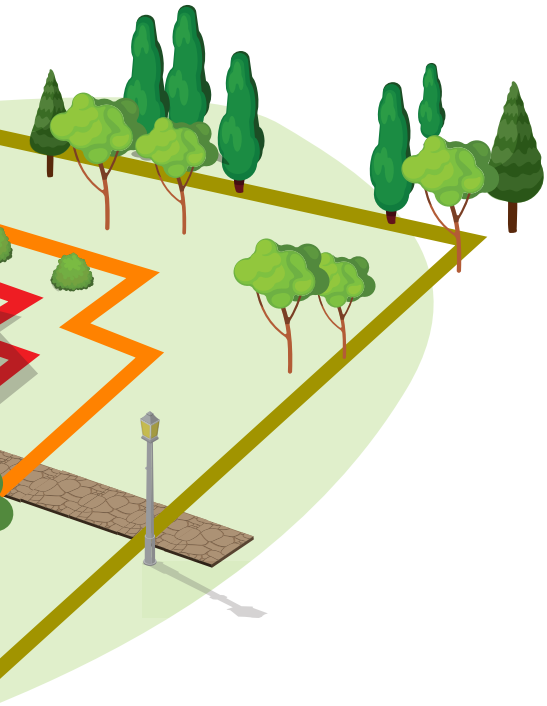
Completing a written wildfire risk assessment is the first step in becoming a nationally recognized Firewise USA® site. Contact your Firewise liaison for the state's requirements on developing a risk assessment.

Board/Committee

Form a board/committee comprised of residents and other applicable wildfire stakeholders. This group will collaborate on developing the site's risk reduction priorities and they will develop a multi-year action plan based on the assessment, along with overseeing the completion of the annual renewal requirements.

Action Plan

Action plans are a prioritized list of risk reduction projects developed by the participant's board/committee for their site. Plans include recommended home ignition zone projects, educational activities and other stakeholder outreach efforts that the site will strive to complete annually or over multiple years.



Educational Outreach

Each participating site is required to have a minimum of one wildfire risk reduction educational outreach event, or related activity annually.

Wildfire Risk Reduction Investment

At a minimum, each site is required to invest the equivalent value of one volunteer hour per dwelling unit in risk reduction actions annually. A wide range of qualifying actions and expenditures (contractor costs, rental equipment, resident activities, grants, etc.) comprise the overall investment totals.

Application

Applicants begin the overall process by creating a site profile at: Portal.firewise.org. The application is eligible for submission when the overall criteria is completed.

State liaisons approve applications with final processing completed by the National Fire Protection Association (NFPA). Please note: Individual states may require additional application requirements beyond those of the national program.

CASE STUDY: DRY CREEK AIRPARK

A certified Firewise USA® neighborhood, 10 miles south of Prineville

Bob Bronson grew up in Baker County, and moved to Crook County in 2005. After living in Prineville for a few years, he and his wife built their home in the Dry Creek Airpark. A retired Electrical Engineer, Bob was one of the first in his neighborhood to promote fire preparedness efforts.

Your community decided to work together to do fuels reduction work, not only on individual homes but also common areas. What can communities gain by working together?

When we first started the program in Dry Creek, we began with just a few individuals going out and trimming up their trees. Before long, neighbors started trimming up their trees. Neighbors that had previously said "none of this will make a difference", as soon as they saw this could be done without making "lollipop trees" they started participating. That's an example of how this spreads when the community starts working together. That led to more people volunteering time to trim trees and remove brush in the common areas. What people began to see is that you don't have to do it all at once. It's not that overwhelming. Just get out and do a little at a time, just a little every week and pretty soon it's amazing how much you've accomplished!

How did you get your neighbors on board?

We proposed to take a small, defined area of the airpark that's not near very many homes and use that area as a test. We trimmed up the trees and cleared the brush in that small area, to let people see for themselves. We did it over three weeks and people could immediately see the benefit of it.

Photo ©Tyler Phillips

FIREWISE USA™

RESIDENTS REDUCING WILDFIRE RISKS

Dick Rohaly moved to Crook County in 2014, building his home in the Dry Creek Airpark "from scratch". He and his wife moved into their new home in 2015 and he quickly got involved in the fuels reduction work already happening in the community.

What first got you interested in fire preparedness?

Living here in the Airpark! There are quite a few neighbors who have lived here longer than me, I call them "early settlers", and they started telling me about fuels reduction, saying "You might want to limb your trees up in case of brush fire". I went to board meetings and learned fire hazards are taken very seriously here. Now, I find myself passing on this information to new members to the community.

How did you determine the highest risk areas in your neighborhood?

It was mostly common sense. Our work crews would pick up trash along Davis Loop and we noticed all of these cigarette butts right along the road. We realized if any of them caught brush on fire, and we didn't have the area cleared, if the wind blew it would start a huge brush fire and threaten our homes.

Why did your neighborhood decide to apply for Firewise USA® certification?

We placed a big importance on being part of a certified program that would encourage neighbors in our community to follow something tangible and not just be a one shot deal. We thought it was important to be part of a certified program that could give us a break on insurance rates, and in turn we will be prioritized by fire services.

Join the growing network of more than 1,500 recognized Firewise USA® sites from across the nation taking action in preparing and protecting their homes against the threat of wildfire. For more information on how to certify your neighborhood, visit firewise.org.

QUICK REFERENCE GUIDE

Step 1

Immediate Zone

This zone is the most vulnerable to embers as it includes your home and the area 0-5 feet from the furthest attached exterior point. Clear your roof and gutters, install 1/8” mesh screening on all attic vents, eaves, chimneys and stovepipes.

Step 2

Intermediate Zone

The intermediate zone begins 5 feet from the furthest attached point of your home and extends out to 30 feet. Choose fire-resistent trees and shrubs for your landscaping and create fuel breaks to reduce the chance of embers reaching your home.

Step 3

Extended Zone

Create an extended fuel break 30-100 feet from your home, or all the way to your property line. Consider potential access issues for fire personnel and equipment. A roadside fuel break can reduce the potential of a wildfire crossing onto your property from neighboring land.

Step 4

Pruning and Trimming Vegetation

Remove any brush or tall grasses from under your trees, and trim the branches up off the ground and away from potential fuel sources. Arrange vegetation in a way that makes it difficult for fire to transfer from fuel source to fuel source, or travel from the ground to tree canopy.

Step 5

Roof and Chimney Clearance

Remove any portion of a tree that is within 10 feet of a chimney, and remove all plant material overhanging the roof. This can be dangerous work, consider hiring a professional for this step!

Step 6

Under-Deck Flammables

Clear all flammable material out from beneath decks and porches. This includes dry leaves or needles, firewood, or any potentially flammable personal items. Move flammable material a minimum of 20 feet from all structures.

Step 7

Firewood Pile Location

Move firewood and lumber piles at least 20 feet from structures. This is only strictly necessary during the months of fire season, but is a good idea year-round and could help limit damage in the case of a house fire.

Step 8

Responsibly Manage Debris

Responsibly Manage Debris. To reduce the chance of a wildfire starting on your property, consider all disposal options. If you choose to burn debris, know the current burn restrictions and permits for your property. Always call **CCF&R (541) 447-5011** or **ODF (541) 447-5658** before you burn

ADDITIONAL RESOURCES

This guide was developed by Crook County fire officials, with the partnership and support of ten regional organizations. The information outlined in this guide is based on National Fire Protection Association (www.nfpa.org) and Oregon Statewide Fire Prevention standards (OAR 629-044-1000 to 1110).

This coordinated message gives you the most up-to-date information about fire prevention standards in Crook County. However, some areas within the county are protected by multiple fire agencies. To verify which jurisdiction your home is in, call the Crook County Fire Department at (541) 447-5011.

Crook County Fire & Rescue
500 NE Belknap St, Prineville
crookcountyfireandrescue.com
(541) 447-5011

Crook County Emergency Management
alertcrookcounty.org
(541) 447-6398

Crook County Community Development Department
co.crook.or.us
(541) 447-3211

Oregon Department of Forestry
oregon.gov/odf
(541) 447-5658

Central Oregon Intergovernmental Council
coic2.org
(541) 548-8163

Crook County Circuit Court
300 NE 3rd St #21, Prineville
co.crook.or.us
(541) 447-6541

Bureau of Land Management
3050 NE 3rd St, Prineville
blm.gov
(541) 416-6700

Ochoco National Forest
3160 NE Third Street, Prineville
fs.usda.gov/ochoco
(541) 416-6500

Central Oregon Fire Prevention Cooperative
centraloregonfireservices.org
facebook.com/CentralORCOOP

FireFree program in Central Oregon
firefree.org
(541) 322-7129

OSU Extension Service
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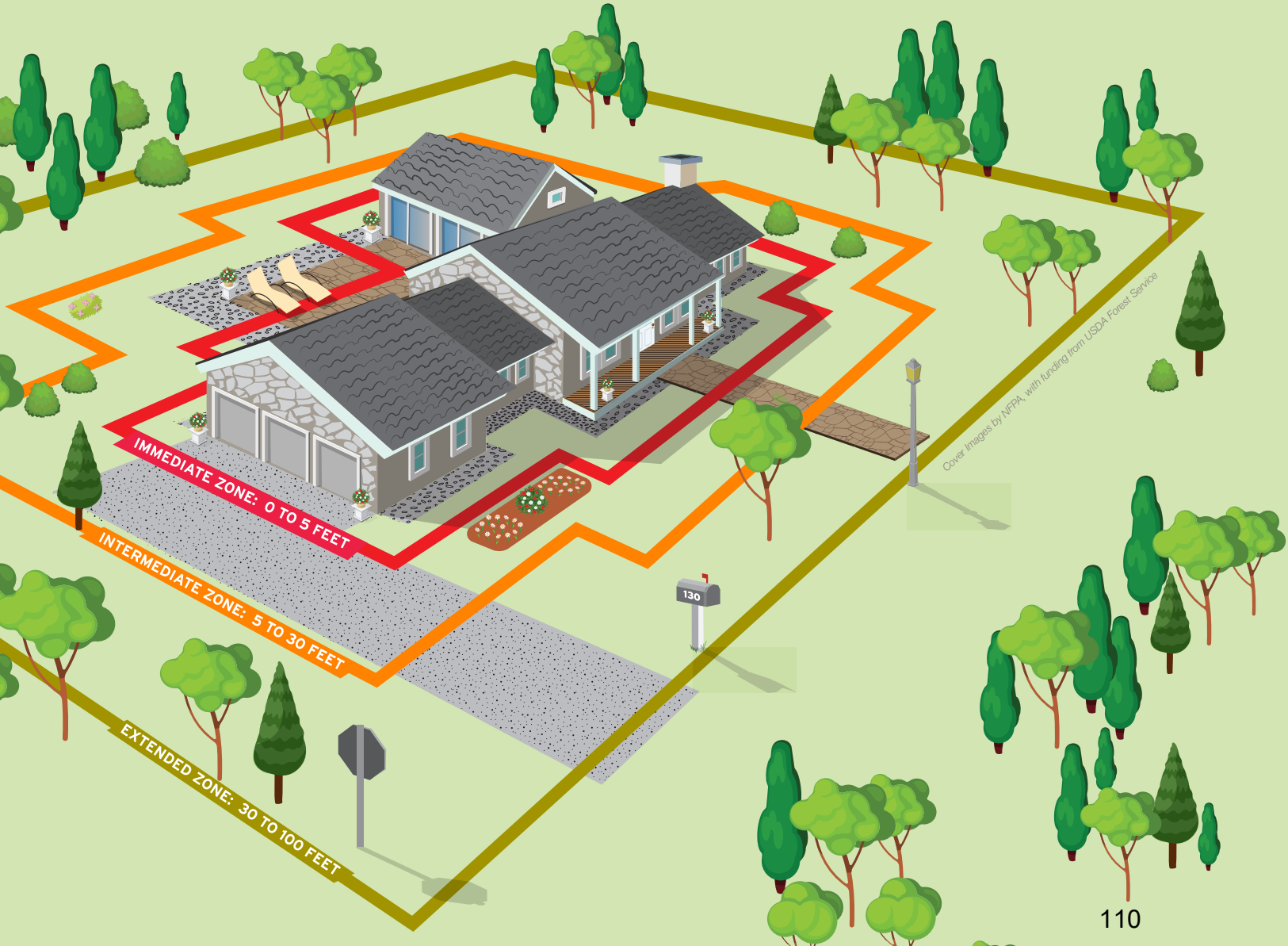

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