Volume IV: Community Wildfire Protection Plan

THE CWPP IS A STAND-ALONE PLAN THAT COMPLIES WITH THE HEALTHY FOREST RESTORATION ACT. IT IS PROVIDE AS A VOLUME OF THE NHMP ONLY TO ENSURE THAT IT IS REGULARLY UPDATE. THE APPLICABLE PORTIONS OF THE WILDFIRE RISK ASSESSMENT THAT COMPLY WITH 44 CFR 201.9 ARE PROVIDED ELSEWHERE IN THE NHMP.

This page intentionally left blank

Hood River County
Community Wildfire Protection Plan



Photos courtesy of Gary Halvorson, Oregon State Archives

Effective: May 20, 2025

Prepared for
Hood River County
601 State Street
Hood River, OR 97031

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

This Community Wildfire Protection Plan was prepared by:

With support from:

University of Oregon
School of Planning, Public Policy and Management

Planning grant funding provided by:

FEMA

Federal Emergency Management Agency (FEMA)
Hazard Mitigation Grant Program
Project Award Number: DR-4499-04-P-OR

Additional Support Provided by:

This material is a result of tax-supported research and, as such, is not copyrightable. It may be freely reprinted with the customary crediting of the source.

Acknowledgements

Hood River County developed this Community Wildfire Protection Plan (CWPP) through a regional partnership funded by the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program (HMGP): DR-4499-04-P-OR. Hood River County's CWPP was updated simultaneously alongside the County's Natural Hazard Mitigation Plan.

This updated CWPP is a collaboration between Hood River County, the City of Cascade Locks Fire Department, the City of Hood River Fire Department, Parkdale Rural Fire Protection District (RFPD), West Side RFPD, and Wy'East RFPD. The Hood River All-Lands Partnership, Oregon Department of Forestry, Oregon State Fire Marshal's Office, and the U.S. Forest Service – Mt. Hood National Forest also participated in this CWPP update. Planning process, plan templates, and plan development support was provided by the Oregon Partnership for Disaster Resilience at the University of Oregon's Institute for Policy Research and Engagement.

Hood River County Emergency Management Staff

Charles Young, Emergency Manager

Institute for Policy Research and Engagement Team

Michael Howard, Director, Oregon Partnership for Disaster Resilience

Brendan Adamczyk, Project Assistant, Oregon Partnership for Disaster Resilience

Hood River County CWPP Steering Committee

Allison Williams, Hood River County Administration, County Administrator

Eric Walker, Hood River County Community Development Department, Director

Doug Thieses, Hood River County Forestry Department, County Forester

John Logan, Cascade Locks Fire Department, Fire Chief

Leonard Damian, Hood River Fire Department, Fire Chief

Michael McCafferty, Parkdale Fire District, Fire Chief

Doug Kelly, West Side Fire District, Chief Administrative Officer/Fire Marshal

Matthew Adams, West Side Fire District, Captain

Greg Borton, Wy'East Fire District, Fire Chief

Kayla Bordelon, Oregon State University Extension Service, Regional Fire Specialist

Emery Cowan, Fire Adapted Communities Learning Network, Policy and Partnerships Manager

Kristin Dodd, Oregon Department of Forestry, Unit Forester

Brian Reel, Oregon Department of Forestry, Stewardship Forester

Simone Cordery-Cotter, Oregon State Fire Marshal's Office, Fire Risk Reduction Specialist

Rachael Cleveland, U.S. Forest Service – Mount Hood National Forest, Partnership Specialist

Marin Palmer, U.S. Forest Service – Mount Hood National Forest, Wildfire Crisis Landscape Program Manager

Andrew Spaeth, Hood River Forest Collaborative, Facilitator

About the Institute for Policy Research and Engagement

School of Planning, Public Policy and Management
Institute for Policy Research and Engagement

The Institute for Policy Research & Engagement (IPRE) is a research center affiliated with the School of Planning, Public Policy, and Management at the University of Oregon. It is an interdisciplinary organization that assists Oregon communities by providing planning and technical assistance to help solve local issues and improve the quality of life for Oregon residents. The role of IPRE is to link the skills, expertise, and innovation of higher education with the transportation, economic development, and environmental needs of communities and regions in the State of Oregon, thereby providing service to Oregon and learning opportunities to the students involved.

About the Oregon Partnership for Disaster Resilience

The Oregon Partnership for Disaster Resilience (OPDR) is a coalition of public, private, and professional organizations working collectively toward the mission of creating a disaster resilient and sustainable state. Developed and coordinated by the Institute for Policy Research and Engagement at the University of Oregon, the OPDR employs a service-learning model to increase community capacity and enhance disaster safety and resilience statewide.

This page intentionally left blank.

Docusign Envelope ID: 0AD1996F-721F-47DC-A842-EBD389859749

MEMORANDUM OF AGREEMENT

HOOD RIVER COUNTY COMMUNITY WILDFIRE PROTECTION PLAN COLLABORATION

BETWEEN

HOOD RIVER COUNTY

AND

HOOD RIVER COUNTY FIRE DEFENSE BOARD

AND

OREGON DEPARTMENT OF FORESTRY

RECITALS

1. This Memorandum of Agreement ("MOA") is by and between Hood River County, a home rule county and political subdivision of the State of Oregon (the "County"), the Hood River County Fire Defense Board, (the "Fire Defense Board") and the State of Oregon, Department of Forestry ("ODF").
2. The Healthy Forests Restoration Act of 2003, Public Law 108-148, was enacted, in part, to plan, prioritize, and implement hazardous fuel reduction projects on federal lands for the protection of communities and watersheds from catastrophic wildfire and to address threats to forest and rangeland health.
3. Title I, Section 101(3) of the Healthy Forests Restoration Act states that Community Wildfire Protection Plans that are adopted pursuant to the Healthy Forests Restoration Act be developed through collaborative agreements between the applicable local government, local fire department, and state agency responsible for forest management.
4. Hood River County is adopting a Community Wildfire Protection Plan for Hood River County, dated February 18, 2025.

AGREEMENT

1. The parties agree that the Community Wildfire Protection Plan has been developed collaboratively for Hood River County per the guidance established in Section 101(3) of the Healthy Forests Restoration Act;
2. The parties agree that the Community Wildfire Protection Plan has been developed, and will continue to be implemented and updated, in consultation with the following organizations and agencies:

    Hood River Fire Defense Board
    Cascade Locks Fire Department
    Hood River Fire Department

Docusign Envelope ID: 0AD1996F-721F-47DC-A842-EBD389859749

Parkdale Fire District
Westside Fire District
Wy'East Fire District
Hood River County (County Administration, Public Works, Emergency Management, GIS, Community Development, Forestry,)
Hood River Forest Collaborative
Hood River Soil and Water Conservation District
Mount Hood National Forest
Oregon Department of Forestry (The Dalles Unit Office)
Oregon State Fire Marshall
Oregon State University Extension

3. The parties agree to comply with all applicable federal, state and local laws, and rules and regulations on non-discrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical condition or handicap.

4. Each party is an independent contractor with regard to each other party(s) and agrees that the performing party has no control over the work and the manner in which it is performed. No party is an agent or employee of any other.

5. No party or its employees is entitled to participate in a pension plan, insurance, bonus, or similar benefits provided by any other party.

6. Modifications to this MOA are valid only if made in writing and signed by all parties.

7. No waiver, consent, modification or change of terms of this MOA shall bind any party unless in writing and signed by the County, Fire Defense Board and ODF. Such waiver, consent, modification, or change, if made, shall be effective only in the specific instance and for the specific purpose given.

8. Nothing in this MOA gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly, or otherwise, to third persons any greater than the rights and benefits enjoyed by the general public unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of this MOA.

EFFECTIVE this 20 day of May, 2025.

Docusign Envelope ID: 0AD1996F-721F-47DC-A842-EBD389859749

Date: 6/27/2025

Michael McCafferty
Michael McCafferty (Jun 27, 2025 15:19 PDT)

Mike McCafferty
Hood River County Fire Defense Board

Date: 6/20/2025

Kristin Dodd
Digitally signed by Kristin Dodd
Date: 2025.06.20 13:14:19 -07'00'

Kristin Dodd
Oregon Department of Forestry

Date: 5/20/2025 | 2:32 PM PDT

Signed by:
Jennifer Euwer
BFDF9A1237C646E...

Jennifer Euwer, Chair
Hood River County Board of Commissioners

Table of Contents

List of Tables

List of Figures

List of Maps

Forward

Developing a Community Wildfire Protection Plan (CWPP) helps a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the Wildland–Urban Interface (WUI) on both public and private land. It also can lead community members through valuable discussions regarding management options and implications for the surrounding land base. Local fire agencies help define issues that may place the County, communities, and individual homes at risk. Through the collaboration process, the CWPP Steering Committee discusses potential solutions, funding opportunities, and regulatory concerns, and then documents their resulting recommendations in the CWPP. The CWPP planning process also incorporates an element for public outreach. Public involvement in the development of the plan not only facilitates public input and recommendations but also provides an educational opportunity through interaction of local wildfire specialists and an interested public.

The incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003. This legislation included the first meaningful statutory incentives for the U.S. Forest Service (USFS) and the Bureau of Land Management (BLM) to consider the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. For a community to take full advantage of this opportunity, it must first prepare a CWPP. This is particularly relevant for this 2025 update to the Hood River County CWPP, as the Mt. Hood National Forest has been identified as part of the USFS Wildfire Crisis Strategy, opening millions of dollars in federal funding for wildfire mitigation projects.

A countywide CWPP Steering Committee generally makes project recommendations based on the issue causing the wildfire risk, rather than focusing on individual landowners or organizations. Thus, projects are mapped and evaluated without regard for property boundaries, ownership, or current management. Once the CWPP update is approved by the County Board of Commissioners, the Steering Committee will begin further refining proposed project boundaries, feasibility, and public outreach as well as seeking funding opportunities.

The first Hood River County CWPP was developed in 2006 by Peter Mackwell, Assistant Chief of West Side Fire District (at the time), with support from the Hood River County Fire Defense Board. The CWPP was updated in 2013 by John Kelter Gehrig, Senior Analyst and Founder of Cascadia Geospatial. This third update to the CWPP, completed in 2025, was conducted by the Oregon Partnership for Disaster Resilience at the Institute for Policy Research and Engagement with the University of Oregon.

This update was completed simultaneously with the Hood River County NHMP plan update and this CWPP is incorporated as Volume IV of the NHMP as well as considered a supplement to the wildfire section of the NHMP. Future CWPP updates should be completed along a five-year timeline, like NHMP updates.

Chapter 1: Introduction

Overview of this Plan and its Development

This update to the Community Wildfire Protection Plan (CWPP) for Hood River County is the result of analyses, professional collaboration, and assessments of wildfire risks and other factors focused on reducing wildfire threats to people, structures, infrastructure, and unique ecosystems in the County. Agencies and organizations that participated in the planning process included:

- Hood River County local fire districts and departments:
    - City of Cascade Locks Fire & EMS Department
    - City of Hood River Fire & EMS Department
    - Parkdale Rural Fire Protection District
    - West Side Rural Fire Protection District
    - Wy'East Rural Fire Protection District
- Hood River County departments:
    - Administration
    - Community Development
    - Emergency Management
    - Forestry
- Oregon Department of Forestry
- Oregon State Fire Marshal's Office
- U.S. Forest Service – Mt. Hood National Forest
- Oregon State University – Extension Service
- Fire Adapted Communities Learning Network
- Hood River Forest Collaborative
- Hood River All-Lands Partnership

Planning Philosophy and Goals

The goals of the planning process include integration with the National Fire Plan, the Healthy Forests Restoration Act, Oregon Senate Bill 762, the National Cohesive Wildland Strategy, and the Disaster Mitigation Act. The plan utilizes the best and most appropriate science from all partners as well as local and regional knowledge about wildfire risks and fire behavior, while meeting the needs of residents and recognizing the significance wildfire can have to the regional economy. In addition, the planning process was guided by the following mission, vision, and goals as directed by the project Steering Committee.

The CWPP builds on and supplements the wildfire chapter of the Hood River County Natural Hazard Mitigation Plan (NHMP), updated 2025, and was updated at the same time as the NHMP. This CWPP is incorporated as Volume IV of the Hood River County NHMP.

Mission Statement

Decrease the vulnerability of the residents, properties, tribal lands, infrastructure, businesses, and resources of Hood River County by actively promoting mitigation, awareness, preparedness, and response to the negative effects of wildland fires.

Vision Statement

This CWPP takes a holistic approach to wildfire mitigation and preparedness. At the individual level, it seeks to foster an understanding of wildfire hazard risk to homes, property, and health. At the same level, it also seeks to identify solutions that can be taken to prepare and mitigate in the event of a fire. At the community level, this CWPP seeks to strengthen strong partnerships between public and private organizations. These partnerships help identify the roles of each organization in the event of a fire, including before, during, and after the fire, for tasks like increasing community preparedness and resilience, mitigation activities, and recovery. A strong and educated community is a fundamental aspect of a disaster prepared community.

Goals

- Save lives
- Protect homes and property
- Reduce the risk of a catastrophic wildfire
- Foster strong community ties
- Support the management of a fire adapted and sustainable environment

Purpose

- To identify and prioritize areas that are at an increased risk of a catastrophic wildfire due to human development in the wildland/urban interface and the buildup of fuels from fire exclusion and suppression.

- To prevent and mitigate the frequency and intensity of wildfires in and around Hood River County.
- To help restore forest and grassland ecosystems of Hood River County to healthy levels and consistent with their historical fire regimes.
- To reduce the cost associated with wildfires. This includes reducing the costs associated with suppression, as well as economic losses caused through property damage and productivity losses.
- To support fire education through collaboration with various fire agencies and community organizations.
- To unite the entire community of Hood River County in a collaborative and inclusive effort to reduce the risk and damage of wildfire.

U.S. Government Accountability Office (GAO)

Since 1984, wildland fires have burned an average of more than 900 homes each year in the United States and, because more people are moving into fire-prone areas bordering wildlands, the number of homes at risk is likely to grow. The primary responsibility for ensuring that preventative steps are taken to protect homes lies with homeowners. Although losses from fires made up only 2% of all insured catastrophic losses from 1983 to 2002, fires since then in Oregon and throughout the West Coast have resulted in billions of dollars in damages.

The U.S. Government Accountability Office (GAO) is a federal agency that has assessed, among other issues: (1) measures that can help protect structures from wildland fires, (2) factors affecting use of protective measures, and (3) the role technology plays in improving firefighting agencies' ability to communicate during wildland fires.

The two most effective measures for protecting structures from wildland fires are: (1) creating and maintaining a buffer, called defensible space, from 30 to 100 feet wide around a structure, where vegetation and other flammable objects are reduced or eliminated; and (2) using fire-resistant roofs and vents. In addition to roofs and vents, other technologies – such as fire-resistant windows and building materials, chemical agents, sprinklers, and geographic information systems mapping – can help in protecting structures and communities, but they play a secondary role.

Although protective measures are available, many property owners have not adopted them because of the time or expense involved, competing concerns such as aesthetics or privacy, misperceptions about wildland fire risks, and lack of awareness of their shared responsibility for fire protection. Federal, state, and local governments, as well as other organizations, are attempting to increase property owners' use of protective measures through education, direct monetary assistance, and laws requiring such measures. In addition, some insurance companies have begun to direct property owners in high-risk areas to take protective steps.[1]

[1] U.S. Government Accountability Office. (2005, April). *Technology Assessment: Protecting Structures and Improving Communications During Wildfires (GAO-05-380).* https://www.gao.gov/products/gao-05-380.

State and Federal CWPP Guidelines

This CWPP is compatible with FEMA requirements for a Local Hazard Mitigation Plan and adheres to the guidelines proposed in the National Fire Plan, and the Healthy Forests Restoration Act (2003). This plan has been prepared in compliance with:

- The National Fire Plan: A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan (2006).
- The Healthy Forests Restoration Act (2003).
- The Federal Emergency Management Agency's guidelines for a Local Hazard Mitigation Plan as defined in 44 CFR parts 201 and 206, and as related to a wildfire mitigation plan chapter of a Local Hazard Mitigation Plan.
- National Association of State Foresters (2003) guidance on identification and prioritization of treatments between communities.
- Oregon Senate Bill 762 (2021), which created a statewide approach to a wide range of wildfire mitigation measures. The legislature directed the Building Codes Division to adopt home hardening construction standards and the Oregon Department of the State Fire Marshal to adopt defensible space code standards. These codes are applied to locations identified as both in high hazard wildfire areas and that are in the wildland urban interface, on a statewide map developed by the Oregon Department of Forestry. The bill also funded a range of other wildfire mitigation and resilience projects.
- The National Cohesive Wildland Strategy (NCWS) (2014). The NCWS defines and provides management direction for achieving three goals: Landscape and Restoration Maintenance; Fire Adapted Communities; and Fire Response.

The objective of combining these complementary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts to achieve the protection of people, structures, the environment, and significant infrastructure in Hood River County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

Oregon's Statewide Planning Goals

During development of this CWPP, the state of Oregon's Statewide Land Use Planning Goals were reviewed to identify ways in these goals may intersect with both this CWPP and the NHMP into which it is incorporated. Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of 19 Statewide Planning Goals developed and adopted by the Oregon Land Conservation and Development Commission. The goals express the state's policies on land use and on related topics, such as citizen involvement, housing, and natural resources. Oregon´s statewide goals are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan, and the zoning and land-division ordinances needed to put the plan into effect.

Goals 2, 3, 4, 5, 6, 7, and 14 apply directly to many of the issues discussed in this CWPP.

Goal 2: Land Use Planning
To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Goal 3: Agricultural Lands
Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest, and open space and with the state's agricultural land use policy expressed in Oregon Revised Statutes (ORS) 215.243 and 215.700.

Goal 4: Forest Lands
To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces
To protect natural resources and conserve scenic and historic areas and open spaces. Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon's livability.

Goal 6: Air, Water and Land Resources Quality
To maintain and improve the quality of the air, water, and land resources of the state. All waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules, and standards. With respect to the air, water and land resources of the applicable air sheds and river basins described or included in state environmental quality statutes, rules, standards and implementation plans, such discharges shall not exceed carrying capacity of such resources, considering long range needs; degrade such resources; or threaten the availability of such resources.

Goal 7: Areas Subject to Natural Hazards
To protect people and property from natural hazards. Local governments shall adopt comprehensive plans to reduce risk to people and property from natural hazards. Natural hazards for purposes of this goal are floods (coastal and riverine), landslides, earthquakes and related hazards, tsunamis, coastal erosion, and wildfires. Local governments may identify and plan for other natural hazards.

Goal 14: Urbanization
To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Chapter 2: Planning Process

Documenting the Planning Process

This section includes a description of the planning process used to develop the 2025 Community Wildfire Protection Plan (CWPP) update, including how it was prepared, who was involved in the process, and how the involved agencies participated.

Original 2006 CWPP Plan: Peter Mackwell, Assistant Chief of West Side Fire District (at the time), prepared the original Hood River County CWPP in 2006.

2013 CWPP Plan Update: John Kelter Gehrig, Senior Analyst and Founder of Cascadia Geospatial, completed the update to the CWPP in 2013.

Description of the Planning Process

The Hood River County CWPP was developed through a collaborative process involving all the organizations and agencies detailed in Chapter 1: Introduction.

The Oregon Partnership for Disaster Resilience (OPDR), in consultation with the Hood River County Emergency Manager and the CWPP Steering Committee, took the following actions to develop the 2025 update:

- Used a new template based on updated CWPP components and to ensure similarity and ease of use with the updated 2025 Hood River County NHMP.
- Collected data about current conditions and community profiles in Hood River County, including populations that are most vulnerable to wildfire risk, and used this and new statewide data to develop the wildfire hazard risk assessment.
- Met twice with the entire CWPP Steering Committee along with many one-on-one follow-ups with individual members for guidance on plan development.
- Developed and distributed a survey to County residents to assess perceptions of hazard issues and preparedness for hazard events (conducted as part of the simultaneous update to the County NHMP).
- Interviewed fire district and department chiefs, state and federal agency officials, County staff, and community-based organizations to develop new mitigation recommendations and identify priority fuels reduction projects to mitigate wildfire risk.

The Planning Team

The Hood River County Emergency Manager led the 2025 CWPP update in consultation with a team from the Oregon Partnership for Disaster Resilience (OPDR). OPDR is a program coordinated by the Institute for Policy Research & Engagement (IPRE) at the University of Oregon.

The team also includes a Steering Committee comprised made up of all the local fire service organizations (both city departments and rural fire protection districts, or RFPDs) as well as interested state and federal fire and forestry agencies, county and city departments, emergency management and response organizations, and other community-based organizations.

The planning philosophy employed in this project included the open and free sharing of information with all interested parties. Information from federal, state, and local agencies was integrated into the database of knowledge used in this project. Meetings with the Steering Committee were held several times throughout the planning process to facilitate a sharing of information both between participants and with the planning team.

Multi-Jurisdictional Participation

44 CFR §201.6(a)(3) calls for multi-jurisdictional planning in the development of hazard mitigation plans which impact multiple jurisdictions. This Community Wildfire Protection Plan impacts the following jurisdictions:

- Hood River County (including unincorporated communities)
- City of Cascade Locks
- City of Hood River
- Parkdale RFPD
- West Side RFPD
- Wy'East RFPD
- Oregon Department of Forestry
- U.S. Forest Service – Mt. Hood National Forest

These jurisdictions were represented on the Steering Committee and in public meetings either directly or through their servicing fire departments or districts. They participated in the development of hazard profiles, risk assessments, and mitigation recommendations. Input was collected from each jurisdiction through Steering Committee meetings as well as:

- Site visits by the planning team to several fire agencies and community locations where planning updates were provided and information was exchanged.
- Virtual interviews between the planning team and representatives of the participating jurisdictions to discuss the CWPP update and specific mitigation recommendations.
- Written correspondence between the planning team and each jurisdiction updating the participating representatives on the planning process, making requests for information, and facilitating feedback.

CWPP Steering Committee Members

A wide range of individuals participated in the CWPP Steering Committee meetings, volunteered time, and responded to elements of the Hood River County CWPP's preparation. Table 2-1 lists the members of the Steering Committee.

Table 2-1 Hood River County CWPP Steering Committee Membership

Member Name	Organization
Allison Williams	Hood River County – Administration
Eric Walker	Hood River County – Community Development Department
Doug Thieses	Hood River County – Forestry Department
Chief John Logan	Cascade Locks Fire & EMS Department
Chief Leonard Damian	Hood River Fire & EMS Department
Chief Michael McCafferty	Parkdale Rural Fire Protection District
Doug Kelly	West Side Rural Fire Protection District
Matthew Adams	West Side Rural Fire Protection District
Chief Greg Borton	Wy'East Rural Fire Protection District
Kayla Bordelon	Oregon State University Extension Service
Emery Cowan	Fire Adapted Communities Learning Network
Kristin Dodd	Oregon Department of Forestry
Brian Reel	Oregon Department of Forestry
Simone Cordery-Cotter	Oregon State Fire Marshal's Office
Rachael Cleveland	U.S. Forest Service – Mt. Hood National Forest
Marin Palmer	U.S. Forest Service – Mt. Hood National Forest
Andrew Spaeth	Hood River Forest Collaborative

Planning Team Timeline of Activities

The planning process to update the Hood River County CWPP began in November 2023. Table 2-2 outlines the dates and description of activities during this process.

Note that this table includes meetings of the Hood River County NHMP Steering Committee, as all meetings to update that plan involved discussion of items that impacted the CWPP (such as a wildfire hazard risk assessment and identification of wildfire-related mitigation action items).

Table 2-2 Timeline of Activities: Planning Team and Steering Committee

Date	Meeting Location	Description	Outcome/Update
11/28/23	Virtual	NHMP/CWPP Planning Team (Pre-Kick-Off)	Introductions; reviewed and confirmed project scope and deliverables.
1/26/24	Virtual	NHMP/CWPP Steering Committee (Project Kick-Off)	Discussed the NHMP/CWPP update process/timeline; began brainstorming potential mitigation projects.
2/15/24	Virtual	Hood River All Lands Partnership (Stakeholder Meeting)	Discussed CWPP update process/timeline; confirmed plan to collect all fuels reduction projects (local, state, federal) in one map.
2/28/24	Virtual	NHMP/CWPP Steering Committee (Regular Meeting)	Updated the NHMP mission/goals; drafted public engagement plan; reviewed recent hazard history and demographic developments.
4/3/24	Virtual	NHMP/CWPP Steering Committee (Regular Meeting)	Completed public engagement plan; began developing hazard risk assessment.
5/1/24	In-Person (City of Hood River)	NHMP/CWPP Steering Committee (Regular Meeting)	Continued work on hazard risk assessment; began identifying community lifelines and potential mitigation projects.
5/1/24	Site Visit	CWPP Planning Team	Toured County; met with staff from the County, both cities, and three local fire districts/departments.
5/6/24	Virtual	CWPP Steering Committee	Discussed CWPP update process/timeline and developments since previous plan; reviewed potential fuels reduction projects.
5/8/24 – 7/20/24	N/A (Deliverable)	NHMP/CWPP Public Hazards Survey	Collected feedback on natural hazard perceptions and preparedness (including wildfire).
5/22/24	Virtual	NHMP/CWPP Steering Committee (Regular Meeting)	Discussed preliminary survey results; completed hazard risk assessment; continued work on community lifeline and mitigation project identification.
6/26/25	Virtual	NHMP/CWPP Steering Committee (Regular Meeting)	Heard presentation from DOGAMI on landslide risk mapping project in the County; completed mitigation strategy and community lifeline identification.
9/17/24	In-Person (City of Hood River)	NHMP/CWPP Steering Committee (Regular Meeting)	Discussed final mitigation strategy and potential funding opportunities for mitigation projects.
11/26/24	Virtual	CWPP Steering Committee	Reviewed wildfire hazard maps and confirmed mitigation and fuels reductions projects list/map.

Chapter 3: Emergency Operations

The Hood River County Fire Defense Board oversees and coordinates emergency response throughout lands within protected fire agencies in Hood River County. Participating fire districts and departments include the City of Hood River Fire & EMS Department, City of Cascade Locks Fire & EMS Department, Parkdale Rural Fire Protection District (RFPD), Wy'East RFPD, and West Side RFPD. Fire Chiefs meet monthly (except during peak fire season) and discuss countywide fire/emergency response operations. The Fire Defense Board also works with state and federal fire agencies to determine local burn ban implementation dates.

Local, State, and Federal Fire Agencies

Hood River County has five local structural/wildland fire agencies, two of which are municipalities (the cities of Cascade Locks and Hood River). Two additional agencies have protection duties: the Oregon Department of Forestry (ODF) and the U.S. Forest Service (USFS). ODF provides fire protection to all private and non-federal forest lands in the County, which includes forested lands within all fire districts. The USFS provides suppression and protection services to federal lands and is composed of two distinct administrative units: Mt. Hood Ranger District (including the Mt. Hood National Forest) and the Columbia Gorge National Scenic Area.

Hood River County structural and wildland fire services – as well as EMS services offered by fire agencies – are mostly staffed with volunteer personnel that are on call 24 hours per day, seven days a week. Responses are initiated via the County 911 center and Computer Assisted Dispatch (CAD) with alarms communicated to volunteer crews via tone activated pagers or by cellphone.

Hood River Fire & EMS is the only department that is staffed by full time firefighters. They provide fire and EMS response to those living within city limits, as well as Advanced Life Support to surrounding districts (with their response area stretching into Wasco County). Cascade Locks Fire and EMS and the Parkdale Rural Fire Protection District (RFPD) have Advanced and Basic Life Support ambulance service, while Wy'East and West Side RFPDs rely predominantly on Hood River Fire and EMS. West Side, Wy'East, Cascade Locks, and Parkdale agencies all are staffed during regular daytime hours by the fire chief and a lieutenant.

Automatic and Mutual Aid Agreements

Automatic,[2] mutual aid,[3] and immediate need[4] agreements currently in place enhance timely responses of equipment and personnel either as initial or supplement resources. Automatic and mutual aid agreements allow for comprehensive coverage and quick initial attack on fire starts.

Each fire agency has predetermined agreements to supply to one another equipment and/or manpower to assist in mitigating emergency operations. Aid may be activated to overcome a shortfall in personnel during the day when some volunteers may not be able to respond from work or equipment may be out of service or in use in another emergency. Shortfalls of personnel may also be seasonal (e.g., during hunting season or the fruit harvest).

Hood River County fire agencies also place personnel and equipment at the Oregon State Fire Marshal (OSFM) office's disposal to assist in the implementation of the State's Conflagration Act. The Act is invoked when there is a fire in any one County that overwhelms the local and mutual aid resources of that County. The County Fire Defense Chief will request through the Governor that additional resources be assigned to fight fire and manage the conflagration. Strike Teams and Task Forces will be assigned from other fire districts in neighboring counties to assist.

Conflagration and Immediate Needs are two circumstances where apparatus and personnel from Hood River County will leave the County. These teams will be sent as a Task Force or a Strike Team. A Task Force is typically requested when a variety of equipment is needed for fire protection and suppression—in Hood River County, a Task Force will typically send two structural engines, three boosters (wildland fire apparatus), and one tender (water truck), all from different districts. A Strike Team typically consists of one tender and five engines. In both Immediate Needs and Conflagration Acts, apparatus and personnel are taken from agencies throughout the County to minimize the depletion of resources from any single fire district or department.

Fire Agency Capacity

Each fire district and department has the resources and staffing to provide fire protection to its residents every day of the year. Personnel available for response may vary considerably depending on the time of day, hence the need for mutual and automatic aid agreements. It is unlikely that there will be two or more structure fires burning at the same time across the County that would come close to depleting manpower resources. In the advent of a large wildland fire, initial response crews may be understaffed and underequipped for a short period of time until federal, state, and Immediate Needs crews respond.

[2] Automatic Aid is an interdepartmental agreement where specific apparatus and personnel respond automatically into an adjoining district.
[3] Mutual Aid is an interdepartmental agreement where specific apparatus and personnel may be requested case by case to respond into an adjoining district.
[4] Immediate Need is an interdepartmental agreement where predetermined apparatus and personnel will respond from many departments to assist an adjoining district or county.

Mergers in the early 2010s between Parkdale and Dee Fire to form Parkdale RFPD and between Pine Grove and Odell Fire to form Wy'East RFPD have significantly increased available personnel for fire suppression and emergency response. Merging resources and personnel has also increased the response time and capability of both fire districts.

Road Systems

The ability to freely and safely navigate the roads and driveways is critical to a functioning community. The road system starts where residents park their cars at their houses. Here, at the driveway, fire personnel often find their main challenges in protecting and suppressing a fire at a home. A large semi-truck and trailer is not required to access all homes, but a Type 1 fire engine, which is 8.5 feet wide and weighs 35,000 pounds, should be able park at the front door and turn around with ease if a home lies more than 150 feet from a road. For new construction, this is addressed in current codes; however, for older dwellings, access may not accommodate fire engines. To ensure that a home is safely defendable in the Wildland-Urban Interface (WUI), access from driveways and private roads should meet the following criteria:

- Be a minimum of 20 feet wide;
- Be able to support 65,000 pounds (especially bridges and culverts);
- Provide an adequate turnaround for Type I fire apparatus if the driveway is longer than 300 feet;
- Provide a vertical clearance of at least 13.5 feet;
- Driveways and street numbers should be clearly identified and visible from the road; and
- On driveways with numerous spurs, spur driveways should be clearly marked with address number and road.

Driveways that do not meet current fire access standards pose a significant safety risk for fire fighters and residents whether it is in terms of access or egress. Safety can be further compromised by poorly maintained road surfaces and excessive overhanging or encroaching vegetation. On driveways and private roads, it is up to the property owner to ensure that fire personnel can safely access homes. Responding personnel may choose not to offer protection for houses at the end of these dead-end roads if responding may trap firefighters or otherwise compromise firefighter safety.

During times of emergency, it is the duty of law enforcement to maintain an orderly flow of traffic on the roads. Public works and fire department personnel may be called on to assist in traffic management. In times of conflagration, responding fire apparatus share the road with evacuating residents. During this time, it is preferable that a series of one-way traffic routes be established with check valves to guide the motoring public.

Reference points such as address numbers should be visible on all driveways, at the roadside and at junctions on shared driveways. While local fire personnel may have a good idea of where residences are, personnel from other agencies may struggle without adequate street and address signs, especially if they are further hampered by smoke.

Water Supply

Water systems that supply an adequate volume and pressure for a sufficient duration of time are essential to sustain firefighting efforts for both structural and wildland protection. District water systems for the County originate well beyond the final delivery points. Reservoirs, pumping stations, water mains and hydrants along with the watershed are part of the county's vital infrastructure.

Water will come in two basic ways for initial fire response: either directly through hoses via a fire hydrant or delivered to the fire via fire apparatus such as tenders carrying thousands of gallons of water. Structures further into the WUI are more remote, and consequently, tender operations are more prevalent.

Tender operations require more personnel to manage and will generally require more than one tender and up to four or more depending on the fire flow needed and the distance to the filling site. When minutes count, an additional engine may be used to fill tenders to help shorten the delivery turnaround time. To mitigate longer turnaround times, fire operations will utilize other sources of water, such as swimming pools, private ponds, creeks, rivers and irrigation canals.

The insurance industry is becoming more aware of the issues surrounding structures in the WUI. Verisk (formerly the Insurance Service Office, or ISO Mitigation) already places an emphasis on fire protection at the fire district level by assigning a district rating dependent on water, personnel, apparatus availability and response times.

Fire Agency Personnel and Routine Training

All five of the local agencies that provide structural and wildland fire suppression duties in addition to protection services rendered by ODF and USFS are maintained by assessed funds. Cascade Locks and Hood River Fire & EMS Departments are city-based, while Wy'East, Parkdale, and Westside are Rural Fire Protection Districts overseen by a board of directors.

The fire agencies are structured in a command system consisting of chiefs, assistant chiefs, captains, lieutenants, engineers, and firefighters or a combination of those listed. Some also have staffing that consists of support personnel. All these individuals are required to work together to suppress a fire or protect a home in the event of an emergency. As a result, mandatory standardized training is required for fire personnel.

Training and departmental duties occur weekly to address equipment readiness and business concerns. Mandated training includes first aid, CPR, blood borne pathogens, hazmat, fit testing (for SCBA air packs), and fitness testing. Guidelines come from Occupational Safety Hazard Association (OSHA) as well as OSFM. Volunteers are asked to commit one night per week to the fire district or department to ensure that training is current and that the volunteer can safely operate equipment. Continuous training is recognized as a key component in the successful performance of any volunteer fire department.

Volunteer recruitment and retention is the most challenging of the issues that face the Hood River County fire service. Many younger volunteers welcome the education and training that the fire service provides and will use that experience to seek out jobs in the fire service elsewhere. Historically, the volunteer base has relied on neighbor helping neighbor with personnel living and working within their respective districts, performing duties as firemen. Districts and departments tended to be very close-knit and social. Today, there are a declining number of fire calls and an increasing amount of traffic and medical response situations. Changing emergency patterns combined with a significant increase in mandatory training have contributed significantly to the decline in volunteers throughout Hood River County. The decline in structure fires is mostly related to improved building codes, better construction materials, and public education.

The County fire service has learned the virtues of acquiring equipment that enhances interoperability. For example, all agencies now have identical Self-Contained Breathing Apparatus (SCBA). With more automatic and mutual aid agreements in place, the value associated with interoperable equipment and training will is realized. To streamline this process, many fire districts and departments nationwide have coordinated and consolidated training and administrative efforts to form unified districts.

Residential Fire Protection

All fire agencies, through Verisk's Public Protection Classification program, are assigned a value that is dependent on the ability to provide water, equipment, and personnel to protect residents and structures. The insurance industry looks at the rating system and will assign premiums accordingly. The system rates fire agencies according to class scale, where Class 1 generally represents superior property fire protection and Class 10 indicates that the area's fire-suppression program doesn't meet their minimum criteria.[5]

Most people are familiar with the home insurance question, "are you within 1000 feet of a fire hydrant?". While this is a basic question for many insurance companies, there are other mitigating solutions that offer the equivalent water resources for fire agencies. An example of a water resource equivalent is a water tender shuttles that can maintain a 250 gallon per minute water supply for a 2-hour period that are available to supply an engine at 250 gallons per minute at 125 pounds per square inch within 5 minutes of the engine's arrival. To receive a Verisk/ISO Mitigation rating, each district or department submits to regular inspections.

[5] Verisk/ISO Mitigation. (2024). *PPC Program.* Retrieved September 20, 2024, from https://www.isomitigation.com/ppc/.

Chapter 4: Risk and Preparedness Assessment

Wildland Fire Characteristics

An informed discussion of fire mitigation must include an understanding of the basic concepts of fire behavior. Wildland fire behavior describes both the way fuels ignite and how fire spreads across the landscape. The three major physical components that determine fire behavior are:

1. Climate, weather, and atmospheric conditions during a fire event;
2. Topography in which the fire is burning; and
3. Fuels supporting the fire.

At the landscape level, both topography and weather are beyond human control. Winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms cannot be manipulated to effectively alter fire behavior. Attempts to alter how fires burn must concentrate on fuels which support the fire, the third component of the fire environment. The best opportunity to affect how fires burn is by altering fuel loading and fuel continuity across the landscape. A brief description of the three key environmental elements follows.

Climate

Weather conditions contribute significantly to determining fire behavior. Wind, moisture, temperature, and relative humidity ultimately determine the rates at which fuels dry and vegetation cures, and whether fuel conditions become dry enough to sustain an ignition. Once conditions are right, atmospheric stability and wind speed and direction have a significant effect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads. The effects of climate change have also begun to become apparent in the local fire season. Trends have shown rising temperatures throughout the year, causing fire seasons to begin earlier, and last longer, with more extreme high temperatures and more extreme low humidity measurements. This shift allows fuels to cure for longer periods of time throughout the summer months and as a result, increased periods of high fire danger during the summer months occur.[6]

Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape. In Hood River County, these effects already manifest through more severe drought and east wind events – both of which lead to increased wildfire risk and intensity. Table 4-1 shows the length of Oregon's wildfire season from 2011 to 2023. 2024 data was not yet available at the completion of this plan.

[6] Oregon Climate Change Research Institute (2023). *Sixth Oregon Climate Assessment.* Oregon State University. https://blogs.oregonstate.edu/occri/oregon-climate-assessments/.

Table 4-1 Length of Wildland Fire Season in Oregon, 2011-2023

Year	Fire Season Start Date	Fire Season End Date	Length of Fire Season (Days)
2023	July 3	October 13	103
2022	July 11	November 1	113
2021	May 15	November 29	199
2020	July 9	December 3	177
2019	May 25	October 1	99
2018	June 1	October 29	151
2017	June 1	October 20	142
2016	July 5	October 4	91
2015	June 16	October 26	132
2014	July 1	October 14	105
2013	July 2	September 25	85
2012	July 11	October 16	97
2011	July 11	October 3	84

Source: Northwest Interagency Coordination Center (2023). *NWCC Annual Fire Report Archive.* https://gacc.nifc.gov/nwcc/admin/publications.aspx. Data compiled from Annual Reports by OPDR.

Topography

Fires burning in similar fuel conditions burn very differently under varying topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influence vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. North slopes tend to be cooler, wetter, and more productive for vegetative growth. These conditions can lead to heavy fuel accumulations, with high fuel moistures, later curing of fuels, and lower rates of spread. In contrast, south and west slopes tend to receive more direct sun, and thus have the highest temperatures, lowest soil and fuel moistures, and lightest fuels. The combination of light fuels and dry sites leads to fires that typically display the highest rates of spread. South and west slopes also tend to be on the windward side of mountains. Thus, these slopes tend to be "available to burn" for a significantly greater portion of the year.

Slope also plays a significant role in fire spread, by allowing preheating of fuels upslope of the burning fire. As slope increases, rate of spread and flame lengths tend to increase. Therefore, we can expect the fastest rates of spread on steep, warm south and west slopes with fuels that are exposed to the wind.

Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment and includes grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and buildings. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content, and continuity and arrangement all influence fire behavior. Generally, the smaller and finer the fuels, the faster the potential rate of fire spread. Small fuels such as grass, needle litter and other fuels less than a quarter inch in diameter are most responsible for fire spread. In fact, "fine" fuels, with high surface to volume ratios, are considered the primary carriers of surface fire. This is apparent to anyone who has ever witnessed the speed at which grassfires burn. As fuel size increases, the rate of spread tends to decrease due to a decrease in the surface to volume ratio. Fires in large fuels generally burn at a slower rate but release much more energy and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control. Thus, it is much easier to control a fire burning in grass than to control a fire burning in timber.

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potential development of crown fires. Fuels are found in combinations of types, amounts, sizes, shapes, and arrangements. It is the unique combination of these factors, along with the topography and weather, which determines how fires will burn.

The study of fire behavior recognizes the dramatic and often-unexpected effect small changes in any single component have on how fires burn. It is impossible to speak in specific terms when predicting how a fire will burn under any given set of conditions. However, through countless observations and repeated research, some of the principles that govern fire behavior have been identified and are recognized.

History of Major Fires

Recent major fires in Oregon include the 2002 Biscuit Fire that burned close to 500,000 total acres in southwestern Oregon (about 471,000 acres in Oregon and nearly 29,000 acres in California), and the 2020 fire season across the state in Oregon that burned 1,141,613 acres.[7]

There have been dozens of notable wildfires in or near Hood River County in recent history. This section briefly discusses nine of the most significant impacting the County: the Skyhook Fire (1971), the Falls Fire (1991), the Herman Creek Fire (2003), the Gumjuwac/Bluegrass Ridge Fire (2006), the Gnarl Ridge Fire (2008), the Microwave Fire (2009), the Dollar Lake Fire (2011), the Government Flats Fire Complex (2013), and the Eagle Creek Fire (2017).

Two additional major fires occurred in the 2024 season in Hood River County: the Whiskey Creek Fire (burned about 3,200 acres) and the Microwave Tower fire (burned 1,300 acres), the latter of which occurred in the fire scare of the 2009 Microwave Fire.

[7] Northwest Interagency Coordination Center (2021). *Northwest Annual Fire Report 2020.* https://gacc.nifc.gov/nwcc/content/pdfs/archives/2020_NWCC_Annual_Fire_Report.pdf.

Skyhook Fire (1971)
The Skyhook Fire burned more than 5,000 acres in the Mt. Hood National Forest less than 15 miles southwest of Hood River and was believed to have started by a discarded cigarette during a helicopter logging operation. 550 personnel were called to suppress the fire, which also required twelve dozers to construct a fire line, nine helicopters, and five aerial tankers.

Falls Fire (1991)
The Falls Fire burned over 1,000 acres between Multnomah Falls and Bridal Veil, forcing evacuations and the deployment of 1,400 firefighters as well as the use of more than 200,000 gallons of fire-retardant foam to protect historic Multnomah Lodge.

Herman Creek Fire (2003)
The Herman Creek Fire, which was ignited by powerlines, burned nearly 400 acres and incurred over $600,000 in suppression costs, reaching within several miles south of Cascade Locks. This fire received a federal disaster declaration (FM-2495).

Gumjuwac/Bluegrass Ridge Fire (2006)
The Gumjuwac/Bluegrass Ridge Fire (or the Mt. Hood Complex Fire) began from multiple lightning strikes in the Mt. Hood National Forest. This fire shut down portions of Highway 35, threatened the Parkdale community, and incurred suppression costs of over $10 million.

Gnarl Ridge Fire (2008)
The Gnarl Ridge Fire, started by a lightning strike, burned for nearly two months in the Mt. Hood National Forest. The fire was initially contained at 500 acres but, due to an easterly wind event, grew to over 3,200 acres.

Microwave Fire (2009)
The Microwave Fire, which was ignited by powerlines arcing, burned more than 1,200 acres and reached within several miles of the City of Mosier in Wasco County. This fire received a federal disaster declaration (FM-2829).

Dollar Lake Fire (2011)
The Dollar Lake Fire, started by a lightning strike, burned over 6,300 acres and threatened homes, timberlands, power lines, and the Bull Run Watershed (the source of Portland's drinking water). Steep terrain and the rapid growth of the fire led to a delayed and expensive response, with suppression incurring costs of more than $15 million.

Government Flats Fire Complex (2013)
The Government Flats Complex fire, started by multiple lightning strikes, was the combination of three fires and burned over 11,000 acres. Fueled by strong winds, dense fuels, and steep terrain, this fire destroyed 13 structures and incurred suppression costs of more than $12 million. This fire received a federal disaster declaration (FM-5046).

Eagle Creek Fire (2017)
The Eagle Creek Fire, started by a juvenile igniting fireworks, burned over 50,000 acres in Hood River and Multnomah counties after merging with the Indian Creek Fire. The fire forced the evacuation of much of Cascade Locks, closed a stretch of the Historic Columbia River Highway, and destroyed popular hiking trails. This fire received a federal disaster declaration (FM-5203).

Historic Fire Regime

Historical variability in fire regime is a conservative indicator of ecosystem sustainability; thus, understanding the natural role of fire in ecosystems is necessary for proper fire management. Fire is one of the dominant processes in terrestrial systems that constrain vegetation patterns, habitats, and species composition. Public and private land managers need to understand historical fire regimes, the fire return interval (frequency) and fire severity prior to settlement by Euro-Americans, to be able to define ecologically appropriate goals for an area. Many assessments are enhanced by the characterization of the historical range of variability which helps land managers understand: (1) how the driving ecosystem processes vary; (2) how these processes affected ecosystems in the past; and (3) how these processes might affect ecosystems in the present and future.

Historic fire regimes are a critical component for characterizing the historical range of variability in fire-adapted ecosystems. Land managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components. For example, the departure from historical fire regimes may serve as a useful proxy for the potential of severe fire effects from an ecological perspective.

There are five fire regimes based primarily on return interval (the average interval in which a repeat fire will move through the forest) and fire severity (whether the fire predominantly burned underbrush at the ground level or if it caused significant mortality to tree canopies).

- Fire Regime I: less than a 35-year return interval with low and mixed severity. These fires are typically superficial and non-lethal, and are common in Oregon oak, ponderosa pine, oak scrubland, and dry-site fir trees.
- Fire Regime II: less than a 35-year return interval with high severity. Stand replacement is greater than 75%, meaning that the majority of overstory vegetation is replaced. Common in shrub-steppe environment found in the east Cascades.
- Fire Regime III: between 35- and 200-year return interval with mixed severity fires. Associated with wet-site or high elevation fir trees and western hemlock found in the forests of the west and east cascades.
- Fire Regime IV: between 35- and 200-year return interval with high severity (stand replacement). Associated with red fir and cedar forests found in the coastal regions and the west Cascades of the Pacific Northwest.
- Fire Regime V: any fire regime over 200 years. These fires are of any severity and are associated with both fir and pine forests. Associated with the forests of the western Columbia River Gorge and Mt. Hood National Forest. Fires in this regime tend to be rare, but large and intense.

Most of Hood River County falls into Fire Regime II (approximately 60%), followed by Fire Regime V (approximately 30%), and then equal shares each of Fire Regime I, II, and IV. These figures are based on data from Landscape Fire and Resource Management Planning Tools (LANDFIRE), an interagency fire mapping program sponsored by the U.S. Department of the Interior and the U.S.

Forest Service. Fire Regime III covers most of the Hood River Valley, while Fire Regime V covers the higher elevation land extending from Mt. Hood and the western Columbia River Forge.[8] In other words, the County is historically associated with smaller, less intense, and more frequent fires in populated areas and larger, more severe, but less frequent fires in remote areas.

Vegetation Condition Class

A natural fire regime is a classification of the role fire would play across a landscape in the absence of mechanical intervention but including the influence of indigenous fire practices. The Vegetation Condition Class (VCC) – formerly Fire Regime Condition Class (FRCC) – measures how much each forest group has been altered from "natural" conditions prior to European settlement. VCC assessments use fire regime groups and vegetation types to measure departure, relying on changes to ecological components like vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated disturbances (e.g. insect and disease mortality, grazing, and drought).[9]

Three VCCs have been developed to identify these patterns throughout the wildland landscape: low departure (VCC I), moderate departure (VCC II), and high departure (VCC II). Departure in can be described as the percentage of difference between current conditions and reference conditions (the tendency of the natural fire regime). Low departure is considered within the natural range of variability, while moderate and high departures highlight areas of concern. Each VCC has an "A" and "B" subcategory, but those are condensed for the purposes of this analysis.[10]

Using data from LANDFIRE, VCC I covers approximately 50% of the County and is mainly present in and around the Mt. Hood National Forest. This is generally seen as desirable, as forest conditions are similar to those naturally found in the region. VCC II covers 35% of the County and is mostly found in low elevation regions of the valley and the east hills, from the Columbia River to the Badger Lake Wilderness. Most homes in the WUI lie within this VCC II region. VCC II covers the remaining 15% of the County, includes forests near Lost Lake and in the western portion of the Gorge within the Columbia Gorge National Scenic Area.

Wildland Ignition Profile

The Oregon Department of Forestry (ODF) maintains a statewide database of all wildfires that occur on ODF-protected lands. This does not include fires in areas covered only by local fire agencies or areas where federal agencies (i.e., the U.S. Forest Service) have fire suppression responsibility. While the Oregon State Fire Marshal's Office (OSFM) does maintain a database of fires reported by local fire agencies, many local fire agencies does not consider this data reflective of wildland fire occurrences in the county due to reporting scheme differences.

[8] LANDFIRE Program (2023). *LF Map Viewer: Hood River County.* Retrieved October 21, 2024, from https://www.landfire.gov/viewer/.
[9] LANDFIRE Program (n.d.). *Vegetation Condition Class.* https://www.landfire.gov/vegetation/vcc.
[10] Ibid.

Table 4-2 shows the occurrence of wildland fire ignitions in Hood River County from 2000-2022 using ODF's statewide database. An analysis of this data indicates that during this period, Hood River County experienced 305 fires burning a total of 90,300 acres, with the median acreage burned per fire equaling 0.05 acres. This figure is significantly skewed by the 2017 Eagle Creek fire, which burned over 49,000 acres across Hood River and Multnomah counties.

Table 4-2 Ignitions on ODF-Protected Land in Hood River County, 2000-2022

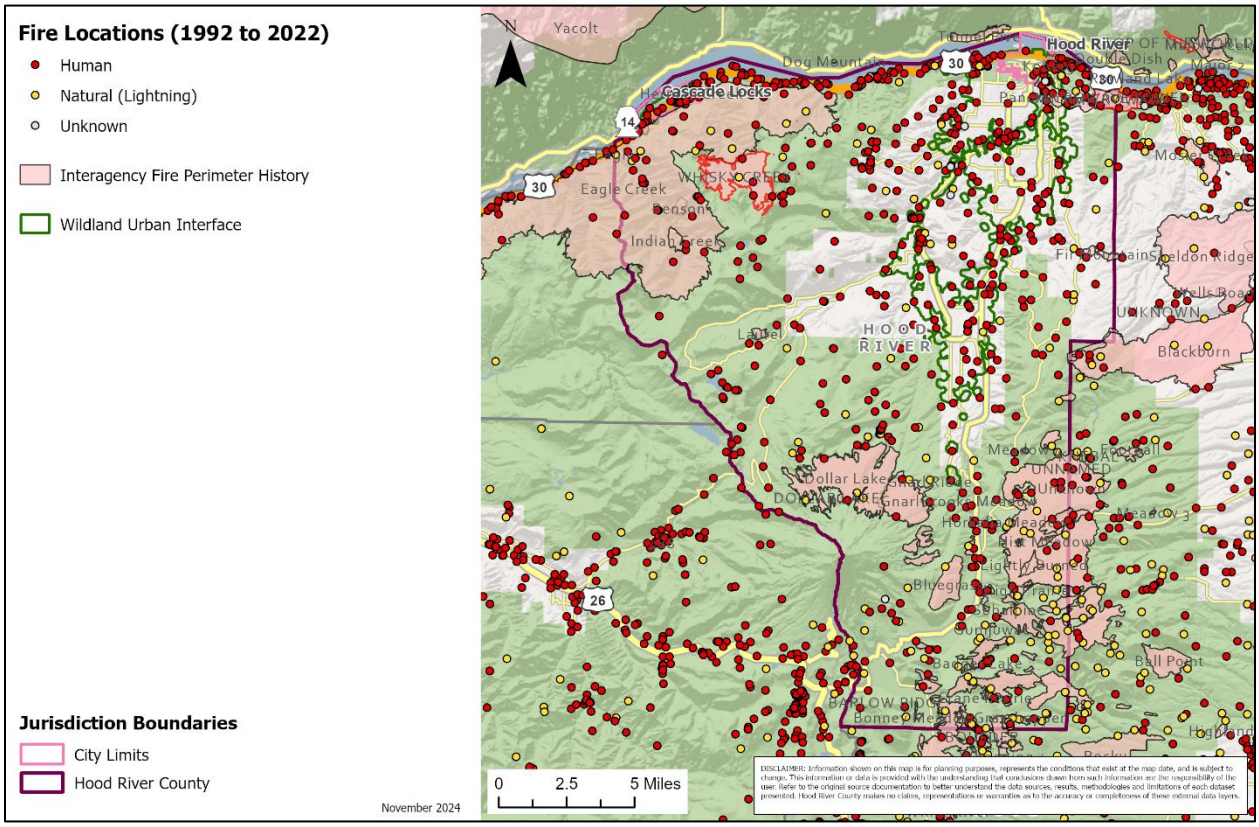
Cause	Number of Ignitions	Percent of Ignitions	Total Acres Burned	Percent Burned
Lightning	**22**	**7%**	**9,681**	**11%**
Human	**283**	**93%**	**80,619**	**89%**
Arson	24	8%	337	<1%
Debris Burning	51	18%	27	<1%
Equipment Use	74	26%	1,725	2%
Juveniles*	12	4%	78,327	97%
Railroad	25	9%	61	<1%
Recreation	49	17%	123	<1%
Smoking	31	11%	10	<1%
Miscellaneous	17	6%	9	<1%

Source: Oregon Department of Forestry (2023). *Oregon Department of Forestry Fire History 2000-2022.* Retrieved October 21, 2024, from https://data.oregon.gov/stories/s/ODF-Fire-History-2000-2022-Dashboard/92y3-mdk3/. Analysis conducted by OPDR.
Note: Percentage figures for human-caused fires are proportional to human-caused fires and not all fires.
* = Includes the 2017 Eagle Creek Fire.

Within the ODF protection area in Hood River County, 89% of fires between 2000 and 2022 were human-caused, while the remaining 11% were lightning-caused. Most ignitions were caused by recreation, debris burning, and equipment use, though many of these fires were limited to fewer than one acre. Debris burning and equipment use resulted in a significant amount of acreage burned. To reduce these types of fires, local fire agencies and the Hood River County Fire Defense Board have imposed a burn ban during ODF's closed fire season each summer.

Map 4-1 depicts the location of fires from 1992 to 2002 – with red dots indicating human-caused fires and yellow dots indicating natural (lightning-caused) fires – as well as the boundaries of historical fires in and around Hood River County.

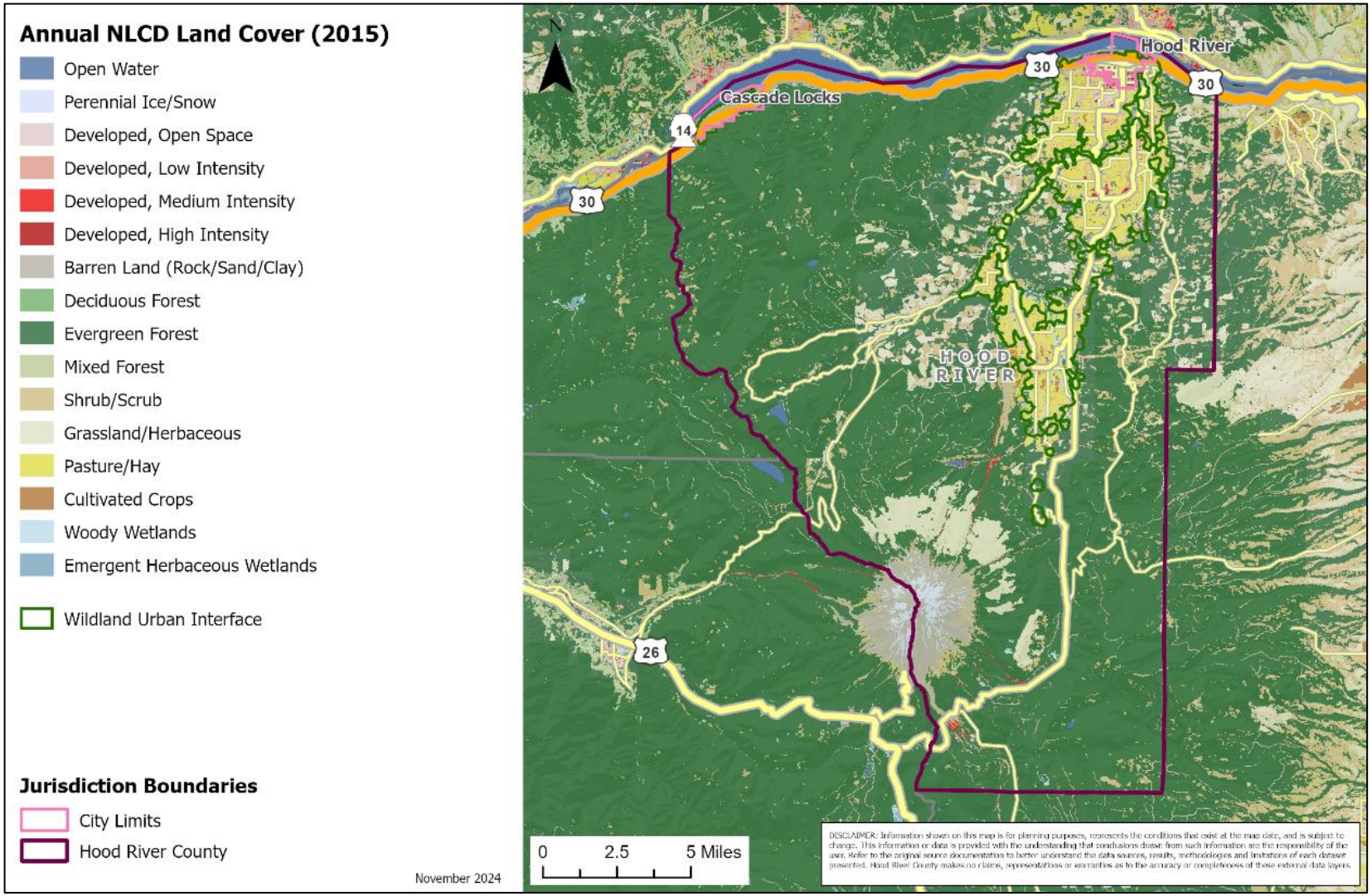
Map 4-1 Fire Locations and History, 1992-2022



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.
Interagency Fire Perimeter History from: Wildland Fire Management Research (2024, October 7).
Interagency Wildland Fire Perimeter History. Retrieved November 8, 2024, from
https://www.arcgis.com/home/item.html?id=e02b85c0ea784ce7bd8add7ae3d293d0.

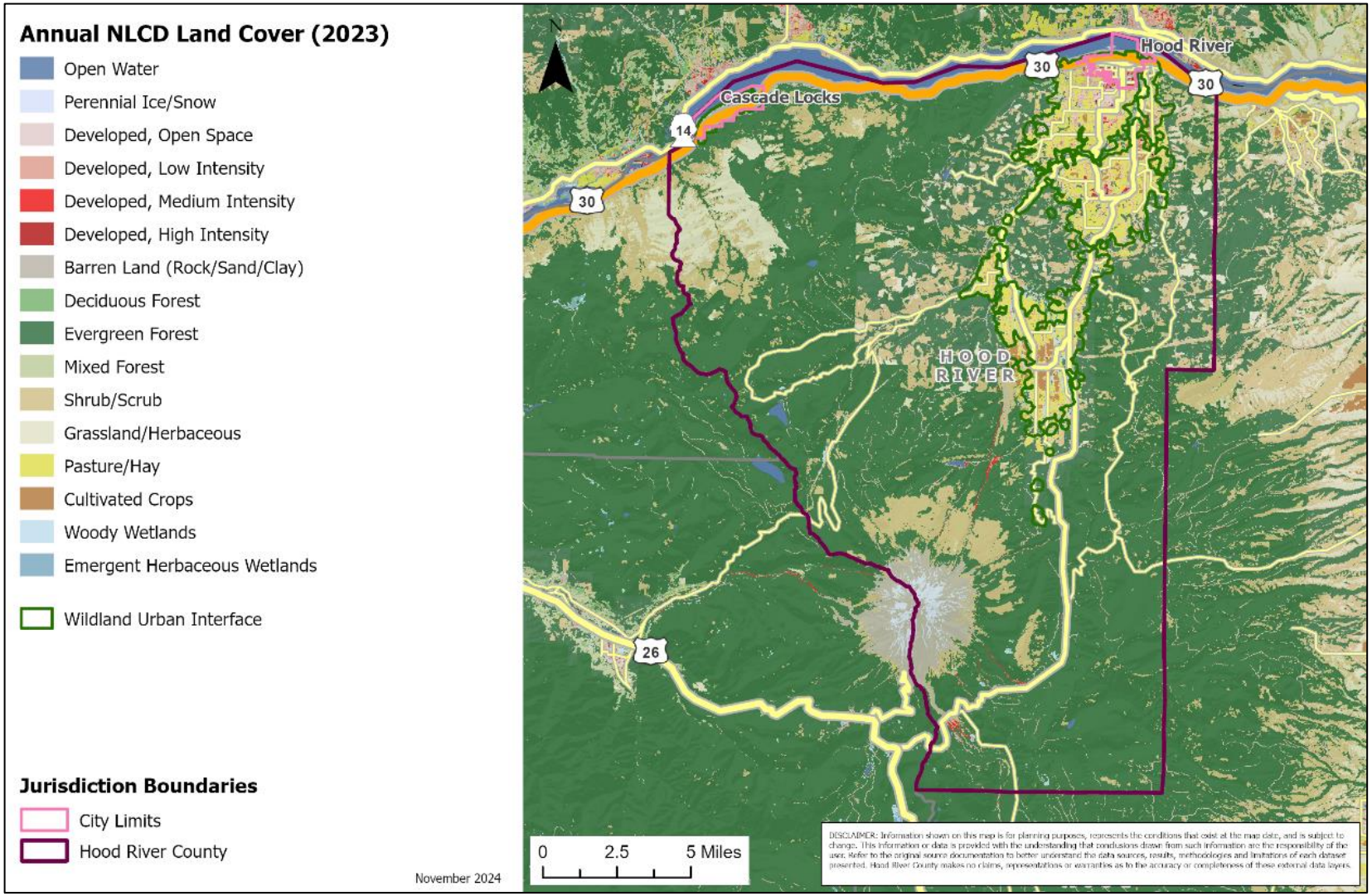
Map 4-2 and Map 4-3 further illustrate the land cover of Hood River County over the past decade, in 2015 and 2023, respectively. As the maps illustrate, most of the County outside of the developed WUI area is Evergreen or Mixed Forest, with some areas of Shrub/Scrub and Grassland/Herbaceous. Map 4-4 adds the perimeters of major fires in and around the County, highlighting how the two major areas of change found in the County over this period are the result of the 2017 Eagle Creek Fire (northwest) and 2011 Dollar Lake Fire (south-central).

Map 4-2 Land Cover – 2015



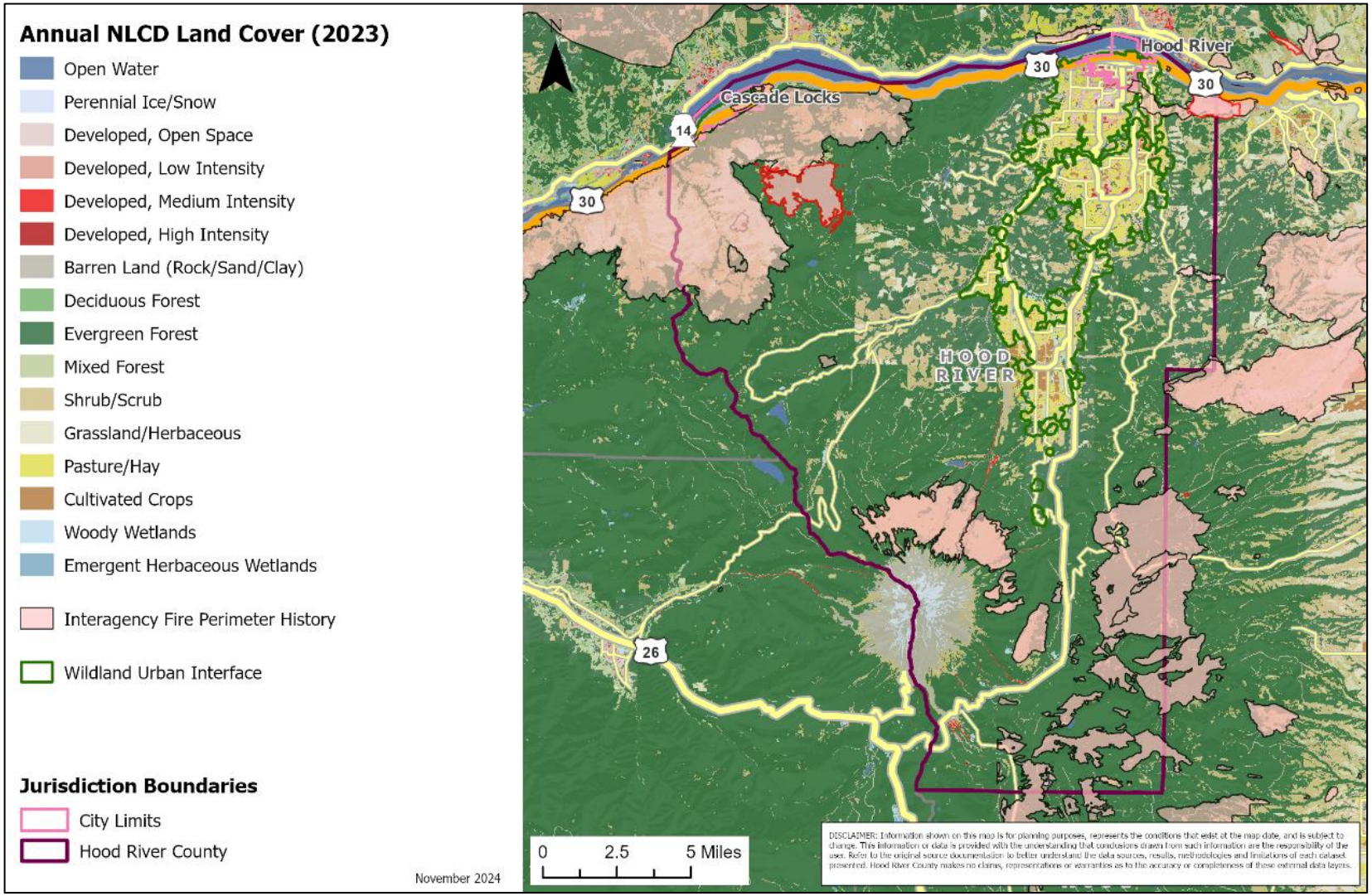
Source: Mapping by OPDR.
Data from: Earth Resources Observation and Science Center. (2024, September 26). *Annual National Land Cover Database.* U.S. Geological Survey. https://www.usgs.gov/centers/eros/science/annual-national-land-cover-database.

Map 4-3 Land Cover – 2023



Source: Mapping by OPDR.
Data from: Earth Resources Observation and Science Center. (2024, September 26). *Annual National Land Cover Database.* U.S. Geological Survey. https://www.usgs.gov/centers/eros/science/annual-national-land-cover-database.

Map 4-4 Land Cover and Fire Perimeter History – 2023



Source: Mapping by OPDR.
Data from: Earth Resources Observation and Science Center. (2024, September 26). *Annual National Land Cover Database.* U.S. Geological Survey. https://www.usgs.gov/centers/eros/science/annual-national-land-cover-database.
Interagency Wildland Fire Perimeter History. Retrieved November 8, 2024, from https://www.arcgis.com/home/item.html?id=e02b85c0ea784ce7bd8add7ae3d293d0.

Wildfire Hazard Assessment

Wildfire risk to forest lands and homes is inseparable. Forest fires can endanger and burn homes. Fires that start as structural fires can quickly spread to the forest. One of the core elements of the CWPP is developing an understanding of the risk and potential losses to life, property, and natural resources during a wildfire to identify and implement the most effective strategies for preventing losses from fire, while allowing natural fires to take their course in shaping a more healthy and sustainable forest. This is done through a comprehensive wildfire hazard assessment map, as demonstrated by Map 4-5 and Map 4-6.

The Healthy Forests Restoration Act, the National Fire Plan, FEMA's Disaster Mitigation Act of 2000, the National Association of State Foresters, and Oregon Department of Forestry provide guidance on conducting hazard and risk assessment for wildfire. The CWPP's wildfire risk assessment followed the methodology of Oregon State University's Quantitative Wildfire Risk Assessment (QWRA), described in further detail in the next section. In addition, Geographic Information Systems (GIS) was used to analyze and integrate the spatial layers of information for fire hazard, risk, location of values, and protection capabilities.

Mapping Methods

The following sections detail how the maps throughout this plan were developed. This includes overall wildfire hazard, social vulnerability, and the WUI. These methods were adapted from those initially developed for the Lincoln County CWPP by Michael Coughlan from the Institute for Resilient Organizations, Communities, and Environments at the University of Oregon.

Overall Wildfire Risk

To map the overall wildfire risk for the County, we used an Oregon statewide wildfire hazard map created by Oregon State University as well as the 2023 update to the Quantitative Wildfire Risk Assessment (QWRA) for the Pacific Northwest.[11] These produced two sets of maps:

- Integrated *conditional* net value change (cNVC): shows the estimated change in a resource's value if a wildfire were to occur *without including the probability of a fire occurring.* Thus, conditional net value change can show high loss even if the actual risk of a wildfire igniting is low. Both negative and positive effects are mapped.
- Integrated *expected* net value change (eNVC): shows estimated change in a resource's value if a wildfire were to occur *weighted by the probability of a fire occurring (also known as the burn probability).* Thus, even if the conditional net value change is high, expected net value change can be low, if the probability of wildfire occurring is low. Both negative and positive effects are mapped.

[11] McEvoy, A., Dunn, C., & Rickert, I. (2023). *2023 PNW Quantitative Wildfire Risk Assessment Methods.* Oregon State University. https://oe.oregonexplorer.info/externalcontent/wildfire/PNW_QWRA_2023Methods.pdf.

Net Value Change Categories

The following language is copied with minor modifications from the Linn County 2024 CWPP.[12]

The categories of Net Value Change – excluding benefits – are as follows:

- Very High Loss: Wildfire risk is very high to all mapped resources and assets combined: people & property, infrastructure, drinking water, timber, agriculture, ecosystems, wildlife, and recreation. Very High represents the top 10 percent (> 90th percentile) of negative values across the landscape.
- High Loss: Wildfire risk is high to all mapped resources and assets combined: people & property, infrastructure, drinking water, timber, agriculture, ecosystems, wildlife, and recreation. High represents the 70th – 90th percentile of negative values across the landscape.
- Moderate Loss: Wildfire risk is moderate to all mapped resources and assets combined: people & property, infrastructure, drinking water, timber, agriculture, ecosystems, wildlife, and recreation. Moderate loss represents the 40th – 70th percentile of negative values across the landscape.
- Low Loss: Wildfire risk is low to all mapped resources and assets combined: people & property, infrastructure, drinking water, timber, agriculture, ecosystems, wildlife, and recreation. Low represents the 5th – 40th percentile of negative values across the landscape.
- Neutral: Wildfire risk is neither significantly positive nor negative for mapped resources and assets combined. Neutral represents the bottom five percent (90th percentile) of positive values on the landscape.

Wildfire Hazard Maps

This section includes Map 4-5 and Map 4-6, which depict Integrated cNVC (not including burn probability) and Integrated eNVC (including burn probability) for the entire County.

Reviewing these maps results in several key takeaways:

- Most of the County's WUI area begins in the City of Hood River and moves south towards Parkdale and the center of the County. The only other significant WUI area is in and around the City of Cascade Locks.
- While the eNVC for this WUI area ranges from "moderate" to "low", the cNVC ranges from "very high" to "high". This indicates that while the probability of ignition is low in the areas, the damage caused by a wildland fire that turns into an urban conflagration would be catastrophic.
- The forestland east and southeast of the City of Hood River is "very high" to high" for both cNVC and eNVC, indicating both significant probability of and potential damage from a wildfire occurring in this region.

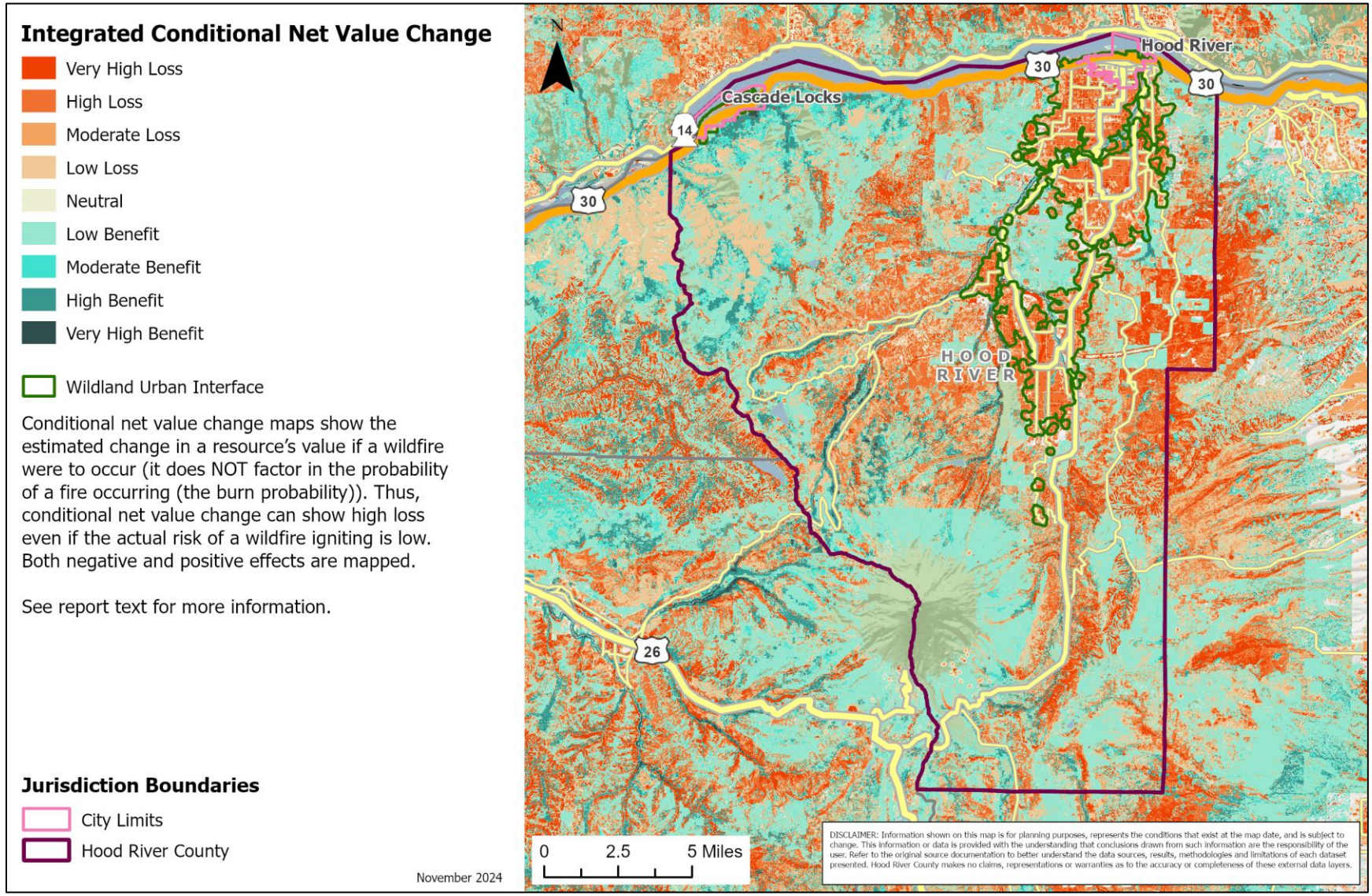
[12] Linn County (2024, March 26). *Community Wildfire Protection Plan.* https://www.linncountyor.gov/planningbuilding/page/community-wildfire-protection-plan.

Additional maps depicting both cNVC and eNVC for local jurisdictions, as well as for four of the resources that feed into the integrated maps, can be found in Chapter 7: Fire Agency Profiles and Appendix C: Supplemental Maps, respectively.

Note: Oregon State University's QWRA for the Pacific Northwest includes high-value timber as an asset, which is then included in the integrated cNVC and eNVC data and maps (see Map 4-5 and Map 4-6). However, **the QWRA does *not* account for County-owned forestland managed by Hood River County Forestry.** As a result, potential loss for areas with large portions of County-owned forestland – including Middle Mountain and forestland surrounding the City of Hood River – does not show the losses that the County would expect in the event of a wildfire occurring in these areas.

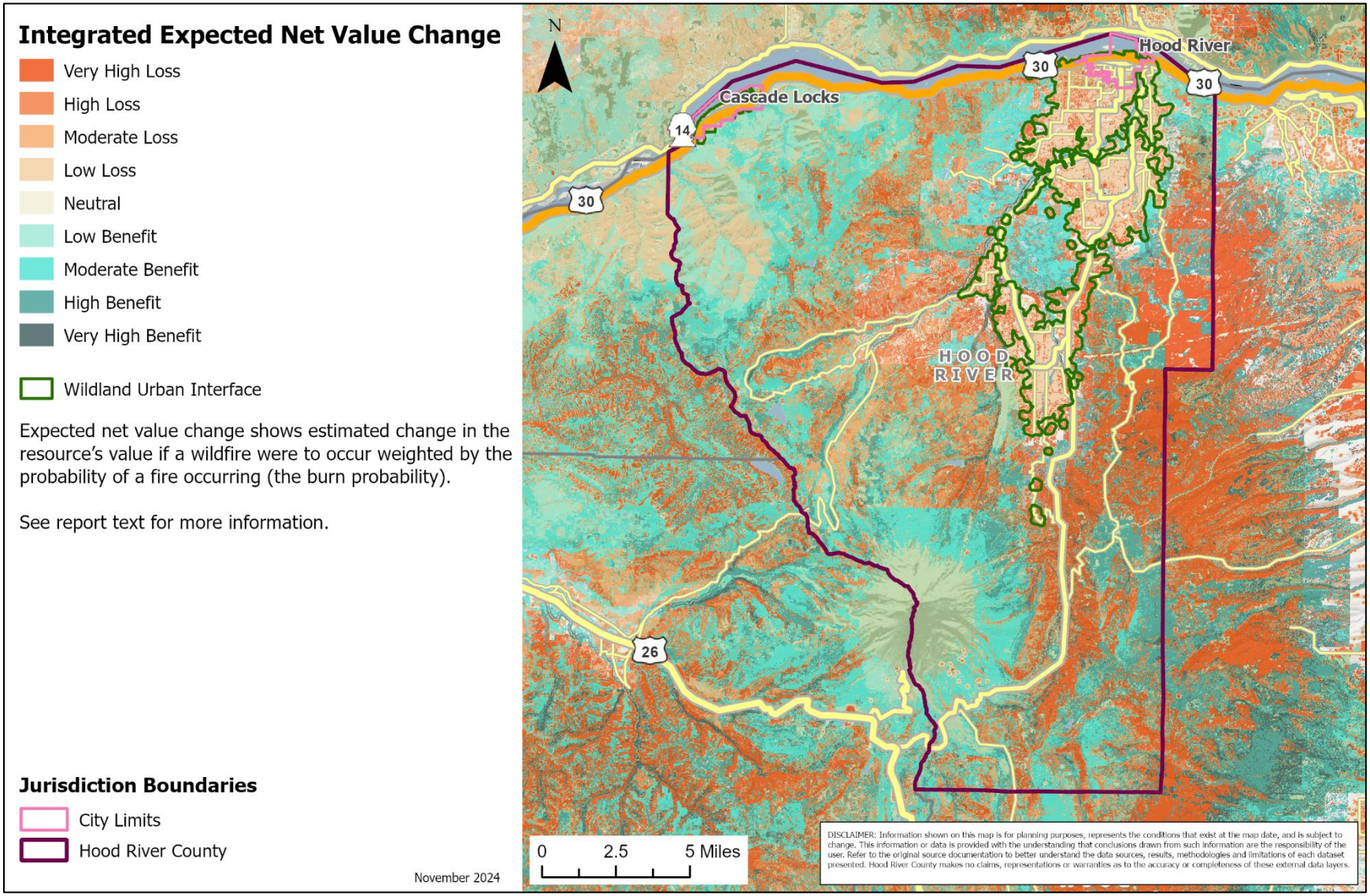
More information on the QWRA's methods can be found at the source: McEvoy, A., Dunn, C., & Rickert, I. (2023). *2023 PNW Quantitative Wildfire Risk Assessment Methods.* Oregon State University. https://oe.oregonexplorer.info/externalcontent/wildfire/PNW_QWRA_2023Methods.pdf.

Map 4-5 Hood River County Wildfire Hazard – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 4-6 Hood River County Wildfire Hazard – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Social Vulnerability

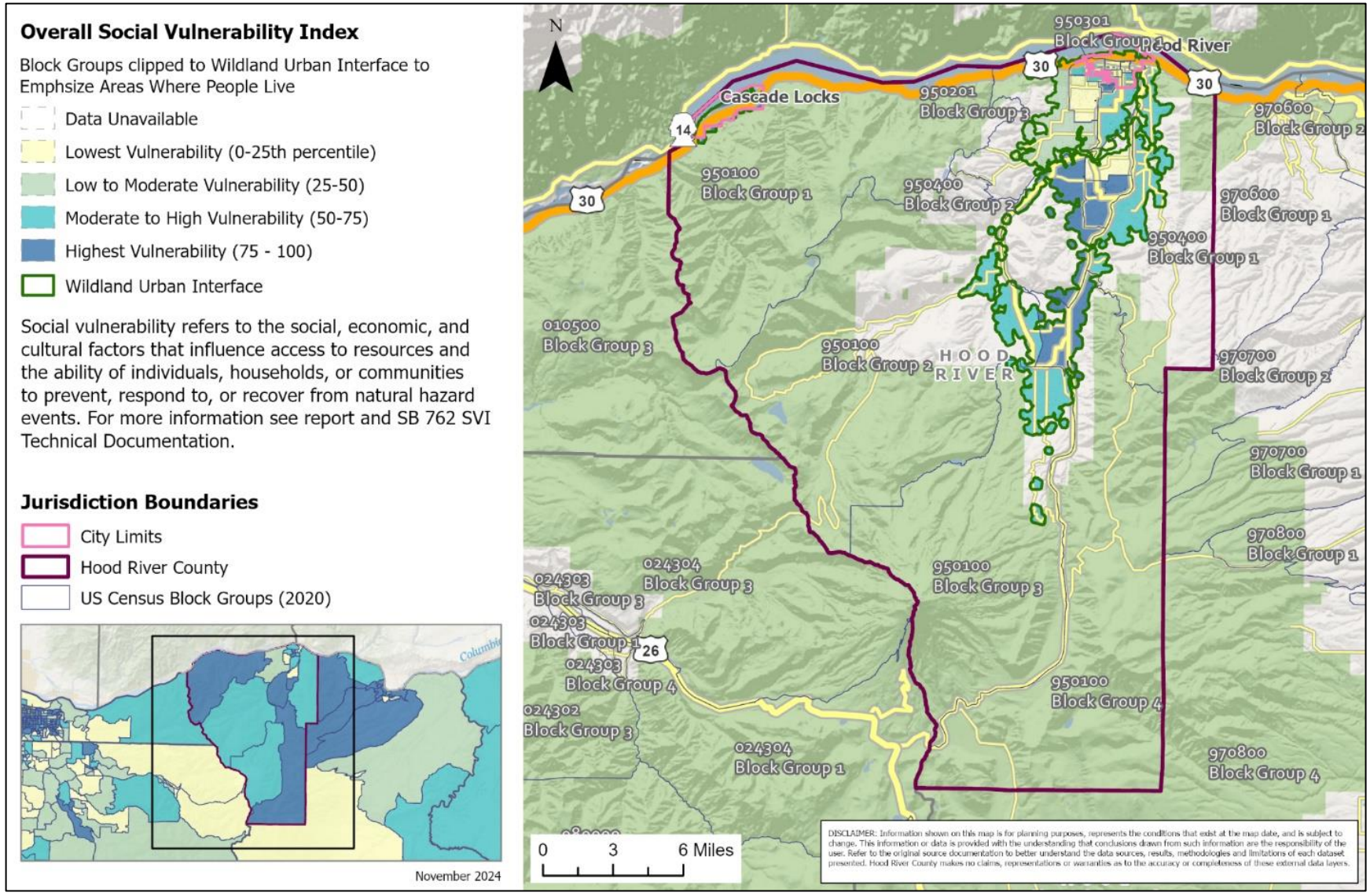
The overall vulnerability of people and property to wildfire is conventionally estimated using spatial distribution of the probability of exposure to wildfire hazard. The concept of social vulnerability adds depth to this estimate by accounting for how and why some people are at a disadvantage in comparison to others due to social, economic, or cultural characteristics which make them more vulnerable to harm from specific types of hazards such as wildfires.[13]

For this CWPP, we used the Oregon State University/Oregon Wildfire Risk Explorer 2020 Social Vulnerability Index (OSU SVI) data for Census County Sub-Divisions, Tracts, and Block Groups.[14]

[13] Coughlan, M. R., Ellison, A., & Cavanaugh, A. (2019). *Social Vulnerability and Wildfire in the Wildland- Urban Interface*. https://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_96.pdf.
[14] Reilley, C. & Crandall, M. (2022). *Social Vulnerability for the State of Oregon [Data set].* Oregon State University. https://doi.org/10.7267/z890s265n.

Map 4-7 depicts the OSU SVI for areas of the County that lie within the WUI. The inset in the bottom left of the map illustrates the OSU SVI for the entire County, including areas that lie outside the WUI.

Map 4-7 Social Vulnerability Index



Source: Mapping by OPDR.
Data from Reilley, C. & Crandall, M. (2022). *Social Vulnerability for the State of Oregon [Data set].* Oregon State University. https://doi.org/10.7267/z890s265n.

Wildland Urban Interface

The wildland-urban interface (WUI) has gained attention through efforts targeted at wildfire mitigation; however, this analysis technique is also useful when considering other hazards because the concept looks at where people and structures are concentrated in any region.

A key component in meeting the underlying need for protection of people and structures is the protection and treatment of hazards in the wildland-urban interface. The WUI refers to areas where wildland vegetation meets urban developments or where forest fuels meet urban fuels such as houses. The WUI encompasses not only the immediate interface (areas immediately adjacent to urban development), but also the surrounding vegetation and topography.

Defining the WUI

The definition and mapping of the WUI enables the creation of a planning tool to identify where structures, people, and infrastructure are in reference to each other. This analysis tool does not include a component of fuels risk. There are many reasons to map and analyze these two components separately (population density vs. fire risk analysis). Primary among these reasons is the fact that population growth often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the WUI dependent on all of them would eliminate populated places with a perceived low level of fire risk today, which may in a year become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately, a planner can see where the combination of population density overlays areas of high current fire risk and then act to reduce fuels, improve readiness, directly address factors of structural ignitability, improve initial attack success, mitigate resistance to control factors, or – more often – execute a combination of these approaches.

The WUI layer used for all maps in this CWPP was created using data from Oregon Wildfire Risk Explorer, updated with the new WUI definition described by Oregon State University and found in Oregon Administrative Rule (OAR) 629-044-1011:[15]

1. The WUI is a geographic area comprised of tax lots or portions of tax lots that includes an average density of one structure or other human development per 40 acres and either:
    a. **Intermix:** Meets with wildland or vegetative fuels; or
    b. **Interface:** Intermingles with wildland or vegetative fuels; or
    c. **Occluded:** Is an occluded geographical area near wildland or vegetative fuels.
2. The WUI also includes:
    a. Lands identified within an urban growth boundary or unincorporated community boundary by local comprehensive plans that meet the criteria in (1)(a); or

[15] Dunn, C. & McEvoy, A. (n.d.). *Technical Guide: Mapping Wildland Urban Interface (WUI) to Support Implementation of Oregon's 2021 Senate Bill 762.* Oregon State University. https://www.oregon.gov/odf/board/documents/laws-rules/whm-osu-technical-guide-mapping-wui-to-support-implementation-of-oregons-2021-sb762.pdf.

b. A planned development, within the urban growth boundary or unincorporated communities, that is not identified in 1(a) but that is approved for development that meets the criteria 1(a)

3. If multiple structures or other human developments are located on a single tax lot, then the totality will be considered a single structure or other human development.
4. Each tax lot in the State of Oregon shall be assigned a wildfire risk classification in accordance with 629-044-1020.

It should not be assumed that just because an area is identified as being within the WUI, it will therefore receive treatments because of this identification alone. Nor should it be implicit that all WUI treatments will be the application of the same prescription. Instead, each location targeted for treatments must be evaluated on its own merits: factors of structural ignitability, access, resistance to control, population density, resources and capabilities of firefighting personnel, and other site-specific factors.

It should also not be assumed that WUI designation on national or state forest lands automatically equates to a treatment area. The Forest Service, Bureau of Land Management, and Oregon Department of Forestry are still obligated to manage lands under their control according to the standards and guides listed in their respective forest plans and laws. The adopted forest plan has legal precedence over the WUI designation until such a time as the forest plan is revised to reflect updated priorities.

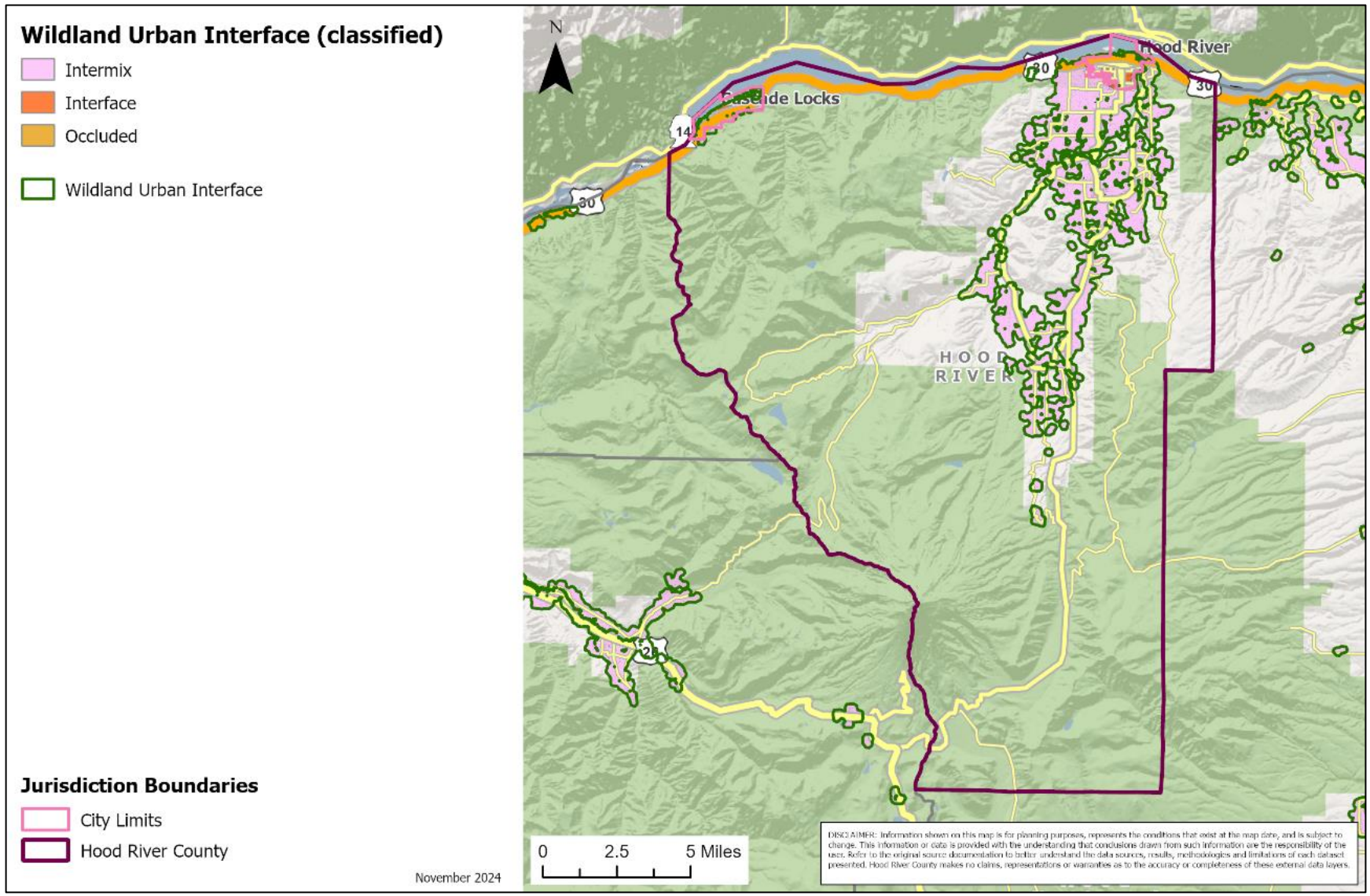
Most treatments begin with a home evaluation, covering the implicit factors of structural ignitability (roofing, siding, deck materials) and vegetation within the treatment area of the structure. However, treatments in the low population areas of rural lands may look closely at access (two ways in and out) and communications through means other than land-based telephones. On the other hand, a subdivision with densely packed homes surrounded by forests and dense underbrush may receive more time and effort implementing fuels treatments beyond the immediate home site to reduce the probability of a wildfire entering the subdivision.

Note: in both these and other maps used throughout this CWPP, the WUI layer described in this section has been modified slightly to remove very small “islands” of non-WUI land surrounded by WUI land. This was done to improve readability and ease of use but is intended solely for planning purposes and not to illustrate any changes in WUI boundaries.

Map 4-8,

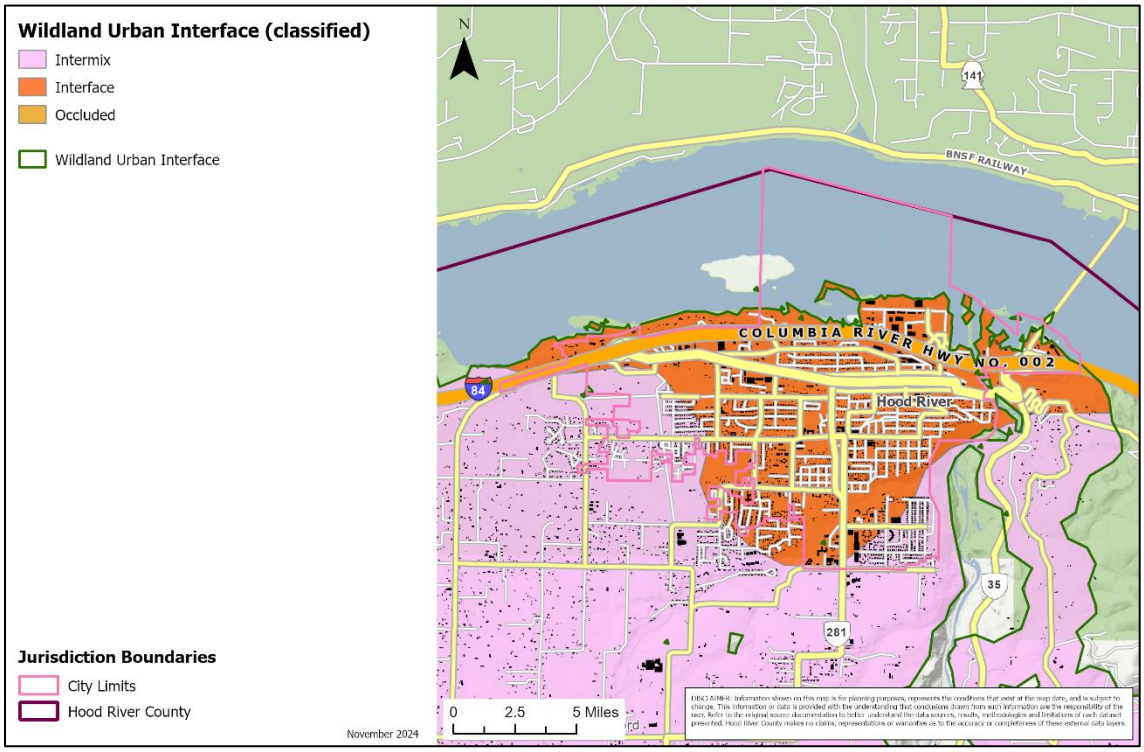
Map 4-9, and Map 4-10 depict the WUI boundaries for Hood River County, the City of Hood River, and the City of Cascade Locks, respectively. This includes areas identified as either intermix or interface; there are no occluded areas within the County.

Map 4-8 Wildland Urban Interface Classification – Hood River County



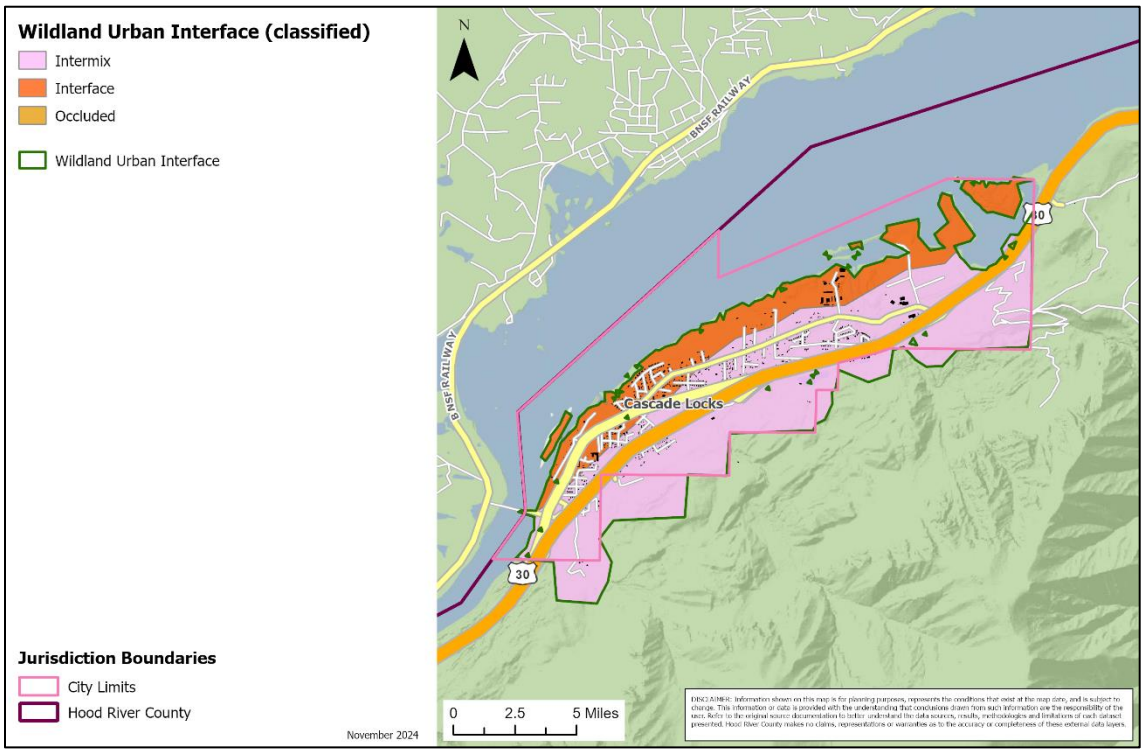
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 4-9 Wildland Urban Interface Classification – City of Hood River



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 4-10 Wildland Urban Interface Classification – City of Cascade Locks



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Hood River County Forest Conditions

Forest composition in Hood River County is varied. Douglas Fir and Western Hemlock dominate forests of the western Columbia River Gorge, while Ponderosa Pine and Oregon White Oak are characteristic towards the east. The differences in these forest compositions are largely a result of geography: orthographic lift causes clouds rising over the Cascade Range to lose much of their moisture on western slopes, often leaving a rain shadow as the clouds descend on the lee side of the range. As a result, the west side of the Cascade Range receives nearly twice the amount of precipitation than the eastern side. Forests that thrive in damp environments with high precipitation dominate the west, while dry woodlands dominate the east. Each different forest type has distinct characteristics when it comes to fire ecology. Where the damp forests of the west Cascades tend to see fewer fires, fires tend to be large are cause high rates of tree mortality; the east Cascades sees increased fire frequency, however fires tend to be less intense. The following paragraphs describe forest compositions in Hood River. While these are generalizations, they will help to understand how fire ecology varies across the landscape and how best to manage fires in the human impacted environment.

Dominant Species and Fire Response

Many different species of trees and plants are found within Hood River County. Growing in different ecological zones, each species has characteristics that can inhibit or allow fire growth. Some of the dominant tree species found in the County are described below, along with some of the characteristics that pertain to fire progression. Note the stark differences in tree density depending on species type. Ponderosa Pine and Oregon White Oak are both adapted to frequent, low intensity fire regime. As a result, these species are typically associated with sparse undergrowth. Douglas, Grand Fir, and Hemlock on the other hand, have infrequent fires, however fires tend to be intense with high tree mortality rates. Dense sub-canopy fuels often carry wildfire to the canopy of the forest, causing stand-replacing crown fires.

Not all fires are created equally. Tree species, size, canopy cover, and density can each drastically alter the way a fire behaves, as can under-canopy composition and terrain.

Ponderosa Pine
The Ponderosa Pine is classified as a fire resister. Older trees have a thick bark, deep roots, and insulated bud scales to protect against fire. Older trees are also self-pruners, reducing damage from crown fires, which is the main cause of tree mortality. Seedlings are well adapted to the fire ecosystem and prefer the bare mineral seed bed provided by fire, generally colonizing 1-2 years post fire from off-site seeds. Stands in the late 19th century are described as open and park like with tree density as low as 25 trees per acre. Current stands are as dense as 1,000 trees per acre.

Douglas Fir
Young Doug Firs are fire avoider, while old trees are resisters. Slow moving fires tend to damage cambium beneath the bark. Foliage is highly flammable, which can result in significant tree mortality from crowning in the event of a large fire. Like the Ponderosa, re-colonization can occur in 1-2 years from offsite seeds. Douglas Fir trees have moderate survivability to fire events when mature.

Grand Fir
Grand Firs are fire avoiders. Shallow roots, moderately thick bark, and low, dense branches are characteristic. Trees tend to be resistant to frequent ground fires but suffer high rates of mortality from infrequent, hot fires from both root char and crowning. Trees are prone to heart rot following fire episodes. The Grand fir dominates where fire has been excluded. The fire return interval for Grand Fir ecoregions in Oregon should be between 5-50 years.

Western Hemlock
The Western Hemlock is a fire avoider with low fire resistance. Like the Grand Fir, its shallow roots and high foliage flammability make it susceptible to root char and crowning. The fire return interval is high (150-400 years) and regeneration typically occurs 50-80 years post fire.

Oregon White Oak
The Oregon White Oak is well suited to the frequent fire regimes east of the Cascades and is a fire resister. Mortality is rare from fire. White Oak depends on periodic fires (3-30 year return intervals) to limit succession by opportunistic fir species. Historic surveys indicate that Oregon White Oak thrive in low densities (70 trees per hectare).

Western Larch
The Western Larch is highly fire resistant. Its bark is thick with low resin, deep roots, and low foliage flammability as it is deciduous and has a higher moisture content than most conifers. The larch is highly adapted to fire burned soils. Fire regimes suggested for the Western larch are 25-75 years with mixed severity fires, and 150-350 years of stand replacing fires. The larch is considered the most fire-resistant tree species in the Pacific Northwest.

Development in the WUI

Developments in WUI areas face high fire risk because of the combination of high fire hazard (high vegetative fuel loads) and limited fire suppression capabilities. Occupants in many WUI areas also face high life safety risk, especially from large fires that may spread quickly. Life safety risk in interface areas is often exacerbated by limited numbers of roads (in the worst case only one access road) that are often narrow and winding and subject to blockage by a wildland fire.

Life safety risk in WUI areas is also increased by homeowners' reluctance to evacuate homes quickly. Instead, homeowners often try to protect their homes with whatever fire suppression resources are available. Without proper training and preparedness, such efforts generally have little effectiveness. Homeowners who delay evacuation may place their lives in jeopardy.

Developments in WUI areas face a range of risk factors. Developments that have all or most of the following attributes are at the highest level of risk:

- Location in or surrounded by heavy fuel loads with a high degree of continuity (i.e., few significant firebreaks). Wildfire risk may be particularly high if the fuel load is grass, brush, and smaller trees subject to low moisture levels in short duration drought periods.
- Steep slopes, which cause fires to spread more rapidly.
- Limited fire suppression capacity, including limited water supply capacity, limited firefighting personnel and apparatus, and long response times for fire alarms.

- Limited access for firefighting apparatus and limited evacuation routes for residents.
- Construction of structures to less than fully fire-safe practices.
- Lack of maintenance of firebreaks and defensible zones around structures.

Hood River County Risk Profiles

In support of wildfire mitigation activities in Hood River County, the Hood River All-Lands Partnership has developed risk profiles by geography for areas of concern throughout the County. The All-Lands Partnership is a group that includes the USFS – Mt. Hood National Forest, ODF, OSFM, the Columbia River Gorge National Scenic Area, Oregon State Parks, Hood River County Forestry, Hood River Soil and Water Conservation District, Hood River Forest Collaborative, Hood River County Emergency Management, and the OSU Extension Service.

The All-Lands Partnership's risk profiles include six components for each geographical area: the hazard characteristics of concern, potential values at risk, vulnerabilities, opportunities to reduce risk, information gaps, and the status of any projects currently ongoing in that area.

East Hood River County

Area Description

State Highway 35 east to the County line, and from the Columbia River south to the Mt. Hood National Forest. Includes Fir Mountain, Powerdale Corridor, and the lower Indian Creek.

Table 4-3 East Hood River County Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
Wind & fuel type transition to brushy grass/pine/oak, likely to push fire eastward. High ignition potential from railroad, I-84, Hwy 35, fishing communities; challenging access from the top & bottom. Ignition potential from local & rural power lines during high wind events.	Transmission lines, rail lines, interstate, industrial sites. WUI communities to east (Neal Creek, Sayers Rd.) County & Green Diamond timber. The Dalles watershed. State Parks.	Houseless population & adjacent communities to east; CJEST/HUD underserved. Climate vulnerability. Narrow roads with access challenges, important evacuation area.	a. HIZ/defensible space/structure hardening would reduce risk to eastward communities & Mosier by slowing fire spread. b. Work with HOAs to formalize Firewise Communities. c. Install fuel breaks around timber assets (Fir Mtn & Godberson Rd.) and along property lines (Hood River County ownership). d. Reduce ignition risk (challenge is dense infrastructure): Emphasize fuels management along railroad, ODOT & BPA transmission line; Powerdale Corridor & Indian Creek trail (Columbia Land Trust). Along Hwy 35 (harder terrain & blackberry) support low income homeowners to complete this work. e. Reinforce treatments to protect The Dalles Watershed area (maintain fuel breaks & thin in LSR; holistic restoration opportunity).	a. Design Fir Mtn & Godberson Rd. fuel break to optimize community protection. Include both County & Green Diamond lands. b. Connect with BPA to explore how transmission lines can be maintained as fuel breaks. c. ODF: Investigate need for roadside treatments along narrow roads. Ex: intersection of Godberson & Wilson or Ketcham & Brown's Creek Rd., or Husky Rd. e. Identify treatments that can be done on State Parks property.	Coburg in-lieu site: OSFM work with Red Cross to install smoke alarms in RVs. Working w/Tribal liaisons to train community health workers on fire extinguisher safety & distribute fire extinguishers. Response partners are mapping in-lieu sites. County maps yearly using aerial images & is working on wi-fi access for notifications., State Parks working on fuels reduction. Partners: OHA, DHS, Next Door. Green Diamond thinning projects. Main concern is Fir Mtn area.

Table 4-3 East Hood River County Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
			f. Improve road access: harden Hwy 30 from Hood River to Mosier; road systems between Hwy. 30 & Old Dalles Mtn Rd.; Fir Mtn Rd; Pinemont Rd; Hood River Rd. out of Mosier (Wasco Co.). g. Establish water source developments for fire suppression use		FS Gibson Planning area signed August 2024. SWCD runs mobile wood chipping program for private landowners.

Source: Hood River All-Lands Partnership, 2024.

Northwest Hood River

Area Description

Dee north to the Columbia River, northwest of Hwy 281, the City of Cascade Locks, and the West Side RFPD.

Table 4-4 Northwest Hood River County Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
East wind fires coming downhill from dense Doug fir forestland with high flame lengths. Interstate 84 & railroad ignitions are relatively frequent but generally "easy to catch" because of good access.	Homes on slopes near County or USFS land (York Hill/Post Canyon; Cascade Locks communities) Transmission & rail lines, interstate. Fruit orchards	Limited access for fire response (BPA lines). Narrow roads with access challenges, important evacuation area. Dense fuel type & wind create ember ignitions & vegetation treatment less effective.	a. A County Firewise Coordinator could provide education & link homeowners to resources to incentive HIZ and defensible space work. b. Update County ordinance to encourage fire safe planting surrounding mobile home parks. c. HIZ and defensible space work in Cascade Locks mobile home park (top HIZ priority county-wide). d. Enhance fuel break along BPA transmission line. e. Roadside brushing along Dry Creek Rd & 777 Rd to improve access to BPA line. f. Install hardline pumps along the corridor (BPA?). g. Fuels reduction thinning on City of Cascade Locks land north of BPA line. h. Roadside shaded fuel break along property lines or through mixed ownership (federal, State Parks, County, Green Diamond). **Post Canyon/Mitchell Point area:** a. Harden BPA line (may be limited due to complex requirements). b. Harden the road system along Post Canyon Rd., Bins Hill Rd., Green Point for ingress/egress (county roads, ODOT).	**Cascade Locks:** a. Explore ignition reduction opportunities with Cascade Locks electric provider (Cascade Light?). b. City of Cascade Locks has a need for fuels disposal. c. ID ownership on 777 & other key access roads. d. Engage BPA e. Engage fire chief (water sources/pumps on Post Canyon/ Mitchell Point ridgeline, HIZ work). **Post Canyon/Mitchell Point area:** f. USFS Scenic Area, ODF, Westside Fire & HR County tie together ATRAX mountain bike trails with fire breaks & map this to provide	Public Works in Cascade Locks is not going to be able to burn piles anymore because they don't have the necessary staffing. That will decrease City capacity to support HIZ work and they may need a new funding source to support resident chipping program. SWCD runs mobile wood chipping program for private landowners.

Table 4-4 Northwest Hood River County Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
			c. Use the mountain bike trail system & volunteers to break up fuel continuity d. Thinning/fuels reduction on all jurisdictions along ridgeline (Mitchell Point, Post Canyon, Kingsley, York Hill, Riordan, Binns Hill, Dead Point, Green Point) e. Maintain water sources for firefighting needs (ODF has a list/DB) f. Establish water source developments for fire suppression use	advance planning for fire response. g. Identify treatments on State Parks property. h. Explore trail side treatment along new bike path along I-84	

Source: Hood River All-Lands Partnership, 2024.

South Hood River County

Area Description

Dee south through the Mt. Hood National Forest, State Highway 281/35 west to the County line, LoLo Pass, Parkdale RFPD, and Wy'East RFPD.

Table 4-5 South Hood River County Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
Ignitions within WUI Ignitions from visitors at Lost Lake/Lava lake. Fire transmission off USFS land (steep terrain, limited access).	Private homes (Cooper Spur community, Lawrence Lake Rd, Lost Lake Rd) Transmission lines. Recreation: mountain bike trail system, Cooper Spur ski area, Lost Lake, Mt. Hood Meadows/Teacup Middle Fork & Farmer's Irrigation District facilities. Crystal Springs watershed.	Narrow ingress/egress along Lost Lake Rd. & Cooper Spur Rd., important evacuation area. High recreation use (evacuation need & economic value)	a. Install & maintain 100' shaded fuel break along Lost Lake Rd. & Hwy 281 (brushing & limbing); USFS 1710 & BPA line. c. Repair 13 Rd. bridge (Lake Branch Rd.) to provide alternative egress option. c. Egress-based roadside brushing on Rds 35-11, 35-12 & Waucoma - Laurence Lake Rd. tying into lava beds (USFS NEPA would cover landscape-scale & include fuel breaks); d. Shaded roadside fuel breaks (Red Hill Rd, Tony Creek Rd, Wahtum Lake Rd/Trail, Blowdown Rd, Camp Creek Rd, LoLo Pass Rd, NF 18 Rd). e. Establish water source developments for fire suppression use *Note: Projects along Cloud Cap Rd are not realistic to implement.	**None.**	Pollalie-Cooper project: Keep timber sale (sold 2019, awaiting cut), NFF hand thinning. SWCD runs mobile wood chipping program for private landowners.

Source: Hood River All-Lands Partnership, 2024.

Middle Mountain

Area Description

Land protected by Hood River County local fire districts and the Oregon Department of Forestry.

Table 4-6 Middle Mountain Risk Profile

Hazard	Values at Risk	Vulnerability	Opportunities	Information Gaps	Current Projects
Ignitions within WUI.	Mountaintop camera, radio, SNOTEL, RAWS and ODOT infrastructure WUI areas and fruit orchards between Central Vale Rd, south to Baldwin Creek Rd (along Hwy 35) City of Odell Mt Hood Railroad line between Hood River & Parkdale	Difficult evacuation & firefighting environment Heavily recreated area on County lands	a. HIZ & fuels reduction for private landowners. b. Hood River Electrical Coop reduce power line ignitions (underground). c. Shaded roadside fuel break (Gillhouley Rd, County-owned road to mountaintop infrastructure sites, other County mainline roads) through brushing, pruning, mastication, thinning. d. Thinning/Mastication along Hood River County property lines adjacent to private lands. e. Establish water source developments for fire suppression use.	County forest lands – is there an opportunity for brush removal instead of lop & scatter?	SWCD runs mobile wood chipping program for private landowners.

Source: Hood River All-Lands Partnership, 2024.

Mitigation Activities

There are many mitigation activities that can apply to all residents and all fuel types. General mitigation activities that apply to the entirety of Hood River County are discussed below while area-specific mitigation activities are discussed in Chapter 8: Mitigation Recommendations.

Prevention

The safest, easiest, and most economical way to mitigate unwanted fires is to stop them before they start. Generally, prevention actions attempt to prevent human-caused fires. Campaigns designed to reduce the number and sources of ignitions can be quite effective and can take many forms. Traditional "Smokey Bear" type campaigns that spread the message passively through signage can be effective. Interpretive signs that remind folks of the dangers of careless use of fireworks, burning when windy, and leaving unattended campfires can also be effective.

Active prevention techniques can involve mass media, radio, and the local newspapers. The USFS and ODF are champions of prevention. When fire conditions are high, brief public service messages could warn of the hazards of potential ignition sources. The Keep Oregon Green Association has been educating the American public on how to prevent wildfires since the 1940s.

Several fire agencies operating on both the Oregon and Washington state sides of the Columbia River are also members of the Mid-Columbia Fire Prevention Cooperative, which delivers fire prevention and education programs, projects and presentations in the Columbia River Gorge.

Limiting Use

Areas within the ODF Protection District boundary are subject to public use restrictions, referred to as "Regulated Use", during fire season, which limits/manages activities known to cause fires.

Defensible Space

Effective mitigation strategies begin with public awareness campaigns designed to educate homeowners of the risks associated with living in a flammable environment. Residents of Hood River County must be made aware that home defensibility starts with the homeowner. Once a fire has started and is moving toward a structure, the probability of that structure surviving is largely dependent on the structural and landscaping characteristics of the building. The U.S. Forest Service's "Living with Fire: A Guide for the Homeowner"[16] is an excellent tool for educating homeowners on the steps to take to create an effective defensible space. Residents of Hood River County should be encouraged to work with local fire and forestry agencies within the county to complete individual home site evaluations. Home defensibility steps should be enacted based on the results of these evaluations. OSFM's Defensible Space Program includes free property assessments and resources.

[16] University of Nevada, Reno (1999, May). *Living with Wildfire: A Guide for the Homeowner.* Pacific Northwest Wildfire Coordinating Group. Retrieved November 8, 2024, from https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_020876.pdf.

Evacuation

Development of community evacuation plans is necessary and critical to assure an orderly evacuation in the event of a threatening wildland fire. Designation and posting of escape routes would reduce chaos and escape times for fleeing residents. Community safety zones should also be established in the event safe evacuation is impossible and sheltering in place becomes the better option. Efforts should be made to educate homeowners through existing homeowners associations or citizen participation organizations.

Access

Another item of vital importance is the accessibility of homes to emergency apparatus. The fate of a home will often be determined by the homeowner's actions prior to the event. A few simple guidelines such as widening or pruning along driveways and creating a turnaround area for large vehicles, can greatly enhance home survivability.

Facility Maintenance

Recreational facilities near communities or in the surrounding forests such as parks or natural areas should be kept clean and maintained. In order to mitigate the risk of an escaped campfire, escape-resistant fire rings and barbeque pits should be installed and maintained. In some cases, restricting campfires during dry periods may be necessary. Surface fuel accumulations in nearby forests can also be kept to a minimum by periodically conducting pre-commercial thinning, pruning and de-limbing, and prescribed fire.

Fire District Response

Once a fire has started, how much and how large it burns is often dependent on the availability of suppression resources. In most cases, rural fire protection districts are the first to respond and have the best opportunity to halt the spread of wildland fire. For many districts, the ability to reach these suppression objectives is largely dependent on the availability of functional resources and trained individuals. Increasing the capacity of fire agencies through funding and equipment acquisition can improve response times and subsequently reduce the potential for resource loss.

Development Standards

County policies can be revised to provide for more fire conscious techniques such as using fire resistant construction materials; improved road, driveway, and bridge standards; the establishment of permanent water resources; and countywide adoption of a WUI building code.

Fuels Reduction

Fuels reduction describes the removal of vegetation from land to reduce wildfire intensity. This takes several forms, ranging from direct manual and mechanical thinning to carefully coordinated prescribed burns.

Manual and Mechanical Thinning

Thinning decreases the quantity of fuel on or near a wildland-urban interface (WUI) because the more surface fuels (brush, branches, etc.) and ladder fuels (fuel allowing fire to climb trees) that accumulate, the hotter and faster a wildfire burns. It can be done by hand, using chainsaws and Pulaski's to cut vegetation, or mechanically, using heavier equipment to break up larger fuels like trees to decompose.[17]

Prescribed Fire

This technique involves the careful use of low intensity burns to remove surface and ladder fuels close to the ground. These controlled fires, primarily carried out by professionals, support old-growth, more fire-resistant trees while mimicking the natural ecosystem cycle of small burns. Thinning is usually conducted prior to a prescribed fire to reduce the risk of the fire burning uncontrollably through a WUI.[18]

Other Techniques

Two popular alternatives are chemical treatment and grazing. With chemical treatment, herbicides are used to eliminate invasive species and other potential fuels, with dead plants later removed by hand. With grazing, cattle are used to reduce grass quantities, while goats and sheep remove woody plants.[19]

Indigenous Fire Practices

For millennia, North American Indigenous peoples used fire to manage land for farming, hunting, and travel while reducing the risk of severe wildfires. After a century of fire suppression from the federal government, Indigenous burning has returned in the past several decades and influences how prescribed fires are used today.[20]

Overview of Fire Protection System

Oregon has a Fire Service Mobilization Plan developed by the Oregon State Fire Marshal and approved by the State Fire Defense Board as mandated by the Emergency Conflagration Act (ORS 476.510 to 476.610). The Plan provides an organized structure and operating guidelines for rapid deployment of Oregon's fire service forces under a common command structure. The Plan also establishes operating procedures for emergencies beyond the capabilities of the local fire service resources. The following section describes the Plan in more detail.

[17] CAL FIRE (2021). *Fuels Reduction Guide.* https://osfm.fire.ca.gov/media/umkhhdbs/fuels-reduction-guide-final-2021-print.pdf.
[18] Ibid.
[19] Bennett, Max et al. (2017, December). *Keeping Your Home and Property Safe from Wildfire: A Defensible Space and Fuel Reduction Guide for Homeowners and Landowners.* Oregon State University Extension Service. www.catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em9184.pdf
[20] National Parks Service. (2022, February). *Indigenous Fire Practices Shape our Land.* https://www.nps.gov/subjects/fire/indigenous-fire-practices-shape-our-land.htm.

Mutual aid agreements are made with nearby districts and the Oregon Department of Forestry (ODF) to supplement resources of a fire agency or district during a time of critical need. Mutual aid is given only when equipment and resources are available.

Oregon also has a common communication channel for fire services' use during multiple-agency responder incidents. This system is called Fire NET. It utilizes a system of mountain-top microwave base stations/repeaters and a master control console to form a radio and telephone access communication network throughout the state. Mobile repeaters are deployed by ODF and OSFM incident management teams when needed.

Fire agency personnel are often first responders during emergencies. In addition to structural fire protection, they are called on during wildland fires, floods, landslides, and other events.

Statewide Fire Resource Mobilization

OSFM assists and supports the Oregon fire services during major emergency operations through the Emergency Conflagration Act (ORS 476.610). The Conflagration Act was developed in 1940 as a civil defense measure and can be invoked only by the Governor. Under the Act, local firefighting forces will be mobilized when the State Fire Marshal believes that a fire is causing, or may cause, undue jeopardy to life and/or property and the Act is invoked by the Governor. State funding for the use of the resources is provided when the Act is invoked.

The Emergency Conflagration Act requires the Oregon State Fire Marshal to prepare a plan for the most practical utilization of the state's firefighting resources in time of grave fire emergency. The resulting plan, called the Oregon Fire Service Mobilization Plan provides the organizational structure and operating guidelines for mobilization and direction of fire service forces, promotes effective communication among the fire service agencies, coordinates the efforts of the participating agencies through use of a common command structure and common terminology, and ensures prompt, accurate, and equitable apportionment of fiscal responsibility for fire suppression or other emergency response activity.

The Fire Service Mobilization Plan may be used separately from the Conflagration Act to mobilize local structural fire agencies for any emergency exceeding local mutual aid resources. However, reimbursement for responding resources is assured only when the Governor invokes the Conflagration Act, such as during the 2020 wildfire season.

Chapter 5: Structural Ignitability

Structural Ignitability refers to both a home and the surroundings in immediate proximity to the home known as the Home Ignition Zone. Three factors influence structural ignitability:

- The structure: where the structure is built on the terrain (setback from slopes), building materials, roofing material, and roofing assembly.
- Defensible space: whether the area from the edge of the home up to 100 feet away has well-maintained trees and potential fuels such as dead vegetation removed.
- Fire access: whether fire personnel have appropriate access from the road or driveway to reach and protect the home.

This chapter of the CWPP considers the levels of responsibility and planning that are included in structural ignitability – namely, the players involved in helping to reduce the ignitability of homes in the Wildland-Urban Interface (WUI).

Individual Responsibility

When it comes to reducing the ignitability of a home, the homeowner comes first. Considering that older homes built in the WUI are not subject to many of the newer regulations that have been imposed on structures near forests, the homeowner must be responsible for home improvement. Many of these homes have cedar siding or roofing, do not have sufficient water supply systems, and have narrow or steep driveways that inhibit firefighter access. While improvements to these homes may require additional fire prevention measures, many are currently difficult to protect in the event of a fire. Due to the difficulty of assessing each individual home and providing suggestions, it is up to individual fire districts to know the areas where older home construction may reduce the ability to defend the home.

In the construction of newer homes, homeowners have the unique responsibility of demanding that the most fire-resistant materials are used, including roofing, decking, siding, and ensuring that all vents are closed with mesh no bigger than ¼ inch.

Fire Response

Reducing structural ignitability in the WUI is also the responsibility of local fire agencies. In Hood River County, it is up to the five fire districts and departments to ensure that homes in the WUI can be safely defended. This includes inspecting driveways for safe access, egress, and turn around; working with homeowners to be sure that driveways, spur roads, and addresses are clearly marked; having a working knowledge of the location of fire hydrants and other water sources available to protect homes. Fire response personnel should maintain adequate training in apparatus use, water hauling, and home protection.

Regulatory Framework

The most important aspect of reducing structural ignitability is creating a countywide regulatory framework for houses in the WUI. This includes both zoning regulations as well as building codes. Zoning regulations in Hood River County vary greatly depending on the zone established. For homes that are adjacent to forested lands, houses are required to have an 80-foot setback from the property line. No requirements are legislated for Firewise landscaping or water access.

Hood River County has adopted the Oregon State Building Code. These codes are the minimum requirements for homes being built within Hood River County. The City of Hood River has added to these building codes by adopting the International WUI Code of the International Code Council. These codes apply to homes being built within the WUI and specify what measures should be taken based on potential wildfire risk. Current county codes define home construction based on reducing structural fires and not the risk of ignition from outside the home.[21]

In 2021, Oregon Senate Bill 762 directed the Oregon Department of Consumer and Business Services and the Oregon State Fire Marshal's office to update building codes and defensible space requirements for structures in the WUI in high wildfire risk areas. Updated building, land use, and defensible space codes were completed in 2022 and went into effect in 2023.

Sustaining Efforts

Planning for the future of wildfires in Hood River County is a key element to the CWPP. Since the original CWPP was written in 2006, and the first update completed in 2013, the County has experienced drastic changes in demographics, forest structure, and available fire suppression resources. Demographic changes have increased the use of forested land for tourism. This includes hiking, camping, mountain biking, equestrian users, and dirt biking. The forest structure has additionally changed: large stand replacing fires such as the Dollar Lake Fire have had an impact on forest structure, as has logging, and the outbreak of the California *fivespined ips,* which has infested a significant share of Ponderosa Pine trees in the County. Further changes have been seen in infrastructure. More businesses have opened throughout the County, increasing the pressure on both transportation infrastructure and development in the WUI.

Sustaining efforts can be organized at many different scales. Citizens can actively plan with their families, friends and neighborhoods. While these efforts are largely grassroots, fire districts and departments can support them and encourage the establishment of Firewise communities. On a larger scale, each fire district is in a constant cycle of training, planning, and preparing for the event of a wildfire. Volunteer firefighters spend hours each month maintaining equipment, identifying hazards, and practicing fire suppression techniques. Due to the multi-scalar nature of fire planning and prevention, it is difficult to identify sustaining efforts on all scales. One key item is improving communication between fire agencies at the local, state, and federal levels.

[21] International Code Council. (2021). *What is the International Wildland-Urban Interface Code?* https://www.iccsafe.org/products-and-services/wildland-urban-interface-code/.

Creating Defensible Space

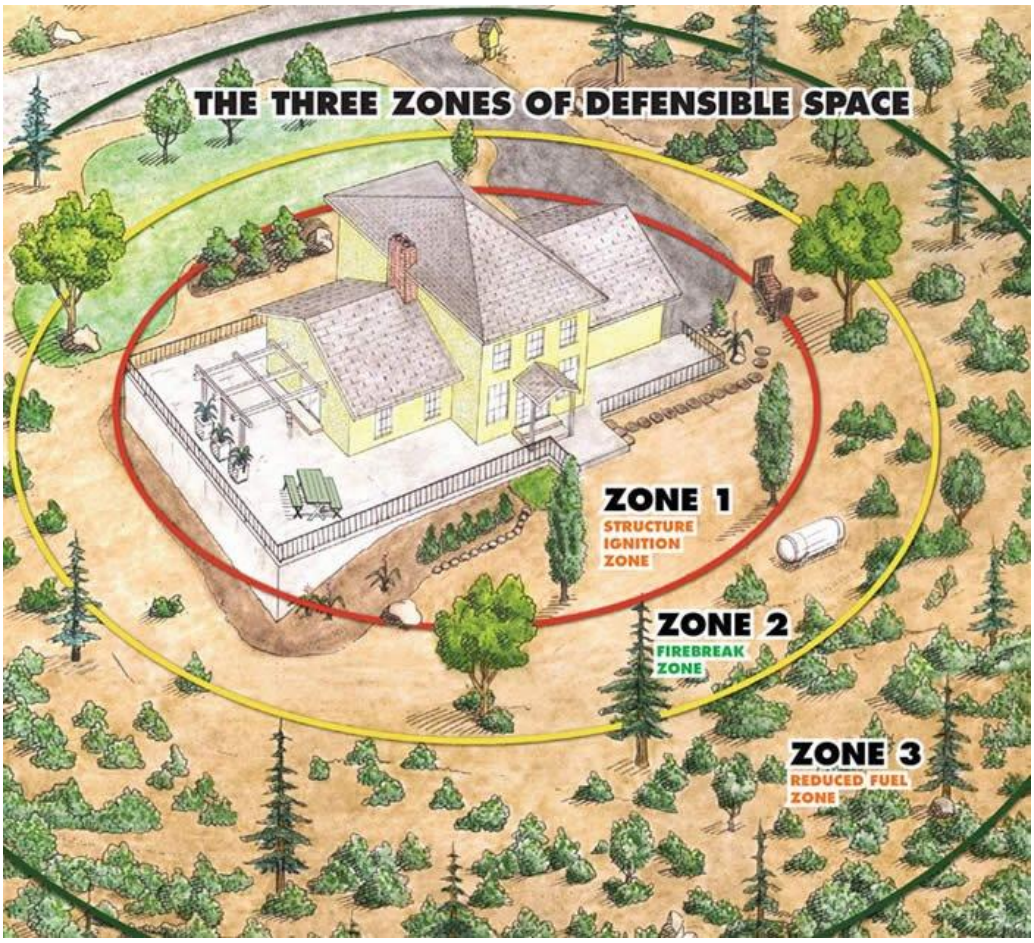
Defensible space is the area immediately surrounding the home or accessory structure that has been altered to reduce the impact of fire hazard. This does not require creating an area of "scorched earth" around the home; instead, homeowners reduce natural and manmade fuels around the home through limbing, thinning, and other treatments to reduce the spread of fire.

Defensible space around the home not only reduces the risk of a wildland fire reaching a structure but also allows firefighters to do their job safely while being more likely to protect a home. Using a process called "structural triage", firefighters determine if a home is safe to protect in the event of a fire – and defensible space is key to determining a home's defensibility.

The three zones that need to be addressed when creating defensible space are (see Figure 5-1 Defensible Space Management Zones):

- Zone 1: the up to 30 feet away from the home requiring the most fuels reduction.
- Zone 2: the transitional area of fuels reduction 30-100 feet away from the home.
- Zone 3: the area more than 100 feet away from the home (to property boundaries).

Figure 5-1 Defensible Space Management Zones



Source: Mt. Hood Corridor Wildfire Partnership (n.d.). *Defensible Space*. Retrived October 9, 2024, from https://www.mthoodwildfirepartnership.org/defensible-space.

Zone 1

This zone is the most important of the three defensible space zones and extends from 0-30 feet around the perimeter of the home. In this zone, most flammable vegetation should be removed, but this doesn't mean that the area should be barren: there are many fire-resistant plants that grow in the Pacific Northwest that are appropriate for this zone.

Homeowners can reduce the risk of ignition by removing the buildup of leaves and other vegetation in their gutters every spring, which also can reduce wear and tear on the home. Additionally, while branches that hang over the roof or a deck may provide some degree of shade in the summer, these overhanging branches can act as wicks, extending the extent from which the home can catch fire, and should be removed. Removing these branches has the added benefit of limiting the amount of debris that falls on the roof in the fall and winter.

Plants in Zone 1 should be pruned and maintained to prevent excessive growth. Both live and dead branches should be trimmed up the trunks of trees to a height of 10 feet. These "ladder fuels" can quickly take a ground fire to the canopy of the trees, where the fire poses a much graver threat to the home. Grasses and other ground vegetation should be irrigated and mowed during the growing season to a height of no more than six (6) inches.[22]

Firewood and other flammable materials such as propane should be stored at least 30 feet away and uphill from the house. Anything that touches the home can act as a point for ignition.

Zone 2

This is the transitional area of fuels reduction and covers the area between 30-100 feet from the edges of the home (including eaves or decks). All diseased, dying, and dead trees should be removed to reduce the amount of vegetation available to fuel a fire. Shrubs should have their continuity broken up. Clumps of shrubs should be at least 2.5 times the mature height apart as measured from the edge of the shrubs' crowns, with clumps no more than two times the mature height of a shrub tall (i.e., for shrubs that grow six [6] feet tall, space clumps 15 feet apart). Each clump should not exceed 12 feet in diameter.[23]

Driveways should be treated like Zone 2, with all trees along the driveway thinned out at least 30 feet from the center point of the driveway to ensure 10-foot spacing between tree crowns.

Zone 3

Zone 3 includes any portion of the property extending beyond 100 feet from the edge of the home (usually considered as 100-200 feet) and should transition gradually from Zone 2. Homeowners with a significant amount of land in Zone 3 and who border private or public forest land should consult local and state forestry experts to properly manage this zone.

---

[22] Colorado State Forest Service (2021, April). *The Home Ignition Zone: A guide to preparing your home for wildfire and creating defensible space.* https://csfs.colostate.edu/wp-content/uploads/2021/04/2021_CSFS_HIZGuide_Web.pdf.

[23] Ibid.

Chapter 6: Implementation Strategy

This chapter outlines how to implement the actions outlined throughout the CWPP. The implementation strategy tracks progress and ensures regular updates to the CWPP. For more information on specific actions, including both fuels reduction projects and other strategies, see Chapter 8: Mitigation Recommendations.

Implementation Strategy

The ultimate success of implementing the CWPP depends on ongoing collaboration by all stakeholders, particularly those identified in this CWPP and community partners. Hood River County Emergency Management, or a designee, should act as the coordinator of the CWPP and work to ensure that action items are completed.

Tracking and Monitoring

Tracking and monitoring of action items ensures that implementation occurs and allows strategies to adapt to the rapidly changing fire landscape. The CWPP Steering Committee should meet on a semi-annual basis (alongside semi-annual meetings of the NHMP Steering Committee) to report on completed or ongoing projects and projects not yet started. This information can then be shared with decision-makers as a metric for measuring progress and leveraged for future funding opportunities.

Metrics for reporting on progress should be decided on by the Steering Committee and should be quantifiable. They may include but are not limited to:

1. Vegetation structure information that can support fuel modeling and long-term habitat and watershed monitoring.
    a. Measurable habitat improvement based on vegetation structure change.
    b. Measurable change in fire behavior potential based on fuel structure change.
    c. Measurable change in fire suppression success based on fuel structure change.
2. Cost-effectiveness information for future budget forecasting and planning.
3. Data on overall fuel treatment effectiveness.
4. Data on the number of community members engaged in educational opportunities and/or the Firewise program.

For example, fuel treatment projects could be measured in acres treated that achieve flame lengths not to exceed four feet on an 80th percentile day with no crowning. Recording progress is particularly important to increase competitiveness for funding opportunities.

Wildfire Mitigation Coordinator

For the CWPP to be most effective, it should be managed by a 1.0 Full-Time Equivalent (FTE) employee. Currently, the CWPP update process is managed by Hood River County Emergency Management. Fire agencies in the County are responsible for engagement, education, and implementing the CWPP. Under the 2003 Healthy Forest Restoration Act (HFRA), a key component to qualify for funding is collaboration between local government, fire agencies, State agencies, interested parties, and federal land management agencies. The Wildfire Mitigation Coordinator should manage the approach for implementing the CWPP countywide, apply for funding opportunities, and develop consistent communication lines between all stakeholders.

Community Engagement

Central to implementing the CWPP is community engagement. Studies show that "one-size-fits-all" approaches to wildfire management that do not consider localized perspectives, histories, and community functionality may stifle local adaptation efforts.[24]

Every community in Hood River County has its own character, and therefore needs, making a one size-fits-all approach to risk mitigation relatively ineffective. Engaging each community within the County is the most effective path to designing action plans for mitigating risk to life and property from wildfires. While this approach demands additional resources, it creates the social capital needed to effectively reduce risk.

Communities of color, non-English speaking, and low-income communities are at an elevated risk to the impacts of wildfire compared to white, affluent communities.[25] Prioritizing their voice through a community engagement process will help to implement mitigation projects that achieve risk reduction for vulnerable communities.

---

[24] Edgeley, C. M., Paveglio, T. B., & Williams, D. R. (2020). Support for regulatory and voluntary approaches to wildfire adaptation among unincorporated wildland-urban interface communities. *Land Use Policy, 91.* https://doi.org/10.1016/j.landusepol.2019.104394.

Palsa, E., Bauer, M., Evers, C., Hamilton, M., & Nielsen-Pincus, M. (2022). Engagement in local and collaborative wildfire risk mitigation planning across the western U.S.—Evaluating participation and diversity in Community Wildfire Protection Plans. *PLOS ONE, 17*(2), e0263757. https://doi.org/10.1371/journal.pone.0263757.

Paveglio, T. B., Carroll, M. S., Stasiewicz, A. M., Williams, D. R., & Becker, D. R. (2018). Incorporating Social Diversity into Wildfire Management: Proposing "Pathways" for Fire Adaptation. *Forest Science*, *64*(5), 515–532. https://doi.org/10.1093/forsci/fxy005

Paveglio, T. B., Stasiewitcz, A. M., & Edgeley, C. M. (2021). Understanding support for regulatory approaches to wildfire management and performance of property mitigations on private lands—ScienceDirect. *Land Use Policy*, *100*(104893). https://doi.org/10.1016/j.landusepol.2020.104893.

[25] Davies, I. P., Haugo, R. D., Robertson, J. C., & Levin, P. S. (2018). The unequal vulnerability of communities of color to wildfire. *PLOS ONE, 13*(11), e0205825. https://doi.org/10.1371/journal.pone.0205825.

Gabbe, C. J., Pierce, G., & Oxlaj, E. (2020). Subsidized Households and Wildfire Hazards in California. *Environmental Management*, *66*(5), 873–883. https://doi.org/10.1007/s00267-020-01340-2.

Masri, S., Scaduto, E., Jin, Y., & Wu, J. (2021). Disproportionate Impacts of Wildfires among Elderly and Low-Income Communities in California from 2000–2020. *International Journal of Environmental Research and Public Health*, *18*(8), 3921. https://doi.org/10.3390/ijerph18083921.

Strategic Prioritization of CWPP Projects

Wildfire risk mitigation projects are located throughout Hood River County in both urban and rural settings. Historically, project prioritization has been based on high burn probability and the location of community lifelines. All strategic prioritizations should also be informed by a robust community engagement process. Implementing projects that the community has expressed concern over will help to build agency support within the community, and therefore increase its adaptive capacity.

Timeline for CWPP Updates

The CWPP is a living document that should be reviewed annually and formally updated every five years. This effort should be coordinated by the Wildfire Mitigation Coordinator. As the fire landscape changes, prioritization of projects should change to meet the needs of the community; this may occur on the five-year planning horizon alongside the NHMP or may change depending on drought intensity, weather, and/or fire occurrence. Additionally, new funding opportunities may call for adjustments to be made within the plan to meet the requirements of the funding opportunity. When such an effort is underway, the Wildfire Mitigation Coordinator may solicit guidance from the steering committee and community.

Communities in the Wildland Urban Interface

The number of homes in the wildland urban interface (WUI) grew by 41% in the United States between 1990 and 2010.[26] The OPDR team recommends that defensible space be required for all new developments in the WUI with risk ratings of moderate, high, and very high. This requirement should be included in the zoning code in all zones that permit or conditionally permit a residence. By requiring developers to create defensible space, Hood River County will protect first responders, life, and property.

Economies of Scale Application

Conducting landscape-scale application of fire planning allows for an economy-of-scale effort. Creation of a localized "strike-team" approach will maximize cost-benefit ratios and create local jobs. This approach will rely heavily on the Wildfire Mitigation Coordinator to assemble the team, implement the CWPP's strategically prioritized mitigation projects, and coordinate efforts across jurisdictional boundaries. Key to the strike team approach is to minimize cost by having specialists like an arborist focus only on hazard tree removal and the less expensive brush crew doing the clean-up. One example of a fuels mitigation strike team, their roles/responsibilities, and compensation types are shown in Table 6-1. This sample is just a model and is not intended to be the exact approach taken for projects in the County.

[26] Radeloff, V. C., Helmers, D. P., Kramer, H. A., Mockrin, M. H., Alexandre, P. M., Bar-Massada, A., Butsic, V., Hawbaker, T. J., Martinuzzi, S., Syphard, A. D., & Stewart, S. I. (2018). Rapid growth of the US wildland-urban interface raises wildfire risk. *Proceedings of the National Academy of Sciences*, *115*(13), 3314–3319. https://doi.org/10.1073/pnas.1718850115.

Table 6-1 Strike Team Roster, Roles and Responsibilities, and Compensation

Roster	Roles and Responsibilities	Compensation
Wildfire Mitigation Coordinator	Oversees team, schedules projects, identifies landowners, and coordinates across jurisdictions.	Market Rate
Forester	Coordinates team, manages projects, and ensures ecological connection	Market Rate/ Retainer
Brush Crew	Removes brush, haul/deck usable timber, and cleans up project	Market Rate
Arborist	Limbs trees, falls hazard trees, and cuts usable timber to length	Market Rate
Logging Company	Removes usable timber	Usable Timber
County Partners	Provides access and allows decking	N/A
State Partners	Provides access and allows decking	N/A
Federal Partners	Provides access and allows decking	N/A

Source: Analysis by OPDR.

Strategic Fuel Breaks

Fuel loads within Hood River County are severe and will unlikely be thinned enough to prevent future catastrophic loss of life and property to wildfire. Placing strategic fuel breaks between historically observed high-ignition occurrence locations may give fire responders a chance to protect homes. Placement of the fuel breaks should take into consideration 90th percentile days with an east wind.

Public Educational Campaigns

Comprehensive outreach and educational campaigns will help mitigate and prevent future wildfire ignitions in Hood River County. These campaigns should come from local, regional, and statewide partners and target both visitors to and residents of the County. Potential partners include the Columbia River Gorge National Scenic Area (both USFS and the Oregon Department of Transportation) and the Columbia Gorge Tourism Alliance. Billboards and message signs along Highway 84 and 35 to inform visitors of high wildfire danger may help prevent wildfire. During 90th percentile days, placing fire crews on these highly traveled routes with their lights flashing and temporary signs warning about the high risk of starting a wildfire may also reduce ignitions.

Chapter 7: Fire Agency Profiles

The firefighting resources and capabilities profiles provided in the remainder of this section contain a summary of information provided by the fire chiefs or representatives of the wildland firefighting agencies listed. Each organization confirmed the statistics and issues of concern regarding their agency via either an interview (virtually or in-person) or email correspondence. Each individual profile also includes four distinct maps (see Chapter 4: Risk and Preparedness Assessment for more information on Net Value Change maps):

1. Base Map with Community Lifelines[27]
2. Burn Probability
3. Integrated Conditional Net Value Change
4. Integrated Expected Net Value Change

A total of seven fire agencies operating in Hood River County are included in this section: the five local fire districts and departments (listed below) along with the Oregon Department of Forestry (ODF) and the U.S. Forest Service (USFS). The profiles for ODF and the USFS do not include maps.

- City of Cascade Locks Fire & EMS Department
- City of Hood River Fire & EMS Department
- Parkdale Rural Fire Protection District
- West Side Rural Fire Protection District
- Wy'East Rural Fire Protection District

Mapping Hood River

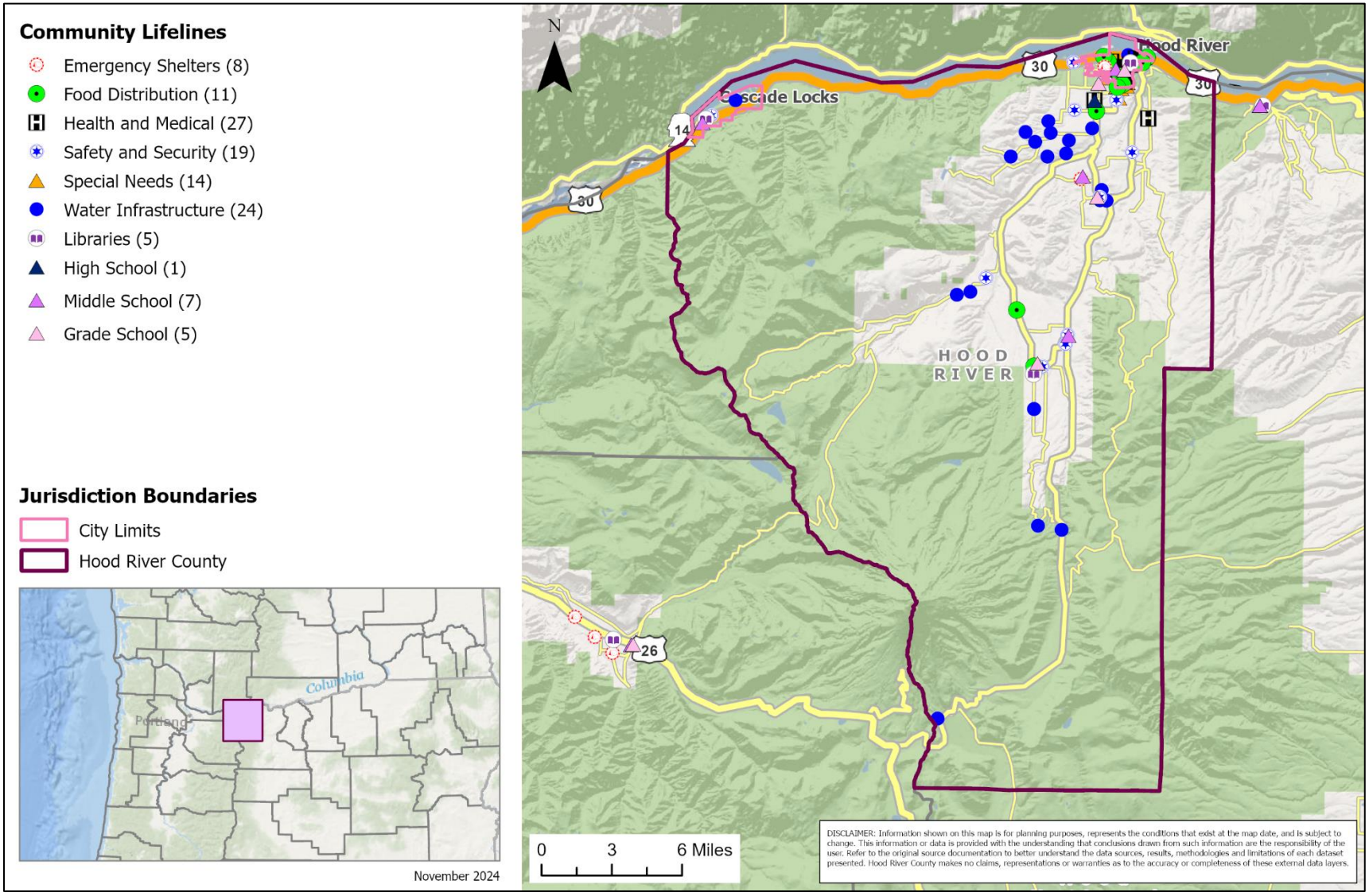
Three countywide maps are included at the beginning of this chapter to provide context regarding Hood River County's critical and essential facilities and infrastructure (known as community lifelines),[28] large wildfire history, burn probability, and ecoregions:

- Map 7-1 Hood River County Base Map and Community Lifelines
- Map 7-2 Hood River County Large Wildfire History
- Map 7-3 Hood River County Burn Probability
- Map 7-4 Hood River County Ecoregions

Additional maps regarding wildfire hazard, land cover, and WUI boundaries can be found in Chapter 4: Risk and Preparedness Assessment and Appendix C: Supplemental Maps.

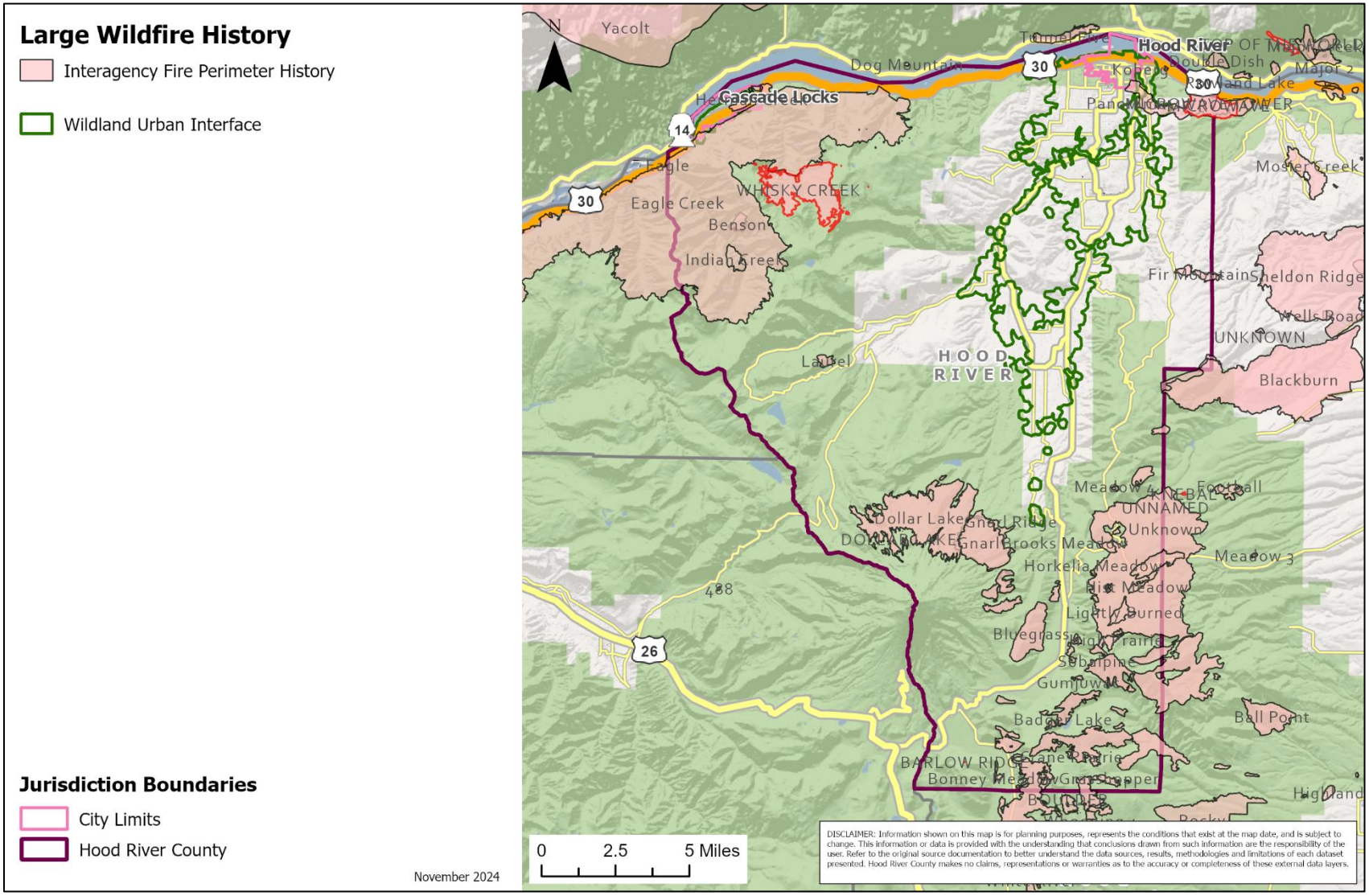
[27] A community lifeline "enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security". For more information on FEMA's Community Lifelines, see https://www.fema.gov/emergency-managers/practitioners/lifelines.
[28] Ibid.

Map 7-1 Hood River County Base Map and Community Lifelines



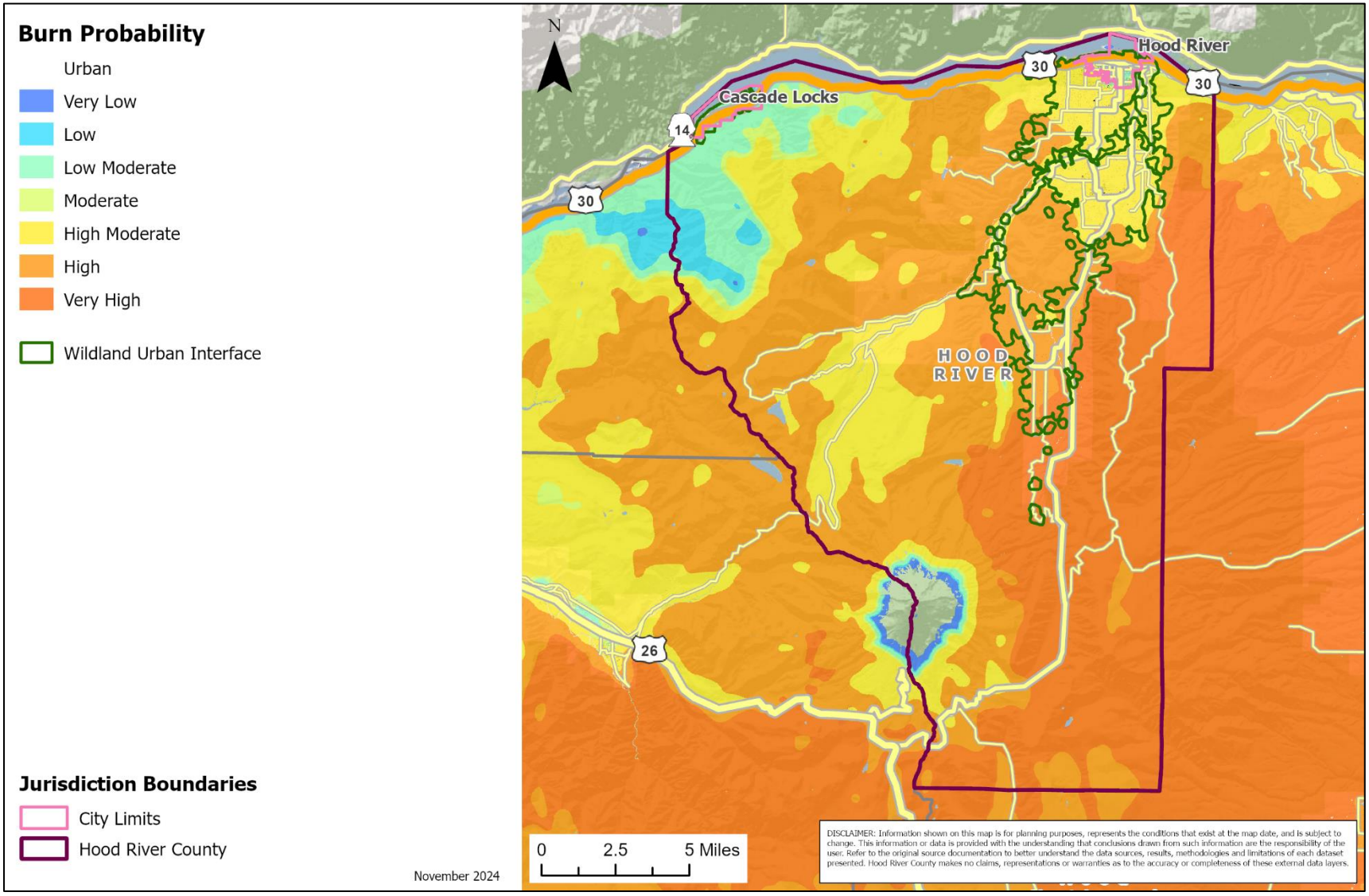
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-2 Hood River County Large Wildfire History



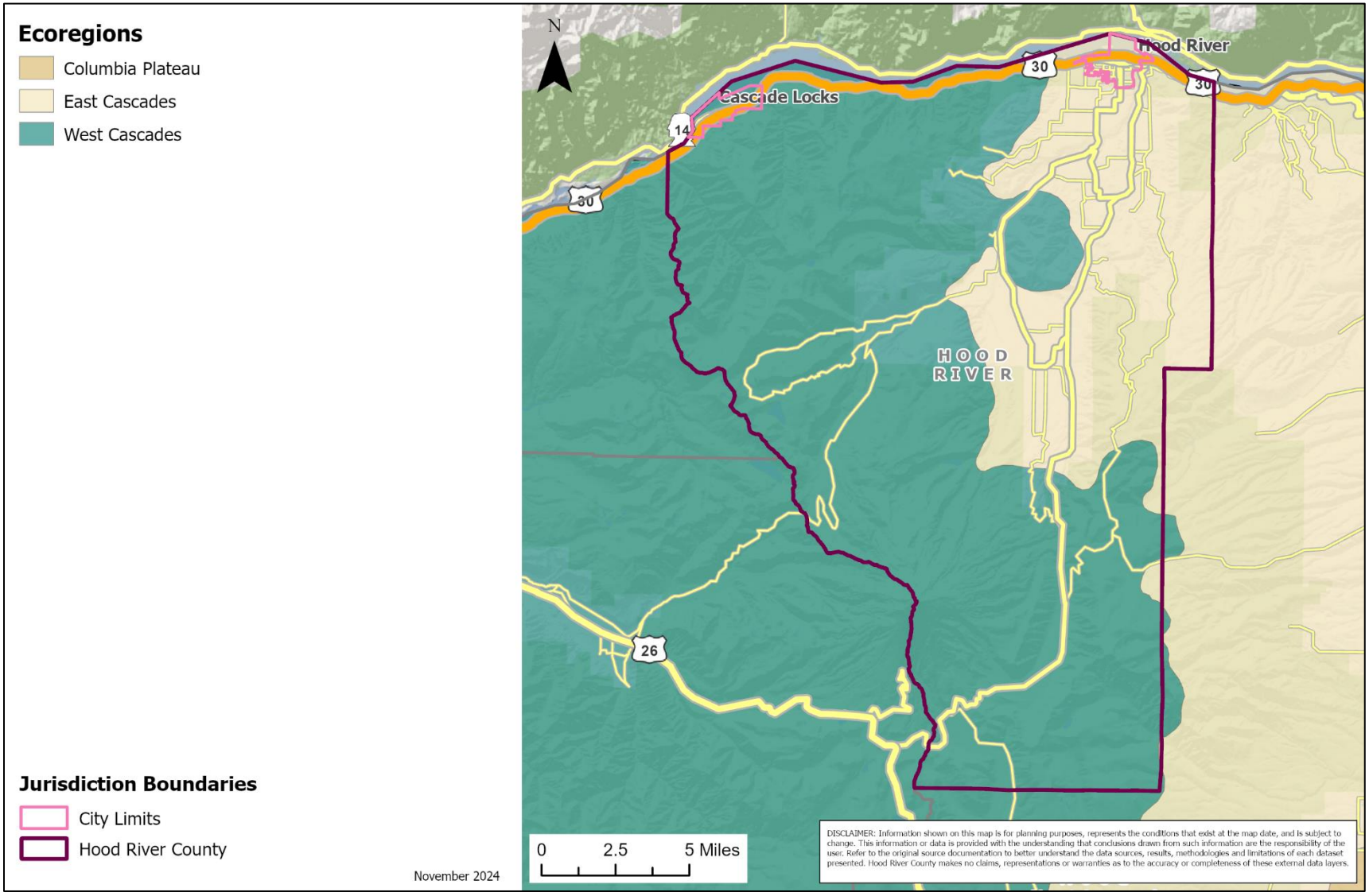
Source: Mapping by OPDR.
Data from Wildland Fire Management Research (2024, October 7). *Interagency Wildland Fire Perimeter History.* Retrieved November 8, 2024, from https://www.arcgis.com/home/item.html?id=e02b85c0ea784ce7bd8add7ae3d293d0.

Map 7-3 Hood River County Burn Probability



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-4 Hood River County Ecoregions



Source: Mapping by OPDR.
Data from Oregon Department of Geology and Mineral Industries HazVu website.

Fire Agency Profiles

City of Cascade Locks Fire & EMS Department

URL: https://cascadelocksfire.com/

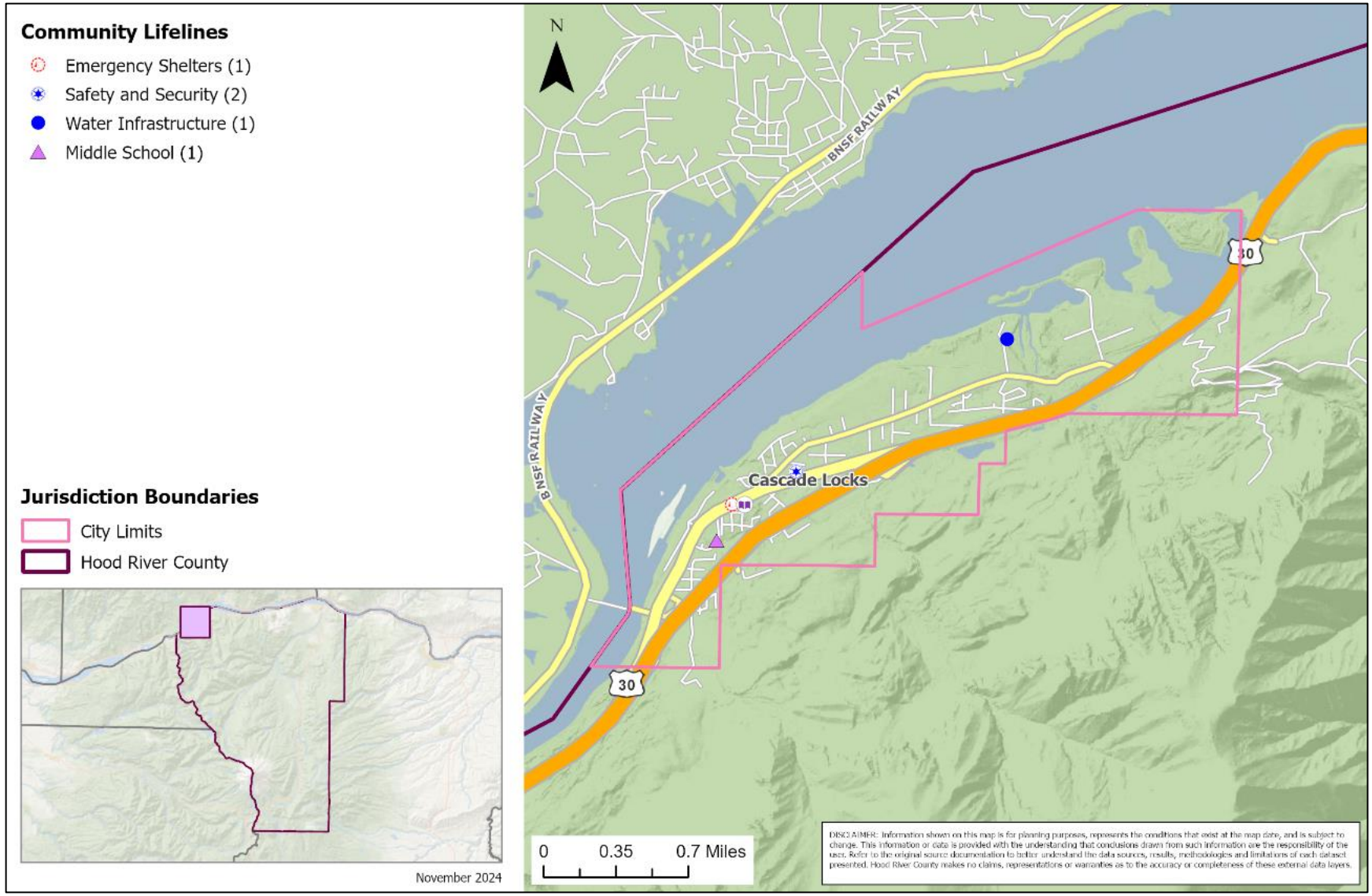
District Summary: The City of Cascade Locks Fire & EMS Department was established in 1945 and covers the entire City of Cascade Locks (3 square miles) along with a 60 square mile ambulance service area in western Hood River and eastern Multnomah counties. The Cascade Locks Fire & EMS Department has four (4) full-time employees and an additional 16 regular volunteer staff. The Department currently operates on a budget of about $1.2 million, which includes grants from state and federal agencies such as the Oregon State Fire Marshal's office and the USFS.

The Cascade Locks Fire & EMS Department operates out of one (1) fire station in the City of Cascade Locks (25 Wa Na Pa Street). Each year, the Department responds to roughly 450 service calls for their city population of approximately 1,400.

Issues of Concern: The Cascade Locks Fire & EMS Department is concerned about limited ingress/egress throughout the City as well as the need to maintain defensible space around critical communications, power, water, and other infrastructure. The Department is also interested in creating a firebreak above the City to the southeast in part to protect against the burning experienced during the 2017 Eagle Creek Fire (which forced a citywide evacuation).

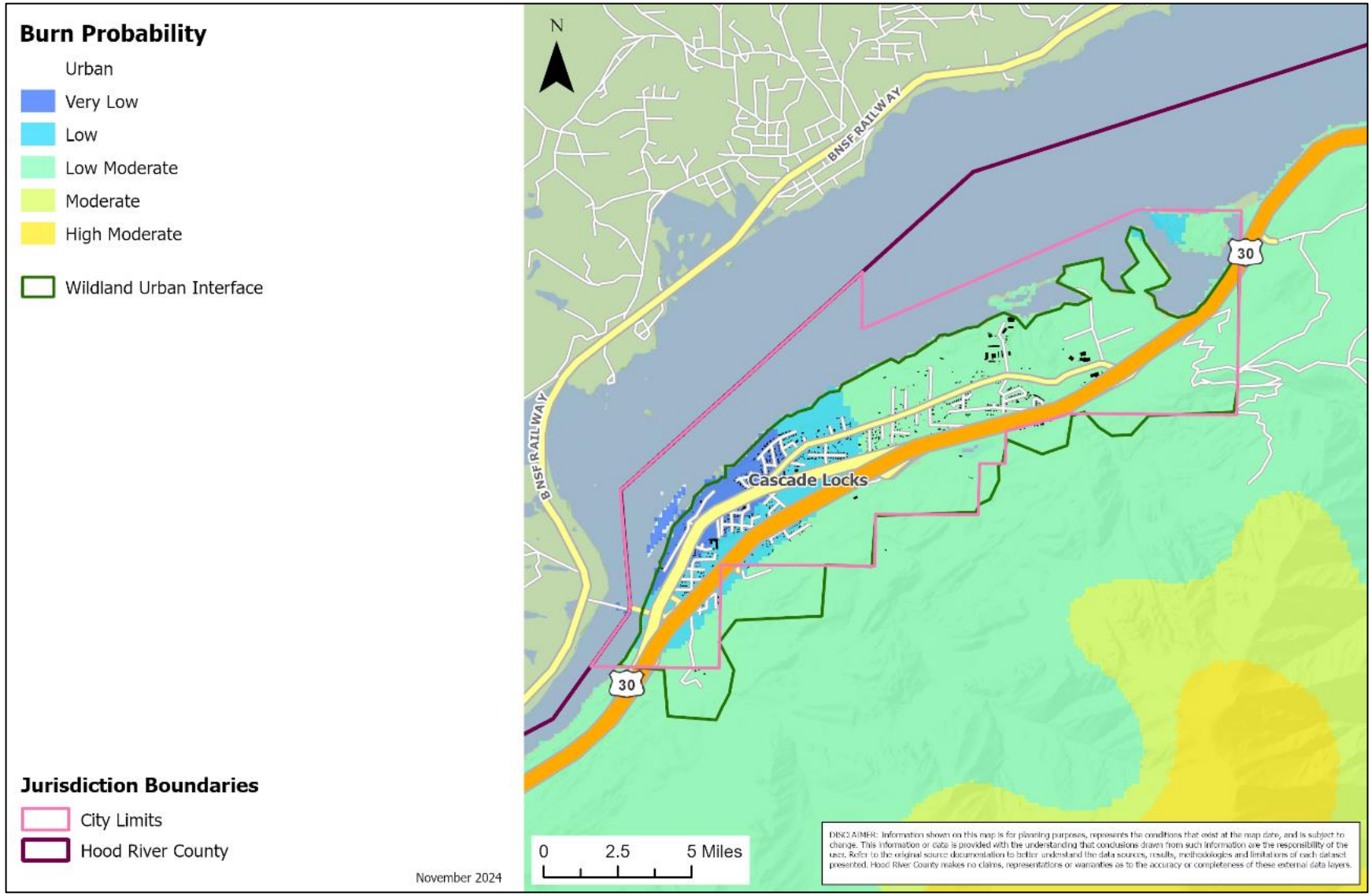
The Cascade Locks Fire & EMS Department does not have any significant recent or planned capital investments related to wildfire mitigation in the immediate future.

Map 7-5 City of Cascade Locks Fire & EMS Department – Community Lifelines



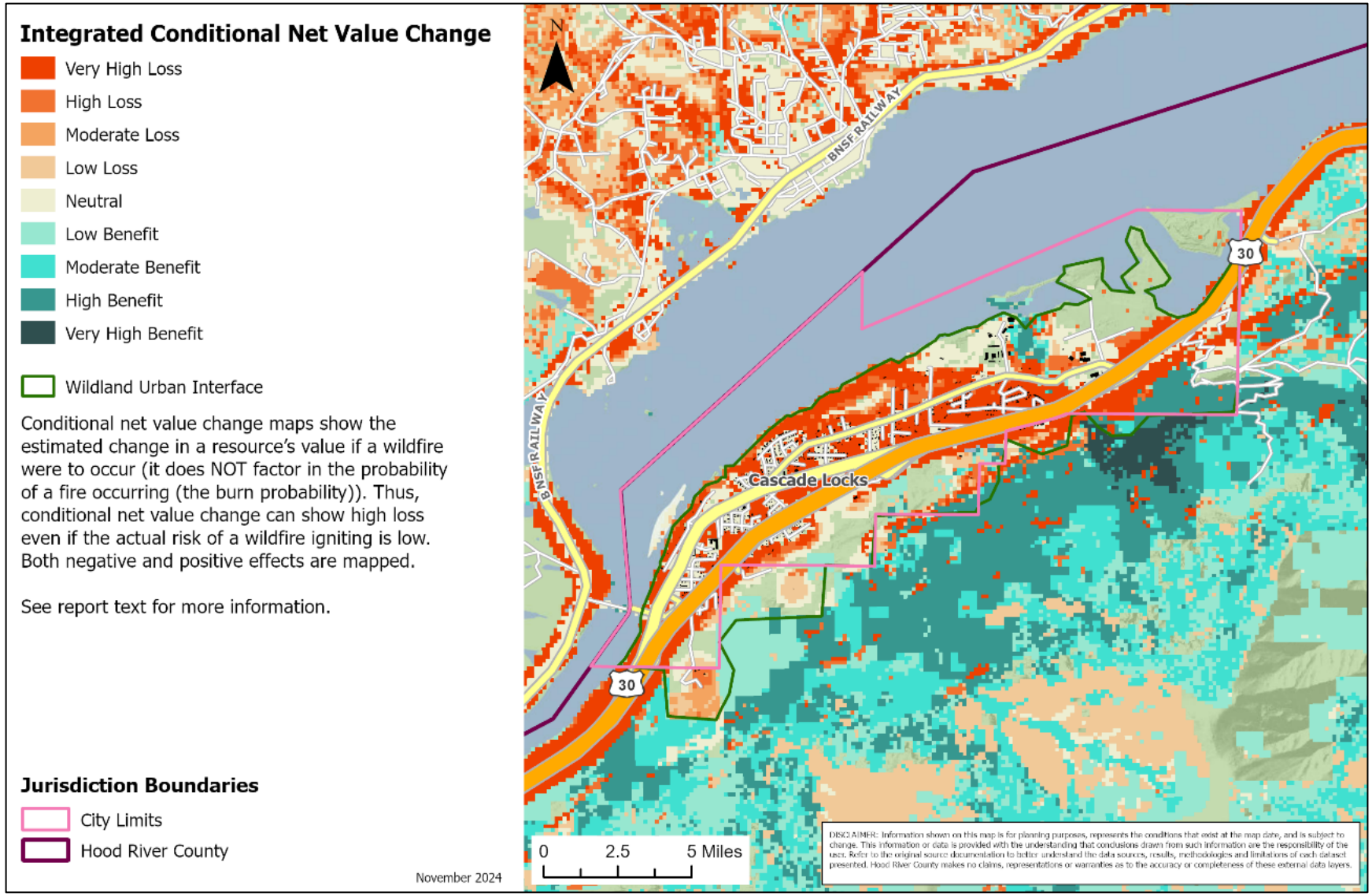
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-6 City of Cascade Locks Fire & EMS Department – Burn Probability



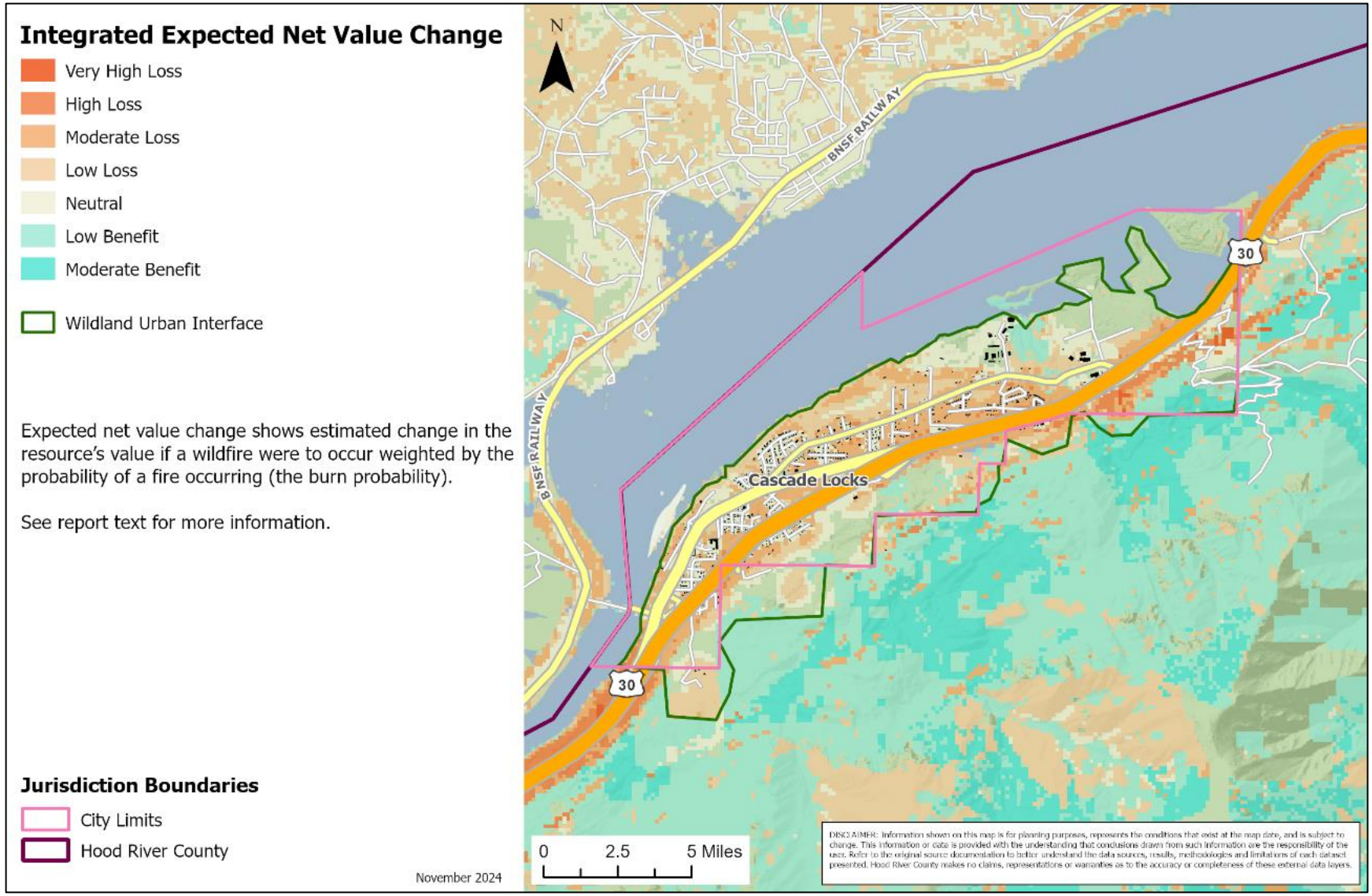
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-7 City of Cascade Locks Fire & EMS Department – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-8 City of Cascade Locks Fire & EMS Department – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

City of Hood River Fire & EMS Department

URL: https://cityofhoodriver.gov/fire/

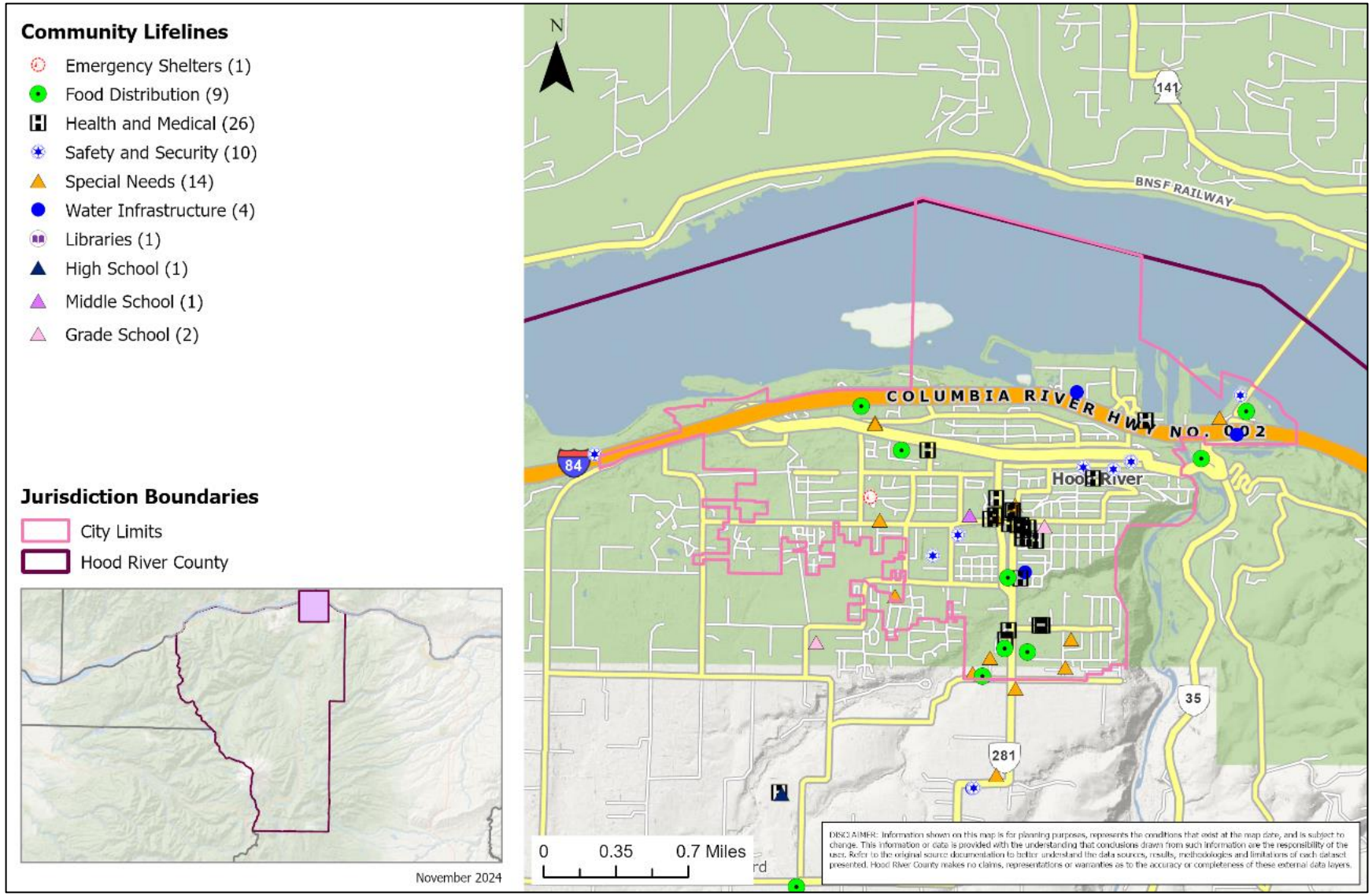
District Summary: The City of Hood River Fire & EMS Department was established in 1904 and covers the entire City of Hood River (3.4 square miles) along with a 145 square mile ambulance service area in eastern Hood River and western Wasco counties. The Hood River Fire & EMS Department has 17 full-time employees and an additional 10 regular volunteer staff. The Department currently operates on a departmental budget of about $4.6 million, which includes several grants from state agencies such as the Oregon State Fire Marshal's office.

The Hood River Fire & EMS Department operates out of one (1) fire station in the City of Hood River (1785 Meyer Parkway). Each year, the Department responds to approximately 2,000 service calls for their city population of roughly 8,400.

Issues of Concern: The Hood River Fire & EMS Department is concerned about outreach to residents regarding the need for defensible space as well as partnering with the Hood River Police Department to support the houseless community while also ensuring that their warming fires do not cause any ignitions. The Department is also interested in creating a new countywide position in charge of coordinating wildfire mitigation efforts and ensuring that WUI building codes are updated for anticipated development in the City's Urban Growth Boundary.

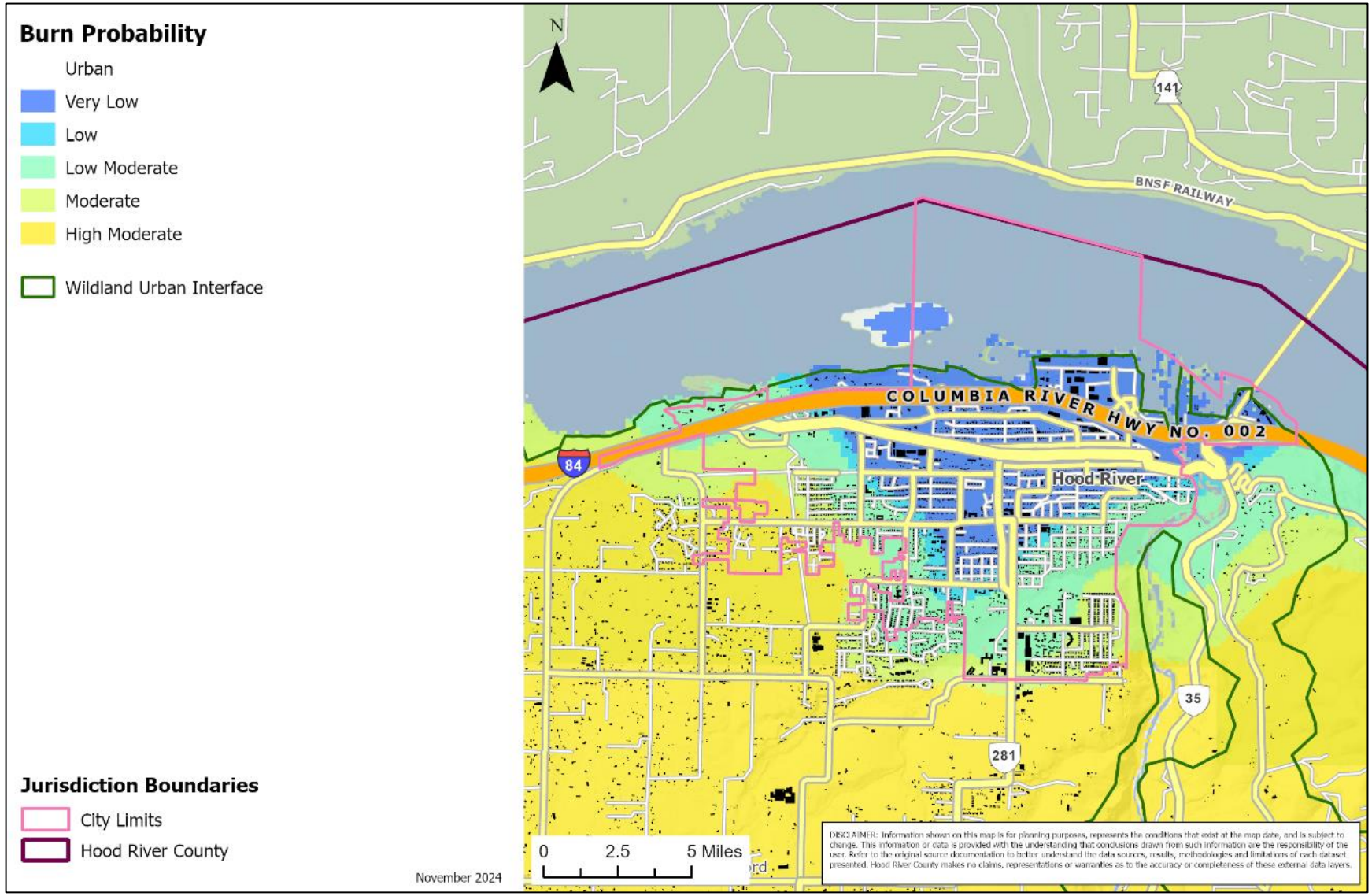
The Hood River Fire & EMS Department does not have any significant recent or planned capital investments related to wildfire mitigation in the immediate future.

Map 7-9 City of Hood River Fire & EMS Department – Community Lifelines



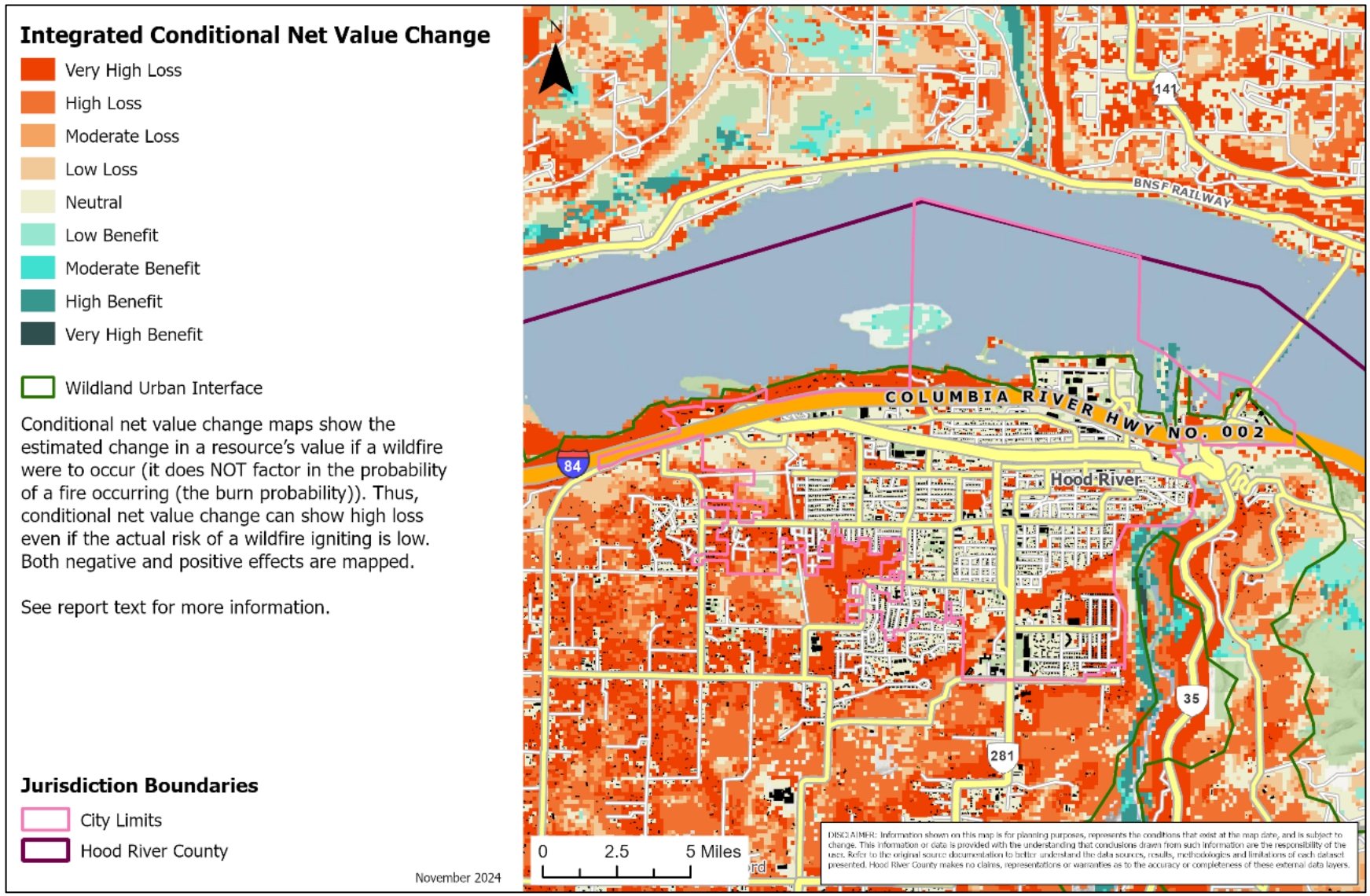
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-10 City of Hood River Fire & EMS Department – Burn Probability



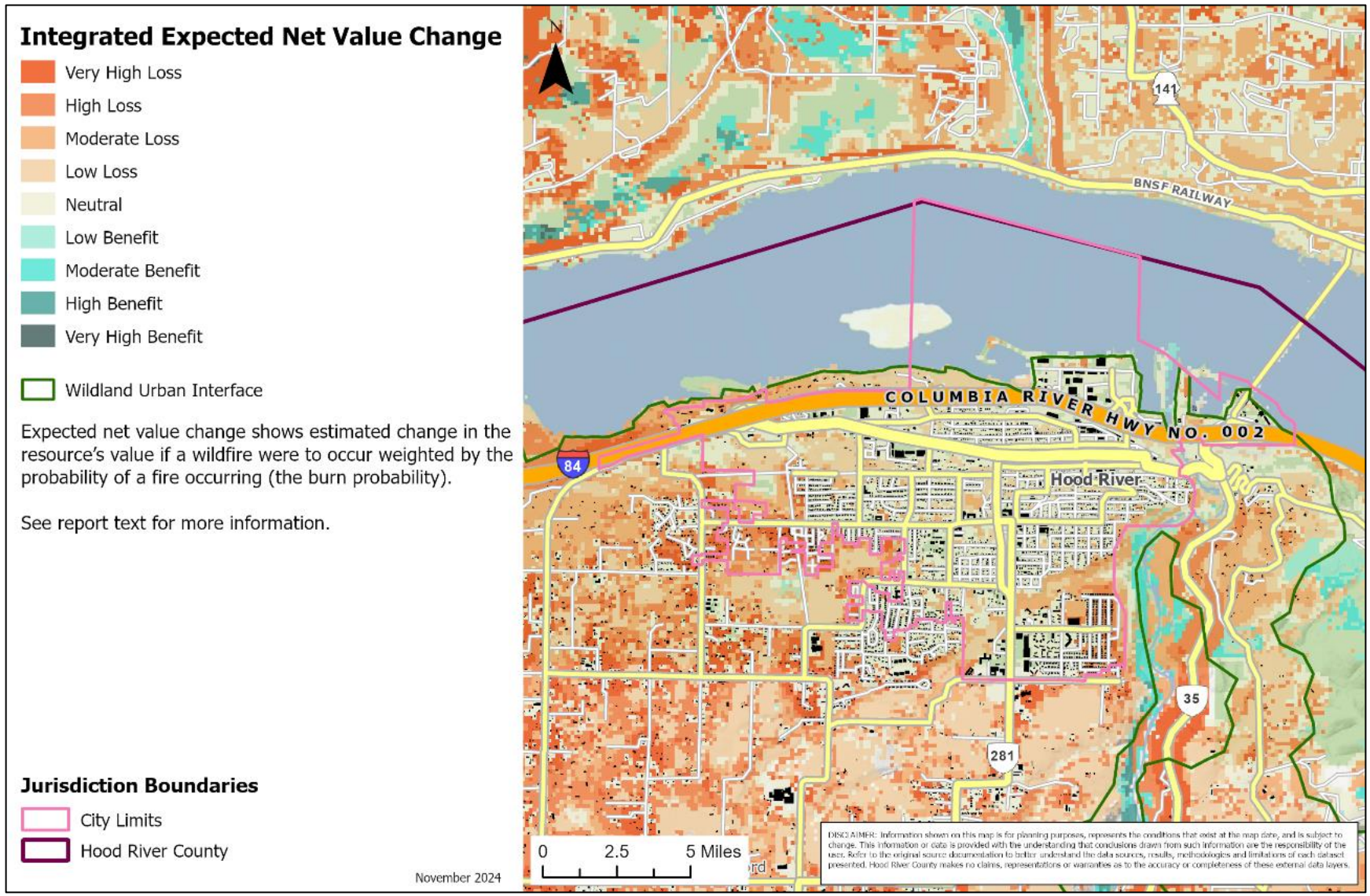
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-11 City of Hood River Fire & EMS Department – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-12 City of Hood River Fire & EMS Department – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Parkdale Rural Fire Protection District

URL: https://parkdalefire.com/

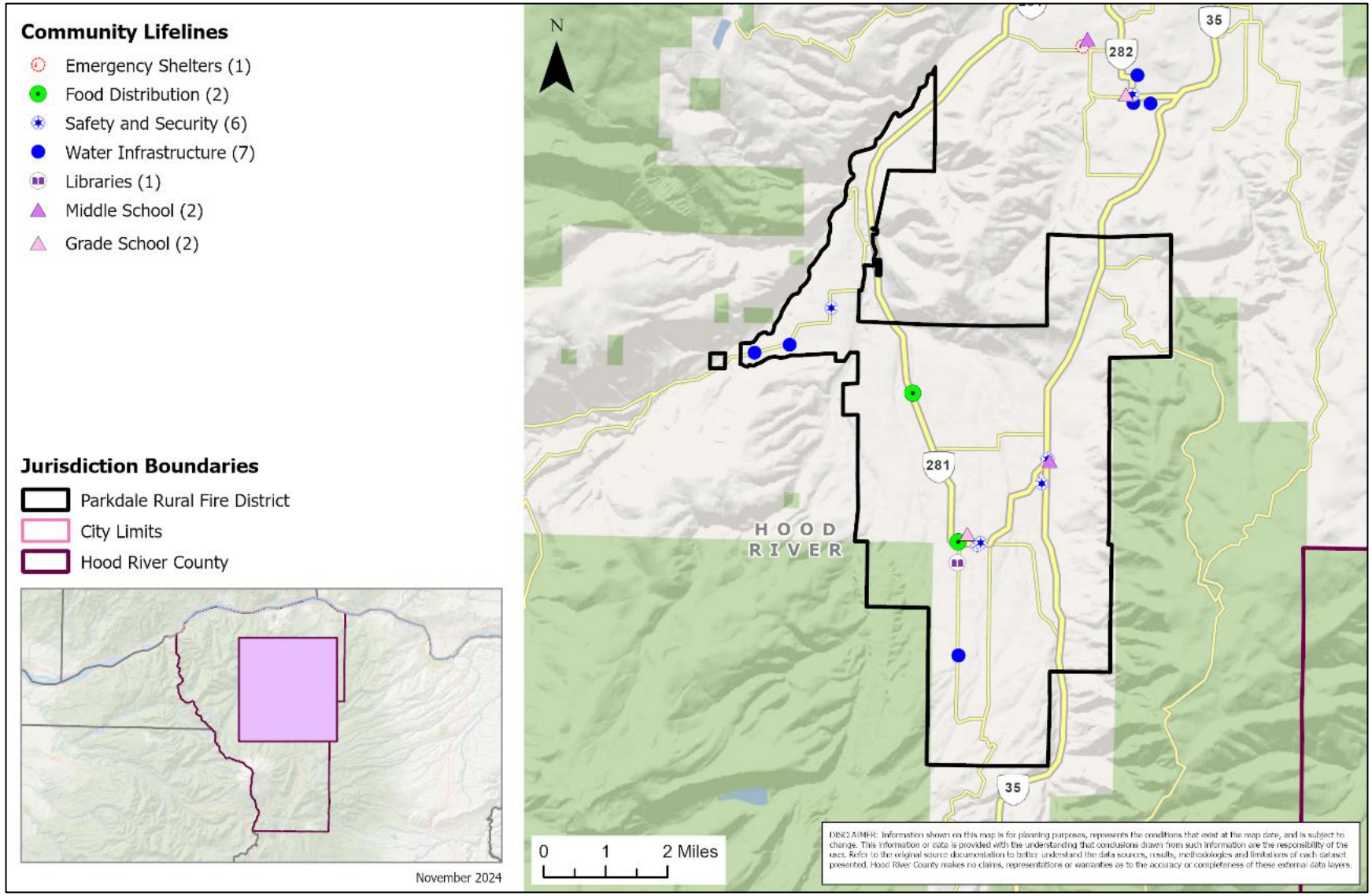
District Summary: The Parkdale Rural Fire Protection District (RFPD) was established in 1949 and covers approximately 40 square miles in the center of Hood River County. The District also covers a 450 square mile ambulance service area between Odell and Government Camp (the latter of which is in Clackamas County). Parkdale RFPD has two (2) full-time employees and an additional 30 regular volunteer staff. The District currently operates on a tax rate of $1.5512/$1,000 per assessed value of property. Parkdale RFPD expanded their service area when they merged with the Dee Fire Department in 2006.

Parkdale RFPD conducts fire and rescue services from one (1) primary fire station in Parkdale (4895 Baseline Drive) along with two (2) unmanned substations in Mt. Hood (6573 Highway 35) and Dee (5235 Lost Lake Road). Each year, the District responds to approximately 300 service calls for their district population of roughly 3,100.

Issues of Concern: Parkdale RFPD is concerned about the potential risk of wildfire, limited ingress/egress throughout the district, and the need to revisit mutual aid agreements to ensure that USFS calls are not routed to local fire agencies (i.e., clarifying that USFS provides *wildland* protection while local fire agencies provide *structural* protection). The District currently has two Firewise communities (Hess Road and Baldwin Creek Drive) and hopes to add a third in the Mountain Shadows Resort community.

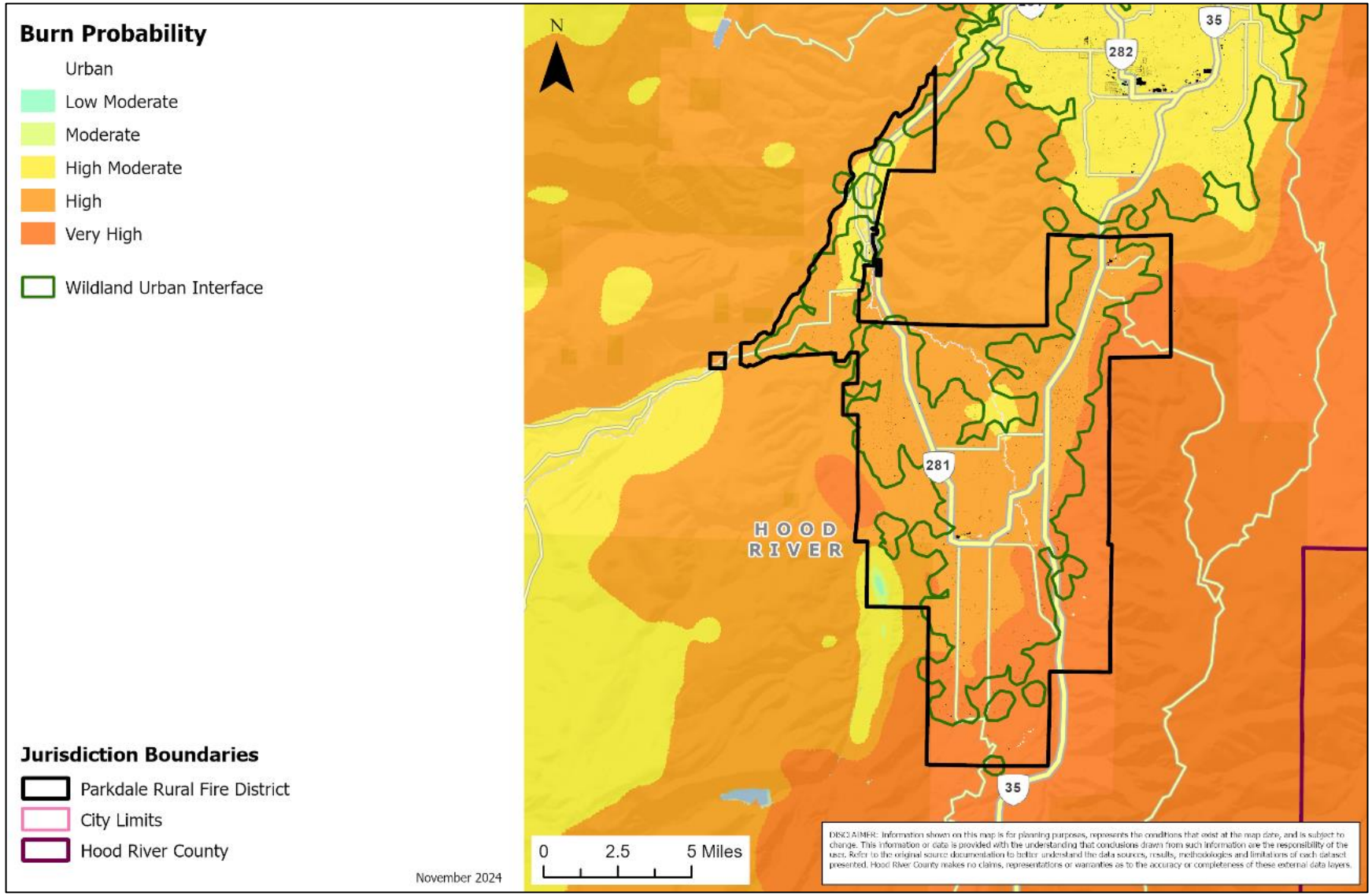
Parkdale RFPD does not have any significant recent or planned capital investments related to wildfire mitigation in the immediate future.

Map 7-13 Parkdale Rural Fire Protection District – Community Lifelines



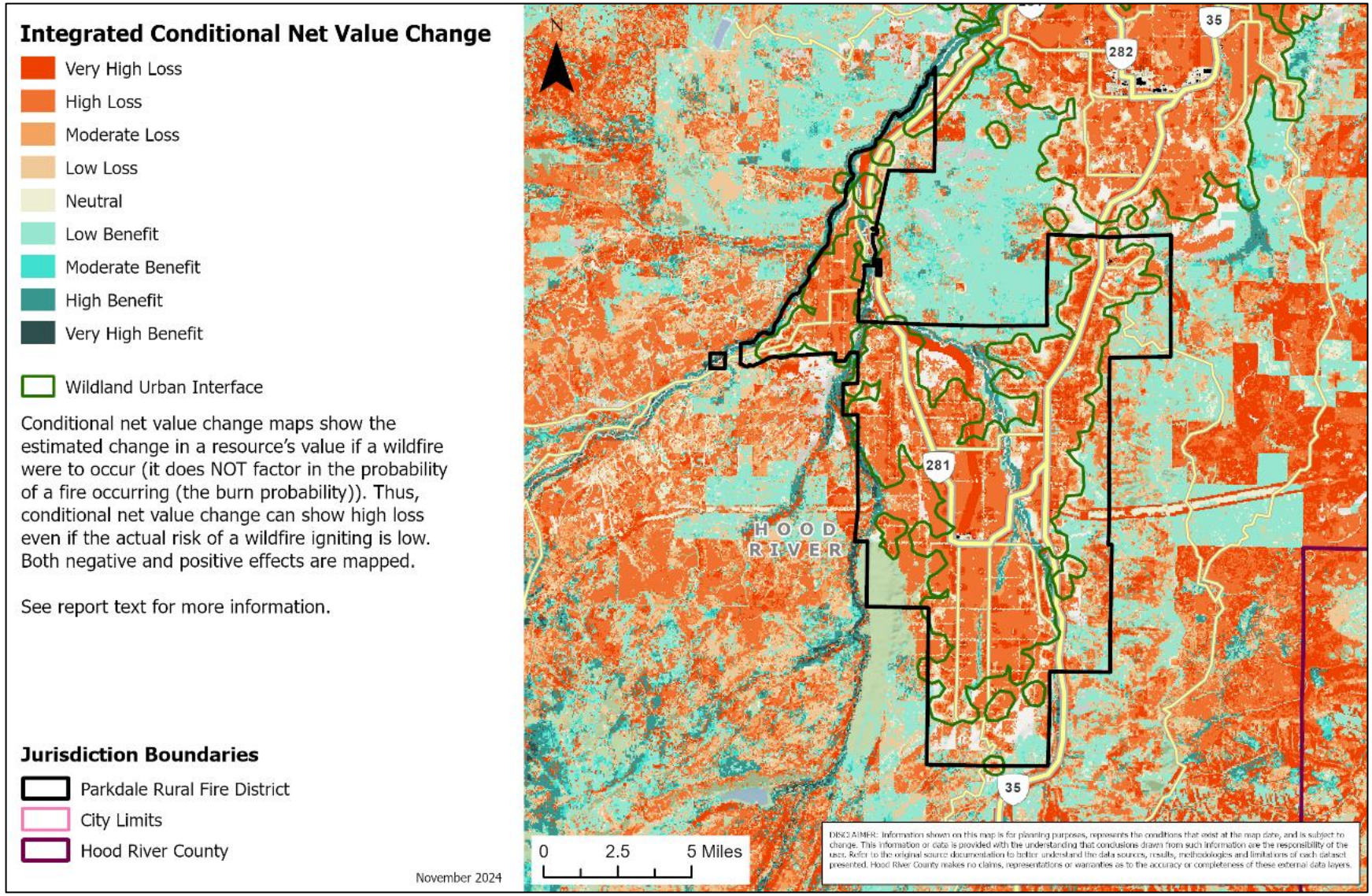
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-14 Parkdale Rural Fire Protection District – Burn Probability



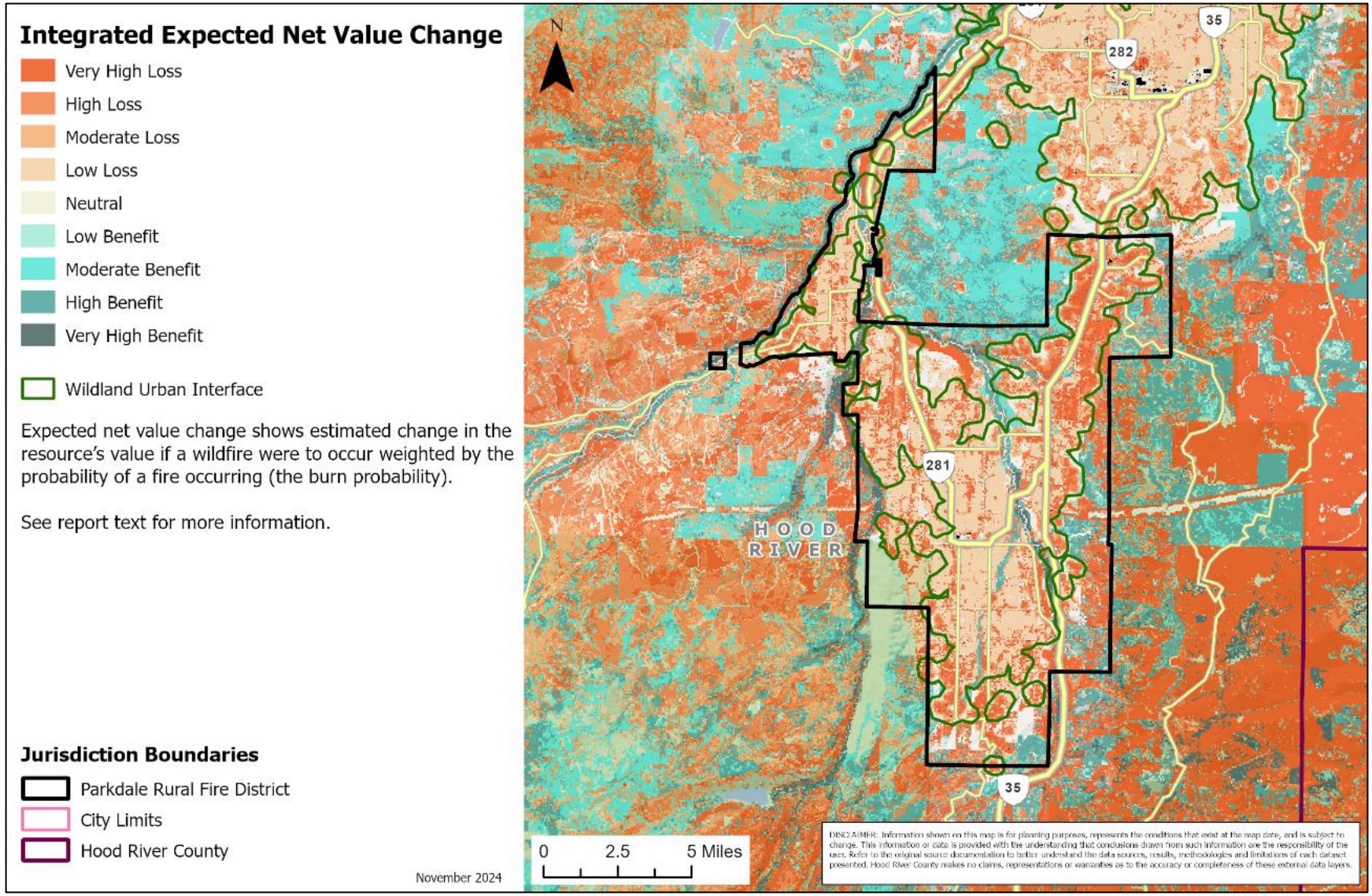
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-15 Parkdale Rural Fire Protection District – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-16 Parkdale Rural Fire Protection District – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

West Side Rural Fire Protection District

URL: https://www.westsidefire.com/

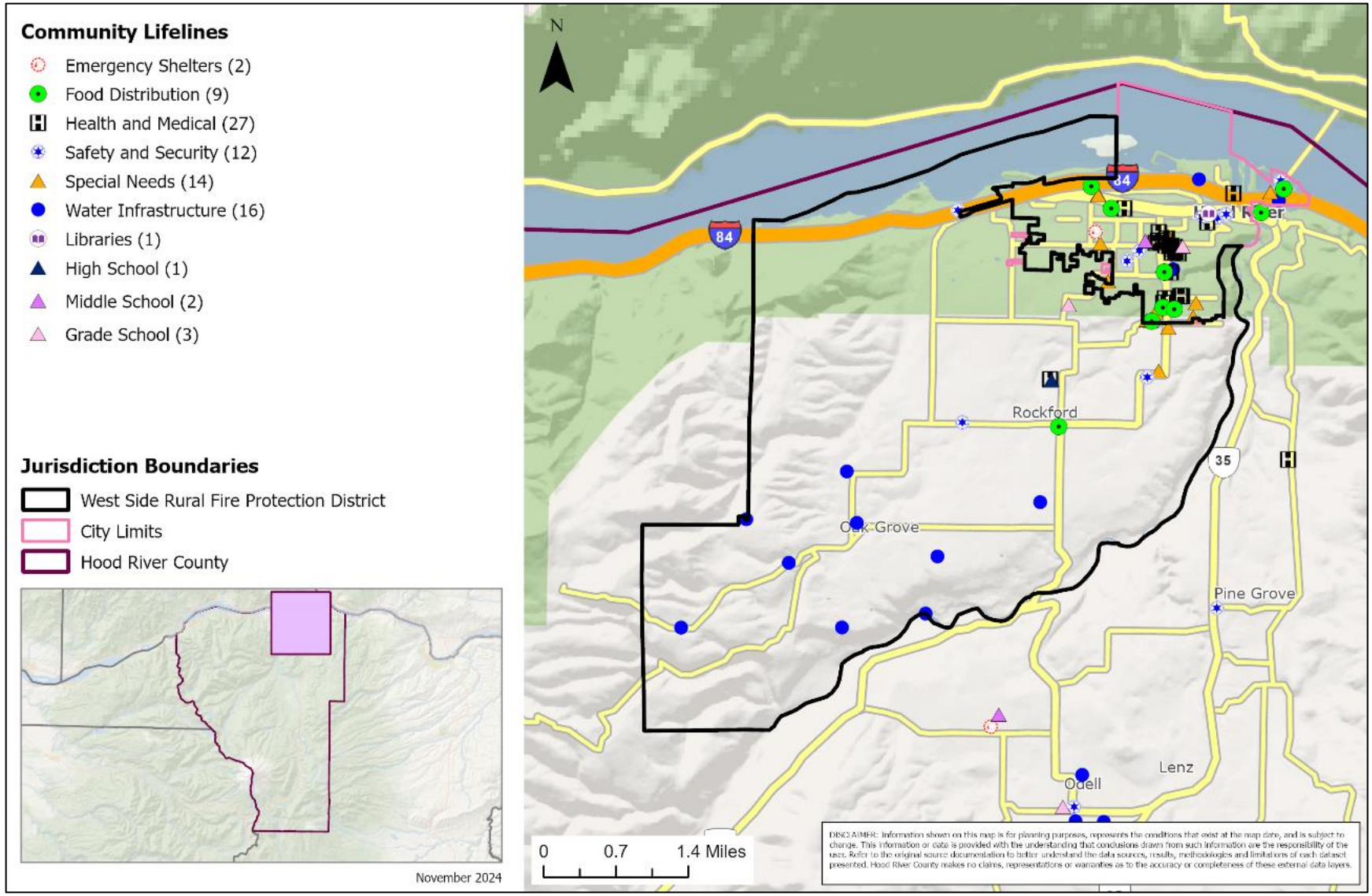
District Summary: The West Side Rural Fire Protection District (RFPD) was established in 1949 and covers approximately 25 square miles southwest of the City of Hood River. West Side RFPD has four (4) full-time employees, eight (8) part-time/stipend-shift volunteers, and an additional 40 regular volunteer staff. The District currently operates on a tax rate of $0.78/$1,000 per assessed value of property and an additional $0.50/$1,000 operational tax levy. A new tax levy passed in spring 2024 is expected to allow the District to expand to five (5) full-time staff.

West Side RFPD conducts fire and rescue services from two (2) fire stations, one just outside the City of Hood River (1185 Tucker Road) and a second remote station/training center that lies in the western portion of the District (4250 Barrett Drive). Each year, the District responds to approximately 500 service calls for their district population of roughly 5,500.

Issues of Concern: West Side RFPD is concerned about the potential risk of wildfire in several populated WUI areas of the district, most notably the west and northwest portions. Additionally, there is currently no residency requirement for District personnel and many employees and volunteers live in other areas of Hood River County or across the Columbia River in Washington State. As a result, in the event of a major earthquake or other hazard event bringing down the bridges crossing the river, the District may not be fully staffed during response efforts.

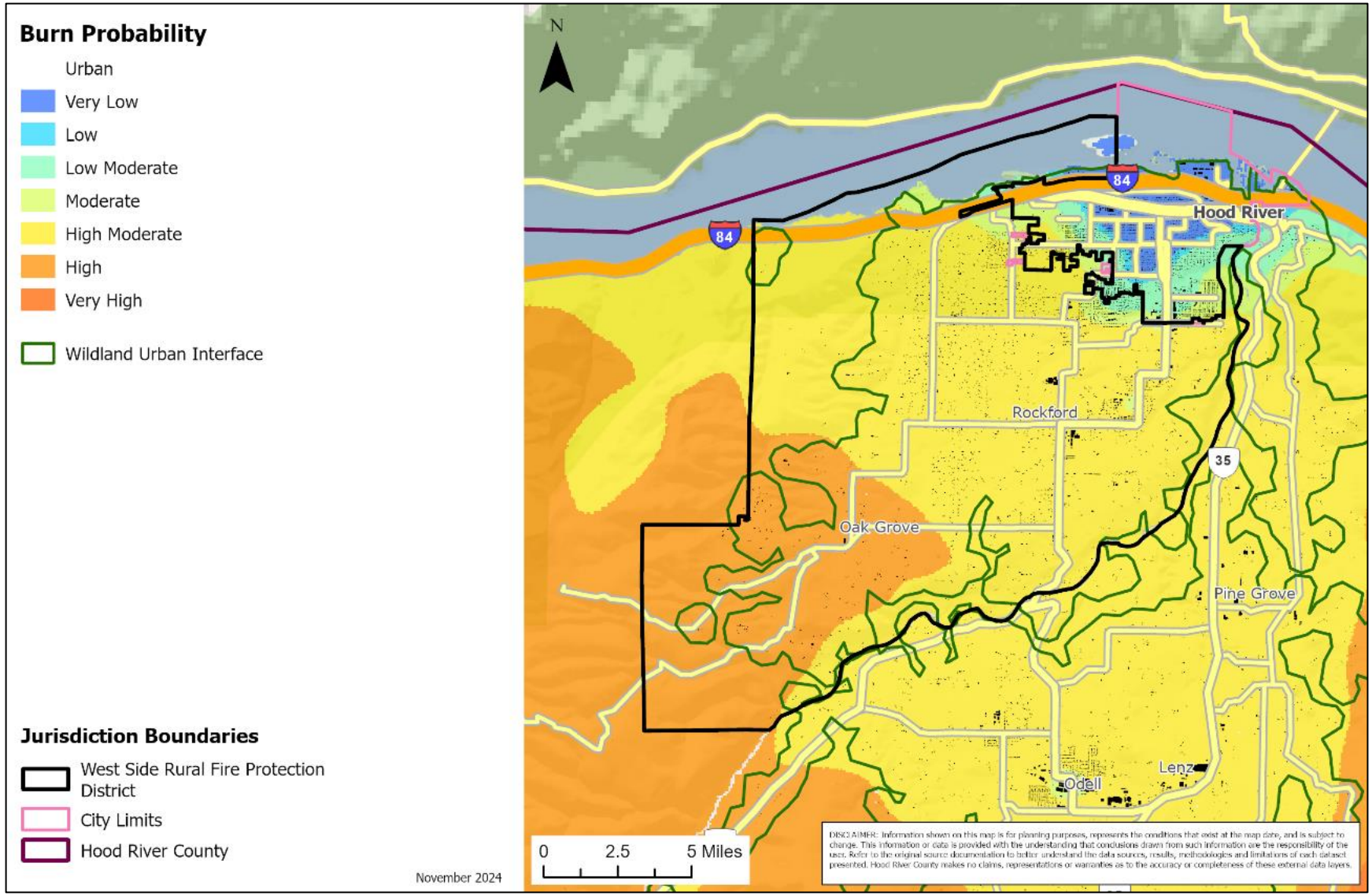
West Side RFPD does not have any significant recent or planned capital investments related to wildfire mitigation in their budget outside of regular equipment and the anticipated purchasing of a new fire engine by 2030.

Map 7-17 West Side Rural Fire Protection District – Community Lifelines



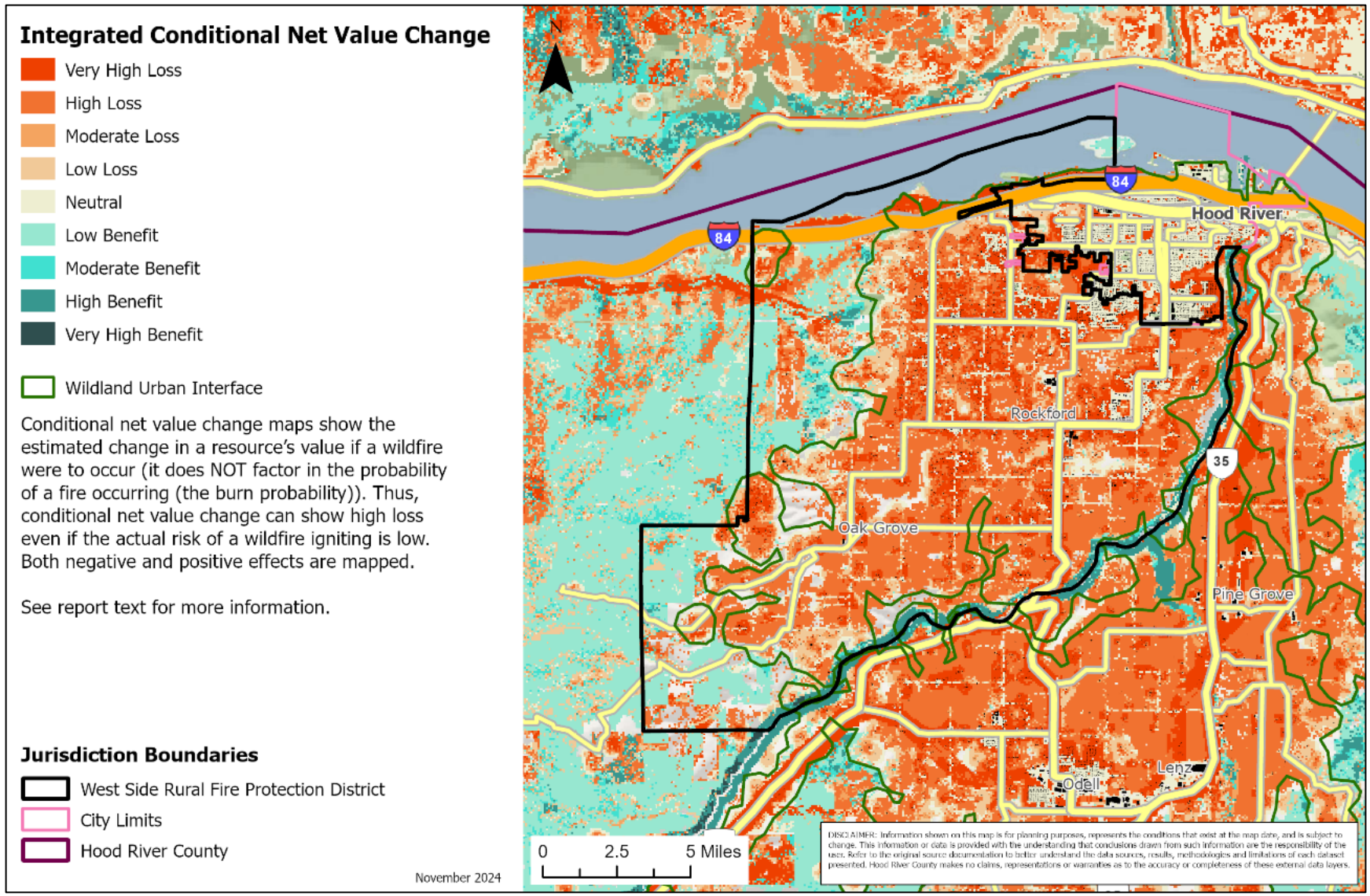
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-18 West Side Rural Fire Protection District – Burn Probability



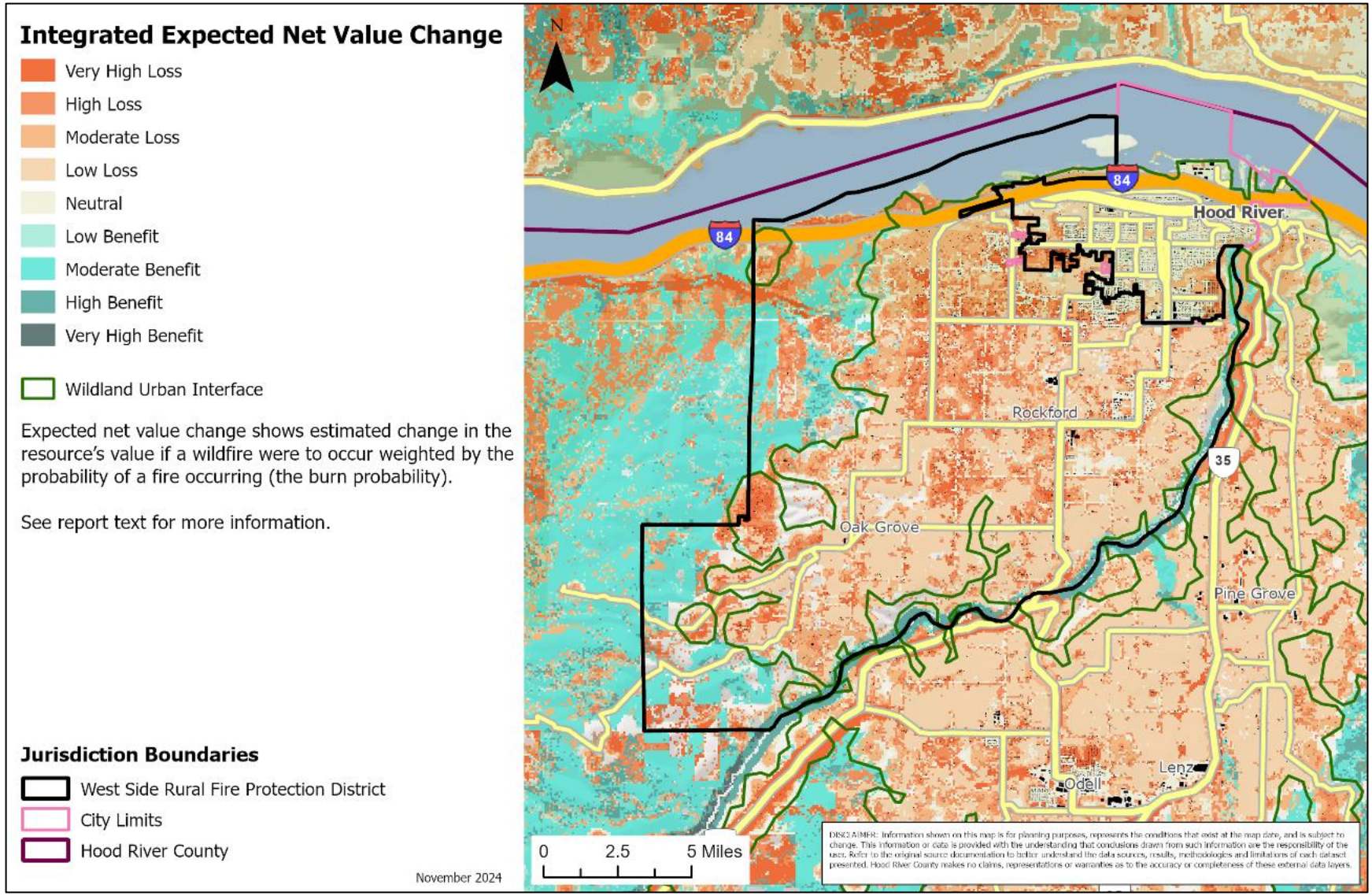
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-19 West Side Rural Fire Protection District – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-20 West Side Rural Fire Protection District – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Wy'East Rural Fire Protection District

URL: https://www.wyeastfire.com/

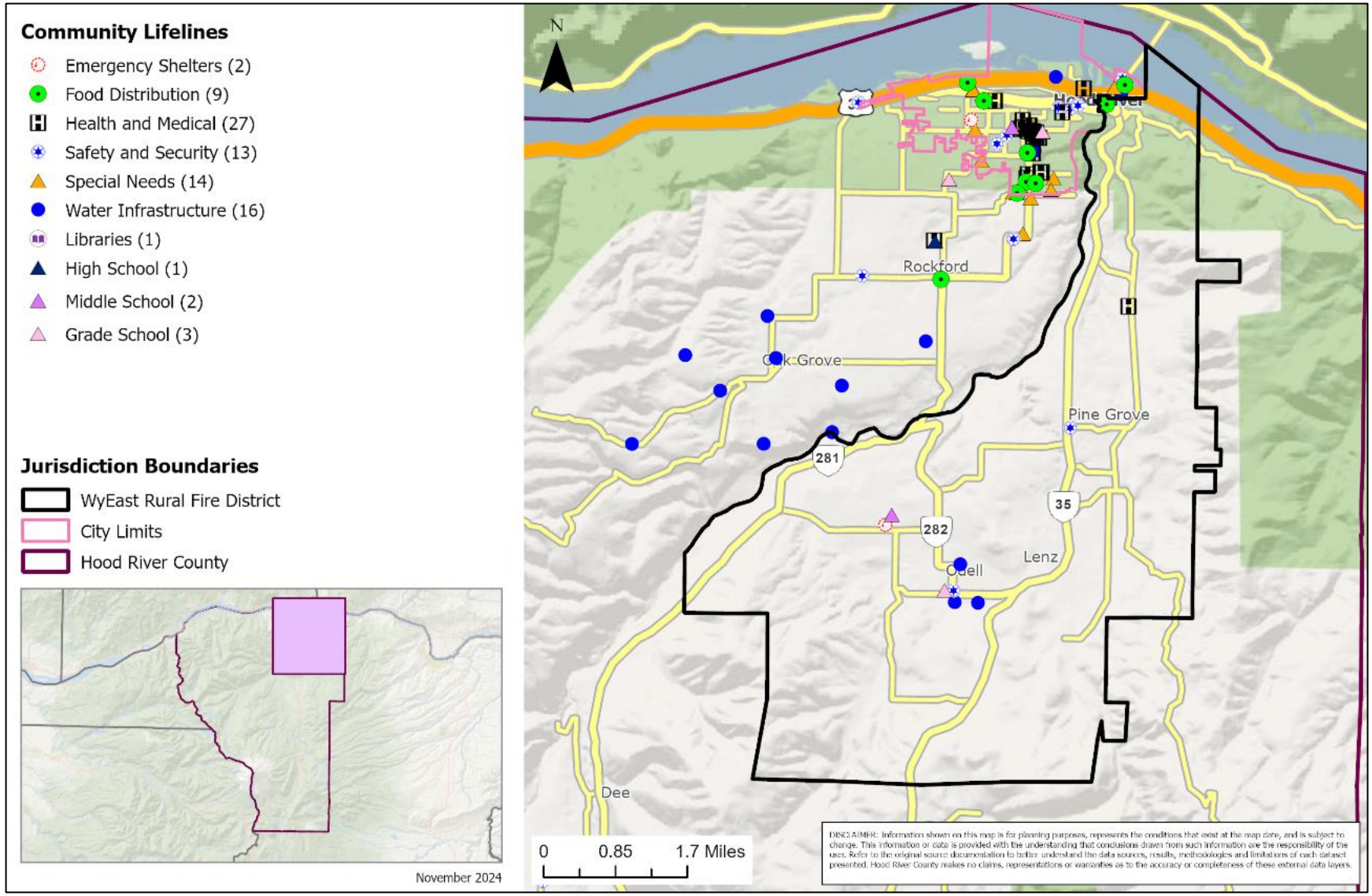
District Summary: The Wy'East Rural Fire Protection District (RFPD) was established in 2011 and covers approximately 30 square miles southeast of the City of Hood River. Wy'East RFPD has two (2) full-time employees and an additional 45 regular volunteer staff split into four active companies, each with a Captain, Lieutenant, Engineer, and firefighters. The District currently operates on a tax rate of $1.0405/$1,000 per assessed value of property. The District was formed when the Odell and Pine Grove fire stations merged into one fire district in 2011.

Wy'East RFPD conducts fire and EMS services from two (2) fire stations, one in Odell (3431 Odell Highway) and one in Pine Grove (2995 Van Horn Drive). Each year, the District responds to more than 400 service calls for their district population of roughly 5,200.

Issues of Concern: Wy'East RFPD is concerned about the potential risk of wildfire as well as limited ingress/egress in several populated WUI areas of the district, including the area surrounding Fir Mountain. The District has also highlighted the need for increased fire prevention education in schools throughout Hood River County.

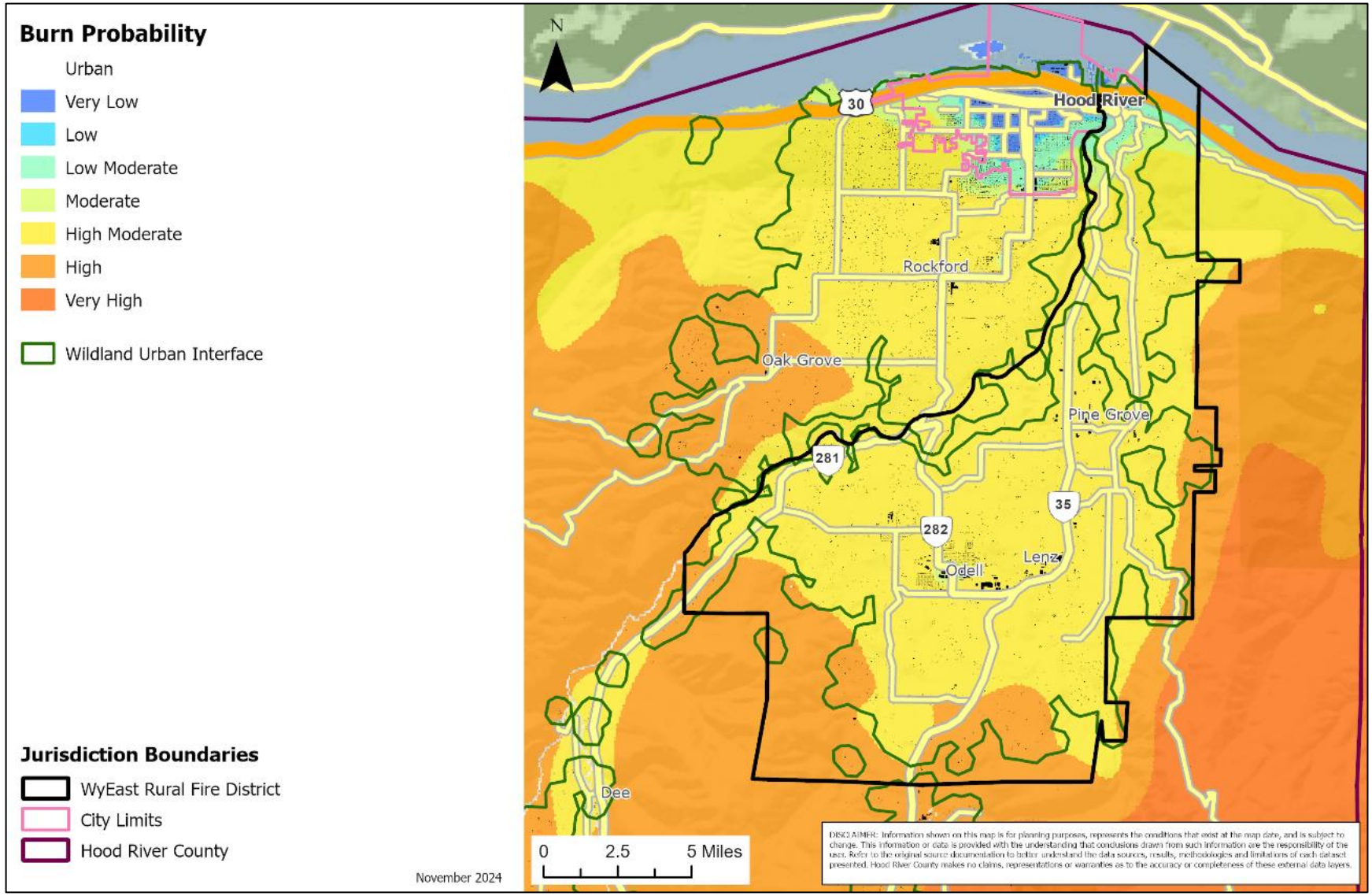
Wy'East RFPD will be purchasing a second 60-70 psi suction tube pump to pair with the Type 3 Engine they recently purchased via a grant from OSFM. The District does not have any other significant recent or planned capital investments related to wildfire mitigation in the immediate future.

Map 7-21 Wy'East Rural Fire Protection District – Community Lifelines



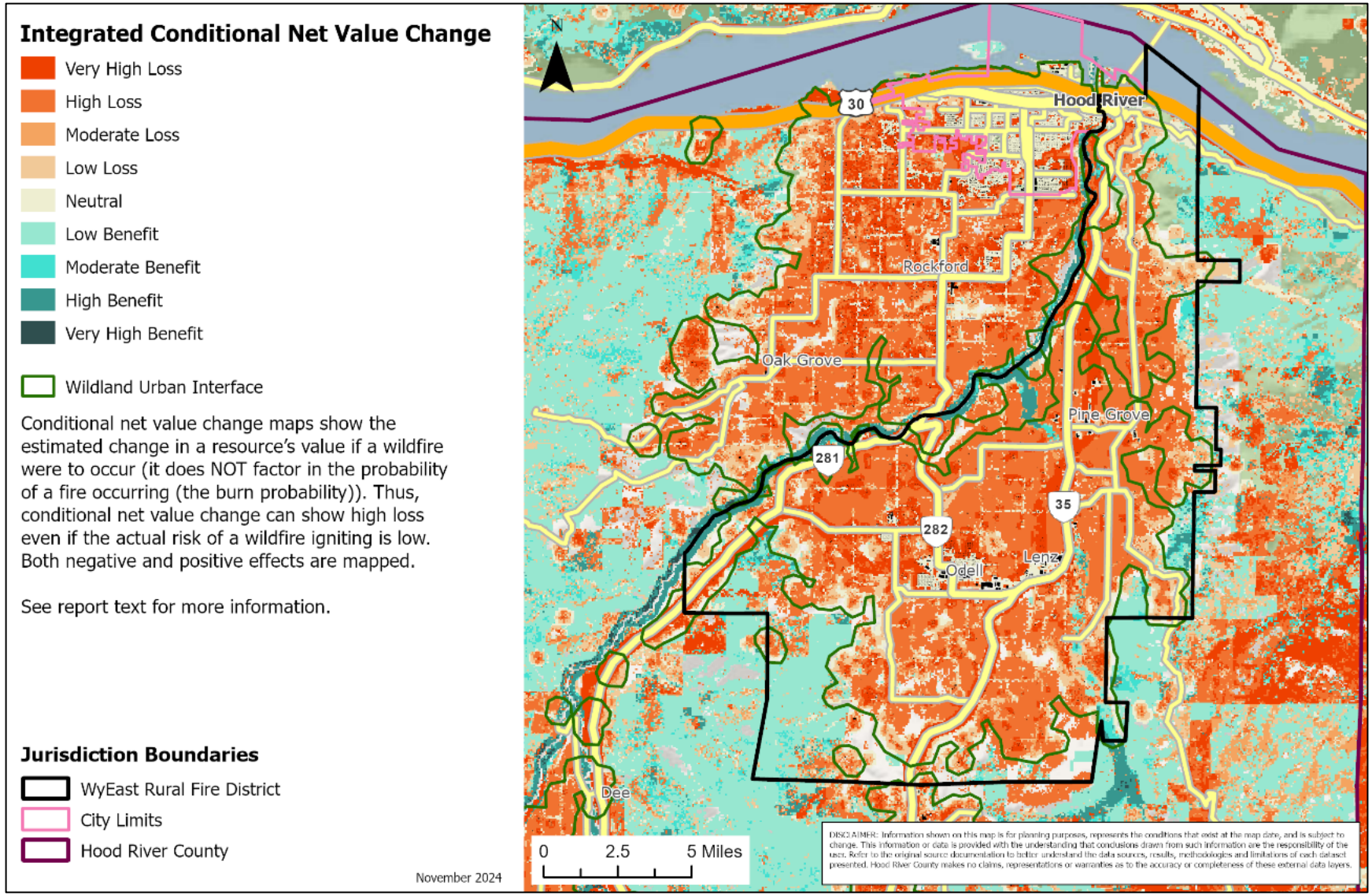
Source: Mapping by OPDR.
Data from Hood River County and Oregon Department of Geology and Mineral Industries HazVu website.

Map 7-22 Wy'East Rural Fire Protection District – Burn Probability



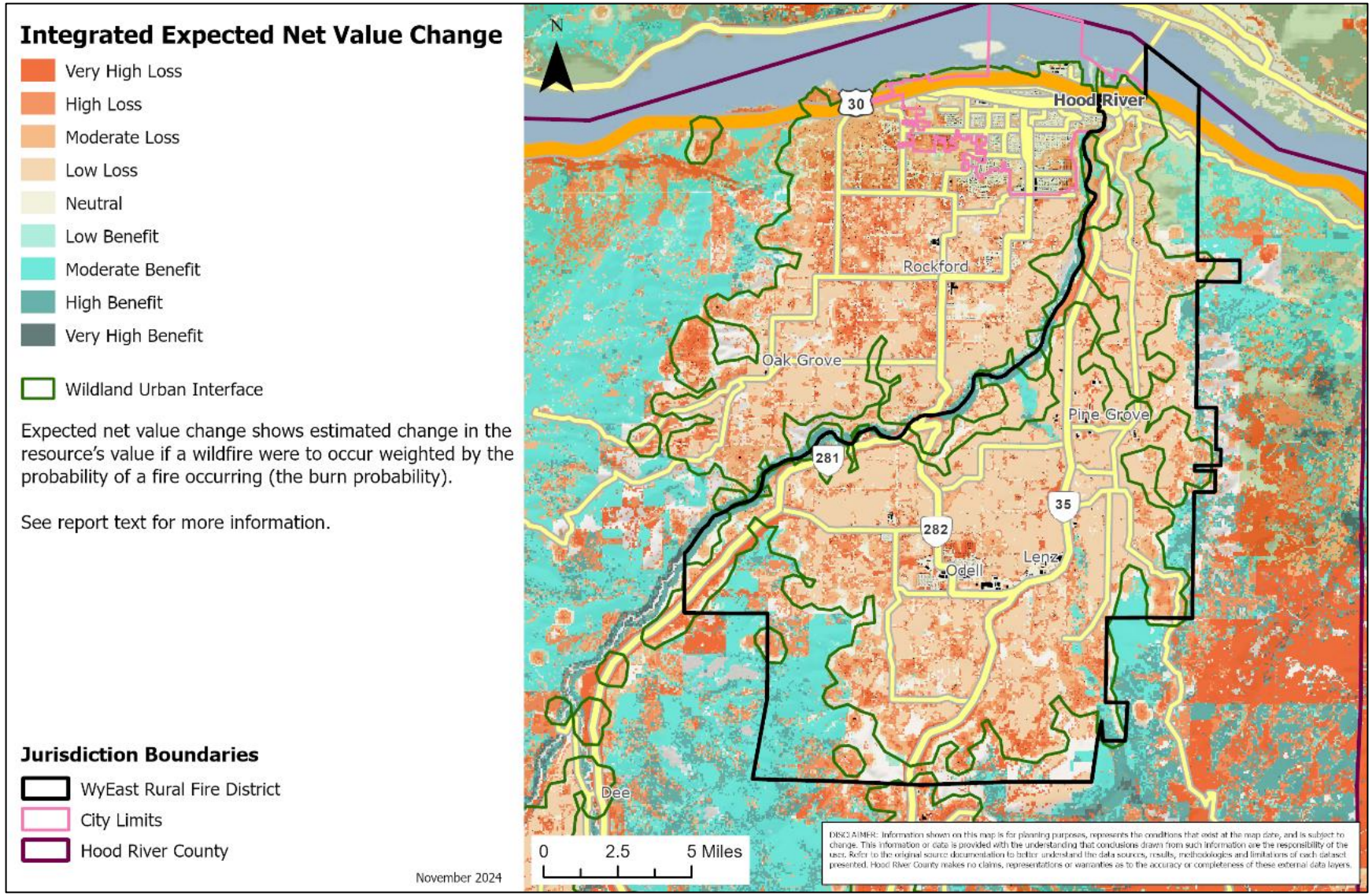
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-23 Wy'East Rural Fire Protection District – Integrated Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map 7-24 Wy'East Rural Fire Protection District – Integrated Expected NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Oregon Department of Forestry – Central Oregon District

URL: https://www.oregon.gov/odf/fire/pages/default.aspx

District Summary: The Oregon Department of Forestry's Central Oregon District protects forestland across north central, central, and eastern Oregon. The District Headquarters are in Prineville in Crook County. The Dalles Unit has protection responsibility for Wasco and Hood River counties. The Unit headquarters is in The Dalles.

The Central Oregon District provides wildland fire prevention, detection, and suppression on 2,340,789 acres of forestland across more than a dozen counties, 94,344 acres of which are in Hood River County. The District contributes to a complete and coordinated forest protection system on a local and statewide basis and provides for cooperative work to public and private landowners to supplement the fire protection system; provides for environmental protection on commercial forest land through the administration of the Forest Practices Act; and administers assistance programs to private forest landowners through the Private Forests Program.

The Oregon Department of Forestry does not provide any structural protection.

The District accomplishes their work with a fiscal budget of approximately $11.7 million and employment of approximately 100 seasonal staff and 60 permanent staff. In addition, the District is able to cover the majority of the service area with numerous mountaintop radio repeaters, of which two are local to The Dalles Unit: Flag Point in Wasco County and Stacker Butte in Washington state.

Cooperative Agreements: The Dalles Unit of the Central Oregon District has mutual aid agreements with all five local fire districts/departments in Hood River County as well as a closest forces agreement with the U.S. Forest Service – Mt. Hood National Forest, U.S. Forest Service – Columbia River Gorge National Scenic Area, Bureau of Land Management – Prineville District, and Confederated Tribes of the Warm Springs.

U.S. Forest Service – Mt. Hood National Forest

URL: https://www.fs.usda.gov/mthood

Forest Summary: The U.S. Forest Service (USFS)'s Mt. Hood National Forest surrounds Mt. Hood, spanning 1.1 million acres (about a third of which is designated wilderness) and five different counties. Nearly one-fifth of the Mt. Hood National Forest lies in Hood River County (208,748 acres), with this land being served by the Hood River Ranger District in Parkdale. This is one of four such districts throughout the National Forest.

The Mt. Hood National Forest is headquartered in Sandy in Clackamas County and has both permanent and seasonal fire staff responsible for fire prevention, detection, and suppression on all wildland fire ignitions on USFS land. Crews are also responsible for hazard fuel reduction projects, prescribed burning, and ecosystem restoration projects. Fire personnel and equipment can be found at all four of the National Forest's districts (which lie in Hood River, Clackamas, and Wasco counties) and are shared as needed across the forest. The National Forest's Mobilization Plan serves to provide information necessary to direct emergency activities and effectively utilize Forest, inter-Forest, Regional, and Cooperative resources to meet fire management needs. It is updated annually and contains detailed information on personnel and available equipment.

The USFS does not provide any structural protection.

Wildfire Crisis Strategy: In 2023, the USFS designated the Mt. Hood National Forest Health and Fire Resilient Communities as one of 21 priority landscapes nationwide under their 10-year Wildfire Crisis Strategy. The USFS's goal in launching the Wildfire Crisis Strategy was to safeguard communities and the resources they depend on by increasing fuels treatments over time, promoting community readiness, and supporting postfire recovery and restoration. This landscape in northwest Oregon comprises Federal, State, Tribal, and private lands on and around the Mt. Hood National Forest (585,348 acres—54% of the project area—are on national forest land). The USFS will coordinate all work on National Forest System lands with work on adjacent lands in other ownerships. Expected outcomes include fuels reduction in WUI areas, reduced ignition source risks, maintaining and improving critical evacuation routes, and protecting source water areas that provide drinking water to one-third of Oregonians.

Cooperative Agreements: The Mt. Hood National Forest works closely with the federal Bureau of Land Management – Prineville District and the Oregon Department of Forestry – Central Oregon District and has a cooperative agreement for initial attack and a closest forces agreement with both organizations.

Chapter 8: Mitigation Recommendations

Wildfire Mitigation Action Items

Critical to implementation of this CWPP is the identification of an integrated schedule of action items targeted at reducing both the number of human-caused fires and the impact of wildland fires in Hood River County. This section of the CWPP identifies and prioritizes potential wildfire mitigation actions, including both fuels reduction treatments and other types of projects (such as outreach, education, land use planning, and infrastructure upgrades) that can be implemented to achieve that goal.

This section is vital to the CWPP because it guides what actions fire agencies and other organizations operating in Hood River County can use when applying for state and federal wildfire mitigation funding. Agencies can only receive Community Wildfire Defense Grant (CWDG) funding from the U.S. Forest Service (USFS) for recommendations listed within this CWPP. A wide array of wildfire mitigation grants are available on both the state and federal levels. A full list of funding opportunities can be found in Appendix F: Grant Programs and Resources in the Hood River County Natural Hazard Mitigation Plan (NHMP).

Local, state, and federal fire agencies operating in Hood River County were participants in the planning process and have contributed to this plan's development. Their schedule of land treatments has been considered to improve the correlation between their planning initiatives and the efforts of Hood River County. All seven agencies identified in Chapter 7: Fire Agency Profiles were interviewed virtually or in-person (or had projects confirmed via email correspondence) by the Oregon Partnership for Disaster Resilience (OPDR). In addition, the Oregon State Fire Marshal's office, the Hood River County All Lands Partnership, and the Hood River County Forest Collaborative all provided significant support and input for these mitigation recommendations.

In addition to these items, both fire and other public agencies are strongly encouraged to build natural disaster mitigation, preparedness, and planning work into their day-to-day operations. Implementing activities through existing programs and resources can reduce the overall cost of a project. All risk assessments and mitigation recommendations were made based on the conditions existing during 2024. However, both the components of wildfire risk and the County's resources for mitigation are not static. It will be necessary to fine-tune this plan's recommendations regularly to adjust for changes in community risk and population density, infrastructure modifications, and other factors. This will be done through both the CWPP Steering Committee and updates to the plan that are expected to be conducted alongside scheduled updates to the County's NHMP.

Wildfire Mitigation Recommendations

As part of the implementation of wildfire mitigation in Hood River County, a variety of forest and land management tools can be used. These include, but are not limited to, the following:

1. Prevention (education and policy changes for WUI structures and infrastructure).
2. Limiting use (banning certain activities, like backyard burns, during wildfire season).
3. Defensible space creation at the home level.
4. Emergency response enhancements (including trainings and equipment).
5. Access improvements for emergency vehicles and first responders.
6. Fuels reduction treatments (including regional forest and land management projects for private, local, state, and federal landowners).

The mitigation recommendations are divided into two sections based on this list.

Defensible Space and Other Mitigation Projects

Actions in this section (Table 8-1) fall primarily into categories #1-5 and are conducted by fire agencies and government and nonprofit stakeholders, including County Emergency Management and a potential future position, the Wildfire Mitigation Coordinator (see project ID County #1).

Fuels Reduction Projects

Actions in this section (Table 8-2) fall into category #6 and represent broader land use and wildfire mitigation planning from local, state, and federal fire agencies. These actions are also mapped countywide in Map 8-1 and in the City of Cascade Locks and the City of Hood River in Map 8-2 and Map 8-3, respectively.

Prioritization of Activities

The action items discussed in this chapter were prioritized by the CWPP Steering Committee, with guidance from the County Emergency Manager and OPDR. High priority actions and proposed project areas throughout these recommendations are noted with **bold** text and orange highlight. The CWPP Steering Committee does not want to restrict funding to only those projects that are high priority because what may be a high priority for a specific community may not be a high priority at the County level. The flexibility to fund a variety of diverse projects based on varying criteria and importance at different levels of government is a necessity for a functional mitigation program at both the community and the county levels.

With that in mind, the following actions were designated as high priority:

Defensible Space and Other Mitigation Projects
County #1; County #5; County #6; CL #3; HR #6; WE #4; ODF #2; ODF #3; ODF #7

Fuels Reduction Projects
HRC-1; CL-1; CL-4; HR-1; HR-4; HR-5; HR-6; P-6; WS-8; WE-3; ODF-3

Defensible Space and Other Mitigation Projects

Each of the projects identified in Table 8-1 includes the following information:

- Project ID
- Project Description
- Project Type:
    - Defensible Space – clearing vegetation and other potential fuels from private properties or directly adjacent to critical structures and/or infrastructure to reduce wildfire risk.
    - Equipment Upgrade – purchasing new equipment to assist with fire suppression or other mitigation efforts.
    - Fuels Mitigation Treatment/Maintenance – conducting new fuels mitigation projects or carrying out upkeep for previously conducted projects within the WUI or other areas at a scale that does not reach the "Fuels Reduction Projects" level.
    - Infrastructure Improvement – upgrading roads, bridges, and other physical infrastructure.
    - Outreach & Education – improving awareness amongst targeted stakeholders.
    - Planning – implementing new practices in local, County, state, or federal partners.
- Timeline:
    - O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). These are the same categories used for the Hood River County NHMP.
- Cost:
    - L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more). These are the same categories used for the Hood River County NHMP.
- Priority Ranking:
    - An "X" means that this project was designated high priority by the CWPP Steering Committee with assistance from OPDR.

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
County #1	**Establish countywide Wildfire Mitigation Coordinator position at 1.0 FTE to oversee a comprehensive system of home assessments, fuels reduction projects, interoperability, outreach campaigns (including in schools) and other wildfire mitigation work.**	**Outreach & Education; Planning**	**S**	**M**	**X**
County #2	Clarify all mutual aid agreements both within local fire agencies and between local, state, and federal fire agencies to avoid calls getting routed from ODF/USFS to local agencies. This could include clarifying that ODF/USFS will respond to wildland fires while local agencies will respond to EMS, structural, and car fires.	Planning	S	L	
County #3	Install visible and reflective address markers countywide and conduct inventory of roads, including the road type, number of structures on that road, and any issues with ingress/egress.	Infrastructure Improvement; Planning	M	M	
County #4	Increase countywide awareness regarding emergency alert system as well as best practices and available resources for defensible space and home hardening.	Outreach & Education	O	L	
County #5	**Update County land use and building codes for new construction in the WUI to reduce wildfire risk.**	**Planning**	**S**	**M**	**X**
County #6	**Work with local, County, state, and federal partners (i.e., local fire districts/departments and OSFM) to offer additional incentives to residents to create defensible space and conduct home hardening as well as consider offering home/driveway inspections.**	**Outreach & Education; Planning**	**M**	**M**	**X**
County #7	Remove material in the agricultural/industrial dump site on USFS land near the Historic Columbia River Highway Twin Tunnels trail.	Fuels Mitigation Treatment; Planning	M	H	
County #8	Improve countywide focus on wildfire smoke preparedness, awareness, and mitigation, including through outreach campaigns, partnership with OSU Extension Service and Smoke Ready Gorge, and the expansion of indoor air filter loan programs.	Outreach & Education; Planning	M	L	
County #9	Increase workforce coordination (e.g., training local work crews) to improve efficiency of fuels reduction and other projects.	Fuels Mitigation Maintenance; Planning	L	M	
County #10	Expand outreach to recreators, tourists, and other visitors regarding both wildfire preparedness and prevention.	Outreach & Education	M	L	

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
CL #1	Maintain and mitigate risk at City of Cascade Locks Public Works burn pile at City Wastewater Treatment Plant on Herman Creek Lane.	Planning	S	M	
CL #2	Increase awareness and improve local and countywide planning regarding issues with evacuation revealed by 2017 Eagle Creek Fire. Specific concerns include many neighborhoods with limited ingress/egress and mobile home parks in the City of Cascade Locks.	Outreach & Education; Planning	M	L	
CL #3	**Study creation and maintenance of fuel break to the southeast of the City of Cascade Locks to mitigate risk from future wildfires like the 2017 Eagle Creek Fire.**	**Defensible Space; Fuels Reduction Treatment; Planning**	**L**	**H**	**X**
HR #1	Create defensible space around the historic Columbia Gorge Hotel on I-84 by Wah Gwin Gwin Falls.	Defensible Space	M	M	
HR #2	Create defensible space and conduct resident education regarding historic fire burn west of Rand Road.	Defensible Space; Outreach & Education	M	M	
HR #3	Create defensible space on small lots with large amounts of vegetation in the Creekside and Fox Hollow neighborhoods.	Defensible Space	M	M	
HR #4	Continue partnership between local and County police, fire departments, and other stakeholders to support the houseless population while ensuring no fires start at encampments (including near Ruthton County Park).	Outreach & Education; Planning	O	M	
HR #5	Create defensible space near Columbia Gorge Community College buildings and nearby homes to ensure safe ingress/egress.	Defensible Space	L	L	
HR #6	**Develop and update strong countywide WUI building code to ensure expansion of the City of Hood River's Urban Growth Boundary (i.e., the Westside Urban Renewal Effort) requires homes with water supply for sprinklers and hydrants, wider roads to ensure ingress/egress, and other items to reduce wildfire risk.**	**Planning**	**S**	**L**	**X**
P #1	Support both current Firewise communities (Hess Road and Baldwin Creek Drive) and the creation of new Firewise communities (such as Mountain Shadows Resort community).	Outreach & Education	O	L	

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
P #2	Create defensible space in the fields around Hutson Museum and consider development of model Fire Adapted Home and Landscape in the museum and surrounding field.	Defensible Space; Fuels Reduction Treatment; Outreach & Education	L	H	
P #3	Create defensible space and conduct resident education for Lost Lake Road community, which has many large lots with significant vegetation.	Defensible Space; Outreach & Education	M	M	
P #4	Create defensible space in the Booth Hill neighborhood to ensure access to single-lane, gravel, steep roads with many potentially isolated houses due to limited ingress/egress.	Defensible Space	M	M	
WS #1	Conduct outreach campaign for builders, planners, landscapers, real estate agents, and other professionals on best practices for defensible space and home hardening.	Outreach & Education	L	L	
WS #2	Create defensible space/fuel breaks and conduct outreach to residents at air show and dozer lines on the west boundary of the District (bordering Wy'East RFPD).	Defensible Space; Outreach & Education	M	H	
WS #3	Create defensible space/fuel breaks on access roads into Phelps Creek/Post Canyon power access.	Defensible Space	L	M	
WS #4	Improve water and hydrant infrastructure throughout Reed Road neighborhood as ingress/egress restrictions mean that Type 1 engines cannot go down driveways.	Infrastructure Improvement	M	H	
WS #5	Create defensible space and conduct resident education campaign around best practices on defensible space and home hardening in the Markham Road community.	Defensible Space; Outreach & Education	M	M	
WE #1	Create defensible space and clarify protection responsibilities with ODF for homes near the Whiskey Creek Drainage.	Defensible Space; Planning	M	M	
WE #2	Purchase a 60-70 psi suction tube pump for new Type 3 engine.	Equipment Upgrade	M	H	
WE #3	Create defensible space and conduct resident education around best practices on defensible space and home hardening in Highline Road neighborhood.	Defensible Space; Outreach & Education	M	M	
WE #4	**Support Pine Crest and Oakridge in becoming Firewise communities and ensure installation of residential sprinklers in all new homes.**	**Outreach & Education; Planning**	**S**	**L**	

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
WE #5	Create defensible space and conduct resident education around best practices on defensible space and home hardening in neighborhoods surrounding the Apple Valley Store.	Defensible Space; Outreach & Education	M	M	
WE #6	Work with local partners to ensure knowledge of preparedness, defensible space, and home hardening among residents of the Odell Mobile Home Park (with a population estimated at 70% non-White Hispanic, 40% above 65 years old, and 30% Spanish-speaking).	Outreach & Education	M	M	
WE #7	Maintain defensible space and awareness about potential fire risks among businesses producing flammable products in the Odell Commercial District.	Fuels Mitigation Maintenance; Outreach & Education	M	M	
ODF #1	Conduct defensible space treatment around homes, structures, and infrastructure, as well as invasive species and maple/oak resprout treatment, along property lines abutting other land ownerships and in the following WUI communities: Cooper Spur, Parkdale/Mt Hood, Dee, York Hill, Rorden Hill, Post Canyon, Pinemont, Neal Creek, Fir Mountain, Panorama, Middle Mountain, and Cascade Locks.	Defensible Space	O	M	
ODF #2	**Provide funding for fuels reduction treatments on small private forest landowners to assist with thinning overstocked stands, clear underbrush to reduce vegetation fuels, protect nearby homes and communities, and improve forest health conditions. Treatment on these stands would consist of activities such as thinning, pruning, piling, burning, chipping, and mastication. This treatment is needed on most forested private lands across the County.**	**Defensible Space; Fuels Mitigation Treatment & Maintenance; Planning**	**L**	**H**	**X**
ODF #3	**Provide funding for fuels reduction for land ownership groups with limited eligibility but significant need (e.g., near WUI communities or high burn probability). Funding would also support treatments on overstocked or dead/dying forests (e.g., Bark Beetle outbreaks in Ponderosa Pines or Douglas Fir engravers) and on industrial forestland with non-merchantable Oak, Pine, Maple, and Douglas Fir.**	**Defensible Space; Fuels Mitigation Treatment & Maintenance; Planning**	**L**	**H**	**X**

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
ODF #4	Support vegetation management and the implementation of roadside shaded fuel breaks on roads throughout the County to improve ingress/egress for both first responders and evacuations. Project would also involve conducting mapping of road systems used by first responders to identify priority areas to focus treatment.	Defensible Space; Fuels Mitigation Treatment; Planning	L	H	
ODF #5	Provide mobile chipping services (including air curtain burners that abate fuel loading from properties) and other debris removal events to allow landowners to either drop off material to be chipped or have scheduled pick-ups via a grant-funded trailer. Project would also provide a voucher program to cover costs and incentivize landowners.	Fuels Mitigation Treatment; Outreach & Education	L	H	
ODF #6	Design and install water source cisterns in areas with limited water availability based on mapping system developed through project that identifies potential locations and access points for fire agencies.	Infrastructure Improvement; Planning	L	H	
ODF #7	**Provide funding for landowners and other agencies to maintain previously treated land, including activities like burning and herbicide.**	**Defensible Space; Fuels Mitigation Maintenance; Outreach & Education**	**O**	**H**	**X**
ODF #8	Support outreach and education programs, including property assessments for WUI communities (both training to learn how to conduct these and funding to carry them out), establishing Firewise communities, and open community outreach events (including venue rental, food, travel for guest speakers, and other supplies).	Outreach & Education; Planning	O	M	
ODF #9	Acquire equipment to support projects, including a chipper with a trailer, a brush mower with a trailer, and power/pruning saws.	Equipment Upgrade	L	H	
ODF #10	Provide funding to assist with monitoring, data collection, and tracking of fuels reduction effectiveness as well as timing for future maintenance treatments for past, current, and planned projects.	Planning	O	M	
ODF #11	Provide funding to identify climate change impacts and develop new technologies/methods (e.g., bringing in outside specialist/vendors or conducting pilot projects testing new approaches).	Planning	L	H	

Table 8-1 Defensible Space and Other Mitigation Projects

Project ID	Project Description	Project Type	Timeline	Cost	Priority
ODF #12	Provide funding to support local organizations with long-term strategic planning, including stakeholder meeting facilitation or hiring additional staff (e.g., the County Wildfire Mitigation Coordinator position).	Planning	M	M	
ODF #13	Work with local partners and agencies to reduce contention for project resources by establishing and maintaining fuels crews to conduct fuel treatments including thinning, pruning, piling, burning, chipping, and mastication.	Fuels Mitigation Treatment; Planning	M	M	
ODF #14	Work with partner organizations to extend wildfire camera coverage throughout the region.	Infrastructure Improvement; Planning	M	M	

Source: Hood River County CWPP Steering Committee (2024). Analysis by OPDR.

Fuels Reduction Projects

The proposed Hood River County fuels reduction project areas listed in Table 8-2 and illustrated in Map 8-1, Map 8-2, and Map 8-3 were identified by local, state, and federal fire agencies (with input from the CWPP Steering Committee) as having multiple factors contributing to community wildfire risk to residents, homes, infrastructure, and the ecosystem. Treatments within each project area are site specific and all work on private property will be performed with the consent of, and in cooperation with, the property owners. Projects may include commercial or pre-commercial thinning, pruning, brush removal, chipping, prescribed burning, installation of greenbelts or shaded fuel breaks, and general forest health improvements.

Identified project areas have not been field-verified; thus, the boundaries and specific prescriptions for the actual project area as depicted in each of the three project maps may be revised upon further research and development of the project.

Note that projects from the U.S. Forest Service are not listed in Table 8-2 but are included in Map 8-1 so that fuels reductions projects from all agencies are represented together.

Each project includes the following information:

- Project ID:
    - In addition to identifying each individual project, this also matches the project to its corresponding location on Map 8-1 (as well as Map 8-2 and Map 8-3).
- Project Description
- Approximate Location
- Timeline:
    - O=Ongoing (continuous), S=Short (1-2 years), M=Medium (3-5 years), and L=Long (5 or more years). These are the same categories used for the Hood River County NHMP.
- Cost:
    - L=Low ($50,000 or less), M=Medium ($50,000 to $500,000), H=High ($500,000 to $5 million), and VH=Very High ($5 million or more). These are the same categories used for the Hood River County NHMP.
- Priority Ranking:
    - An “X” means that this project was designated high priority by the CWPP Steering Committee with assistance from OPDR.

Table 8-2 Fuels Reduction Project Areas

Project ID	Project Description	Approximate Location	Timeline	Cost	Priority
HRC-1	**Reduce fuels, create fire breaks, remove debris, and improve firefighting access to the Powerdale, Hood River, and Indian Creek riparian areas variously managed by Hood River County, the City of Hood River, and the Columbia Land Trust.**	**Powerdale, Hood River, and Indian Creek**	**S**	**H**	**X**
HRC-2	Clear fuels from area surrounding Eagle Creek Drainage with significant fuels accumulation with either hand tools or grazing.	Eagle Creek Drainage	L	H	
CL-1	**Clear leftover brush and fuels from 2003 Herman Creek fire adjacent to private owned Windsong-Shahalla neighborhood (which may become a Firewise community in several years).**	**Herman Creek Drainage, south of Windsong Drive**	**M**	**M**	**X**
CL-2	Manage logged land with significant brush accumulation just north of Cascade Locks substation bordered by private timber land.	City of Cascade Locks Substation	M	H	
CL-3	Maintain and mitigate risk at City of Cascade Locks Public Works burn pile at City Wastewater Treatment Plant on Herman Creek Lane.	City of Cascade Locks Wastewater Treatment Plant	S	M	
CL-4	**Clear vegetation 50 feet from each side of Dry Creek Road and NF 211 to protect communications and radio towers.**	**Dry Creek Road and NF 211**	**S**	**M**	**X**
CL-5	Clear fuels from area surrounding Eagle Creek Drainage with significant fuels accumulation with either hand tools or grazing.	Eagle Creek Drainage	L	H	
HR-1	**Clear fuels around the historic Columbia Gorge Hotel on I-84 by Wah Gwin Gwin Falls.**	**Columbia Gorge Hotel**	**M**	**M**	**X**
HR-2	Clear fuels from historic fire burn west of Rand Road.	West of Rand Road	M	M	
HR-3	Clear fuels from small lots with large amounts of vegetation in the Creekside and Fox Hollow neighborhoods.	Creekside and Fox Hollow Neighborhoods	M	M	
HR-4	**Clear fuels and remove debris from steep slopes surrounding the Indian Creek Drainage and the Indian Creek trail. This project will require additional planning as some members of the houseless population reside in this area.**	**Indian Creek Drainage**	**S**	**H**	**X**
HR-5	**Clear fuels and improve ingress/egress to area surrounding Historic Columbia Gorge Bike/Hike Trail.**	**Historic Columbia Gorge Bike/Hike Trail**	**M**	**M**	**X**

Table 8-2 Fuels Reduction Project Areas

Project ID	Project Description	Approximate Location	Timeline	Cost	Priority
HR-6	**Create defensible space near Columbia Gorge Community College buildings and nearby homes to ensure safe ingress/egress.**	**Columbia Gorge Community College**	**L**	**L**	**X**
HR-7	Clear fuels from land on Sieverkropp Drive recently converted from agricultural to urban zoning with density.	Sieverkropp Drive	L	M	
P-1	Clear fuels from timber land with significant fuels accumulation.	Cooper Spur	M	M	
P-2	Clear fuels from timber land mixed with homes with significant fuels accumulation.	Lawrence Lake	M	M	
P-3	Clear fuels and manage other vegetation from fields surrounding high voltage transmission lines running across the district east of Hess Road.	East of Hess Road	S	H	
P-4	Clear fuels in the fields around Hutson Museum.	Hutson Museum	M	L	
P-5	Clear fuels from large lots with significant vegetation in the Lost Lake community.	Lost Lake Road	S	M	
P-6	**Work with ODF to clear fuels from this area surrounded by ODF and County Forestry land. A fire here would spread rapidly towards more populated areas and cause significant damage.**	**Middle Mountain**	**M**	**H**	**X**
P-7	Clear fuels from many rural lots along Highway 281 that are adjacent to forest land with significant fuels accumulation.	Highway 281	S	H	
P-8	Expand on previous fuels reduction work in Berry Drive community adjacent to County Forestry land with significant fuels accumulation.	Berry Drive	L	M	
P-9	Create defensible space in the Booth Hill neighborhood to ensure access to single-lane, gravel, steep roads with many potentially isolated houses due to limited ingress/egress.	Booth Hill	M	M	
WS-1	Create 50- to 100-foot fuel breaks from the shoulder of Phelps Creek Road.	Phelps Creek	S	M	
WS-2	Create 50- to 100-foot fuel breaks from the shoulder of Post Canyon Road. Limited ingress/egress is a concern, as is protecting trees to ensure property values are not impacted by fuels reduction efforts.	Post Canyon	S	M	

Table 8-2 Fuels Reduction Project Areas

Project ID	Project Description	Approximate Location	Timeline	Cost	Priority
WS-3	Create 50- to 100-foot fuel breaks from the shoulder of Riordan Hill Drive. Limited ingress/egress is a concern, as is protecting trees to ensure property values are not impacted by mitigation efforts.	Riordan Hill Drive	M	M	
WS-4	Create 50- to 100-foot fuel breaks from the shoulder of York Hill Drive. Limited ingress/egress is a concern, as is protecting trees to ensure property values are not impacted by mitigation efforts.	York Hill Drive	M	M	
WS-5	Create 50- to 100-foot fuel breaks from the shoulder of Binns Hill Drive and Frazier Drive. Limited ingress/egress is a concern as land is a mix of agriculture and County Forestry land with mostly single-lane roads.	Binns Hill Drive and Frazier Drive	M	M	
WS-6	Create 50- to 100-foot fuel breaks from the shoulder of Kingsley Drive. Limited ingress/egress is a concern, as is protecting trees to ensure property values are not impacted by mitigation efforts.	Kingsley Drive	L	M	
WS-7	Clear fuels from houses throughout this scenic area at Ruthton Point along Henderson Creek with limited ingress/egress due to small, narrow driveways.	Ruthton Point and Henderson Creek	L	M	
WS-8	**Clear significant amount of vegetation around homes with either hand tools or grazing along the Indian Creek Trail. This project will require additional support as some members of the houseless population reside in this area and there are concerns about potential ignitions.**	**Indian Creek Trail (along Hood River Drainage)**	**S**	**H**	**X**
WS-9	Create 50- to 100-foot fuel breaks from the shoulder of Reed Road.	Reed Road	L	M	
WS-10	Clear fuels from steep terrain with blackberries, poison oak, and scrub oak at the end of Markham Road that cannot be reached with a Type 1 engine with hand tools or grazing.	End of Markham Road	L	M	
WS-11	Maintain defensible space and fuels reduction work conducted by private homeowner at Mitchell Point who cannot be reached with a Type 1 engine.	Mitchell Point	L	L	

Table 8-2 Fuels Reduction Project Areas

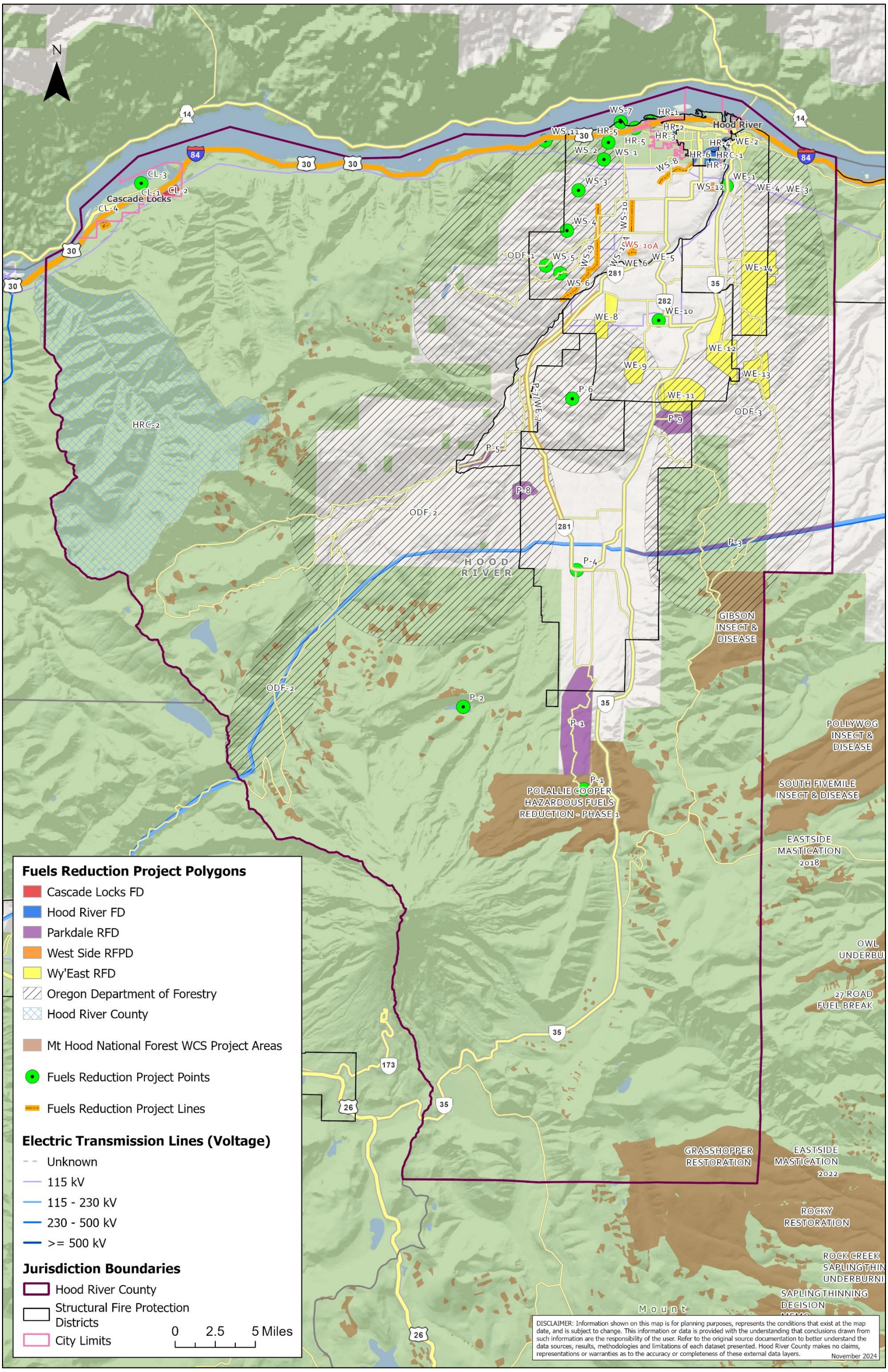
Project ID	Project Description	Approximate Location	Timeline	Cost	Priority
WS-12	Clear fuels from area surrounding Experiment Station with significant fuels accumulation with either hand tools or grazing.	Experiment Station	L	M	
WE-1	Clear fuels from several homes on steep slopes with limited ingress/egress near Panorama Point.	Northeast of Panorama Point along OR 35	L	M	
WE-2	Clear fuels and create defensible space for homeowners not eligible for financial incentive along Highline Road.	Highline Road	M	M	
WE-3	**Maintain defensible space around communications tower and Pacific Power infrastructure on Microwave Hill in a region where fires occur frequently.**	**Microwave Hill**	**S**	**H**	**X**
WE-4	Clear fuels from area with some fuels accumulation surrounding Oak Ridge Reservoir	Oak Ridge Reservoir	M	M	
WE-5	Clear fuels and create defensible space around the Apple Valley Store and nearby homes.	Apple Valley Store	M	M	
WE-6	Maintain defensible space and increase camper education regarding potential ignitions from campfires around campground at Tucker County Park.	Tucker County Park	L	L	
WE-7	Clear fuels along Dee Highway in areas where fires occur frequently, especially along uphill side of road with steep slopes and significant vegetation.	Dee Highway	M	M	
WE-8	Maintain defensible space around permanent orchard camps along Gilhouley Road.	Gilhouley Road	L	L	
WE-9	Create defensible space for homes within significant vegetation and steep slopes along Sylvester Drive and Central Vale Drive.	Sylvester Drive and Central Vale Drive	M	M	
WE-10	Clear fuels, create defensible space, and increase outreach to residents at Odell Mobile Home Park (with a population estimated at 70% non-White Hispanic, 40% above 65 years old, and 30% Spanish-speaking).	Odell Mobile Home Park (3334 Aga Road)	S	M	
WE-11	Clear fuels and conduct chipper day with Booth Hill community which has many homes adjacent to timber land. Showcase model home with driveway access and well-maintained defensible space/fuels reduction projects around Booth Hill Reservoir.	Booth Hill	S	M	

Table 8-2 Fuels Reduction Project Areas

Project ID	Project Description	Approximate Location	Timeline	Cost	Priority
WE-12	Create 50- to 100-foot fuel breaks from the shoulder of Neal Creek Road. Limited ingress/egress is a concern, as residents can only enter/exit from the north with the south road leading to the County-owned Hood River Forest Products.	Neal Creek Road	M	M	
WE-13	Consider actions, including clearing fuels or annexing of Fir Mountain Ranch into district (previously attempted) along Fir Mountain Road where many homes are adjacent to timber land.	Fir Mountain Road	L	H	
WE-14	Clear fuels from Fir Mountain Loop and Wells Drive on the east side of the district.	Fir Mountain Loop and Wells Drive	M	M	
ODF-1	Improve ingress/egress along roads and identified lines; reduce fire intensity near identified control and/or access lines; invasive species treatment; and maple resprout rearmament. May include thinning, mastication, hazard tree removal, pruning, piling, chipping, burning, chemical application, and grazing.	Northwest County (Post Canyon, Kingsley, Green Point, and Middle Mountain)	L	H	
ODF-2	Improve ingress/egress along roads and identified lines; reduce fire intensity near identified control and/or access lines; invasive species treatment; and maple resprout rearmament. May include techniques identified in ODF-1.	North Central County (Red Hill, Camp Creek, Tony Creek, Blowdown Ridge, LoLo Pass, and Lake Branch)	L	H	
ODF-3	**Improve ingress/egress along roads and identified lines; reduce fire intensity near identified control and/or access lines; invasive species treatment; and maple and oak resprout rearmament. May include techniques identified in ODF-1.**	**Northeast County (Fir Mountain, Pinemont Road/NF Rd 17, Huskey Road, and Elder Road)**	**L**	**H**	**X**
USFS-1	*Sapling Thinning Decision Memo:* Conduct fuels reduction treatment work and tree thinning throughout the Forest.	Mt. Hood National Forest	S	M	
USFS-2	*Polallie Cooper Hazardous Fuels Reduction:* Conduct fuels reduction treatment work directly northeast of Mt. Hood.	Mt. Hood National Forest	S	M	
USFS-3	*Gibson Insect & Disease:* Conduct fuels reduction treatment and insect management work in the northeast portion of the Forest.	Mt. Hood National Forest	S	M	
USFS-4	*Grasshopper Restoration:* Conduct fuels reduction treatment work in the southwest portion of the Forest.	Mt. Hood National Forest	S	M	

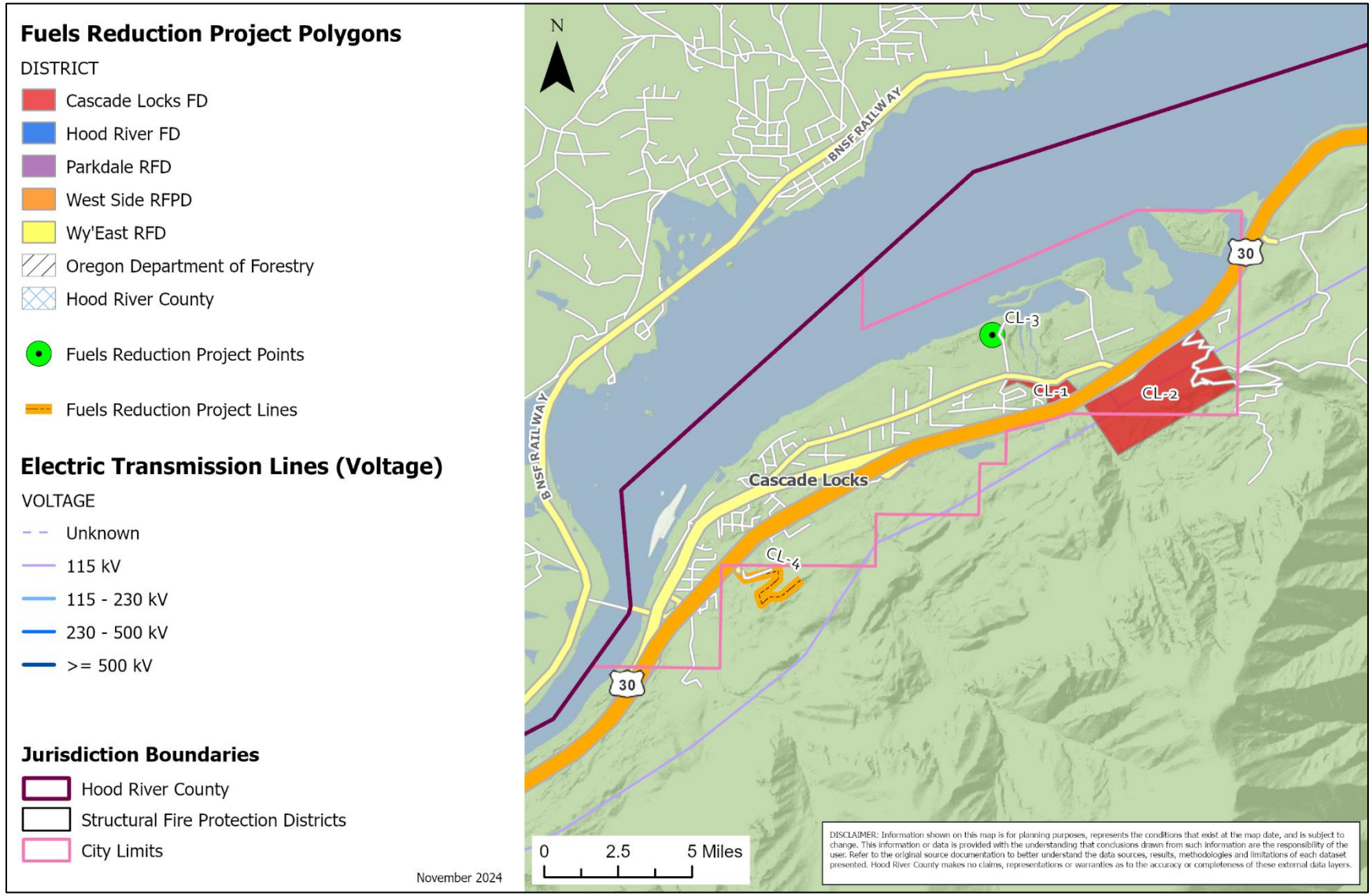
Source: Hood River County CWPP Steering Committee (2024). Analysis by OPDR.

Map 8-1 Fuels Reduction Project Areas – Hood River County



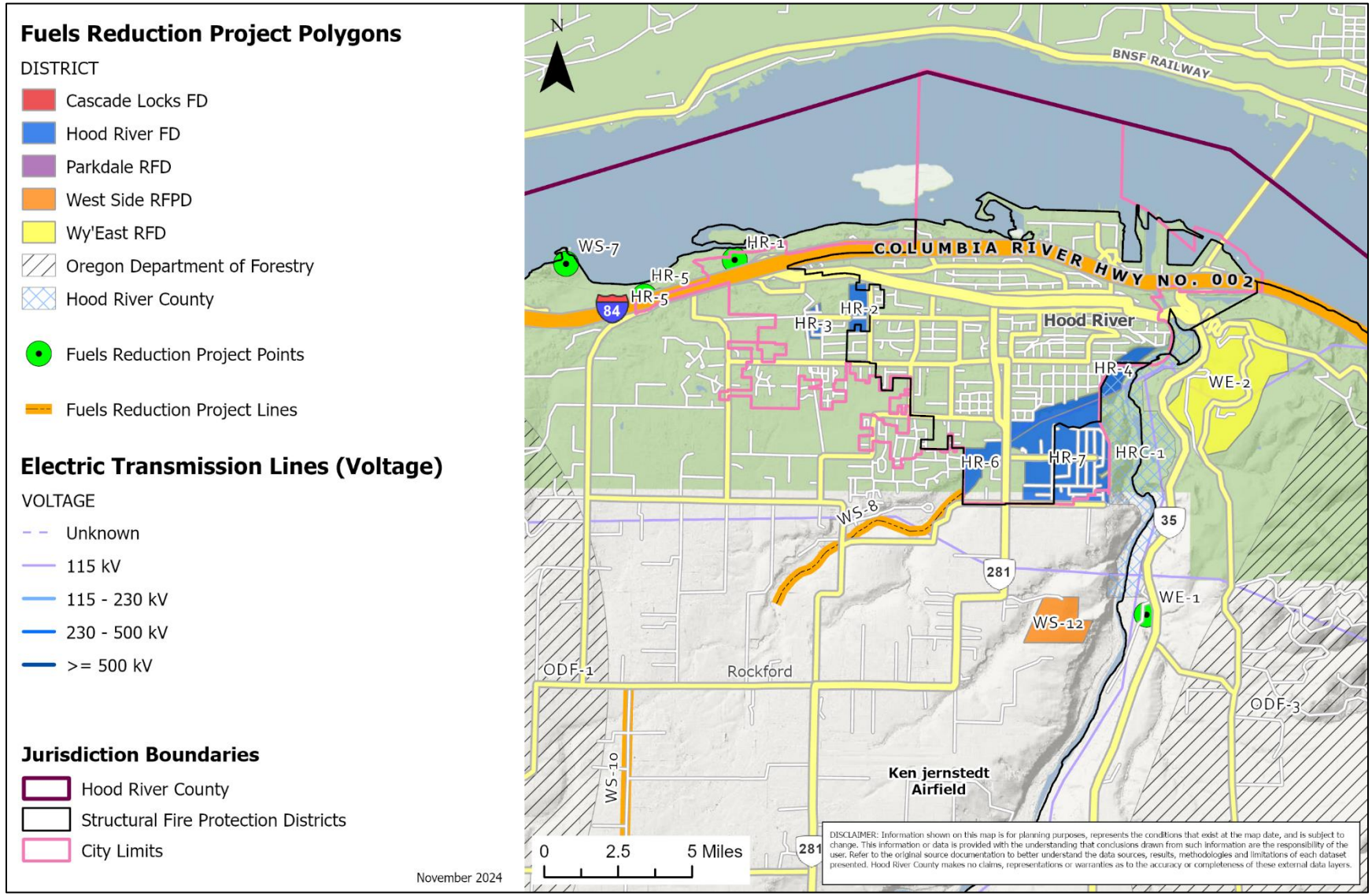
Source: Hood River County CWPP Steering Committee (2024). Analysis and mapping by OPDR.

Map 8-2 Fuels Reduction Project Areas – City of Cascade Locks



Source: Hood River County CWPP Steering Committee (2024). Analysis and mapping by OPDR.

Map 8-3 Fuels Reduction Project Areas – City of Hood River and Surrounding Area



Source: Hood River County CWPP Steering Committee (2024). Analysis and mapping by OPDR.

Regional Land Management

Wildfires will continue to ignite and burn depending on the weather conditions and other factors enumerated previously in this plan. Active land management that modifies fuels, promotes healthy forestland conditions, and promotes the use of natural resources (consumptive and non-consumptive) will ensure that these lands have value to society and the local region. ODF, the USFS, other federal agencies, industrial forestland owners, private forestland owners, and all agricultural landowners in the region should be encouraged to actively manage their Wildland-Urban Interface (WUI) lands in a manner consistent with reducing fuels and risks in this zone.

The recommendations listed in previous sections for ODF and the USFS help identify where some of the state and federal land management agencies in Hood River County have planned, current, or proposed fuel reduction projects. Knowing what agency projects are planned can help other regional or local agencies prioritize their own fuels reduction projects. Conducting simultaneous fuels reduction projects on adjacent forestland properties is not only encouraged but can also help cut down on overall mitigation costs.

Appendix A: Post-Fire Recovery

This appendix includes preliminary recommendations and criteria for incorporating recovery planning and reflective learning in the wake of fire events into the fire planning cycle. This is a new addition to the CWPP structure implemented during the 2025 update.

Including post-fire recovery considerations is a key component of the adaptive fire management framework. As fires are recurring events, damage to communities and landscapes is expected. Incorporating intentional reflective learning from past fire events is essential to enhancing the capacity of the County and stakeholders to be effective in planning for future fire events.

Post-fire planning can be described as either short-term planning or long-term planning. Short-term recovery planning includes recovery actions in the immediate wake of a fire event including emergency shelter, hazardous material removal, and actively communicating with stakeholders and the community. Long-term recovery planning includes actions that contribute towards building greater resiliency in communities and landscapes such as stabilization of hillsides, assistance in rebuilding fire hardened communities, and education about resources available to individuals and organization for post-fire recovery.

Through proactive planning, the County can guide recovery efforts in ways that strengthen communities against the future impacts of fire and generate resiliency.

Recommendations

The post-fire approach should be twofold and include both ecological and social components.

Ecological

Identify areas for environmental site stabilization and cleanup prior to a fire. Working with ODF, OSFM, USFS, the Federal Emergency Management Agency (FEMA), the U.S. Farm Service Agency (FSA), and other organizations, identify the priority areas within the County that may need environmental stabilization or could pose a severe contamination threat post wildfire.

Social

Create a guide to help homeowners return to their residences safely. The guide should include safety considerations (e.g., remain away from your home until officials tell you it is safe to return), how to mobilize your community (e.g., have the HOA or neighborhood association appoint a post-fire coordinator), and contact information for where to find assistance (e.g., gas, water, power, and home inspector services and grant programs that could cover these costs).

Create a list of contacts within the county for post-fire collaboration and communication: This resource should include a compilation of federal, state, county, and local groups throughout Hood River County with an organizational contact for each as well as a brief annotation.

Pre-Fire Recovery

While fire and other natural disaster recovery efforts traditionally take place after the event has occurred, there are actions that can be taken prior to an incident to better prepare for recovery. These types of projects, known as "pre-covery", take a wide array of forms and can overlap between recovery and mitigation efforts. The following list is not exhaustive but intended instead to be a starting point for future planning:

- Infrastructure Improvements: After a fire occurs, debris flows often flow, causing further destruction in areas not affected by the initial blaze. Retrofitting and upgrading outdated infrastructure such as culverts or roads in areas likely to be affected by post-fire debris flows can help reduce the total amount of damage from a fire and allow recovery efforts to focus on fire-affected areas.
- Pre-Funding Recovery: While few organizations have the capacity to set aside funding for a future event, establishing even a small fund that can be immediately tapped into in the event of a major fire would allow the County or other jurisdictions to immediately begin recovery efforts. This ensures that recovery can begin quickly and demands fewer immediate resources and funding while organizations responding wait for reimbursement from FEMA or another agency (which can take months to years).
- Improving Data Management: In the aftermath of a fire that necessitated evacuations, there may be tens or hundreds of people looking for support, shelter, and funds for rebuilding their homes. The County and other local governments, special districts, and organizations could develop procedures for how data on those affected will be collected, how it may be shared with organizations like the American Red Cross (and vice versa), and how it can be used. Conducting this work prior to a disaster can significantly streamline operations after a disaster occurs.

Appendix B: Community Outreach

Community Survey

To gather input from the Hood River County community for the simultaneous update to the Hood River County CWPP and Natural Hazard Mitigation Plan (NHMP), the Oregon Partnership for Disaster Resilience (OPDR) and Hood River County Emergency Management designed a survey to measure community perspectives on hazard awareness, preparedness, and mitigation.

The survey was developed on Qualtrics and was available online in both English and Spanish for approximately three months from May to July 2024. Members of the NHMP and CWPP Steering Committee helped distribute this survey to County residents, County visitors, and those who work in the County via email, newsletters, and social media posts.

A total of 222 responses were received as part of this survey. Since not all questions were answered by all respondents, and some respondents were flagged as potential bots, not every figure adds up to the full number of potential responses. All analysis was conducted by OPDR.

Full survey results can be found in Appendix G of the Hood River County NHMP. However, one key takeaway regarding wildfire is that when asked about all natural hazards, residents are simultaneously most concerned about wildfire while also feeling most prepared to respond to a major wildfire event (e.g., making an evacuation plan or preparing a go bag).

Engaging the Community

Involving the community is one of the best ways to reduce the risk and consequence associated with wildfire. For one, it is members of the community that are on the front lines for reporting fires and fire hazards. An educated and aware citizenry can significantly reduce the chance of a fire ignition. They can also reduce the chance of fire spread through property and home maintenance. The remainder of this appendix briefly outlines potential community outreach programs for wildfire awareness and prevention.

Hood River County Fair

The Hood River County Fair has traditionally been a resource for community outreach in Hood River County. Held the last weekend in July, the County Fair is in the middle of wildfire season and acts as an opportunity to reach out to families and youth interested in fire prevention. The County Fair is staffed daily by personnel from various fire agencies who provide educational materials and answer questions on wildfire prevention.

Ready, Set, Go!

Ready, Set, Go! (RSG) is a wildfire education and prevention program managed by the International Association of Fire Chiefs. It is designed with the purpose of improving communication between fire departments and the public. In 2013, the Hood River County Fire Defense Board joined RSG to become part of the national dialogue on fire prevention and community outreach. As an RSG participant, the County has gained access to various implementation guides and planning documents; Spanish and English wildfire prevention and awareness materials; and interaction with other fire prone counties across the country. RSG also allows Hood River County to maintain a database of hours spent on public education and outreach in comparison to other departments around the country. Community resources can be accessed freely at www.wildlandfirersg.org.

Radio, News, and Social Media PSAs

Public Service Announcements (PSAs) can be submitted to Hood River County radio stations, news channels, local newspapers, and distributed via social media by the County Emergency Manager and local fire agencies to alert the public of upcoming fire season changes. Typically, these PSAs occur at the beginning of fire season to notify about changes to burning regulations, and at the end of the fire season. Periodically, PSAs are issued regarding tree management methods during times of drought or Pine Beetle Outbreak.

Hazard Area Mailings

Wildfire prevention and awareness mailers have been provided to those living within hazard areas of Hood River County. Mailers are created to encourage homeowners to create defensible space around their homes and prepare for wildfires. Mailers can be sent out to residents living in homes that were considered in extreme high-risk areas. These areas were identified using current satellite imagery and local empirical knowledge of terrain, fuels, and potential ignition sources.

Wildfire Resistant Plants Distribution

The adage 'lean, mean, and green for 30 feet' was once an easy way to refer to defensible space around the home. While an effective motto, it does not take into consideration hazardous fuels such as blackberry, scotch broom, and hedges, which are green but remain extreme fire hazards. To combat this misconception, the Hood River County Fire Defense Board has historically distributed a brochure on fire safe plants that can be planted around the home (*Fire-Resistant Plants for Home Landscapes*), a publication created by Oregon State University that focuses on native plants that can be planted near the home and still help maintain a level of resistance against fire. Brochures were distributed free of charge at local fire departments and nurseries.

Appendix C: Supplemental Maps

This appendix includes four supplemental Hood River County maps:

Map C-1 Hood River County Wildfire Hazard – People and Property Conditional NVC

Map C-2 Hood River County Wildfire Hazard – Timber Conditional NVC

Map C-3 Hood River County Wildfire Hazard – Drinking Water Conditional NVC

Map C-4 Hood River County Wildfire Hazard – Agriculture Conditional NVC

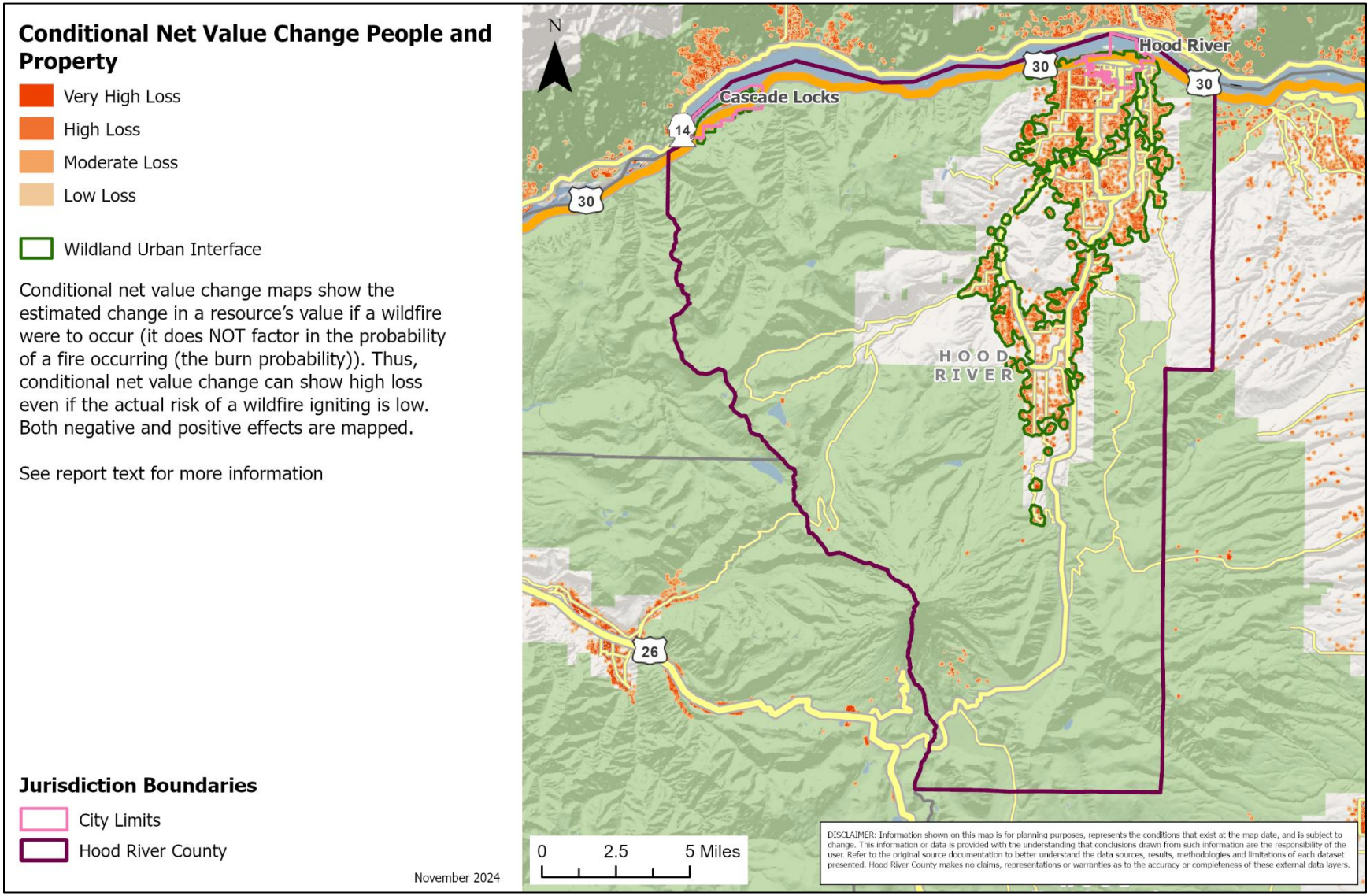
These maps focus on four of the resources – People and Property; Timber; Drinking Water; and Agriculture – that are combined into the broader integrated maps shown in Chapter 4: Risk and Preparedness Assessment and Chapter 7: Fire Agency Profiles.

As noted in both these chapters, ***conditional*** **net value change (cNVC)** shows the estimated change in a resource's value if a wildfire were to occur *without including the probability of an fire occurring.* Thus, conditional net value change can show high loss even if the actual risk of a wildfire igniting is low. Both negative and positive effects are mapped.

Note: Oregon State University's Quantitative Wildfire Risk Assessment (QWRA) for the Pacific Northwest includes high-value timber as an asset, as shown in Map C-2. However, **the QWRA does *not* account for County-owned forestland managed by Hood River County Forestry.** As a result, potential loss for areas with large portions of County-owned forestland – including Middle Mountain and forestland surrounding the City of Hood River – does not show the losses that the County would expect in the event of a wildfire occurring in these areas.

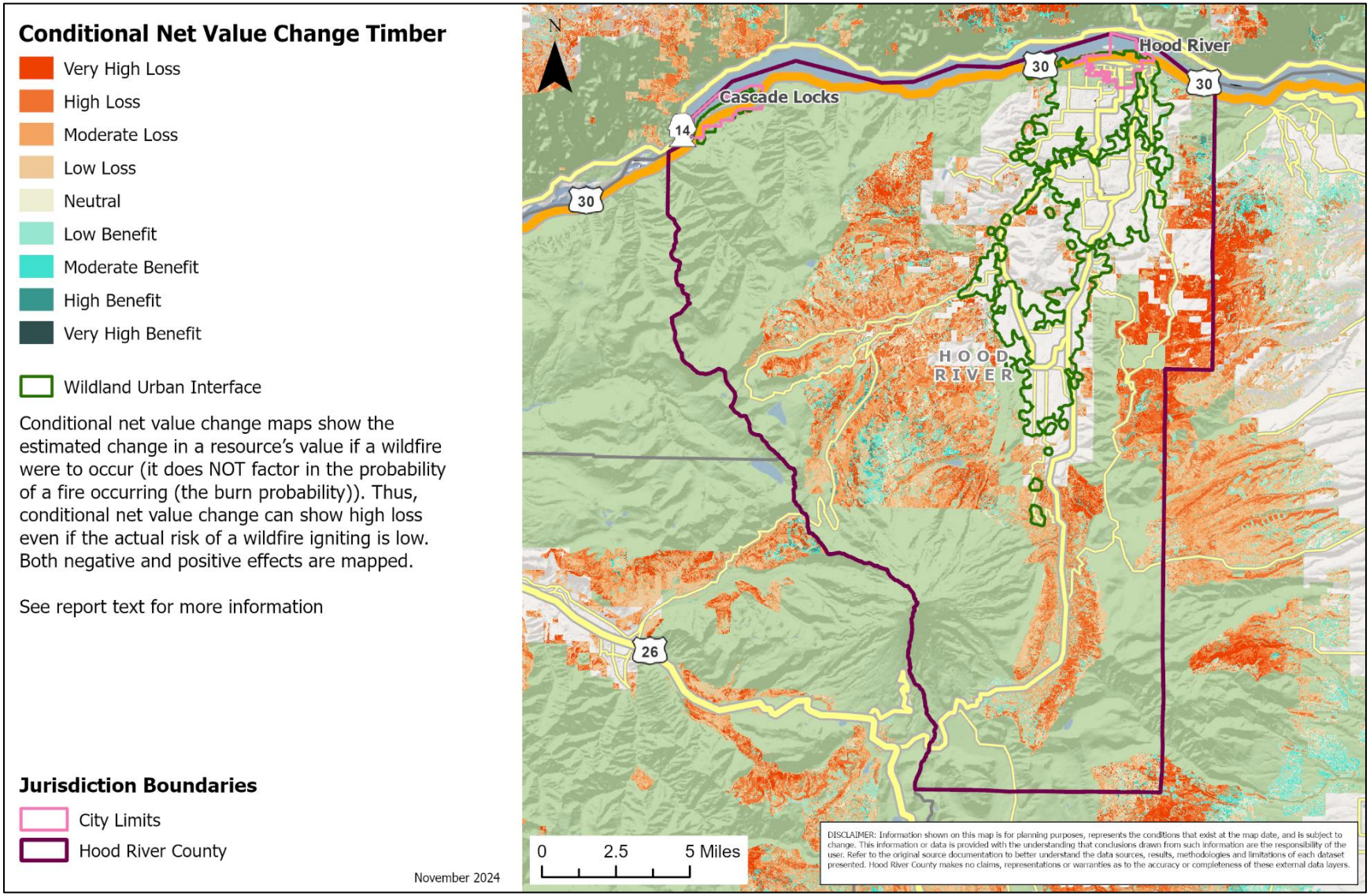
More information on the QWRA's methods can be found at the source: McEvoy, A., Dunn, C., & Rickert, I. (2023). *2023 PNW Quantitative Wildfire Risk Assessment Methods.* Oregon State University. https://oe.oregonexplorer.info/externalcontent/wildfire/PNW_QWRA_2023Methods.pdf.

Map C-1 Hood River County Wildfire Hazard – People and Property Conditional NVC



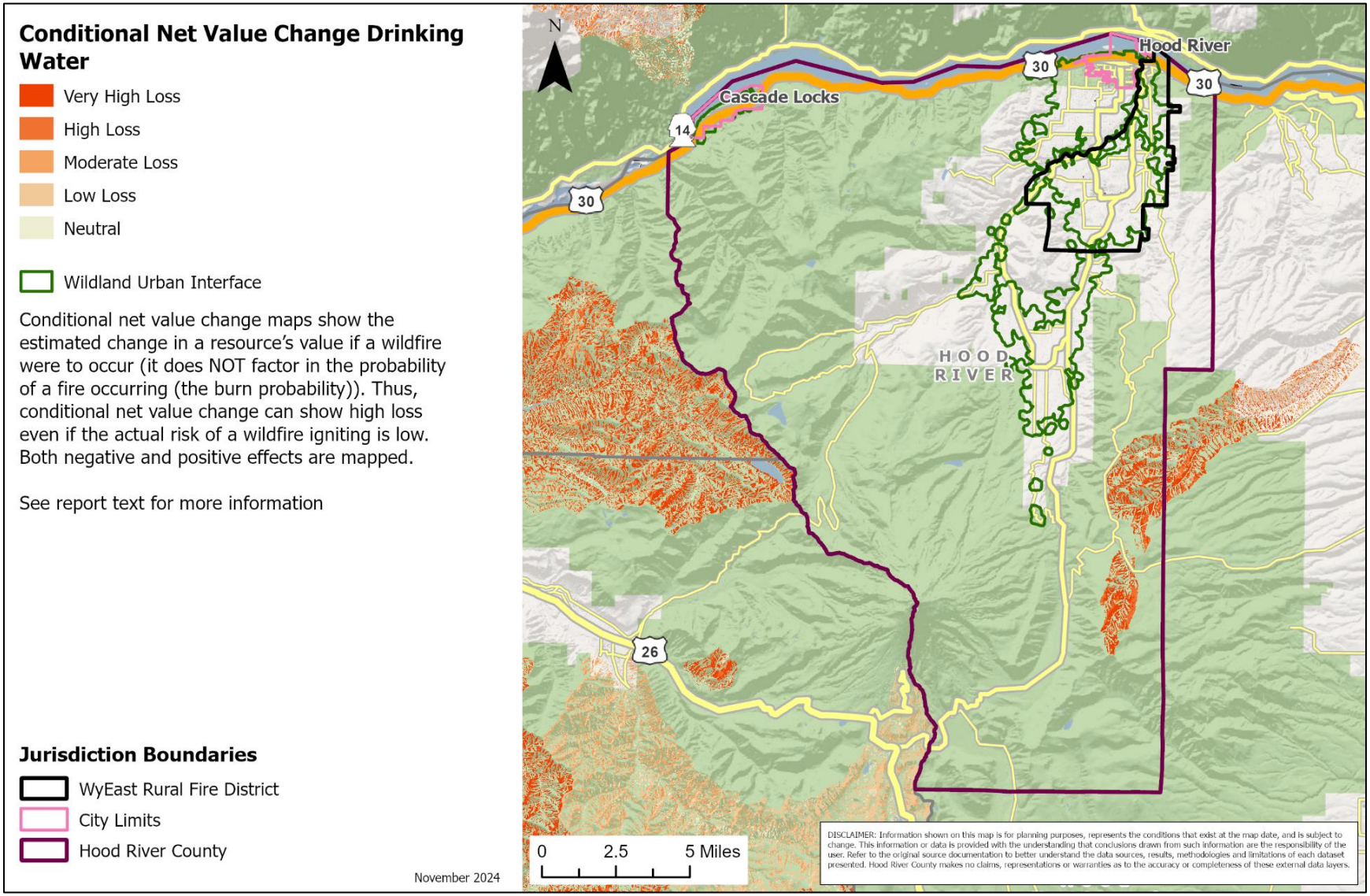
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map C-2 Hood River County Wildfire Hazard – Timber Conditional NVC



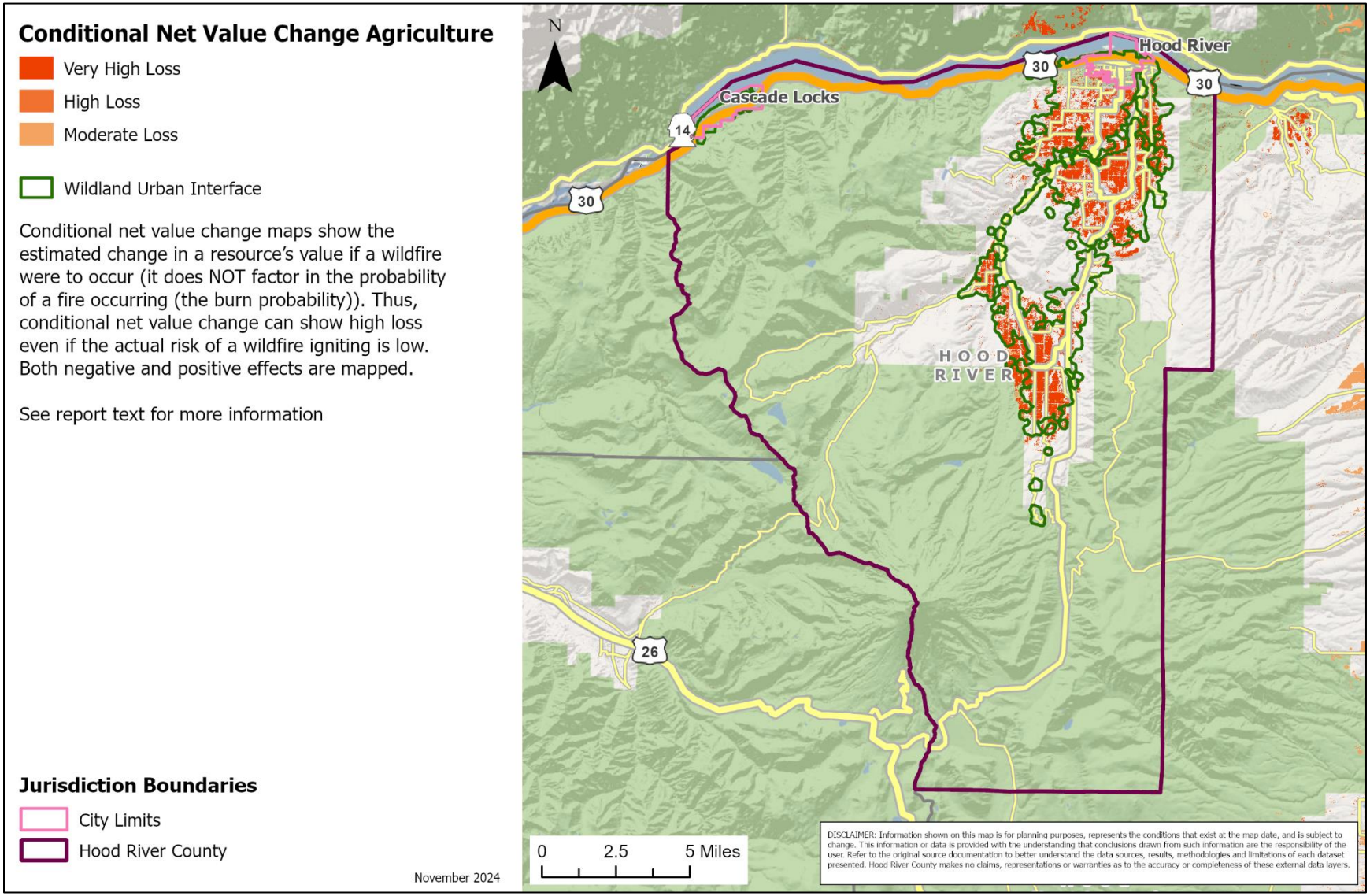
Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map C-3 Hood River County Wildfire Hazard – Drinking Water Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.

Map C-4 Hood River County Wildfire Hazard – Agriculture Conditional NVC



Source: Mapping by OPDR.
Data from USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA) and Oregon Explorer's CWPP Planning Tool.