



December 2023

Yakima County Community Wildfire Protection Plan

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Cover photo by Kara Karboski, Washington Resource Conservation and Development Council

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ABBREVIATIONS

BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CWPP	Community Wildfire Protection Plan
DNR	Washington Department of Natural Resources
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
NYCD	North Yakima Conservation District
SCC	Washington State Conservation Commission
SEAT	Single Engine Air Tanker
SYCD	South Yakima Conservation District
TEA	The Ember Alliance
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WRCD	Washington Resource Conservation and Development Council
WUI	wildland-urban interface
Yakama Nation	Confederated Tribes and Bands of the Yakama Indian Nation
YCFD	Yakima County Fire District
JBLM - YTC	Joint Base Lewis McChord Yakima Training Center
YVEM	Yakima Valley Emergency Management

YAKIMA COUNTY COMMUNITY WILDFIRE PROTECTION PLAN MUTUAL AGREEMENT

The Yakima County Community Wildfire Protection Plan (CWPP) fulfills the three requirements of the Healthy Forests Restoration Act (HFRA) of 2003 and is agreed to by the key parties below.

The CWPP was collaboratively developed with input from interested parties, key stakeholders, fire districts, and private, county, state, and federal agencies managing land or responsible for wildfire preparedness, response, and recovery efforts in Yakima County. It identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment to protect communities and measures to reduce structure ignitability throughout Yakima County.



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To obtain copies of this Plan, contact:
Yakima Valley Emergency Management
2403 S 18th St #200
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[Download the Plan](#)

FOREWORD

Developing a Community Wildfire Protection Plan (CWPP) can help a community clarify and refine its priorities for protecting life, property, and critical infrastructure in the wildland urban interface 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 service organizations help define issues that may place the county, communities, and individual homes at risk. Through the collaboration process, the CWPP Core Advisory Committee (see [Acknowledgements](#) for a list of members) discussed potential actions, regulatory concerns, risks, priorities, and values resulting recommendations in the CWPP. The CWPP planning process incorporated an element for public outreach and involvement and helped inform recommendations and actions to prepare for, respond to, and recover from wildfire.



South Rim Trail and Mount Cleman. Photo by Cowiche Canyon Conservancy

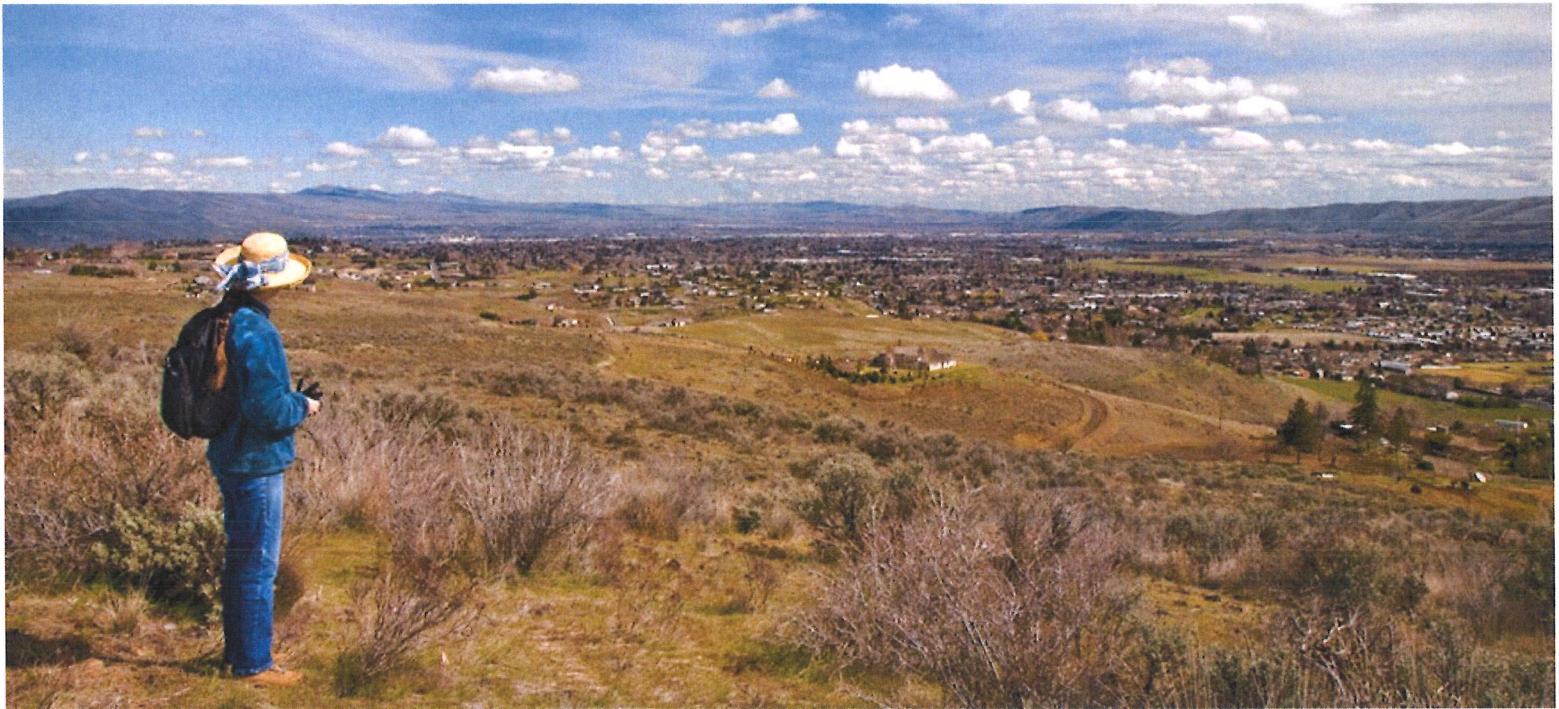
The idea for community-based landscape planning and prioritization in forested and shrub-steppe ecotypes is neither novel nor new. The Healthy Forests Restoration Act of 2003 gave communities an unprecedented impetus to engage in comprehensive forest planning and prioritization. This landmark legislation includes the first meaningful statutory incentives for the U.S. Forest Service (USFS) and the U.S. Bureau of Land Management (BLM) to consider the priorities of local communities as they develop and implement land management and hazardous fuel reduction projects. To take full advantage of this opportunity, a community must first prepare a CWPP.

A county-wide CWPP Core Advisory Committee made project recommendations based on issues 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 approved by the Board of Yakima County Commissioners and the State Forester, the Advisory Committee, in collaboration with partners, will begin further refining proposed project boundaries, feasibility, and public outreach, as well as seek funding to implement the proposed actions listed in the CWPP.

The Glossary and Appendix A Wildland Fire Characteristics provide definitions of key terms. Several maps presented throughout this document are provided in an interactive online format so you can zoom in and explore output from this CWPP.

The Yakima County Community Wildfire Protection Plan expands on the wildfire chapter of the 2022 [**Yakima County Multi-Jurisdictional Hazards Mitigation Plan**](#).



Hiker overlooking Yakima from the Cowiche Canyon uplands. Photo by Cowiche Canyon Conservancy

CHAPTER 1

INTENT AND PURPOSE

An average of 43 reported wildfire events occur annually in Yakima County. Programs and projects that mitigate the impacts of wildfire benefit residents, property, infrastructure, and the economy.

Recent wildfire impacts, the growing concern regarding wildfire risk, and momentum generated by stakeholders across Yakima County initiated this update of the 2015 Yakima County Community Wildfire Protection Plan (CWPP).

The Yakima County CWPP is a planning document to guide wildfire preparedness, response, recovery efforts and actions throughout Yakima County. Implementing actions outlined in this document may be subject to compliance with local, state, and federal laws and regulations. The CWPP does not require the

County or any other entity to any particular course of action; however, nonprofit organizations, fire districts, conservation districts, municipalities, residents, and local, state, and federal agencies are committed to mitigating wildfire risk to infrastructure and taking action to minimize the impacts of wildfire on communities across Yakima County.

This update to the CWPP was collaboratively developed with input from the Advisory Committee, local fire agency personnel, Yakima Valley Emergency Management, Yakima County Fire Marshal's Office, interested parties such as community-based nonprofit organizations, landowners, and managers, and state and federal agencies.

This CWPP for Yakima County, Washington, is the result of professional collaboration and assessments of wildfire risks and other factors focused on reducing wildfire threats to people, structures, infrastructure, and unique ecosystems in Yakima County in accordance with the Healthy Forests Restoration Act.

1.1 Goals and Guiding Principles

While meeting the needs of local citizens and recognizing the significance wildfire can have to the regional economy, the CWPP uses the best and most appropriate science and local and regional knowledge about wildfire risks and fire behavior from participating partners.

The planning process includes integration with the National Fire Plan, the Healthy Forests Restoration Act, the Disaster Mitigation Act, and the National Cohesive Wildland Fire Management Strategy, all of which promote local collaborative processes. (See Appendix B for a summary of the National Cohesive Wildland Fire Management Strategy Goals.)

Restoring resilient landscapes, improving wildland fire response, and creating fire adapted communities must identify actual needs relative to addressing threats – and realistically prioritize actions within the bounds of local budgets, personnel, and equipment while creatively striving to achieve goals and outcomes. The efforts and success of the Yakima County CWPP hinge on support from and expertise of local fire management districts, nonprofit and community-centered organizations, agencies, and cooperative efforts of landowners.

The Advisory Committee established the following six core principles for the 2023 CWPP update to build trust and transparency:

1. Existing strategic and hazard mitigation plans are considered.
2. A unified voice representing the community is reflected.
3. An open forum for information sharing, including networking and building stakeholder relationships is facilitated.
4. Safe communities and forest health and are prioritized.
5. Residents of Yakima County will be at the center of decision-making, and the Advisory Committee will consider opportunities for citizens, organizations, and agencies to pursue and implement projects that protect people, property, and infrastructure from wildland fire without diminishing the private property rights of land and asset owners within Yakima County.
6. Actions and activities that assist and empower communities to prepare for, respond to, and recover from wildfires are prioritized.
7. Actions that holistically address wildfire preparedness, response, and recovery are included.
8. Best practices and successes are honored.
9. The CWPP identifies opportunities for citizens, organizations, and agencies to pursue and implement projects that protect people, property, and infrastructure from wildland fire without diminishing the private property rights of land and asset owners within Yakima County.

The Advisory Committee centered these principles in the collaborative process and identified the following areas to update:

- Community values at risk
- Stakeholder concerns
- An action plan and recommendations to:
 - (a) facilitate effective wildfire response, community fire adaptation, and risk reduction practices and activities,
 - (b) address wildfire risk reduction, structure ignitability, and community protection actions that set the stage for a long-term commitment to addressing wildfire—and represent a more sustainable approach to better living with wildfire; and
 - (c) prioritize community, urban centers, and infrastructure protection and transition outward to public lands.

1.1.1 Vision

People, structures, infrastructure, livestock, state and federally-listed species, and unique ecosystems are protected and resilient to wildfire.

1.1.2 Mission

To engage Yakima County residents, communities, businesses, nonprofits, and local, state, federal, and tribal governments to empower each other to prepare for, respond to, and recover from wildfire.

This CWPP serves all of Yakima County and is purposefully broad in evaluating wildfire risk reduction strategies. It brings together interested residents, local groups, and local, state, and federal agencies.



Controlled burn of wild rye field. Photo by Cowiche Canyon Conservancy

1.1.3 Goal

The CWPP aims to identify actions and strategies Yakima County stakeholders can pursue and implement to enhance community and landscape resilience and contribute to our way of life.

The Yakima CWPP aims to provide a roadmap to:

- Effectively pursue resources for the implementation and administration of wildfire hazard mitigation programs.
- Understand and mitigate wildfire hazards and risks.
- Identify and prioritize strategic, efficient, and effective fuel treatments.

- Support the continuation and development of strong partnerships necessary to implement the Plan.
- Empower each person to take responsibility for their role in helping to build community wildfire resilience.
- Encourage new approaches to living with fire that protect community values and reduce identified threats and costs.

1.1.4 Objectives

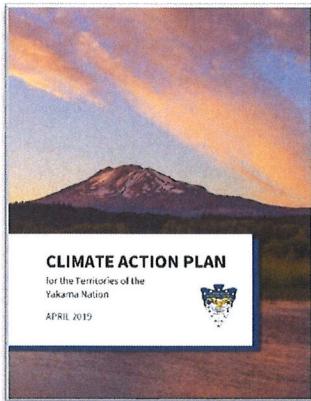
The objectives of the CWPP are as follows:

1. **Identify risks** from wildfires and the plans, strategic initiatives, and actions needed to maintain healthy communities and ecosystems, including those actions that minimize risks to public health, safety, property, critical infrastructure, and the ecological resilience of Yakima County.
2. **Empower and foster communities** while supporting sound decisions by local leaders to balance immediate actions with long-term objectives for resilient communities and restored landscapes.
3. **Identify, strategize, and adopt opportunities** to mitigate wildfire impacts using a comprehensive approach. Integrate local, state, and federal initiatives, policies, and funding to implement community and landscape projects. These actions will incorporate the best available science, land management practices, climate impacts, and local knowledge.
4. **Take action to prepare for, respond to, and recover** from wildfire while building capacity and workforce to implement mitigation, education, and technical assistance among stakeholders and community organizations.

1.2 Confederated Tribes and Bands of the Yakama Nation Plans

As a large landowner and stakeholder in Yakima County, the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) play an essential role in managing, co-managing, and protecting the Yakama Nation's Ancestral, Cultural, and Natural Resources. The Yakama Nation Tribal Council directs community and natural resource programs to continue to assess future vulnerabilities and risks carefully and has developed Plans to address risks, such as wildfire.

1.2.1 Yakama Nation Climate Action Plan



The Yakama Nation has identified many risks in their [Yakama Nation's Climate Action Plan](#) (Climate Action Plan). The Climate Action Plan identifies actions to build resilience and durability within these resources for future generations. These considerations and actions go beyond reservation lands and include all the territories of the Yakama Nation.

To learn more about the Yakama Nation Fire Management, visit:

<http://www.yakamanationfire.com/fire-prevention-yakama-nation-fire-management.php>

Or Yakama Nation Department of Natural Resources:

<https://www.yakama.com/programs/>

1.3 State and Federal Plans

This CWPP includes compatibility with Federal Emergency Management Agency (FEMA) requirements for a Hazard Mitigation Plan while adhering to the guidelines proposed in the National Fire Plan and the Healthy Forests Restoration Act (2003).

This CWPP aligns with the following agency plans, strategies, and initiatives:

- **Healthy Forests Restoration Act (2003)**
- **The National Fire Plan: A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan** (December 2006)
- **National Cohesive Wildland Fire Management Strategy** (2014) and **Addendum Update** (2023)
- **FEMA's Region 10 guidelines for a Local Hazard Mitigation Plan** as defined in 44 Code of Federal Regulations (CFR) Parts 201 and 206, and as related to a fire mitigation plan chapter of a Multi-Hazard Mitigation Plan
- **Washington State Forest Health Strategic Plan for Eastern Washington** (2017)
- **Washington State Wildland Fire Protection Strategic Plan** (2019)
- **Washington State Silvicultural Smoke Management Plan** (2023)
- **Washington State Forest Action Plan** (2020)
- **Washington Shrub Steppe Restoration and Resilience Initiative** (2022)
- **USFS Central Washington Initiative** (2022)

The objective of combining these complementary plans and initiatives 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 Yakima County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

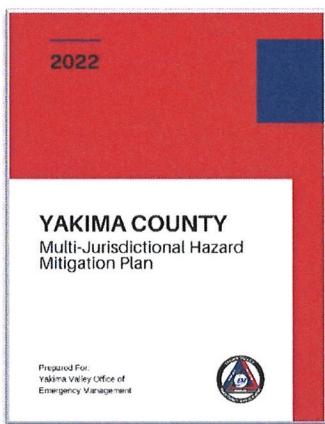


Yakima Training Center prescribed burn.

1.4 Integration With Local Planning Documents

During the development of this CWPP, several planning and management documents were reviewed to avoid conflicting goals and objectives. This document outlines mitigation objectives, and the Advisory Committee referenced existing programs and policies to identify any that may complement or align with them. The following sections identify and briefly describe existing planning documents and ordinances effective during the drafting of the CWPP.

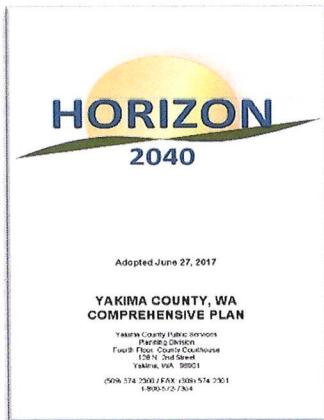
1.4.1 Yakima County Multi-Jurisdictional Hazard Mitigation Plan



FEMA approved the jointly developed **Yakima County Multi-Jurisdictional Hazard Mitigation Plan** in 2022 to promote sound public policy designed to protect community members, critical facilities, infrastructure, private property, and the environment from natural, technological, and human-caused hazards. In this Plan, participating entities focused on identifying initiatives to increase public awareness, document risk reduction and loss prevention resources, and identify activities to guide the county toward building a safer, more sustainable community. The Hazard Mitigation Plan contains multiple short- and long-term action items that directly or indirectly support the goals and guiding principles of the CWPP.

Yakima County and the cities and towns of Granger Annex, Grandview Annex, Moxee Annex, Selah Annex, Sunnyside Annex, Tieton Annex, Toppenish Annex, Union Gap Annex, Yakima Annex, Harrah Annex, Naches Annex, Yakima County Fire Districts Annex, and Yakima County-wide Flood Control Zone District Annex participated in the hazard mitigation plan update.

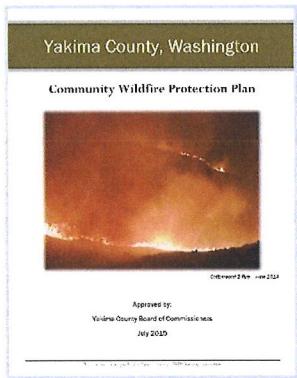
1.4.2 Yakima County Horizon 2040 Comprehensive Plan



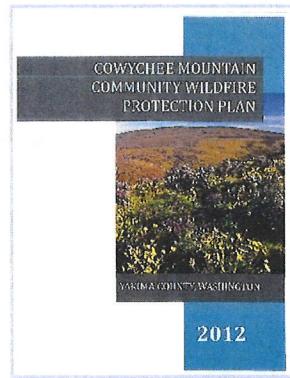
The **Yakima County Horizon 2040 Comprehensive Plan** (2017) is the guiding document that establishes the vision for growth and development in Yakima County as required by the Growth Management Act. The Horizon 2040 Plan policies guide County decisions related to growth and development in the unincorporated areas of Yakima County. The CWPP will complement the Horizon 2040 Plan to ensure goals and objectives are aligned.

1.4.3 Historical Community Wildfire Protection Plans

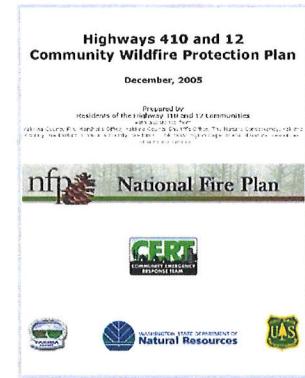
The plans below were used as the basis for the 2023 CWPP update. Much of the background and risk evaluation information was integrated into the 2023 CWPP update. However, this update incorporates new data, mapping, and analysis tools and uses a more refined framework to present material. Furthermore, the 2023 CWPP includes a larger cross-section of stakeholders.



**2015 Yakima County
Community Wildfire
Protection Plan**



**2012 Cowiche Mountain
Community Wildfire
Protection Plan**



**Highways 410 and 12
Community Wildfire
Protection Plan**



Firefighters discuss a prescribed burn. Photo by Kara Karboski, Washington Resource Conservation and Development Council

CHAPTER 2

COLLABORATION AND

CWPP DEVELOPMENT

This chapter describes the planning process used to develop the CWPP, including how it was prepared, who participated, and how all the involved agencies participated.¹

2.1 The CWPP Development Team

All the organizations and agencies detailed in the Acknowledgements section of this document collaborated to develop the Yakima County CWPP. The Advisory Committee developed this Plan based on the local

¹ Documentation of the planning process, including public involvement, is necessary to meet FEMA's DMA 2000 requirements (44CFR§201.4(c)(1) and §201.6(c)(1)).

characteristics and unique needs of Yakima County. While commonalities exist within communities and neighborhoods across the county, local knowledge and input from the Advisory Committee **honors each community's unique approaches to reducing its wildfire risk.**

Table 2.1 lists the members of the CWPP development team and summarizes their roles. The development team included the Advisory Committee and supporting members.

TABLE 2.1
SUMMARY OF CWPP DEVELOPMENT TEAM ROLES

CWPP Development Team	Role
Washington Resource Conservation and Development Council and The Ember Alliance	<ul style="list-style-type: none"> Facilitated the CWPP meetings. Facilitated small workgroup meetings to obtain specific, topic-focused information from key stakeholders. Coordinated the content development and review with Advisory Committee members and key stakeholders. Drafted and edited the CWPP document.
CWPP Core Advisory Committee: representatives from local communities, fire protection districts, federal and state agencies, the Yakama Nation, and local organizations with an interest in the county's fire safety (see Acknowledgements section)	<ul style="list-style-type: none"> Decision-makers. Provided technical input into the process. Provided and reviewed content for the CWPP. Developed action plan, including prioritizing actions. Served as a liaison to fire districts and other local organizations to complete risk assessments and identify priority actions. Led community engagement efforts to inform residents and key stakeholders of the CWPP update effort.
Yakima County GIS	<ul style="list-style-type: none"> Map development.
Anchor QEA	<ul style="list-style-type: none"> Technical review and content integration into the CWPP. CWPP layout, formatting, and design.
Yakima Valley Emergency Management	<ul style="list-style-type: none"> Facilitated public comment process. Hosted a community outreach meeting in coordination with Advisory Committee members. Facilitated the approval and signature process with the fire districts, Yakima County Commissioner, and Washington State Forester.

2.2 CWPP Development Process

2.2.1 Phase 1: Team Development, Plan Initiation, and County Wildfire Risk Assessment

Convene Decision-Makers. In November 2021, a core group was formed, including representatives from Yakima County, fire departments/districts within the county, and the DNR, to begin the update of the Yakima CWPP.

Involve Yakama Nation and Federal Agencies. Initially, the core group included federal partners: USFS and the Yakama Nation. The core group contacted other federal agencies (BLM, USFWS, and Joint Base Lewis McChord Yakima Training Center [YTC]). The YTC and BLM joined the Advisory Committee in 2023.

Engage Interested Parties. In 2021 and 2022, CWPP meetings were regularly scheduled over six months. Meeting schedules, agendas, and pertinent information were periodically sent out through a large e-mail list. Committee meetings were held in Union Gap.

Establish the CWPP Mission, Goals, and Objectives. During the CWPP meetings, participants identified the planning process's principles, purpose, goals, and desired outcomes.

Adopt Wildfire Risk Map. Due to the variability and nature of wildfire risk, the group adopted the interactive [U.S. Forest Service Wildfire Risk maps](#) for this CWPP.

Develop an Action Plan and Monitoring Strategy. The planning group developed an implementation strategy to accompany the CWPP, and a monitoring plan ([Chapter 8](#)) will ensure its long-term success. The Advisory Committee will provide oversight and guidance to partners and members responsible for plan implementation as current projects end and new opportunities present themselves.

Phase I Draft CWPP Complete. The draft included key information about the county, the development process, guiding principles and goals, wildfire risk assessment, and monitoring strategy. Advisory Committee members completed a review of the first draft.

2.2.2 Phase II: Values at Risk and Risk Assessment, Action Plan Development, Public Outreach and Engagement, Plan Approval

Ongoing Convening of Decision-Makers, Interested Parties, and Federal Agencies. Key stakeholder engagement increased with a broader diversity of representation from state and federal agencies, Latin-led community organizations, and nonprofit entities. The stakeholder collective became the "Yakima CWPP Core Advisory Committee." Advisory Committee meetings were held twice per month for five months.

Identify CWPP Planning Areas and Complete Risk Assessments for Each Planning Area. The Advisory Committee selected the wildfire response authorities as the CWPP Planning Areas. Each jurisdiction (fire districts, federal land management agencies, and the Yakama Nation) completed a risk assessment for each planning area.

Identify Community Values at Risk. The Advisory Committee identified values at risk related to infrastructure: wildlife and wildlife habitat, greenspace in commercial and highly developed areas, recreation and open spaces, formal subdivisions, working landscapes, and rural areas throughout Yakima County.



Deer in sagebrush habitat. Photo by Thomas Noland

Identify Roadway Hazards and Priority Areas for Mitigating Risk Along Evacuation Routes. Roadway hazards and critical evacuation routes were identified and mapped by the Advisory Committee.

Identify Priority Project Areas. The highest risk areas or areas of concern were identified and mapped by the Advisory Committee.

Identify and Define the Wildland Urban Interface. Over multiple meetings, the Advisory Committee defined the CWPP Wildland Urban Interface (WUI) planning area. In defining the WUI planning area, the Advisory Committee considered the location of existing structures, the potential for future development, and USFS potential operational delineation planning areas.

Identify and Prioritize Community Protection and Mitigation Actions. Yakima County stakeholders held two meetings to prioritize and mitigate actions. During the first meeting, participants utilized the [wildfire risk tool](#), roadway hazards, and a map of priority areas for mitigation risk along evacuation routes, wildfire history, and completed, ongoing, and planned fuel reduction treatment maps to verify and confirm priority project areas. Within these priority project areas, participants identified and prioritized strategic areas to complete fuel reduction treatments to protect critical infrastructure or for community protection.

Participants identified and prioritized potential wildfire prevention, preparedness, response, and recovery actions during the second CWPP action prioritization meeting.

Phase II Draft CWPP Complete. The final draft incorporated risk assessments, values at risk, a defined WUI, and an action plan. Advisory Committee members provided a complete review and comment on the CWPP.

Community Outreach and Public Engagement. Advisory Committee members facilitated public involvement from forming the Committee through news releases, public meetings, public review of draft documents, and the signatory representatives' acknowledgment of the final Plan.

Finalize Community Wildfire Protection Plan. The final Plan integrated the planning process information and decisions made by Advisory Committee members, Contributors, and Reviewers.

2.2.3 Multi-Jurisdictional Participation

The Code of Federal Regulations (44 CFR §201.6(a)(3)) calls for multi-jurisdictional planning in the development of Hazard Mitigation Plans that impact multiple jurisdictions. In addition to the participation of federal

and state agencies, interested parties, and other organizations, the following local jurisdictions were actively involved in the development of this CWPP:

- Yakima County
- Yakama Nation
- North Yakima Conservation District
- Yakima County Fire Districts
- Yakima Valley Emergency Management

These jurisdictions participated on the Advisory Committee and in public meetings. They participated in developing hazard profiles, risk assessments, and mitigation measures. Each jurisdiction provided additional input through:

- One-on-one visits between the Advisory Committee members and representatives of the participating jurisdictions (e.g., meetings with county commissioners, city councilors and mayor, fire district commissioners, and community leaders)
- Written correspondence with Advisory Committee members
- Representatives from each jurisdiction provided updates to their respective agencies/organizations/districts, solicited requests for information, and provided written and verbal feedback to the Advisory Committee members.

Like other areas of Washington and the United States, Yakima County's resources have many demands regarding time and availability. In Yakima County, some elected officials do not serve full-time; some have other employment and serve the community through a convention of public service. Recognizing this and other time constraints, many jurisdictions decided to identify a representative to serve on the Advisory Committee. This representative served as a liaison between the Advisory Committee and the jurisdiction(s).

2.2.4 Yakima CWPP Core Advisory Committee Meetings

Committee meetings were scheduled and held from November 2021 through April 2022, August 2022, and then from February 2023 through September 2023. These meetings facilitated information sharing and laid the groundwork for the Yakima County CWPP. The Washington Resource Conservation and Development Council, The Ember Alliance, and Advisory

Committee participants attended the meetings to provide the group with regular progress updates and gather additional information and input needed to complete the CWPP.

2.3 Public Involvement

The Advisory Committee used several methods to seek and facilitate public involvement and empower public members to provide information and actively participate in the Plan's development.

2.3.1 Public Comment Period

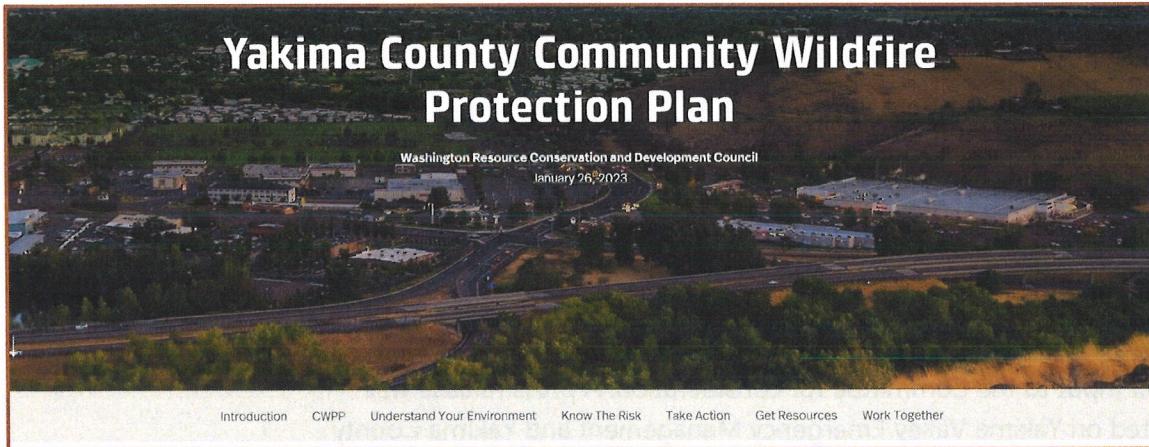
A public comment period was conducted in September 2023 to allow the public to view the complete draft CWPP and submit comments and any other input to the Committee for consideration. A press release was posted on Yakima Valley Emergency Management and Yakima County websites and social media outlets announcing the comment period, the locations of the CWPP for review, and instructions on how to submit comments. An electronic draft of the CWPP was made available on the Yakima Valley Emergency Management and Yakima County websites.

2.3.2 Public Meetings

The Advisory Committee representatives conducted a CWPP-specific public meeting. Information regarding the wildfire risk in Yakima County, planned fuel reduction and other projects, and details on how to comment on the draft Yakima County CWPP was available. A complementary resident wildfire mitigation and resource guide was available. The guide provides a summary of actions residents can take to reduce their risk, who to contact for technical and financial assistance, and links to local resources. The guide includes a summary of the CWPP and how resident action can contribute to community protection and help reduce the need for extensive response actions.

2.3.3 Yakima CWPP Story Map

The WRCD created a complementary [**CWPP Story Map**](#) to share the Plan's key components, tips for reducing wildfire risk, and available resources to facilitate action throughout the county.



2.3.4 Continued Public Involvement

Yakima County will adopt the Yakima CWPP into its Multi-Jurisdictional Hazard Mitigation Plan and involve the public in reviewing and updating the county-wide Hazard Mitigation Plan and the CWPP. In coordination with the Yakima County Commissioners and the Advisory Committee, Yakima Valley Emergency Management is responsible for completing an annual plan review and update.

Yakima Valley Emergency Management will hold a public meeting as part of each annual evaluation when necessary. The meetings will give the public a forum to express concerns, opinions, or ideas about the CWPP. Yakima Valley Emergency Management will facilitate and publicize the annual public meetings and maintain public involvement through the webpage and various print and online media outlets. It is also responsible for keeping track of public comments and inquiries.

Yakima Valley Emergency Management

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Yakima County wildflowers. Photo by Cowiche Canyon Conservancy

CHAPTER 3

YAKIMA COUNTY

CHARACTERISTICS

This chapter provides an overview of Yakima County: its geography, demographics, development trends, and the wildland-urban interface (WUI).

3.1 Geography

Yakima County lies within the Columbia Basin geographic province and the eastern edge of the Southern Cascades. The county boundary defines the planning area, which includes multiple cities, towns, communities, roadways, and railroads. The largest municipal area is Yakima, which is also the county seat. Other communities in the county include Naches, Granger, Moxee, Tampico, Toppenish, Wapato, Sunnyside, Harrah, Tieton, Union Gap, Grandview, Selah, Zillah, Mabton, Cowiche, Nile, and White Swan.

Yakima County encompasses an area of approximately 4,312 square miles (11,168 km²) with elevations ranging from 393 feet (120 m) to the highest point in the county, Mount Adams, at 12,277 feet (3,742 m) above mean sea level in the southwestern corner. The county's mountainous western topography gives way to semiarid foothills and sagebrush steppe in the central and southern portions. The Yakima River cuts through the center of the county, draining into the Columbia River in Benton County.

The folding of volcanic basalt shaped the Yakima Valley landscape flows to form the Umtanum, Yakima, and Ahtanum/Rattlesnake Ridges; Cleman Mountain; and the Horse Heaven Hills. Between the ridges are basin valleys that are tributaries to the Yakima Valley. These extensive valleys include the Wenas, Naches, Moxee, and Ahtanum Valleys. Farmers use the valleys to irrigate crops, and ranchers use the ridges for rangeland.

The county's western edge lies along the Cascade Mountains' eastern slope. It is a transitional area that provides diverse wildlife habitats ranging from mountainous forestlands to sagebrush steppe.

Ahtanum Ridge and Rattlesnake Ridge divide the county into two regions: the Upper (northern) and Lower (southern) valleys. Yakima is in the Upper Valley, and the Naches River forms its northern border. The primary irrigation source for the Yakima Valley is the Yakima River, which runs through Yakima from its source at Lake Keechelus in the Cascade Range to the Columbia River at Richland.

Table 3.1 summarizes the key characteristics of the county, and Figure 3.1 illustrates the county's geography.

Land in Yakima County is the ancestral land of the Yakama Nation. Yakima County is named after the Yakama tribe of Native Americans, which now make up the Confederated Tribes and Bands of the Yakama Indian Nation (Yakama Nation).

TABLE 3.1
YAKIMA COUNTY CHARACTERISTICS

CHARACTERISTICS	SNAPSHOT
<p>Physical: Located in South Central WA. Diverse composition of land use: suburban-residential, rural, agricultural, and industrial</p>	<p>Terrain transitions from moist mixed conifer forests on the west side of the county to shrub-steppe and rangeland on the east side of the county</p>
<p>Climate: Physically located in the rain shadow of the Eastern Crest of the Central Cascades.</p>	<p>Yakima is expected to get hotter and droughts are expected to be more frequent because of climate change.</p>
<p>Wildlife Habitat & Fish: Mainstem of the Yakima, Naches, and Tieton Rivers and their tributaries support a wide <u>range of fish species</u>.</p>	<p>There are many <u>distinct wildlife habitats</u>, ranging from alpine areas and wet mountain forests to dry sagebrush grasses.</p>
<p>Land Ownership: Most of the population resides in the City of Yakima and adjacent cities.</p>	<p>Large areas have very low-density development and a primary function for forestry, wildlife habitat and recreation.</p>
<p>Population: The largest increase in job sectors were farming (19,920), government (18,132), and retail trade (12,896) in 2020. ***</p>	<p>Population in the county has increased from 1970 - 2000; non-service jobs 50%, service related 99%, government 80%</p>
	<p>256,728 people *** 13.5% over 65 years old 56.8% people of color (including Hispanic) 37.3% rental households</p>

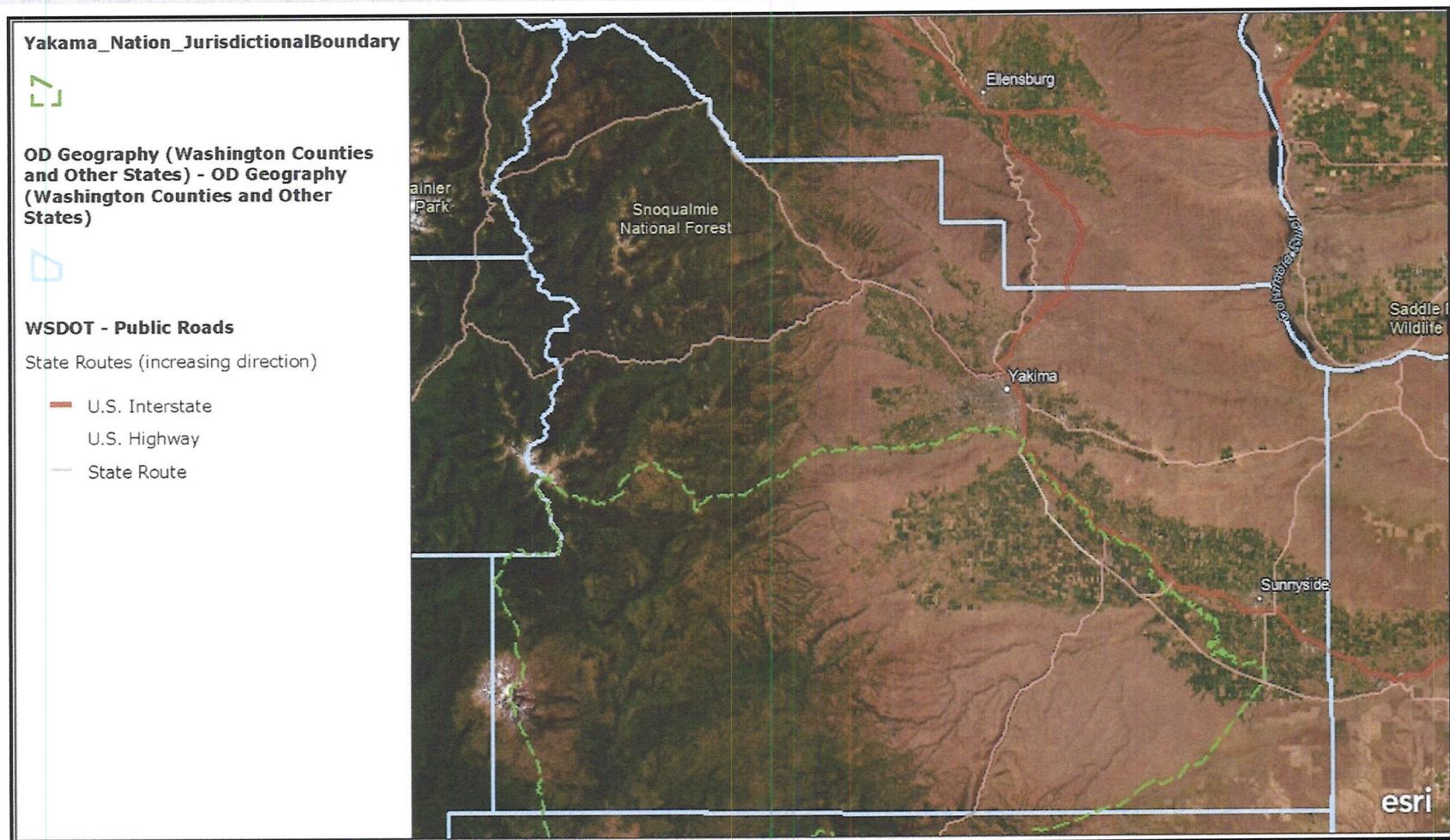
Sources:

**Headwaters Economic Land Use Report, 2022 (<https://headwaterseconomics.org/apps/economic-profile-system/>)

***United States Census Bureau, 2020

****Headwaters Economic Land Use Report, 2022

FIGURE 3.1
GEOGRAPHY OF YAKIMA COUNTY



Forested lands dominate the western parts of the county, while shrub-steppe, agricultural lands, and urban areas dominate the east. Source: ESRI, ArcGIS online.

3.2 Demographics and Social Vulnerability

The impacts of wildfires on vulnerable populations can be exacerbated by various social and economic factors. Limited access to resources, such as financial means or transportation, can hinder the ability to evacuate or find suitable shelter during a wildfire event. Additionally, cultural and institutional barriers, such as language or lack of awareness regarding emergency preparedness measures, can further impede the ability to effectively respond to and recover from wildfires.

The estimated population of Yakima County in 2021 was 257,001 (estimated 51% Hispanic or Latino, 41% white, 7% American Indian, 1% Asian, Black, Hawaiian/Pacific Islander), an approximate 6% increase since 2010. Approximately 42% of people in Yakima County speak a language other than English at home (Tables 3.2 and 3.3).² In addition, nearly 7% of the Yakima County population identifies as American Indian/Alaska Native. As a predominantly rural area with a high proportion of agricultural, food production, and other essential workers (63%),³ the Central Washington region represents a high degree of geographic and sociodemographic vulnerability to risk factors.

Inflation-adjusted per-capita income in Yakima County in 2017 was \$41,331 compared with the state and national per-capita incomes of \$57,896 and \$51,640, respectively. The poverty rate in Yakima County remains high at 15%, and a stark difference in uninsured health benefits status exists within Yakima County at 18% of adults, compared to only 9% in Washington State.⁴

² U.S. Census Bureau 2019

³ Yakima County Health District 2020

⁴ countyhealthrankings.org 2020

TABLE 3.2
U.S. CENSUS YAKIMA COUNTY QUICK FACTS

Language other than English Spoken at Home	With disability (Under the age of 65)	Persons in Poverty	Highschool Graduate	Bachelor's Degree or higher	Veterans	Foreign born
42%	9.6%	14.7%	73.8%	17.8%	10,212	18.7%

Source: U.S. Census Bureau

As Yakima County stakeholders develop and implement actions outlined in this CWPP, current U.S. Census Bureau statistics will need to be reviewed and considered. For recent census statistics, visit: census.gov

Visit [U.S. Census Bureau Quick Facts](#) for additional Yakima County Census statistics information.

TABLE 3.3
VULNERABLE POPULATIONS IN YAKIMA COUNTY

All areas in Yakima County		
Indicator	Number	Percent
Families in poverty	7,696 ±690	12.8% ±1.2%
People with disabilities	33,243 ±1,496	13.4% ±0.7%
People over 65 years	34,568 ±1,474	13.8% ±0.6%
People under 5 years	20,142 ±1,244	8% ±0.5%
People of color	144,300 ±5,870	57.6% ±2.6%
Black	2,575 ±573	1% ±0.2%
Native American	8,823 ±932	3.5% ±0.4%
Hispanic	125,004 ±4,250	49.9% ±2%
Difficulty with English	24,584 ±1,629	10.7% ±0.7%
Households with no car	4,418 ±636	5.3% ±0.8%
Mobile homes	10,121 ±782	12.1% ±2%

Source: [Wildfire Risk to Communities](#)

Headwaters Economics has identified [neighborhoods at risk](#) by the U.S. Census Tract, which helps identify diverse populations at risk of wildfire. Yakima County conducts a Point-In-Time (PIT) count of sheltered and

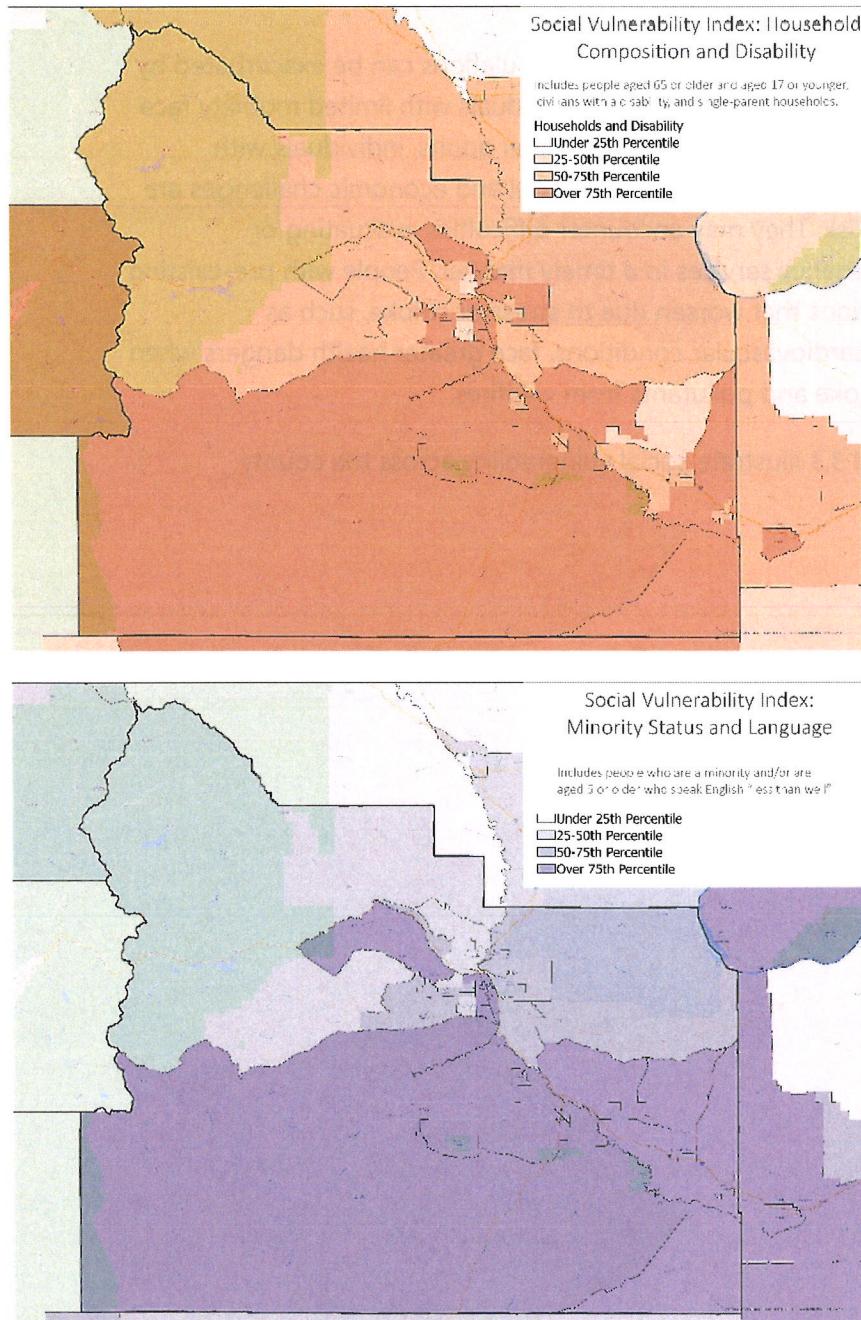
unsheltered people experiencing homelessness on a single night in January. **Data from Yakima County** are reported to the Washington State Department of Commerce.

3.2.1 Social Vulnerability

The impacts of wildfires on vulnerable populations can be exacerbated by various social and economic factors. Individuals with limited mobility face additional challenges during wildfires. Older adults, individuals with disabilities, and those facing multiple social and economic challenges are particularly at risk. They may encounter difficulties evacuating or accessing emergency services in a timely manner. People with pre-existing medical conditions that worsen due to stress or smoke, such as respiratory or cardiovascular conditions, face greater health dangers when exposed to smoke and pollutants from wildfires.

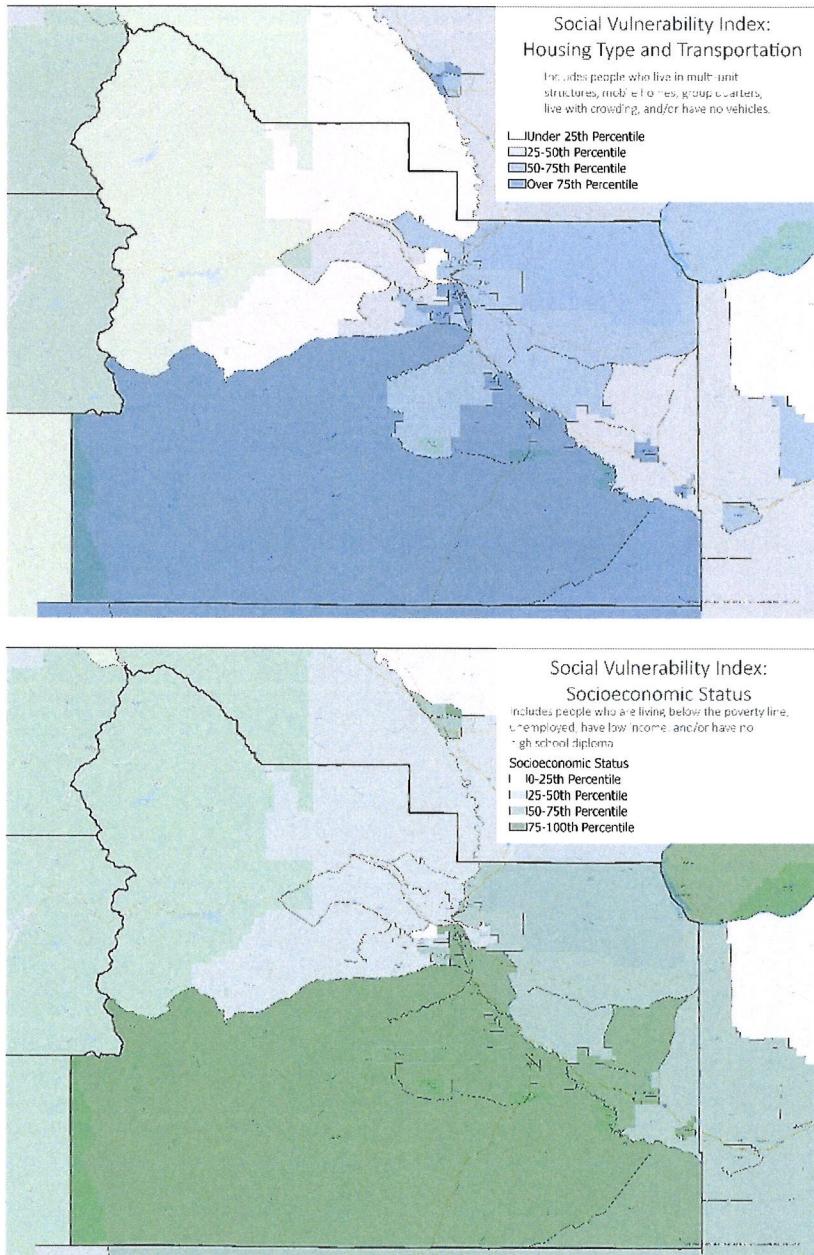
Figures 3.2 and 3.3 illustrate social vulnerability across the county.

FIGURE 3.2
AREAS IN YAKIMA COUNTY WITH VULNERABLE POPULATIONS



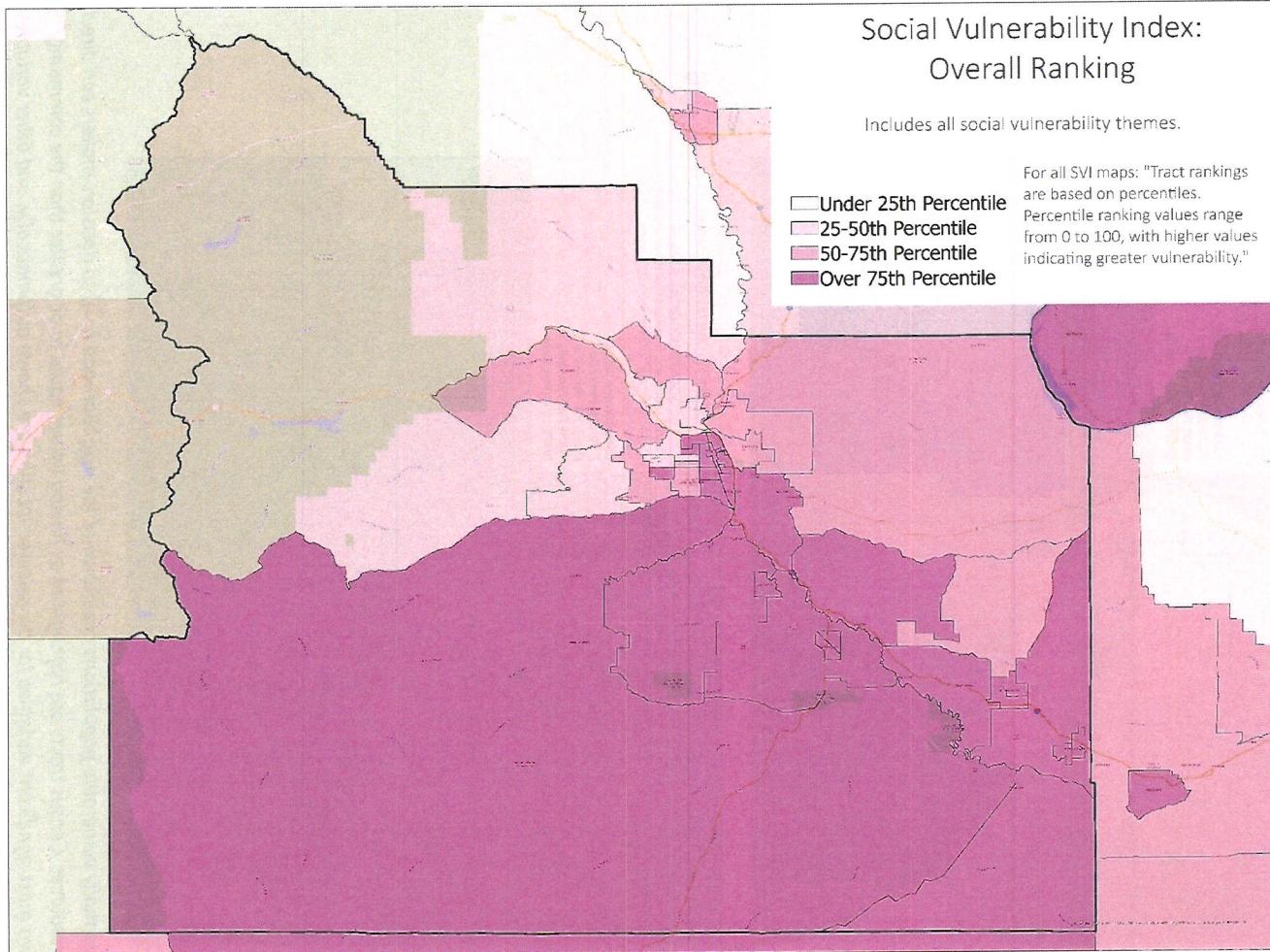
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FIGURE 3.2
AREAS IN YAKIMA COUNTY WITH VULNERABLE POPULATIONS (CONTINUED)



Data about potentially vulnerable populations are shown at the neighborhood level so decision-makers can direct community resources. Census tracts are highlighted as having values equal to or greater than the community median. The two most significant variables for the selected location are shown automatically, and other variables can be toggled on and off. Data are from the U.S. Census Bureau's American Community Survey. Source: [Wildfire Risk to Communities](#).

FIGURE 3.3
AREAS IN YAKIMA COUNTY WITH VULNERABLE POPULATIONS – OVERALL RANKING



Data about potentially vulnerable populations are shown at the neighborhood level so decision-makers can direct community resources. Census tracts with values equal to or greater than the community median are highlighted. The two most significant variables for the selected location are shown automatically, and other variables can be toggled on and off. Data are from the U.S. Census Bureau's American Community Survey. Source: [Wildfire Risk to Communities](#).

3.2.2 Development Trends

Indigenous groups utilize fire as a land management tool, and lightning-ignited fires were common before European settlement in the 1850s. As settlers' initial farming and logging activities developed in the region, the use of fire to manage the landscapes significantly lessened, changing the resiliency of the landscape that existed before.

Yakima County now has a wide range of rural and agricultural land uses. The County's 2040 Horizon Plan states that it has maintained an ongoing effort to strengthen development regulations. The primary purpose of higher standards has been to protect public health and safety. For those living in rural areas, the County aims to reduce the incompatible conversion of undeveloped land into sprawling, low-density development or other uses, such as solar sites or lithium battery storage, to ensure the protection of the natural environment, historic properties and agrarian lifestyles and use. Decision-makers can accommodate rural character differently than in the past, primarily by encouraging cluster developments, revitalizing existing rural service centers, and using other low-impact development techniques that minimize impacts on resources valued by the community.

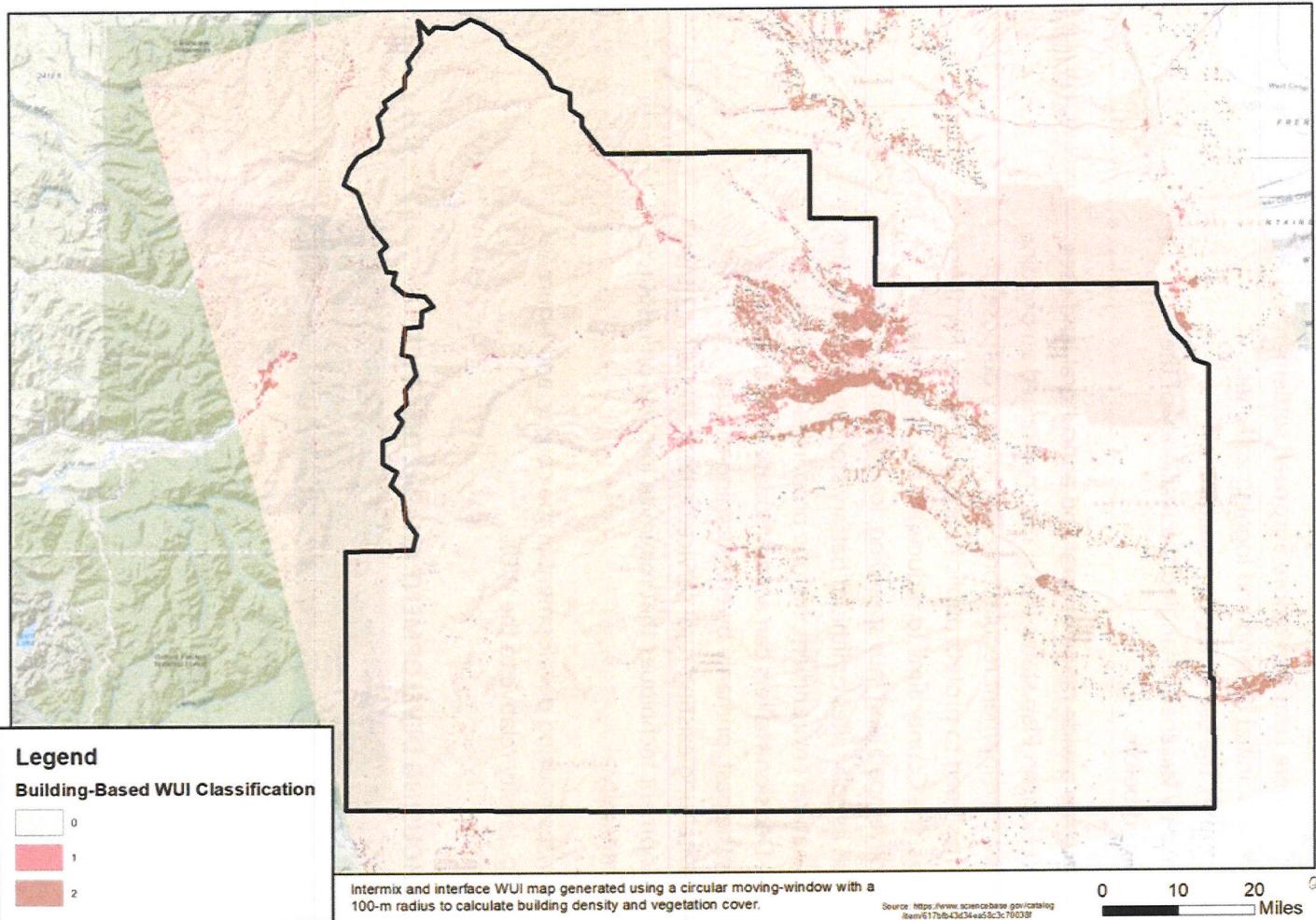
Table 3.4 summarizes housing development in the county, and Figure 3.4 illustrates housing density relative to the WUI.

TABLE 3.4
SUMMARY OF HOUSING DEVELOPMENT CHARACTERISTICS

Housing Units (July 1, 2022)	Owner Occupied	County Building Permits (2022)
92,480	62%	706

Source: Yakima County

FIGURE 3.4
HOUSING DENSITY



The WUI is where development occurs close to vegetation. Building based-WUI classification is based on the intermix, 0 = less than 6.17 building units per km^2 ; 1 = more than 6.17 building units per km^2 and where at least 50% of the vegetation cover is surrounding buildings and interface; 2 = more than 6.17 building units per km^2 and where buildings are within 2.4 km of a patch of vegetation at least 5 km^2 in size, containing at least 75% of vegetation. Source: USGS.

3.2.3 Yakima County Building Codes and Ordinances

Yakima County implements a [Fire Code Plan Review](#) to ensure fire and safety measures are in compliance with the International Fire Code and other fire safety standards, including protections for the owner, occupants, and emergency response personnel.

Washington State has adopted the [2018 International Wildland Urban Interface \(WUI\) Code](#) per [Revised Code of Washington 19.27.560](#), which Yakima County also upholds per [Chapter 51.55 WAC](#). The International WUI Code sets out regulations for fire spread, accessibility, defensible space, water supply, and construction standards near wildland areas. Yakima County applies the WUI Code in areas defined on the [DNR's Building Code WUI map](#) and implements the provisions of Chapter 19.27 RCW per [Chapter 51.55 WAC](#). The Building Code WUI map reflects those areas where WUI-related building code regulations are enforced for all new and large (more than 50%) renovations of existing buildings.

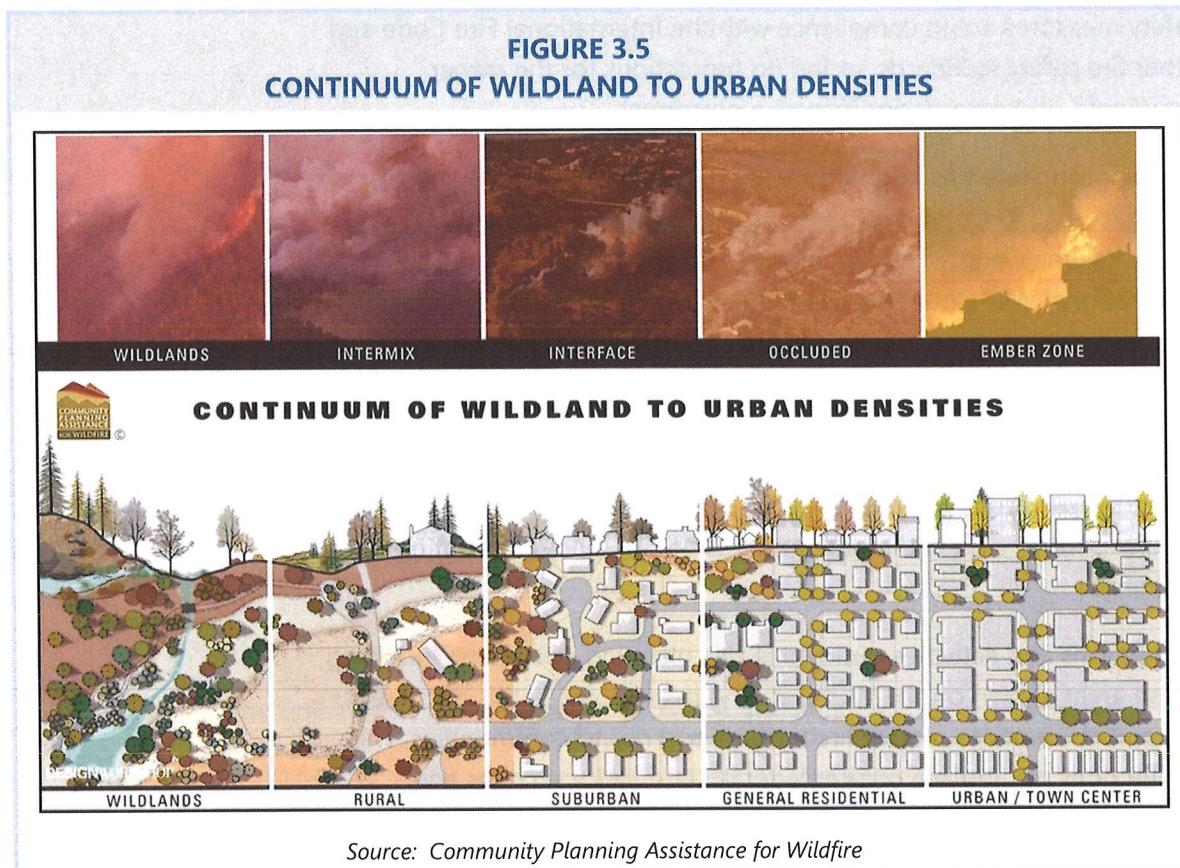
The actions and activities outlined in this planning document, including those areas shown on the WUI planning map shown in this document, support the work to reduce fire hazards and risk to communities. This CWPP does not replace or alter federal, state, or local codes and ordinances, nor is it a regulatory document. Building codes are on file at the [Yakima County Fire Marshal's Office](#) or the [Yakima County Code website](#).

3.3 CWPP Wildland Urban Interface Planning Area

The county boundary defines the planning area, which includes multiple cities, towns, communities, roadways, and railroads. The largest municipal area is Yakima, which is also the county seat. Other communities in the county include Naches, Granger, Moxee, Tampico, Toppenish, Wapato, Sunnyside, Harrah, Tieton, Union Gap, Grandview, Selah, Zillah, Mabton, Cowiche, Nile, and White Swan.

The WUI is where the built environment meets wildfire-prone areas and exists along a continuum of wildland to urban densities (Figure 3.5). The

WUI is any location where wildland fire can move between natural vegetation and the built environment.



The Yakima County WUI Planning Area (Figure 3.6) is composed of the following:

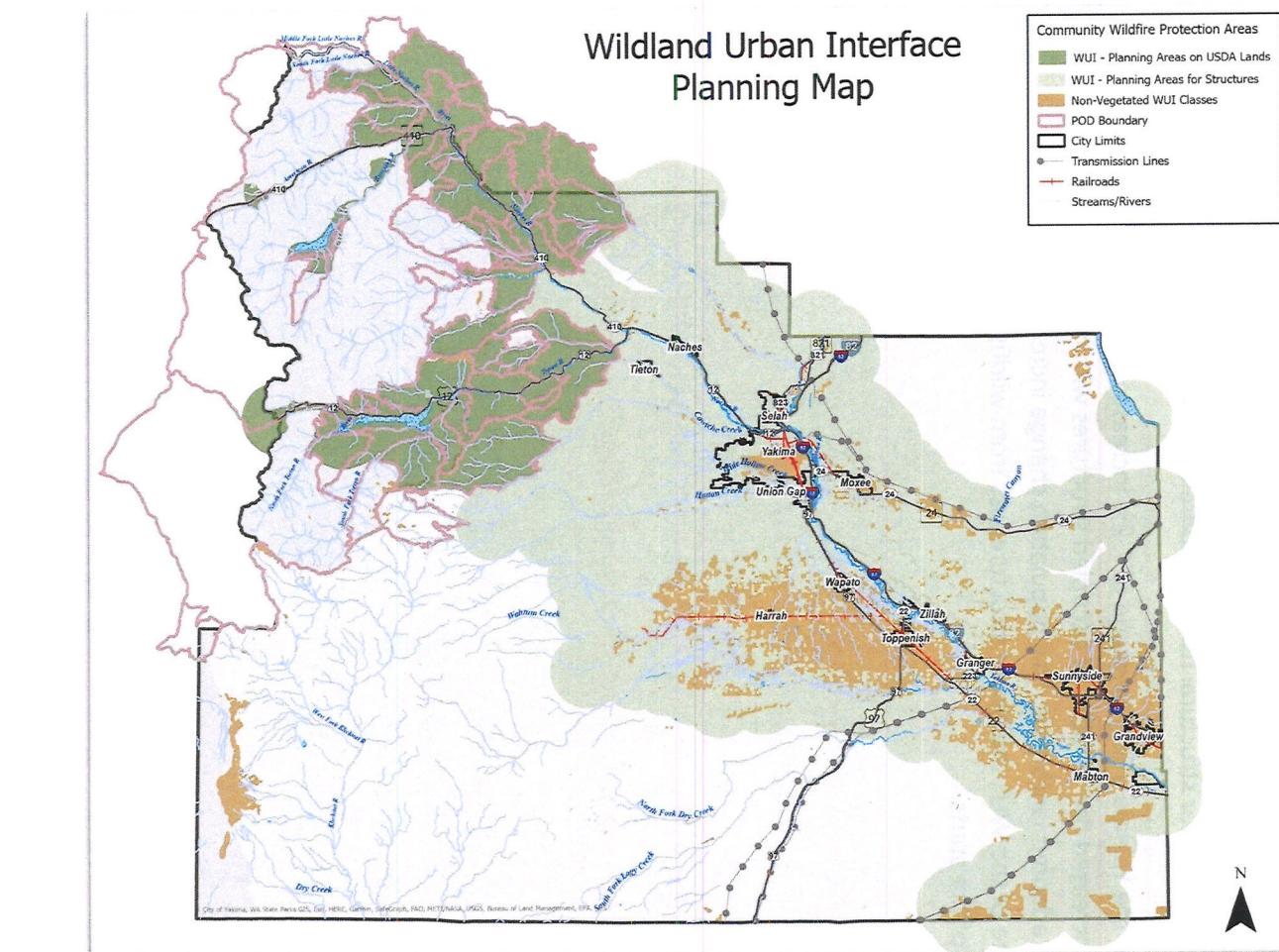
- URBAN AREAS (areas of dense human development and less than 50% vegetation cover)
- WILDLAND-URBAN INTERFACE (areas where human development is bordered by more than 50% wildland. Often found on the outskirts of an urban area).
- WILDLAND-URBAN INTERMIX (areas where structures are intermingled with vegetation. Often found between the interface and urban areas.)
- WILDLANDS (areas without any structures or human development that also have more than 50% burnable vegetative cover)

- LONG-TERM NONBUILDABLE AREAS (certain areas of our state where new structures have little to no likelihood of being built, such as national parks and designated wilderness areas).

The Yakima County CWPP WUI Planning Area considers the number of occupied structures and the potential for future development within the historically fire adapted landscape. Population changes and growth have increased the potential for structural risk for wildfire damage.

Immigration to the Yakima Valley (average of 1-2% increase in population per year) has increased the number of occupied structures within this historically fire adapted landscape. This population change increased the density and size of the WUI, the risk of structure loss from wildfire, and the likelihood of fire starts.

FIGURE 3.6 WILDLAND URBAN INTERFACE PLANNING AREA IN YAKIMA COUNTY



The WUI Planning Area is a three-mile radius around each structure, including USFS potential operational delineation planning areas where structures exist adjacent to or on Federal lands (USFS leased lands for cabin owners). This area designates where potential wildfire risk mitigation projects for community wildfire protection will be considered for implementation. The Yakima CWPP Core Advisory Committee designated the WUI Planning Area. For a closer view of the CWPP WUI Planning area, visit the [Yakima CWPP Story Map](#).



Controlled burn. Photo by Kara Karboski, Washington Resource Conservation and Development Council

CHAPTER 4

FIRE CHARACTERISTICS

Yakima County exhibits a diversity of vegetation and land types—from steep, forested terrain in the western portion of the county to vast expanses of shrub-steppe, shrubland, and grasslands throughout the eastern portion. Over centuries, this diverse ecosystem has developed with and adapted to natural and human-induced fires. This chapter describes the county's history and changing fire patterns and provides examples of recent severe wildfires.

4.1 Fire History

Before European settlement, Native Americans and Indigenous peoples intentionally set fires throughout the region to control tree and shrub expansion and for the cultivation of select plants. When we describe "natural" in the Range of Natural Variability, we include Indigenous

peoples as natural disturbance agents and contributors to perceptions of what is "natural."

Fire heavily influenced the region before the era of fire exclusion. Settlement and government-mandated fire suppression, starting in the late 1800s, changed the landscape's conditions. Wildfires are more difficult to suppress in forested areas, where increased tree density creates forest conditions, leading to large-scale fires with catastrophic loss, sometimes including lives. Changing climate will increase risk further by driving weather conditions, creating conditions that can lead to catastrophic wildfires.⁵

A significant alteration of the current ecosystem structure and social acceptance is needed to reintroduce fire due to the lack of intensive Native American burning.

4.2 Changes in Fire Regime

Fire was once integral to most ecosystems in south-central Washington. The seasonal cycling of fire across most landscapes was as regular as the July, August, and September lightning storms across central and eastern Washington. Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels.

4.2.1 Climate

Yakima County has declared 30 disasters over the past 20 years, 14 of which were caused by wildfires. Figure 4.1 illustrates wildfires across the county from 1980 through 2022. The distribution of the wildfire hazard potential for Yakima County is 13% very high, 22% high, 28% moderate, 16% low, and 20% very low. The average temperature is expected to increase

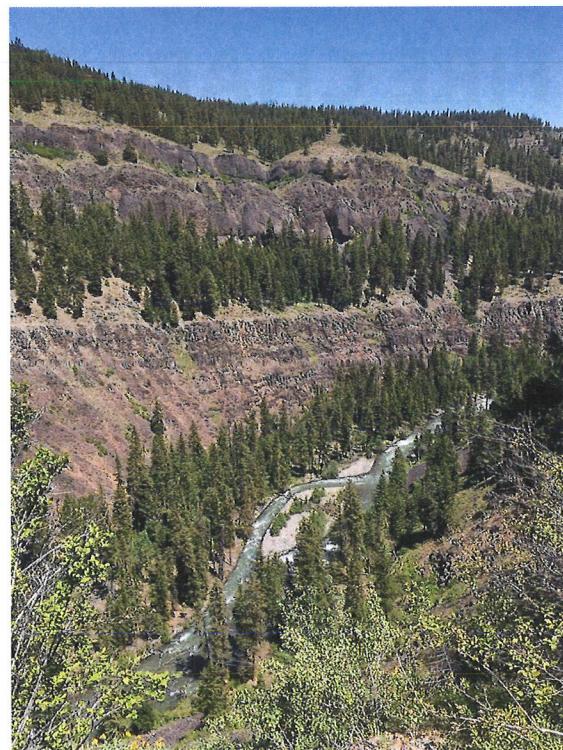


Photo by Kara Karboski, Washington Resource Conservation and Development Council

⁵ Parks et al., 2016

2.8°F by 2100, which could affect wildfire hazards in the coming decades.⁶

The wildfire season has extended in numerous regions. One notable factor in this change is warmer springs and longer summer dry seasons, which have contributed to prolonged drought periods and lengthening of the season, extent, and duration of wildfires.

These changing conditions contribute to drier soils and vegetation, becoming more susceptible to catching fire.

Moreover, climate change also impacts the wildfire season through earlier spring melting and reduced snowpack. These changes in snowmelt patterns and snowpack levels further contribute to the lengthening of the wildfire season. (U.S. Environmental Protection Agency, [U.S. and Global Climate Change Indicators](#).)

4.2.1.1 *Smoke*

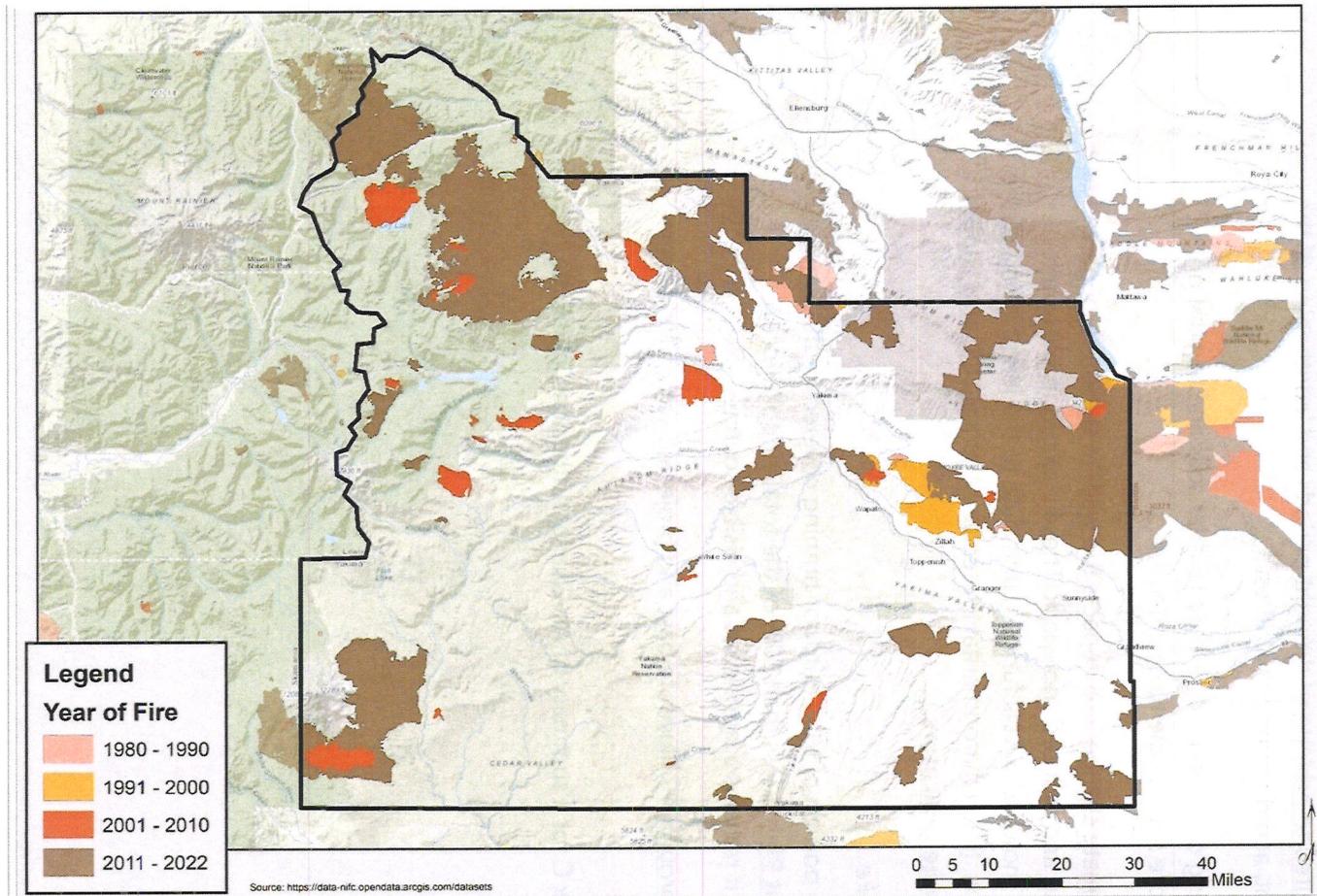
Although the portion of total outdoor burning covered by the [Smoke Management Plan](#) is less than 10% of the total air pollution in Washington, it remains a significant and visible source.

Figures 4.2 through 4.7 illustrate past and projected values for climate variables.

See Appendix C for a summary of Air Quality Authorities in Yakima County.

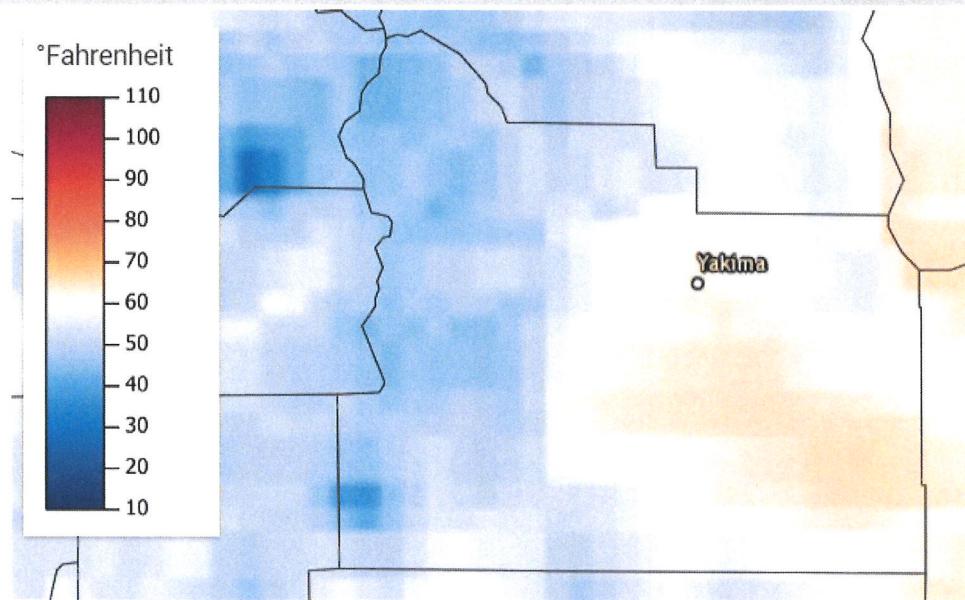
⁶ Augurisk Regional Climate Models

FIGURE 4.1
WILDFIRES IN YAKIMA COUNTY FROM 1980-2022



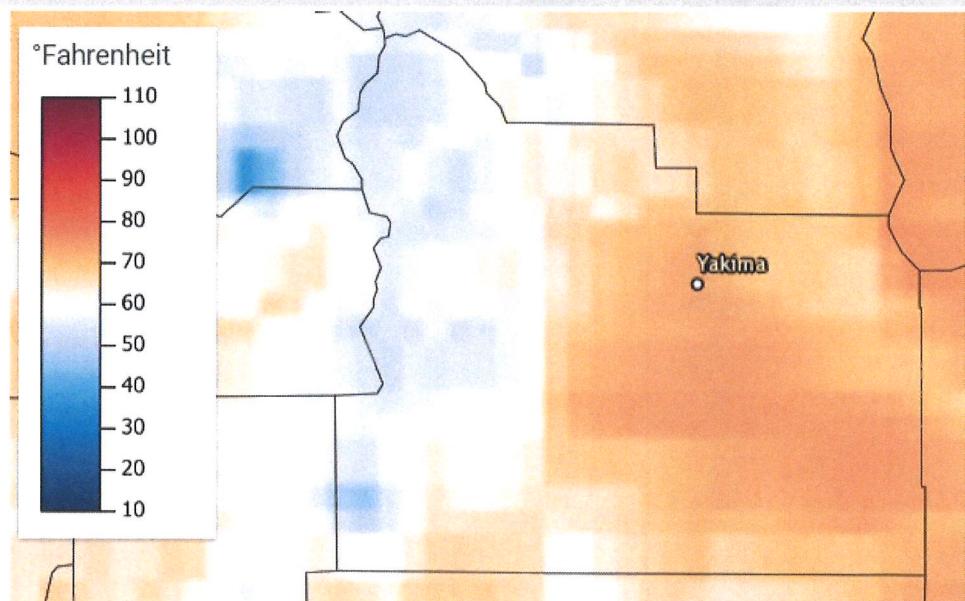
The Historic Fire Regime model suggests that fires in Yakima County historically burned with mixed severity fires on a longer return interval. The longer time between fires allows fuel to build up, which can burn intensely during dry conditions. Source: Washington Department of Natural Resources and Cowiche Canyon Conservancy.

FIGURE 4.2
HISTORICAL AVERAGE DAILY MAXIMUM TEMP (F) 1961-1990

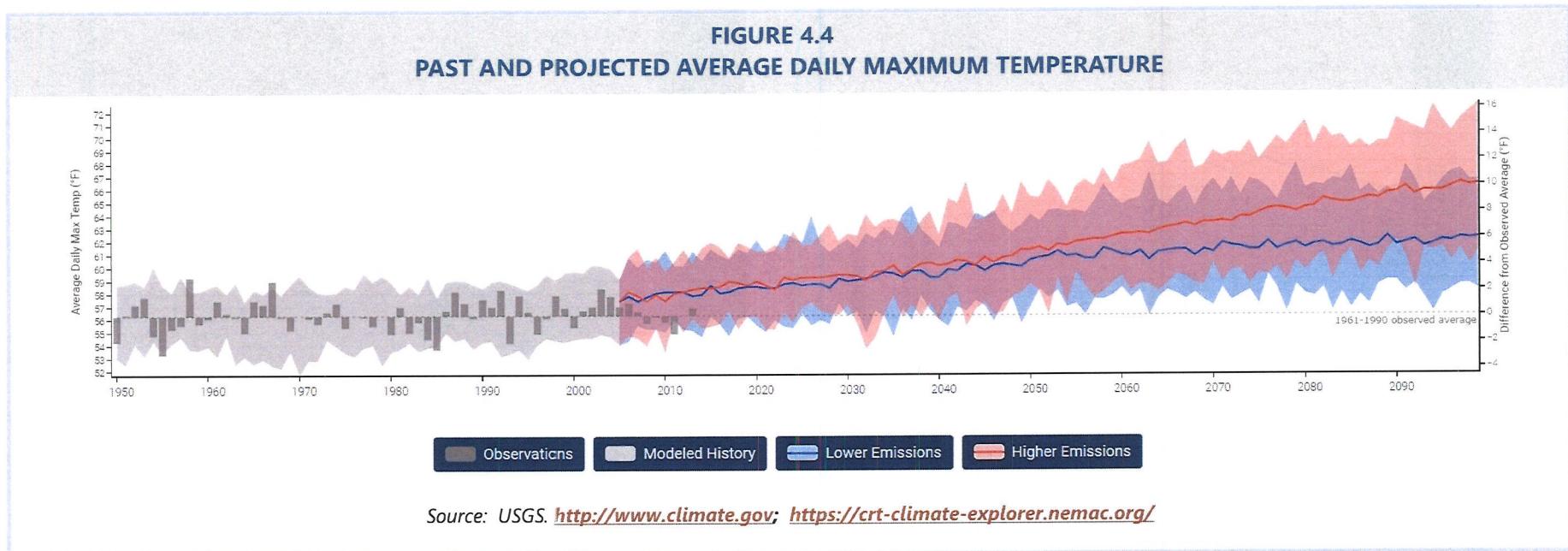


Source: USGS. <http://www.climate.gov>; <https://crt-climate-explorer.nemac.org/>

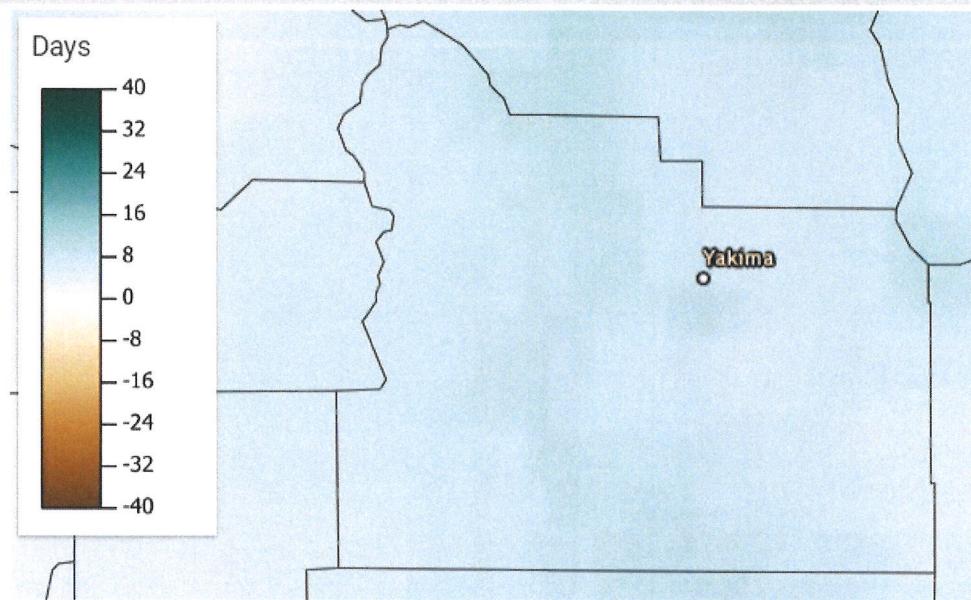
FIGURE 4.3
HISTORICAL AVERAGE DAILY MAXIMUM TEMP (F) 2020-2090



Source: USGS. <http://www.climate.gov>; <https://crt-climate-explorer.nemac.org/>

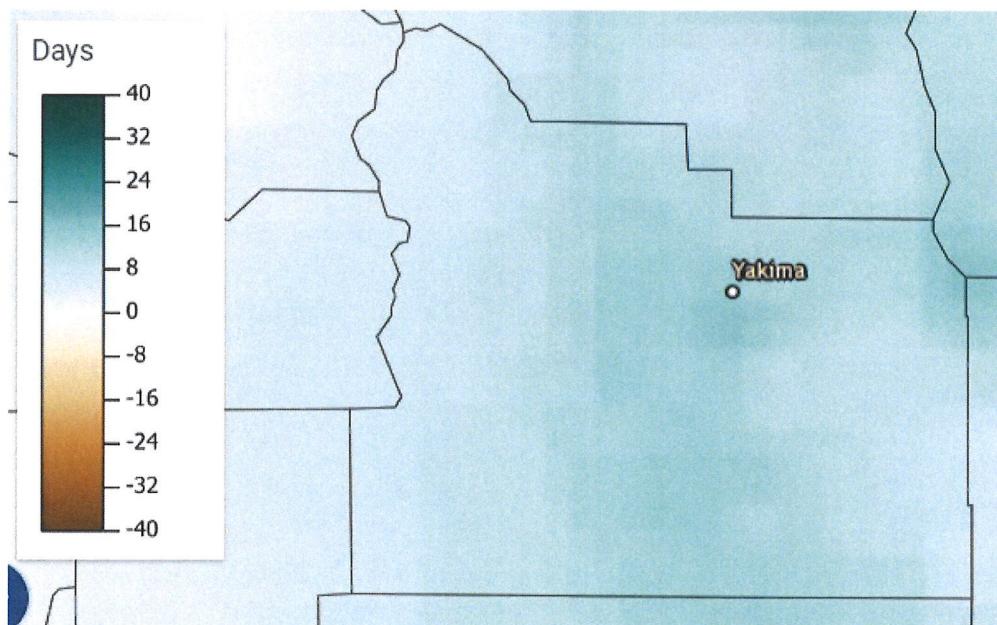


**FIGURE 4.5
TOTAL PRECIPITATION 1961-1990**

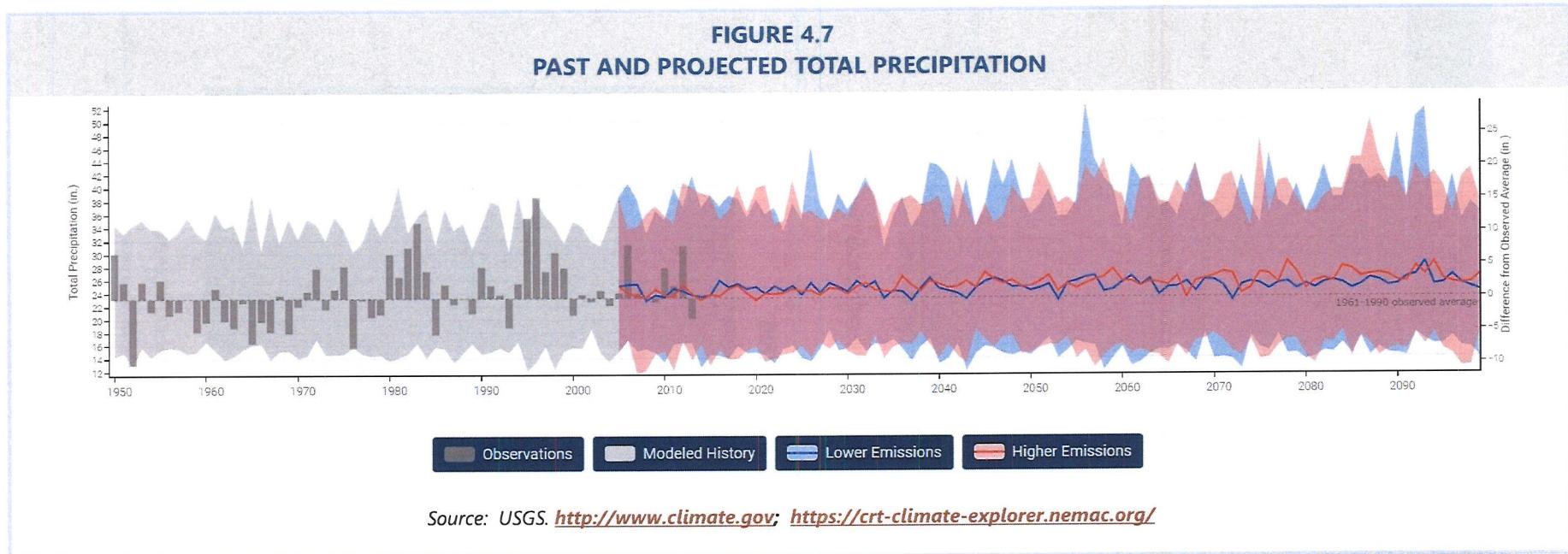


Source: USGS. <http://www.climate.gov>; <https://crt-climate-explorer.nemac.org/>

**FIGURE 4.6
TOTAL PRECIPITATION 2020-2090**



Source: USGS. <http://www.climate.gov>; <https://crt-climate-explorer.nemac.org/>



4.2.2 Changes in Vegetation

Plant community composition, structural configuration, and build-up of plant biomass affect the intensities and extent of wildfires. Historically, more frequent fire events often resulted in less dramatic changes in plant composition.⁷ Fires typically occurred every 5- to 20 years, with recurrence varying up to 47 years between fires.⁸ With infrequent return intervals (less frequent fires), plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age in a successional pattern.⁹

For some vegetation types, like the oak woodlands and dry ponderosa pine and Douglas-fir forests, frequent fire return intervals help limit overcrowding. Conversely, some habitat types, such as shrub-steppe and high-elevation forests, are adapted to more infrequent fires. Frequent fires in the shrub-steppe vegetation community are detrimental due to the eventual absence of a viable seed source for native revegetation and the introduction of invasive annuals.



Photo by Kara Karboski

Historically, natural fires occurred in Wyoming big sagebrush communities once every 30 to more than 100 years. Over a century of wildland fire suppression, coupled with past land use practices (primarily agriculture and grazing), has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. As a result, some areas of Yakima County have become more susceptible to large-scale, high-intensity fires posing a threat to life, property, and

⁷ Johnson 1998.

⁸ Barrett 1979.

⁹ Johnson et al. 1994.

natural resources, including wildlife and plant populations. High-intensity, stand-replacing fires have the potential to seriously damage soil, native vegetation, and fish and wildlife populations. Today, cheatgrass and other invasive plants serve as fuel for fires that promote further weed spread and create favorable conditions for future fires, especially in areas of lower elevation and southerly aspect.¹⁰

The lower elevation shrub-steppe and grasslands of Yakima County are inherently less resilient to fire-related disturbances. Many of these areas, particularly the southern aspects, are now dominated by cheatgrass, which outcompetes other vegetation and creates a continuous fine fuel load that cures quickly and ignites readily. Large, fast-moving fires have burned and re-burned throughout the lower elevations of Yakima and Benton counties.¹¹ Cheatgrass has proven to be a formidable foe, and most efforts to eliminate it from larger landscapes have failed.¹²

Unlike forest restoration in the oak, ponderosa pine, and Douglas-fir forests, restoring resilient landscapes wildfires in Wyoming and big sagebrush steppe means suppressing fires in an ecosystem that has seen too much fire. Table 4.1 summarizes the types of vegetation cover in the county.

Non-native or High Fire Risk Vegetation

Cheatgrass invades disturbed open sites and can dominate an area. Cheatgrass ripens and cures much earlier in the season when compared with native species, thus extending the fire season. According to some statistical analysis, cheatgrass dominated ranges are about 500 times more likely to burn than a native species dominated rangelands. Fire return intervals in steppe and shrub-steppe fuel types, pre-European settlement, were typically between 32 and 70 years. In certain Great Basin rangelands, the fire return interval is now less than 5 years on rangelands dominated by cheatgrass.

¹⁰ South Central Washington Shrub-Steppe/Rangeland Partnership 2010.

¹¹ Bakker et al. 2011.

¹² Mack 2011.

TABLE 4.1
VEGETATIVE COVER TYPES IN YAKIMA COUNTY

Cover Type	Acres	Percent of Total Area
Cultivated Crop	58,524	2.1%
Pasture/Hay	146,282	5.3%
Highly Structured Agriculture	148,121	5.4%
Irrigated Cropland	53,598	1.9%
Non-Irrigated Cropland	34,720	1.3%
Conifer	963,879	34.9%
Conifer-Hardwood	8,662	0.3%
Developed	93,726	3.4%
Exotic Herbaceous	116,685	4.2%
Grassland	323,119	11.7%
Hardwood	17,044	0.6%
Nonvegetated	34,507	1.2%
Riparian	70,042	2.5%
Shrubland	668,470	24.2%
Sparsely Vegetated	23,840	0.9%
Total	2,761,219	100.0%

4.2.3 Fire Ignition Patterns

This section discusses the analysis of DNR and the federal fire occurrence database, which provide valuable information regarding fire occurrences. However, these resources only include fires that require a response from a state or federal agency, which could underrepresent the total number of fires. Many fires in the WUI are not recorded in agency datasets because the local fire department responded and successfully suppressed the ignition without mutual aid assistance from the state or federal agencies. Additionally, smaller fires only reported at the district or county level are not accounted for in these datasets. Therefore, the overall picture of fire occurrences may be incomplete. Table 4.2 summarizes the recorded causes of fire ignition since 2008.

TABLE 4.2
SUMMARY OF CAUSE FROM STATE DATABASES (2008-2022)

General Cause	Number of Ignitions	Percent of Total Ignitions	Acres Burned	Percent of Total Acres
Human-Caused	181	29.9%	12,282	4.5%
Natural Ignition	103	17.0%	114,387	42.0%
Unknown	321	53.1%	145,508	53.5%
Total	605	100%	272,177	100%

Source: Washington Department of Natural Resources

One significant finding from the analysis is the trend in the number of human-caused fires. Human activities that ignited fires are shown in Figures 4.8 and 4.9. This information highlights the need for increased awareness and preventive measures to mitigate the risk of human-caused fires.

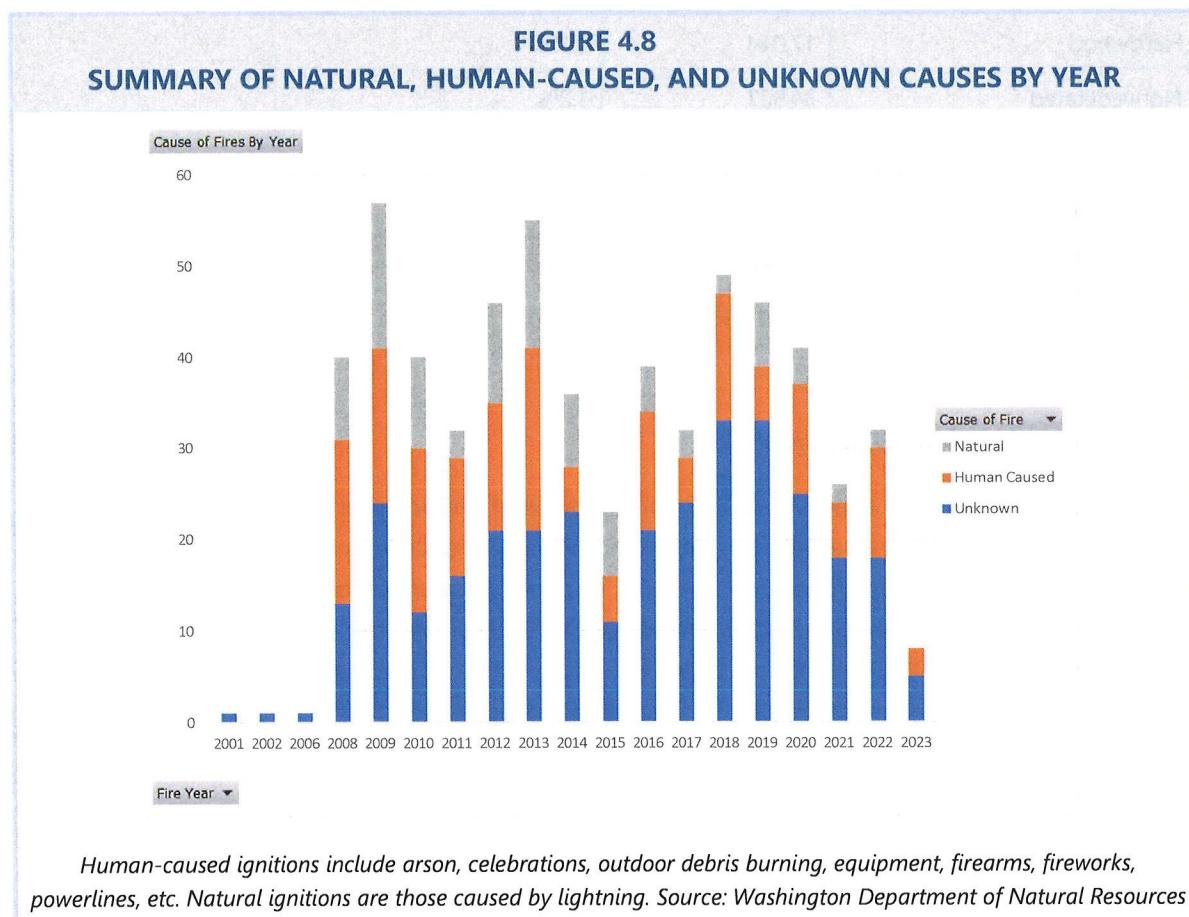
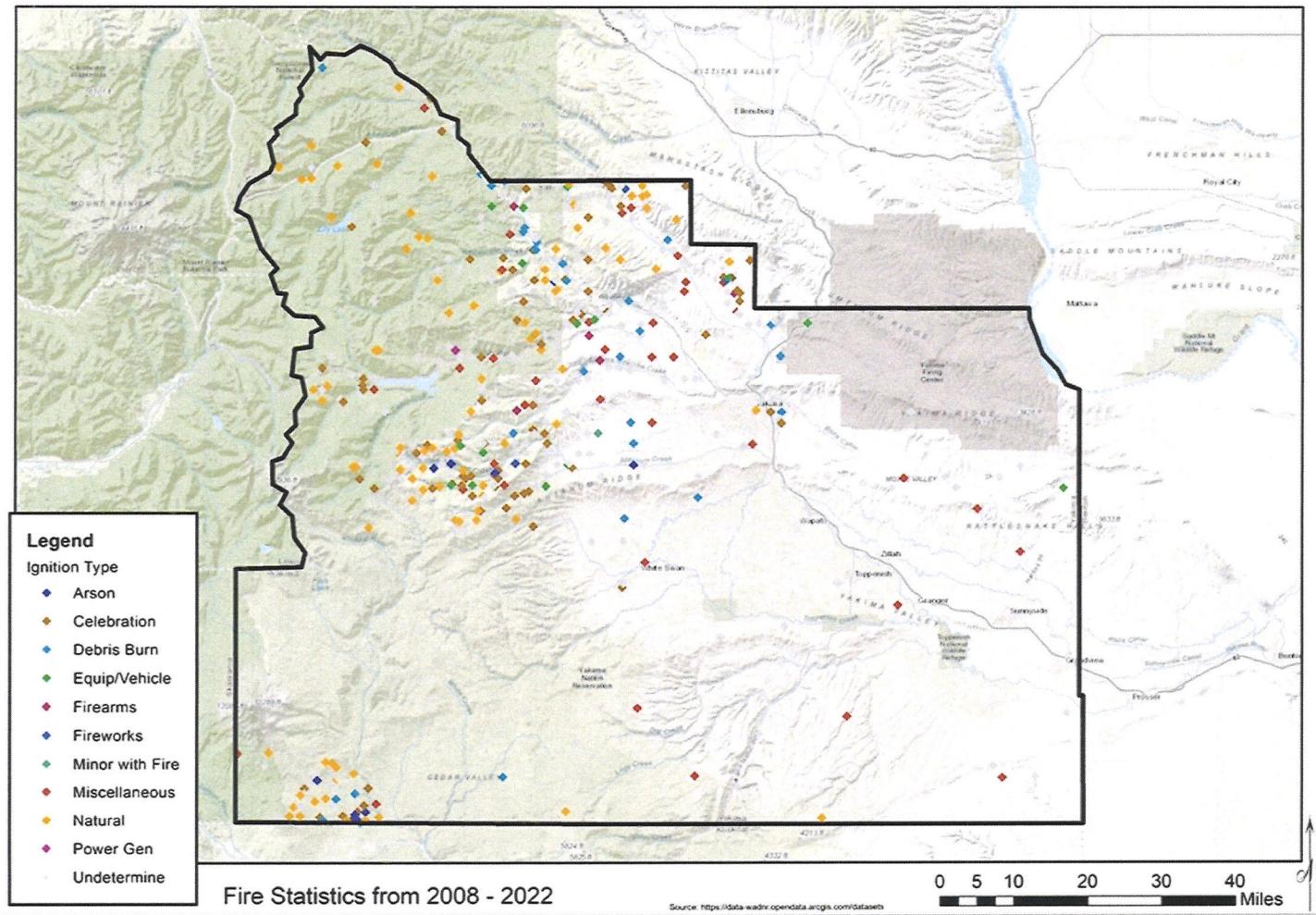


FIGURE 4.9
CAUSES OF WILDFIRE IGNITION IN YAKIMA COUNTY (2008-2022)



Causes of Wildfire Ignition in Yakima County (2008-2022). 78% of ignitions were contained to one acre or smaller, and 6.4% grew to over 100 acres in size.

Source: Washington Department of Natural Resources

The data below provides a general picture regarding the level of WUI fire risk within Yakima County. There are several reasons why the fire risk may be even higher than suggested above, especially in developing WUIs.

- While large fires may occur infrequently, it is statistically inevitable that they will happen at some point. One large fire can significantly impact the overall fire risk statistics. Therefore, it is essential to consider the possibility of such events when assessing the level of fire risk in Yakima County.
- Developing WUI areas are susceptible to elevated fire risks. As these areas expand and encroach upon wildland spaces, the potential for fire incidents increases. Factors such as the proximity of homes and infrastructure to vegetation, flammable materials, and limited emergency response access can all contribute to a heightened risk in these developing areas.
- Wildfire risk is not solely dependent on historical data. Other factors, such as climate change and changing weather patterns, can exacerbate the fire risk in Yakima County.
- The probability of fires starting in interface areas is much higher than in wildland areas because of the higher population density and increased activities.

These factors can influence the frequency, intensity, and duration of wildfires, further increasing the potential for large fires and altering the overall fire risk landscape.

4.3 Recent Fires (1999-2022)

Wildfire events occur annually in Yakima County. Many of these wildfires occurred on dry and windy days that caused rapid fire spread over short periods. The two most recent and largest wildfires in the area, the Evans Canyon Fire and the Schneider Springs Fire, have been the most notable.

4.3.1 Evans Canyon Fire

The Evans Canyon Fire ignited about eight miles north of Naches, WA, on August 31, 2020. The wildfire grew to 30,000 acres over 72 hours. Residents evacuated over 2,900 homes in the Wenas and Selah. The wildfire burned west to east through forested areas of Naches west in the

Wenas area and towards Selah. The wildfire also traveled north, crossing into Kittitas County and destroying five homes.

VIDEO 4.1
AERIALS OF EVANS CANYON WILDFIRE BURNING IN YAKIMA COUNTY



Source: King 5 News. <https://www.king5.com/video/news/local/wildfire/evans-canyon-fire-near-yakima-washington-state-aerials/281-8c601b92-6df1-4c1b-97ac-9433fb0c8722>

4.3.2 Schneider Springs Fire

A lightning storm blanketing the northern Cascade Mountain Range on August 4, 2021, ignited the **Schneider Springs Fire**. The fire grew quickly in the next several days in record hot and dry conditions; burning in heavy timber, standing dead trees, and very steep terrain proved difficult for ground resources to access. The Schneider Springs Fire was a managed fire under a full suppression strategy where resources shifted around the fire perimeter to protect communities and take actions with a high probability of success. A total of 202 properties were impacted during this fire. One hundred seven thousand three hundred twenty-two acres (434 square miles) burned and was 100% contained on October 31, 2021.

VIDEO 4.2 SCHNEIDER SPRINGS FIRE BURNING IN YAKIMA COUNTY



Recon Flight - A Flyover of the Schneider Springs Fire, August 25, 2021

Join us for a flight around the perimeter of the #SchneiderSpringsFire. In order to gather more information about fire activity, the unannounced fire operation

Source: USFS and DNR. <https://www.facebook.com/SchneiderSpringsFire/videos>



Photo by Kara Karboski, Washington Resource Conservation and Development Council

CHAPTER 5

WILDFIRE PLANNING

AREAS

This chapter describes land ownership in the county, the multi-party wildfire suppression system, and lands outside designated fire response areas and how these components were used to define the wildfire planning in this CWPP.

5.1 Land Ownership

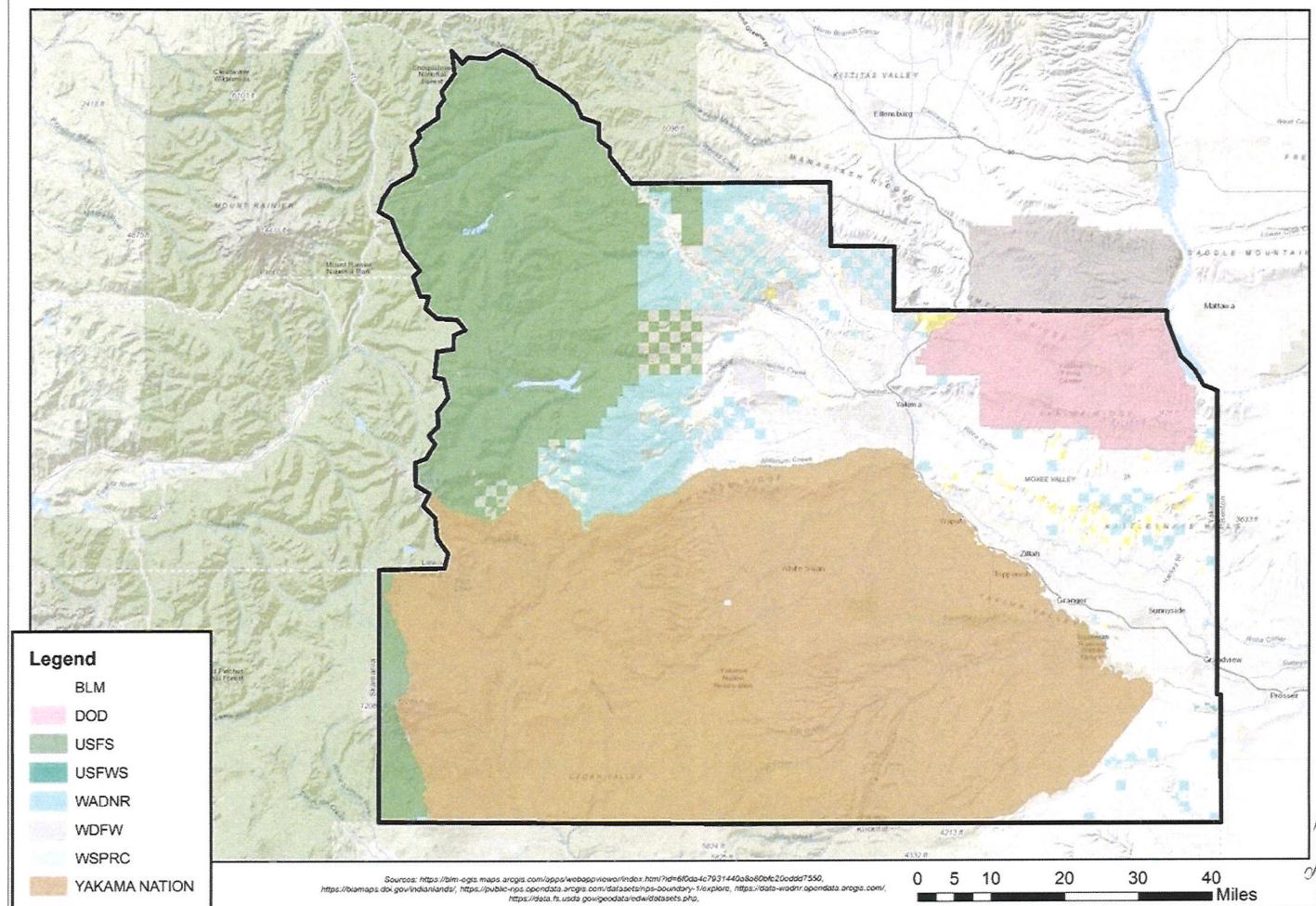
Land in Yakima County is owned primarily by the Yakama Nation and private landowners. The State of Washington and the federal government also have significant ownership. Federal lands are managed by the BLM, USFWS, USFS, and the Department of Defense (Joint Base Lewis-McChord). State lands include parcels managed by the DNR and Washington Department of Fish and Wildlife (WDFW).

Table 5.1 and Figure 5.1 summarize land ownership by major agencies and categories in the county.

TABLE 5.1
LAND OWNERSHIP CATEGORIES IN YAKIMA COUNTY

Entity	Acres	Percent of Total Area
National Park Service	351	0%
State Parks	464	0%
U.S. Fish and Wildlife Service	2,105	0%
Water	2,502	0%
Bureau of Land Management	28,468	1%
Washington Department of Fish and Wildlife	84,826	3%
State of Washington	152,735	6%
Department of Defense	161,529	6%
U.S. Forest Service	505,456	18%
Private	583,407	21%
Yakama Nation	1,239,375	45%
Total	2,761,217	100%

FIGURE 5.1
LAND OWNERSHIP IN YAKIMA COUNTY



Two national forests (Gifford Pinchot and Okanogan-Wenatchee) overlap the western and northwestern parts of the county. The Goat Rocks, William O. Douglas, and Norse Peak Wilderness Areas occupy parts of the county within these national forest areas. A portion of the YTC is in the northeastern part of the county. The Yakama Reservation comprises 1,377,638 acres in the county's southern portion and extends into Klickitat County. Source: ArcGIS

5.2 Wildfire Response Jurisdiction

5.2.1 Suppression Responsibilities

Despite the complexity of jurisdictions, emergency response in Yakima County is highly effective, and most agencies report satisfaction with mutual aid arrangements. Coordinated response in the Northwest, Washington State, and Yakima County has evolved with past experiences to become a sophisticated organization of separate local, state, tribal, and federal entities coordinating and sharing resources to deliver appropriate resources required for each fire incident.

A majority of the populated areas in the county have a municipal or local fire protection district that covers both structural and wildland fire response. Nine (9) city fire departments and 11 fire protection districts serve Yakima County:

City Fire Departments	Fire Protection Districts
• Selah	• District 1 Highland
• Yakima	• District 2 Selah
• Wapato	• District 3 Naches
• Toppenish	• District 4 East Valley
• Zillah	• District 5 Lower Valley
• Grandview	• District 6 Gleed
• Sunnyside	• District 7 Glade
• Mabton	• District 9 Naches Heights
• Union Gap	• District 11 Broadway
	• District 12 West Valley
	• District 14 Nile-Cliffdell

In Yakima County, the responsibility for managing and responding to wildfires varies according to land ownership. Resources available for initial attack on fire starts include the city fire departments, county fire districts, the USFS, BLM, Yakama Nation, DNR, and the JBLMYTC. The Central Washington Interagency Communications Center in Wenatchee provides interagency coordination for federal and state resources. Yakima County

dispatch consists of Lower and Upper Valley dispatches. The Yakama Nation and the Bureau of Indian Affairs have their own dispatch.

DNR's Wildland Fire Management responds to wildland fires on State and private lands under Forest Fire Protection Assessment (FFPA) and other protection agreements in accordance with RCW 76.04. Over 300,000 acres of DNR protection lies within Yakima County. The following resources are stationed in Yakima County to meet wildland fire response and suppression objectives on lands under DNR's jurisdiction: 3 Overhead, 5 engines, 1 hand crew, 1 dozer, 1 Heli base, and one Single Engine Air Tanker (SEAT) base. DNR has several cooperative agreements with County, State, Tribal, and Federal partners to manage wildland fires across jurisdictional boundaries and better share resources in times of need. DNR's Wildland Fire program assists with fuel management, prescribed fire, and forest and community resilience outside of fire suppression.



Photo by Yakima Valley Emergency Management.

The USFS protects wildland fire on lands within its jurisdictional boundaries. The USFS, USFWS, and BLM provide wildland fire protection, including initial attack, on their respective lands and participate in mutual aid agreements with the other agencies and local fire protection districts. Federal and state agencies can mobilize additional personnel, equipment, aircraft, and logistical support if necessary. However, depending on regional availability and other circumstances, delays in the arrival of additional suppression resources may be several hours to days.

Local fire districts use their staff, equipment, and other resources for initial attack to the best of their abilities. They often send resources to assist

with fires outside the county during large events. While this system provides a support network regionally, the drawback is that fewer resources are available to each district or department's respective constituents. Also, during large events in other areas, it is likely that additional support will be limited or not readily available for local ignitions.

The YTC provides structural and wildland fire protection and has a full suite of resources at its disposal, including aerial support. YTC participates in coordination meetings with adjoining fire districts on an annual basis and has mutual aid agreements with surrounding jurisdictions. YTC will send a commanding officer and a brush truck if a mutual aid request is made. Aerial resources at YTC are not authorized to respond to fires not directly threatening the Training Center. If a fire is threatening YTC, YTC will deploy all resources.

Documentation of all the individual relationships is beyond the scope of this document, but general frameworks are provided within the Master Cooperative Wildfire Fire Management and Stafford Act Response Agreement, the Washington Statewide Operating Plan, the Eastern Washington Local Operating Fire Plan, the Washington State Patrol – Office of State Fire Marshall, Washington State Fire Services Mobilization Plan, and agency-specific Mutual Aid Agreements.

5.2.2 Unprotected Lands

In Yakima County, "unprotected lands" describes areas not part of a fire protection district, city fire department, or federal or agency firefighting jurisdiction. These areas are typically sagebrush steppe and rangeland areas. In 2009, the Dry Creek Fire near Sunnyside burned 49,000 acres, costing \$900,000 to suppress. It prompted the state to enact a law requiring people to be informed when moving onto lands not covered by firefighters.

Local fire districts and departments typically do not have the resources to extend coverage into sparsely populated areas. Fire departments and districts rely on levy taxes to pay for fire service. A few solutions have been proposed, but no formal solutions have been enacted and enforced. Some fire districts have established relationships with entities such as BLM near the adjacent fire districts, and other federal agencies have agreed to pay the suppression costs to the district for fighting a fire. Selah has a similar agreement with lands near the state-managed L.T. Murray Wildlife Area.



Yakima Training Center prescribed burn.

5.2.3 Fire Response Summary

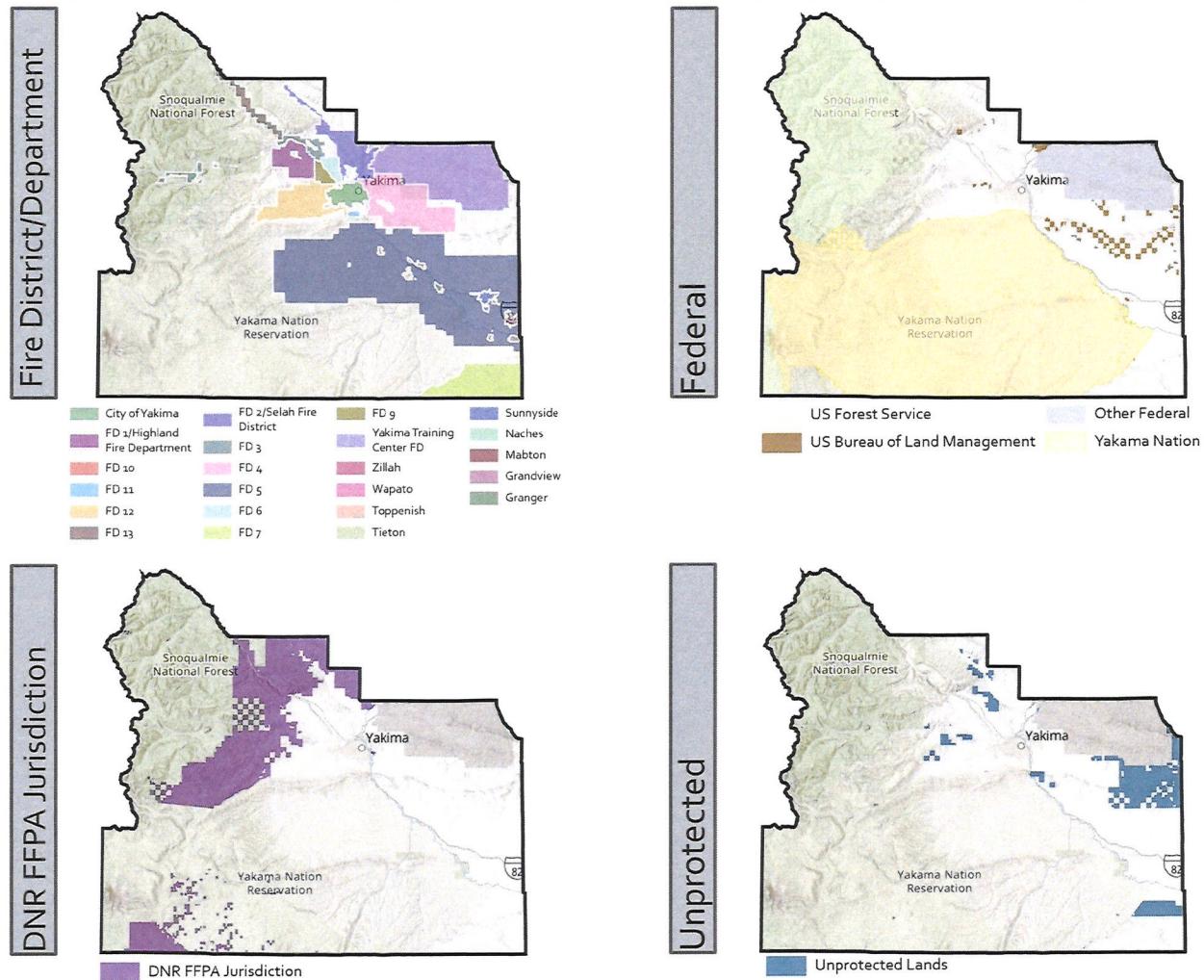
Table 5.2 summarizes the fire response framework in Yakima County.

Figure 5.2 illustrates wildfire response jurisdiction across the county.

TABLE 5.2
WILDFIRE RESPONSE FRAMEWORK IN YAKIMA COUNTY

	Federal	State	County	Municipal
Responding agencies	<ul style="list-style-type: none"> • USFS • BLM • Bureau of Indian Affairs • USFWS • YTC • Yakama Nation 	<ul style="list-style-type: none"> • DNR 	<ul style="list-style-type: none"> • Fire Protection Districts • Office of Emergency Management • Fire Marshal's Office • 11 fire protection districts 	<ul style="list-style-type: none"> • City fire departments
Responsibilities and mutual aid agreements	<ul style="list-style-type: none"> • Federal agencies are responsible for initial response on federal lands. • USFS, BLM, Bureau of Indian Affairs, and USFWS participate in first response and cooperative agreements with Washington DNR. • DNR. 	<ul style="list-style-type: none"> • DNR provides wildland fire protection on over 300,000 acres of state, private, and other non-federal lands. • DNR has Forest Land Response Agreements (FLRA) with local fire districts to define mutual aid response and allows DNR to dispatch fire district personnel to wildfires outside their fire districts. • DNR has Interagency Agreements with local partners to allow for dispatching fire district personnel to support Incident Management Teams (IMT) regionally or nationally. • DNR provides wildfire protection on WDFW lands through FFPA. 	<ul style="list-style-type: none"> • Provides structural fire protection within district boundaries and mutual aid to other Yakima County Fire Districts. • Participates with DNR through FLRA and Interagency Agreements • Yakima County Office of Emergency Management coordinates and facilitates resources to minimize the impacts of fire emergencies and disasters on people, property, economy, and the environment. • The Yakima County Fire Marshal's Office participates in fire investigations. 	<ul style="list-style-type: none"> • Provide structural fire protection within city limits. • Small communities without fire departments contract with rural fire districts for emergency protection.

FIGURE 5.2
YAKIMA COUNTY WILDFIRE RESPONSE JURISDICTION MAP



The map shows the primary wildfire response protection areas. Most federal and state agencies, and fire districts/departments support wildfire response and suppression efforts through mutual aid agreements. Check out the [Yakima CWPP Story Map](#) to take a closer look at the response jurisdiction areas. Source: Washington Department of Natural Resources

5.3 CWPP Planning Areas

The Yakima CWPP Core Advisory Committee designed the CWPP planning areas to allow for flexibility and a wide range of options for communities and cooperating agencies as they implement mitigation measures.

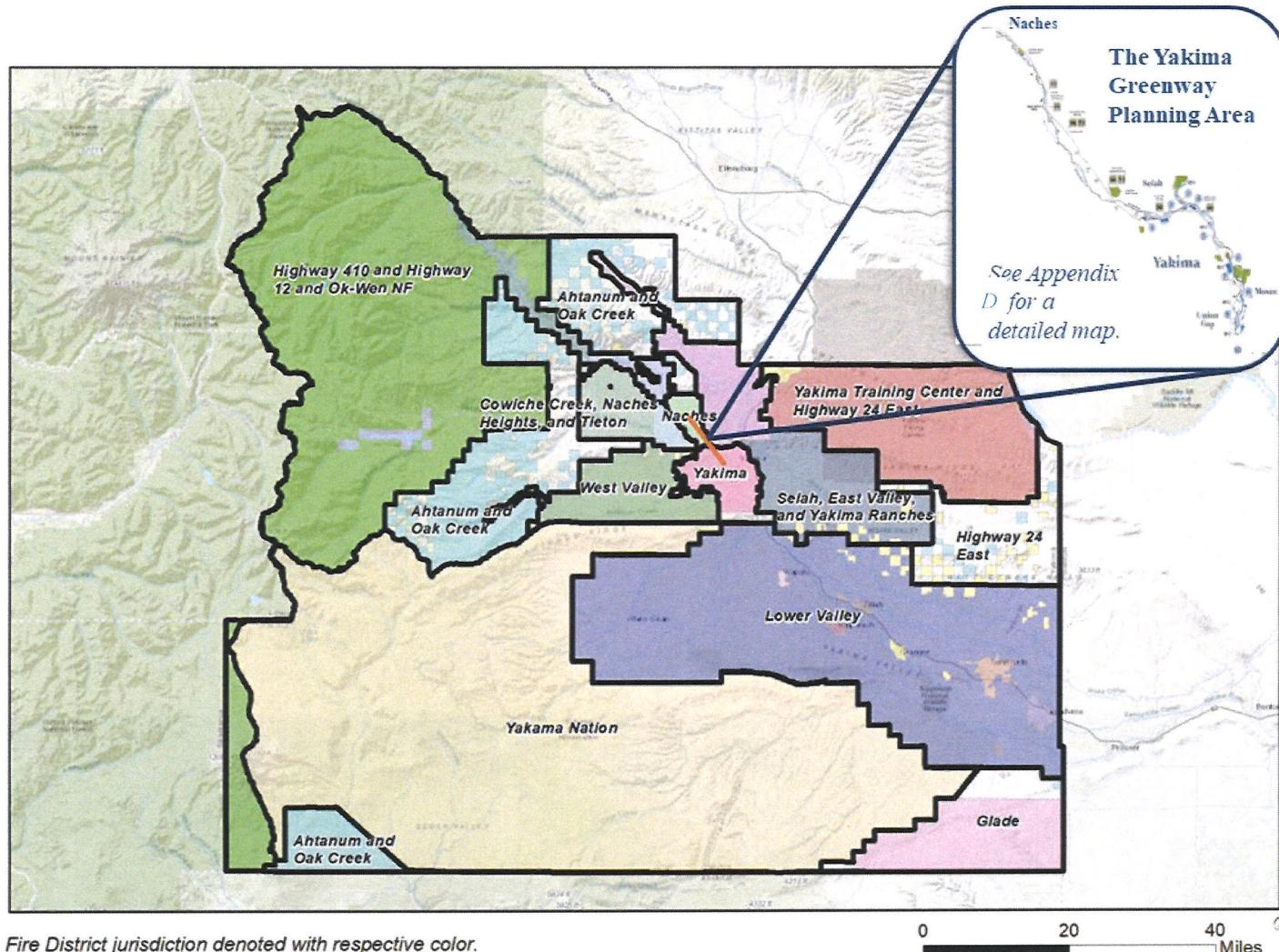
These planning areas shown in Figure 5.3 allow local communities the latitude to set local priorities and activities related to fire risk reduction. These activities include fire protection and preparedness, hazardous fuels reduction, restoration of healthy forests, fire prevention, outreach and education, mitigation measures to reduce structure ignition, and watershed-based planning.

The planning areas were designated by land ownership and wildfire response jurisdiction boundaries. This section outlines the planning areas and the associated fire protection districts and agencies. Table 5.3 cross-references the planning areas with response jurisdictions.

5.3.1 Input from Land Management Agencies

The firefighting resources and capabilities, planning area descriptions, concerns, and priorities for protection in this section summarize the information supplied by the fire chiefs or representatives of land management agencies. As part of this CWPP update, each entity completed Table 5.4, with answers summarized in Appendix D. Information provided in Appendix D was voluntary, and respondents may not have answered all questions.

FIGURE 5.3
YAKIMA COUNTY CWPP PLANNING AREA MAP



The Advisory Committee used the information in the planning area assessments to define the CWPP Planning Area boundaries. The boundary delineations are based on common factors such as mutual aid and response agreements, response capacity, unique community or landscape characteristics, and opportunities for cross-jurisdictional and cross-boundary community protection or mitigation planning.

TABLE 5.3
PLANNING AREAS AND PRIMARY WILDFIRE RESPONSE JURISDICTIONS

See Appendix D for Wildfire Planning Area Assessments.

Primary Response Jurisdiction	CWPP PLANNING AREAS					
	Naches, Niles, Cliffdell	Ahtanum and Oak Creek	Cowiche Creek, Naches	Naches	Selah, East Valley, and Yakima	
BLM		●	●			
DNR	●	●	●	●	●	●
USFS	●					
Unprotected Lands		●				●
Yakima County Fire District #7						●
Yakima County Fire District #5						●
Sunnyside Fire & EMS						●
US Fish & Wildlife Service						●
Zillah						●
Wapato						●
Granger						●
Grandview						●
Mabton						●
Yakama Nation						●

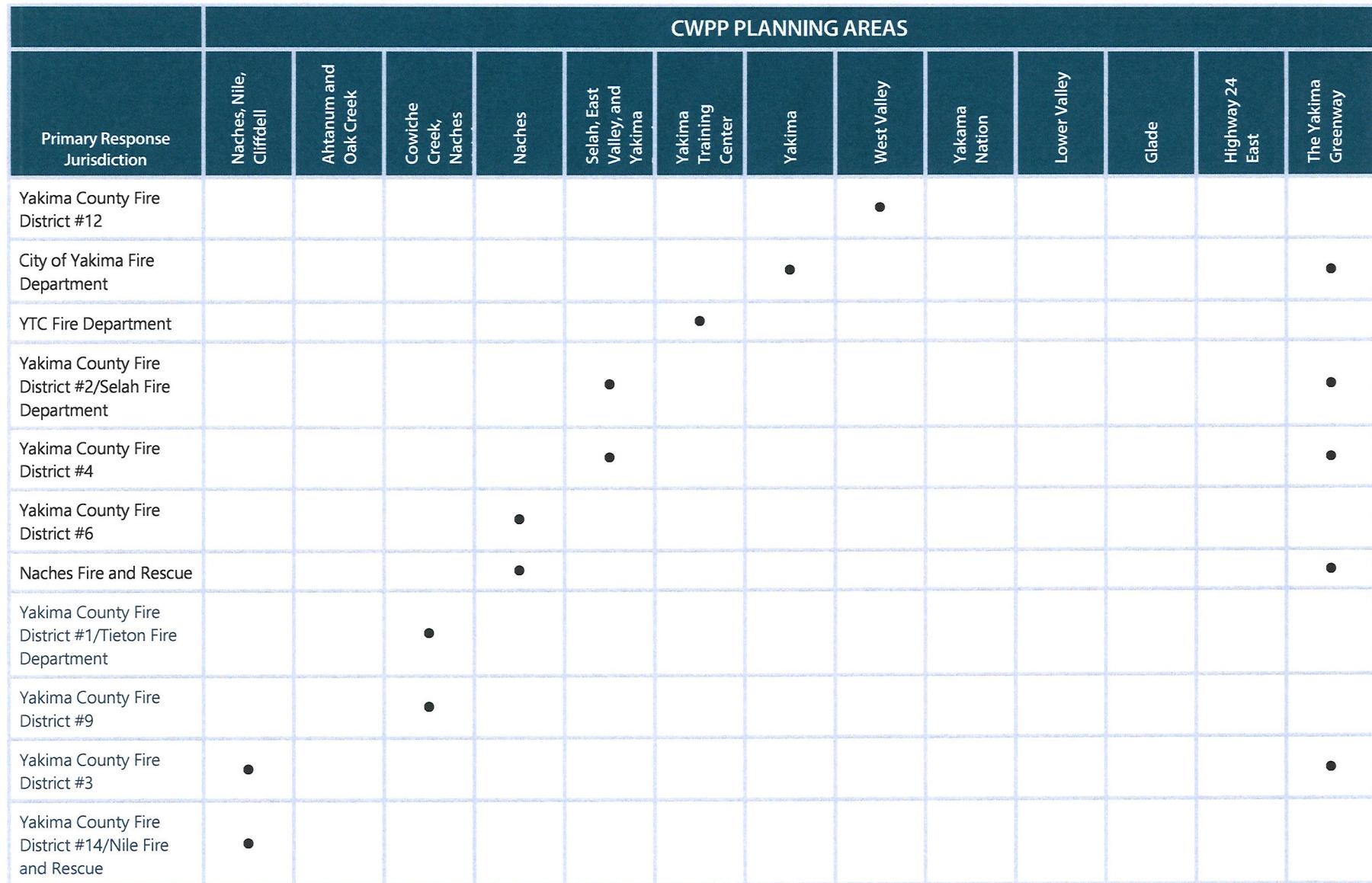


TABLE 5.4
INDIVIDUAL PLANNING AREAS DESCRIPTORS AND DEFINITIONS

Population	Number of people residing within the planning area.
Size and Jurisdiction	Size of planning area. Structural and wildland fire protection responsibilities for the area. Description of jurisdictional boundaries and attributes.
Local Preparedness Capacity	Emergency protection capabilities (equipment, resources) available for community protection.
Mutual Aid	Description of mutual aid partners and mutual aid service area.
Address signs	Indicate the presence or absence of clear, reflective address signs for roads and homes.
Safety Zones	Known or established formal or informal safety zones.
Adequate number of hydrants and draft sites	Determination is made by the response entity.
Topography and Vegetation	Local configuration of the earth's surface, including its relief and the position of its natural and human-made features. Topography that could exacerbate fire behavior (steep slopes, saddles, ravines, etc.). A vegetation complex is defined by type and kind (grass fields or timber), arrangement (blow down or standing), volume, condition (dead or dying or healthy) and location that presents a significant threat of ignition or contributes to suppression difficulty.
Access	Condition or class of a road as it relates to acceptable access or egress for emergency vehicles (including ambulance, fire vehicles, and other emergency equipment), and use in community planning projects. Accessibility by a type 3 engine.
Estimate % of homes with defensible space	0-25%, 25-50%, 50-75%, 75%+
Estimate % of homes with class A roof and fire-resistant siding	0-25%, 25-50%, 50-75%, 75%+
Hazmat facilities or sites	Yes/No or description, if known
Fire Department Needs	Needs, including wildfire PPE, cross training in wildland fire fighting, communication upgrades, new members and retention of volunteers, wildland equipment, dry hydrants.
Top Concerns and Priorities for Protection	
Access and Evacuation	Concerns for ingress and egress routes, one-way-in/one-way-out that can inhibit evacuation or access to people and structures.

	Roads that cannot be accessed by type 3 engine.
Hazardous Fuels and Defensible Space Concerns	Areas where significant vegetation exists along roadways (potentially nonsurvivable conditions) or in specific neighborhoods or communities
Unique Ecosystems	Ecosystems at risk (habitat for threatened and endangered species, waterways, unique vegetation types, etc.)
Structures	Neighborhoods or communities at risk (mobile home or trailer home parks, etc.)
Community Values	Important values at risk (recreational, historical, cultural, and scenic points of interest). Are there other groups of vulnerable populations (homeless who camp, people without cars, people who don't speak English, etc.)
Infrastructure Risk	Utility services (power or natural gas lines, sewage treatment plants, communication towers, fiber optics, telephone lines, road corridors, bridges, railroads, hospitals, schools, elder care facilities, and homeless shelters)



Photo by Yakima Valley Emergency Management

CHAPTER 6

RISK ASSESSMENT

Risk assessments are based on specific fire management strategies or where similar terrain or fuel types are present. Considering these factors together helps to facilitate a comprehensive understanding of wildfire risks within fire management planning areas. This chapter describes fire behavior, fuel types, and suppression challenges that make the planning areas unique.

6.1 Fuel Hazards

The terrain that dominates much of Yakima County facilitates extensive farming and ranching operations. Agricultural fields occasionally serve to fuel a fire after curing--burning in much the same manner as short to tall grassy fuels. Fires in grass and rangeland fuel types tend to burn at relatively moderate intensity with moderate flame lengths, rapid rate of spread, and short-range spotting. Common suppression techniques and resources are generally quite effective in this fuel type. However, history has shown this fuel type can behave differently under low humidity, high fuel load, and moderate to high wind conditions. Homes and other

improvements can be protected if fuel treatments, defensible space, and structural ignition preventive measures are adopted.

Rangelands with a significant shrub component have much higher fuel loads with greater spotting potential than grass and agricultural fuels. Although fires in agricultural and rangeland fuels may not present the same control problems as those associated with large, high-intensity fires in timber, they can cause significant damage if precautionary measures have not been taken prior to a fire event. Wind-driven fires in these fuel types spread rapidly and can be challenging to control. During extreme drought and when pushed by high winds, fires in agricultural and rangeland fuels can exhibit extreme rates of spread, which complicates suppression efforts.

Riparian areas in arid environments often have more fuel loading due to the relatively abundant water supply. Vegetation tends to be more abundant and robust in these areas. Fuel loading often compounds year after year as new growth replaces old growth.

Deciduous trees and shrubs are common along waterways and contribute to surface fuel loads as they lose their leaves yearly.

Riparian areas experience more recreation due to various outdoor opportunities (fishing, camping, swimming, etc.). The increased activity may lead to unusually high ignition frequency.

Woodland fuels are primarily present in the western edge of the county. Moving west, the forest transitions from dry deciduous (Oregon white oak and cottonwood) through dry conifer (ponderosa pine, Douglas-fir), mid-elevation conifer (grand fir, western larch, western hemlock) to high-elevation wet conifer (mountain hemlock, Pacific silver fir). Wooded areas tend to be on steep terrain intermingled with grass and shrubs, providing an abundance of ladder fuels, which leads to horizontal and vertical fuel continuity. These factors, combined with arid and windy conditions

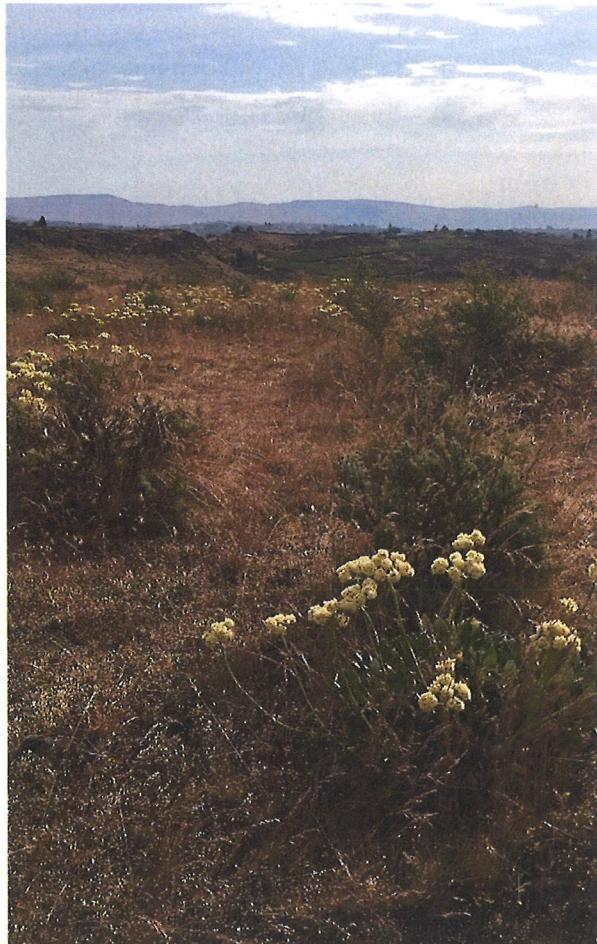


Photo by Kara Karboski, Washington Resource Conservation and Development Council

characteristic of the river valleys in the region, can result in high-intensity fires with large flame lengths and fire brands that may spot long distances. Rates of fire spread tend to be lower than those in the grasslands; however, intensities can escalate dramatically, especially under the effect of slope and wind. Such fires present significant control problems for suppression resources and often result in large wildland fires.

Furthermore, exceptionally hot and dry summers, overcrowding, and unprecedented forest insect infestations are causing forested areas to become more and more susceptible to severe wildfires. These are the consequences of excessive fuel buildup from over 100 years of successful fire suppression activities. These effects are most pronounced in forest types that would have historically undergone frequent low-intensity fire, like much of the lower and mid-elevation forests in Yakima County.



Photo by Kara Karboski, Washington Resource Conservation and Development Council

6.2 Risk of Wildfire Occurrence

6.2.1 Environmental Factors

Within Yakima County, a mild climate, abundant sunshine, and low annual precipitation in certain regions create an environment highly susceptible to wildland fires. The specific environmental factors of slope, aspect, and precipitation all play a significant role in determining the intensity of a wildfire.

The topography of an area, particularly its slope, can significantly impact the behavior of a fire. Steep slopes tend to accelerate the spread of wildfires, as the fire can quickly move uphill due to the convection force. This can result in a rapid and more intense fire front, making it challenging for firefighters to contain and control the blaze.

Aspect, which refers to the direction a slope faces, also influences the behavior of wildfires. In Yakima County, areas with dry aspects, such as those facing south or west, are more prone to wildfires. These aspects receive more direct sunlight and have a higher potential for drying out vegetation, fueling fire spread.

Furthermore, the amount of precipitation an area receives determines its susceptibility to wildfires. In regions of Yakima County with lower amounts of precipitation, the vegetation tends to be drier, making it more prone to ignition and allowing fires to spread more rapidly. Areas with lesser precipitation relative to other parts of the county are at a higher risk of wildfire occurrence.

Considering these environmental factors, residents and local authorities within Yakima County must be aware of the increased risk of wildfires in areas with steep slopes, dry aspects, or lesser amounts of precipitation. Implementing proactive measures such as vegetation management, firebreak creation, and public awareness campaigns can help mitigate the potential dangers posed by wildland fires, safeguarding both lives and property.

6.2.2 High-Risk Fire Behavior

Due to the heavy fuel loads in various parts of the county, there is a significant risk of extreme wildfire behavior characteristics. These characteristics can lead to highly intense fires that can potentially replace the existing vegetation completely - causing severe damage and destruction to the affected areas.

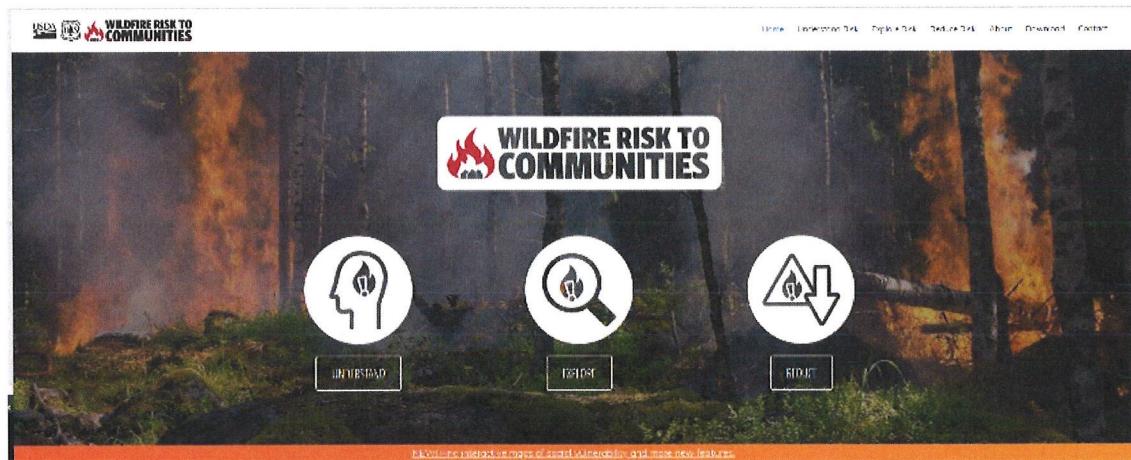
Agricultural and grassland areas in the county are also at risk of experiencing rapid rates of fire spread. This is especially true when there is an influence of wind, which can further exacerbate the fire's progression. The combination of wind and the presence of combustible materials in these areas increases the likelihood of the fire spreading rapidly.

It is important to note that certain areas within the county, specifically those with high fuel loads, steep topography, dry/windy weather conditions, and historical fire patterns, have a high potential for extreme fire behavior.

These factors can increase the potential for intense, stand-replacing fires as well as rapid rates of spread in agricultural and grassland areas, especially under the influence of wind.

6.2.3 Risk Models

Wildfire in Yakima County was analyzed using various models managed on a Geographic Information System (GIS), the [USFS Wildfire Risk to Communities](#) website, and interactive maps. Wildfire Risk to Communities is built from a variety of nationally consistent data, including vegetation and fuels from LANDFIRE, weather from the National Weather Service, and community data from the U.S. Census Bureau, each with different vintages. Physical features of the region, including roads, streams, soils, elevation, and remotely sensed images, were represented by data layers. Discussions with local wildfire suppression professionals and community fire adaptation practitioners provided insights into forest health issues and treatment options.



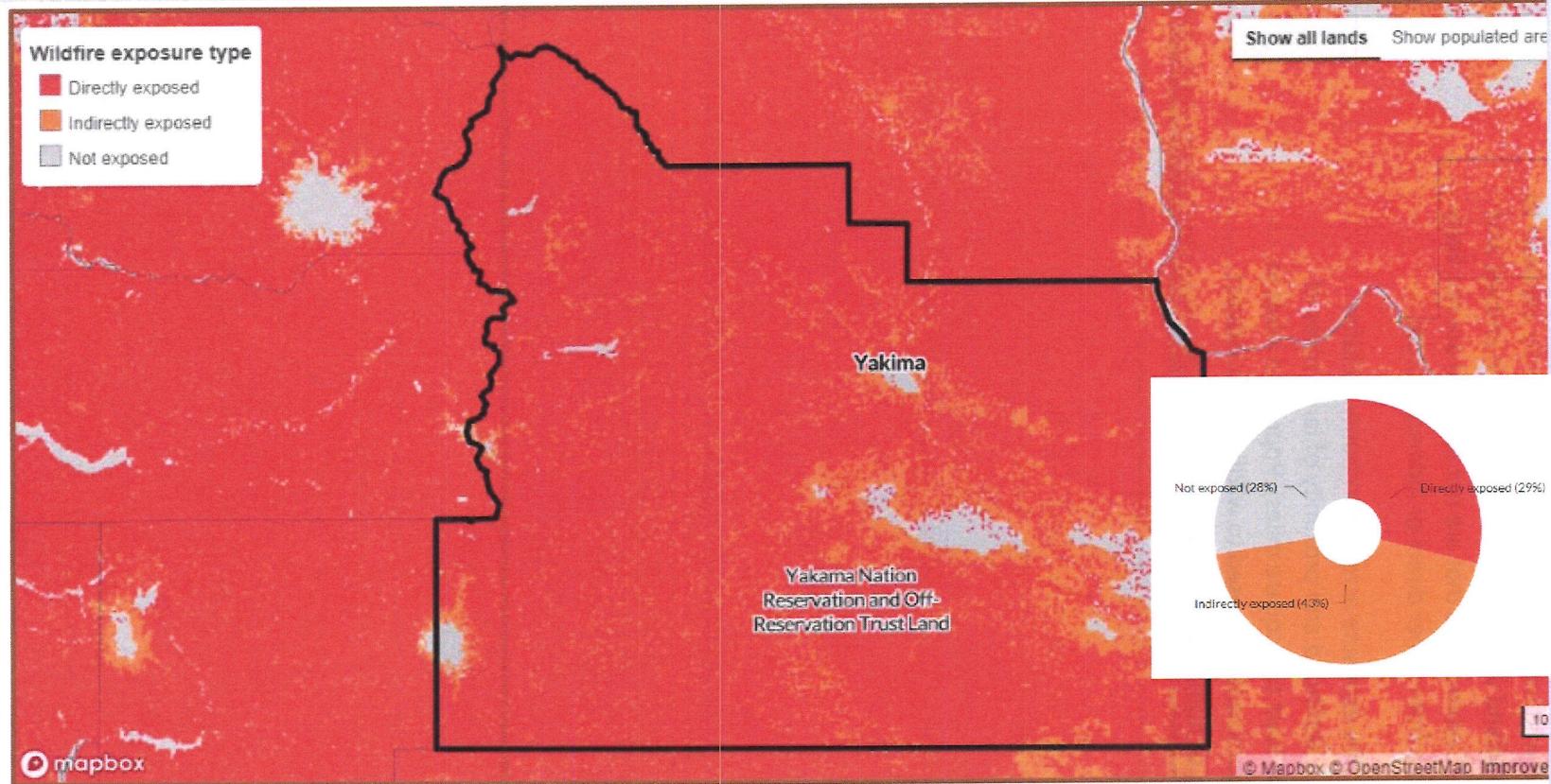
6.2.3.1 Communities in Yakima County with the Greatest Cumulative Housing Unit Exposure to Wildfire

Exposure is the intersection of wildfire likelihood and intensity with communities. Any community where there is a chance wildfire could occur

is likely to be exposed to wildfire. Communities can be directly exposed to wildfire from adjacent wildland vegetation or indirectly from embers and home-to-home ignition. Communities that are not exposed are not likely to be subjected to wildfire from either direct or indirect sources.

Figure 6.1 illustrates wildfire exposure across the county. Wildfire exposure is based on the likelihood and proximity of large areas of flammable vegetation (at least two square miles). Populated areas in Yakima County are predominantly exposed to wildfire from indirect sources, such as embers or home-to-home ignition.

FIGURE 6.1
YAKIMA COUNTY WILDFIRE EXPOSURE



Wildfire exposure is based on the likelihood and proximity of large areas of flammable vegetation (at least two square miles). Any community where there is a chance wildfire could occur is exposed to wildfire. Source: wildfirerisk.org

Table 6.1 summarizes communities in the county with the highest wildfire exposure. This table used the "Exposure of human communities to wildfire in the Pacific Northwest" Table 1, which lists the 50 greatest-risk communities in Washington State. The "mean of exposed housing unit" rank indicates the mean (typical) burn probability of housing units within each community.

TABLE 6.1
COMMUNITIES IN YAKIMA COUNTY WITH THE HIGHEST WILDFIRE EXPOSURE

Community Name	Community Exposure Rating	Total Number of Housing Units Exposed to Wildfire	Estimated Burn Probability Rank	Priority
Selah	3	5873	52	High
Ahtanum	22	2318	56	High
Summitview	23	1361	23	High
White Swan	33	1035	29	High
Yakima	37	22,047	176	High
Naches	38	1147	44	High
Cowiche	48	864	39	High
Terrace Heights	49	2960	109	High
Gleed	50	1157	77	High

Source: http://pyrologix.com/wp-content/uploads/2019/11/RiskToCommunities_OR-WA_BriefingPaper.pdf

6.2.3.2 Risk of Wildfire Ignition Wildfire

Like many areas in communities, the Yakima River has experienced a significant increase in homeless and unwanted camping. Many of the fires in this area are human-caused by unattended campfires or intentional arson. This presents a complicated situation for firefighters who respond to the location. They tend to be very remote and hazardous. Many camps have drug and drug-making equipment. These areas pose a significant probability of ignition and extreme fire behavior due to garbage, debris, and hazardous materials accumulation. These conditions threaten firefighters and community safety.

6.3 Values at Risk

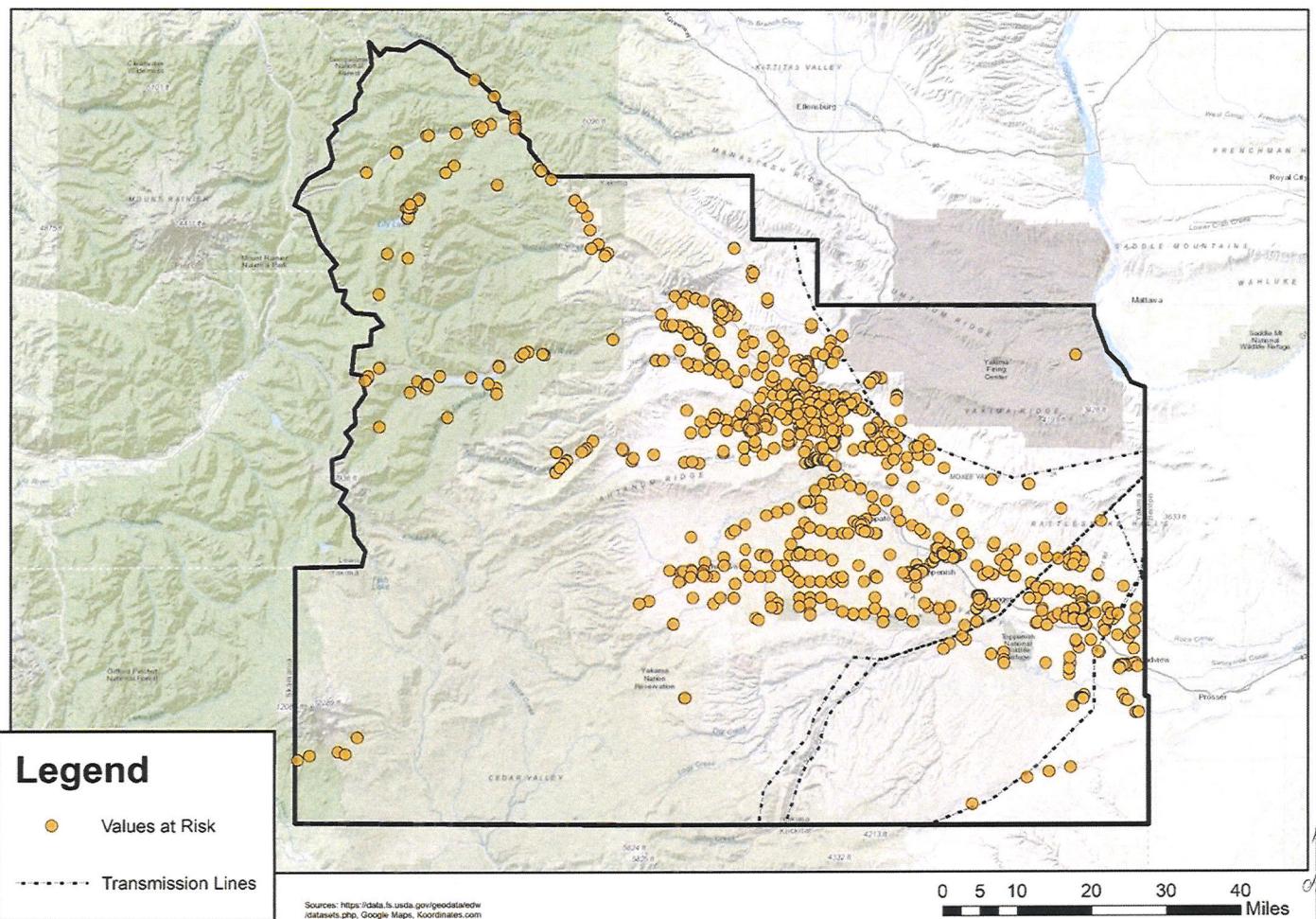
The CWPP Core Advisory Committee, fire districts, and landowners identified the greatest threats to critical community values and vulnerabilities within the community. Mapping values to highlight areas of concern and determine priorities for protection and fuel mitigation (Figure 6.2) allowed the Advisory Committee to consider local values at risk for each planning area. To help develop actions, strategies, and priorities, CWPP participants identified *cultural, natural, social, and economic values specific to the following:*

- Communities and neighborhoods at highest risk
- Infrastructure
- Fish and wildlife, and wildlife habitat
- Unique ecosystems
- Greenspace in commercial and highly developed areas
- Recreation and open spaces
- Formal subdivisions
- Working landscapes
- Rural lifestyle
- Air quality

Appendix E provides more details about the values at risk. These values were considered when developing the CWPP and should be considered for future planning efforts. In addition, values at risk have been mapped for each CWPP planning area, as shown in Appendix E.

Figure 6.3 shows the identified values at risk overlaid with the risk of wildfire. Figure 6.4 illustrates values at risk across land ownership.

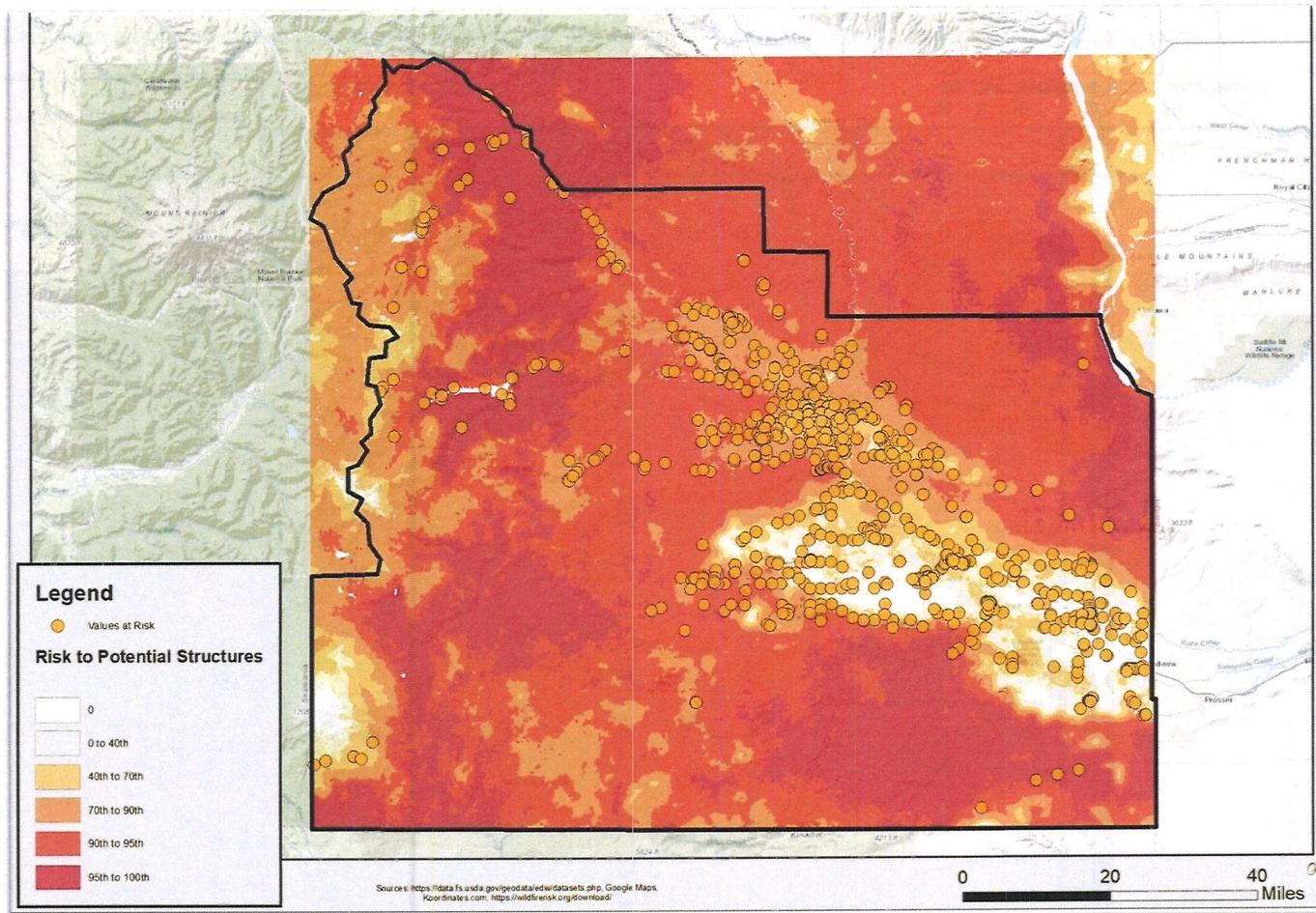
FIGURE 6.2
YAKIMA COUNTY VALUES AT RISK MAP (CRITICAL HUMAN INFRASTRUCTURE, SOCIAL, CULTURAL, ECONOMIC)



Values at risk identified by Yakima County stakeholders. Values at risk include critical infrastructure (e.g., transmission lines, bridges, dams, etc.), social values (e.g., parks, recreation sites, youth camps, etc.), and cultural and economic sites of significance. See Appendix E for Values at Risk by Planning Area.

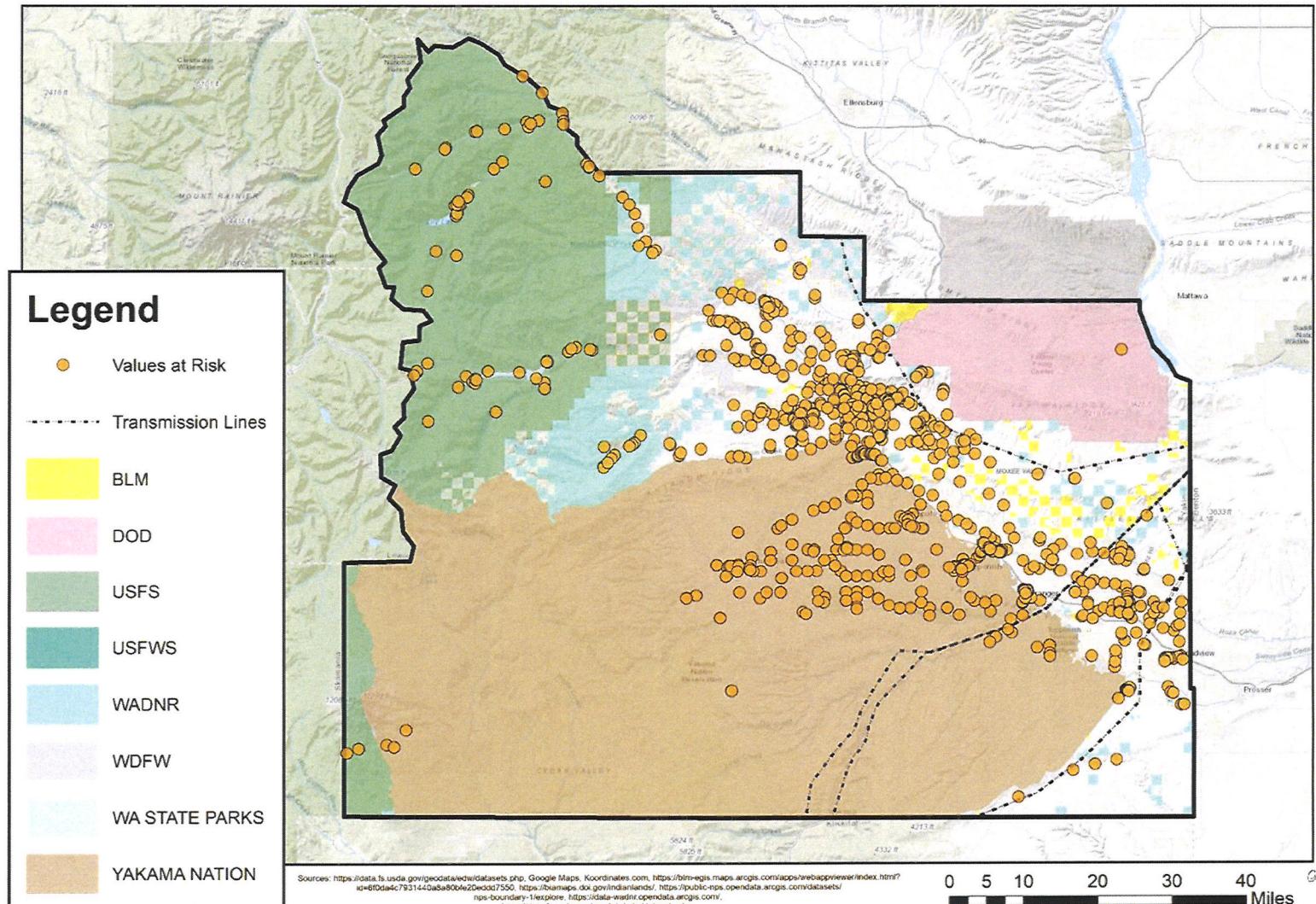
Source: Yakima County Core Advisory Committee

FIGURE 6.3
VALUES AT RISK AND POTENTIAL RISK TO WILDFIRE MAP



Nonresidential values at risk and potential risk to wildfire in Yakima County. Values at risk identified by Yakima County stakeholders. Wildfire Risk Potential Map: [wildfirerisk.org.](https://wildfirerisk.org/)

FIGURE 6.4
VALUES AT RISK ACROSS LAND OWNERSHIP



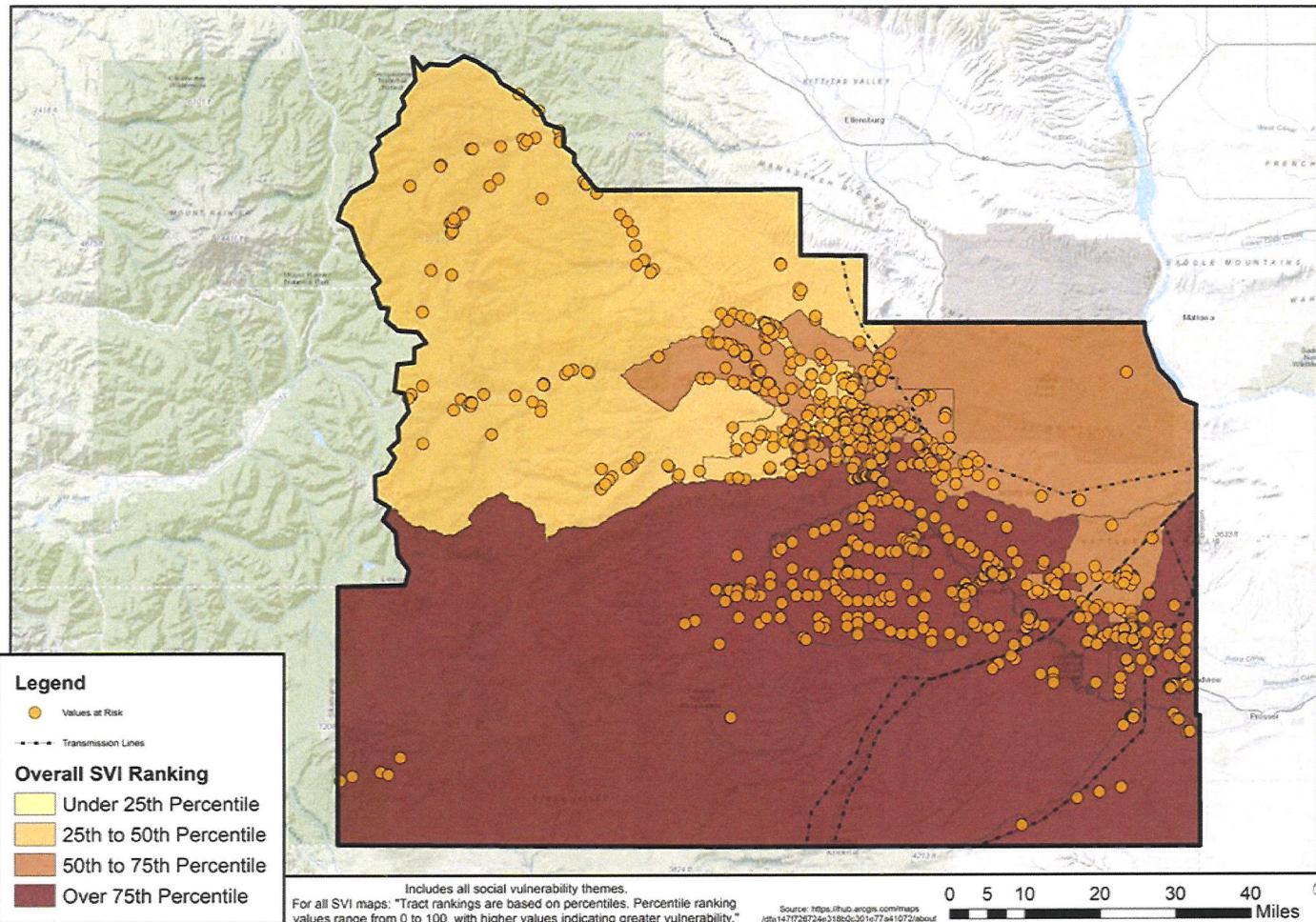
Nonresidential values at risk in Yakima County across land ownership. Values at risk identified by Yakima County stakeholders.

6.3.1 Social Vulnerability and Values at Risk

Various social and economic factors can exacerbate the impacts of wildfire on vulnerable populations, as Section 3.2.1 describes. Addressing the needs of vulnerable populations during wildfires requires a comprehensive and inclusive approach. It is crucial to ensure that resources and support systems are accessible to all individuals, regardless of socioeconomic status, age, ability, or cultural background. This includes providing targeted information and education about wildfire preparedness, establishing inclusive evacuation plans, and providing accessible and necessary resources.

Figure 6.5 shows the values at risk overlaid with social vulnerability ranking across the county.

FIGURE 6.5
SOCIAL VULNERABILITY RANKING AND YAKIMA COUNTY VALUES AT RISK



Nonresidential values at risk and social vulnerability in Yakima County. Values at risk identified by Yakima County stakeholders.

Social Vulnerability Index: widlfirerisk.org

6.3.2 Hazard Assessment

Different areas within Yakima County have varying levels and types of wildfire hazards. The fire districts and communities within the county assessed these hazards via a survey/interview process, and their results were collected and analyzed. The survey included questions about district size, topography, vulnerable populations, home hardening and defensible space, road quality, wildfire response, and hazardous material storage. Each question was given a point value, and the responses received points depending on their hazard. See Table 6.2 for the questions and their point ratings.

Points for each district or community were totaled and compared. With 27 points possible, hazard ratings were assigned:

- 0-6 Points: Lower hazard rating
- 7-12 points: Moderate hazard rating
- 13-19 points: High hazard rating
- 20+ points: Extreme hazard rating

See Table 6.3 for the points the districts received in each category.

Figure 6.6 illustrates the relative difficulty of fire suppression across the county.

Figure 6.7 shows a map of relative threat levels across Yakima County.

TABLE 6.2
HAZARD ASSESSMENT CRITERIA

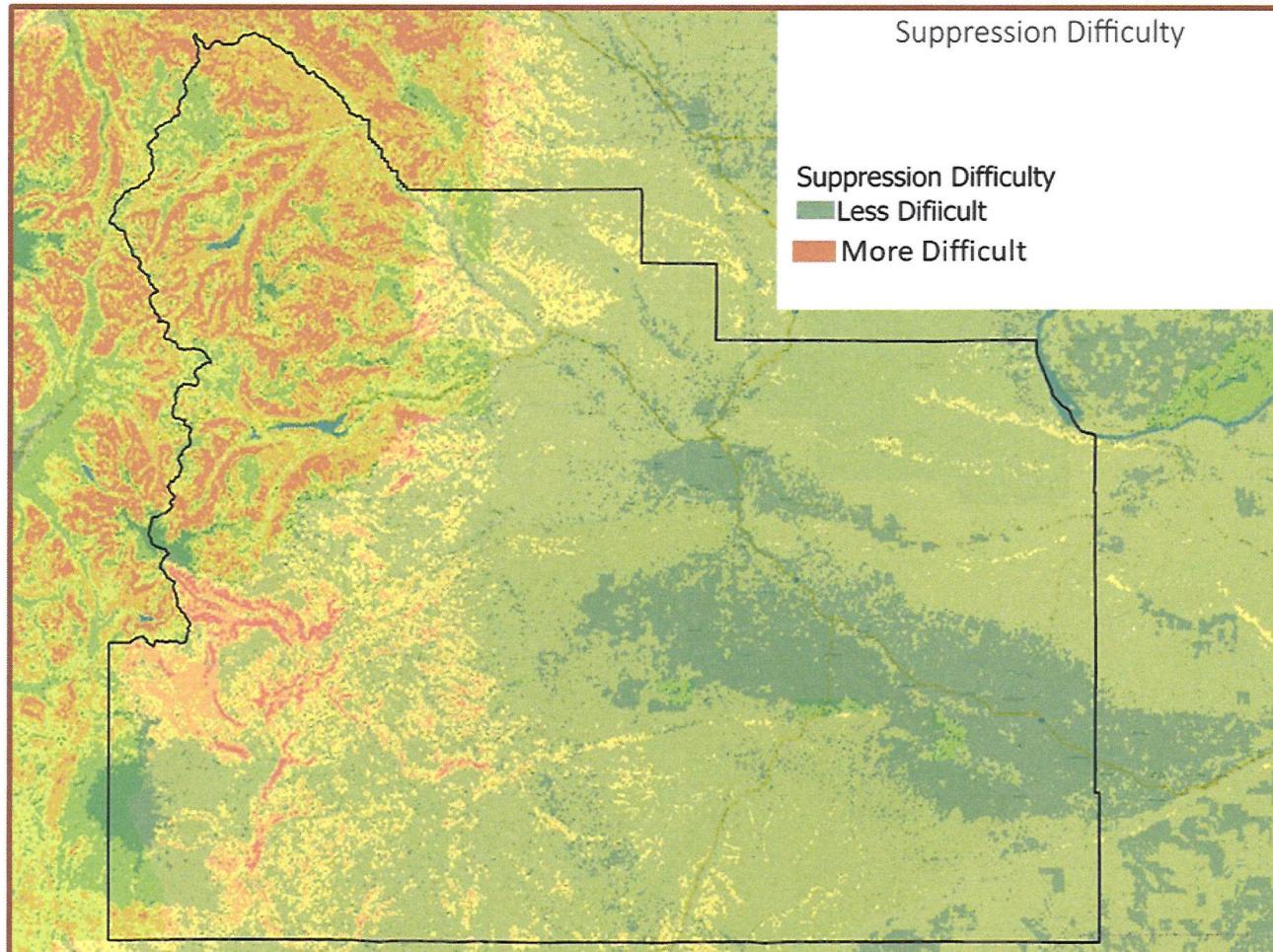
Size in square miles:
1 point if over 75 sq mi
Population:
1 point for 1-9999 residents
2 points if 10,000+ residents
Number of hospitals, schools, elder care facilities, and homeless shelters:
1 point if 1-5 separate vulnerable populations are present
2 points if 6+ separate vulnerable populations are present
Are there other groups of vulnerable populations (homeless who camp, people without cars, people who don't speak English, mobile home or trailer home parks, etc.):
1 point if 1-3 separate vulnerable populations are present
2 points if 4+ separate vulnerable populations are present
Is there topography here that could exacerbate fire behavior (steep slopes, saddles, ravines, etc.):
2 points if fire-escalating topography is present
Estimated % of homes with adequate defensible space:
0 points if 75-100% have adequate defensible space
1 point if 50-75% have adequate defensible space
2 points if 25-50% have adequate defensible space
3 points if 0-25% have adequate defensible space
Estimated % of homes with Class A roof and fire-resistant siding:
0 points if 75-100% have adequate home hardening
1 point if 50-75% have adequate home hardening
2 points if 25-50% have adequate home hardening
3 points if 0-25% have adequate home hardening
Number of one-way-in, one-way-out neighborhoods:
1 point for 1-5 one-way-in and out neighborhoods
2 points for 6-10 one-way-in and out neighborhoods
3 points for 11+ one-way-in and out neighborhoods
Are there any roads that a Type 3 engine cannot access?
1 point if there are inaccessible roads
Are there any roads that have significant vegetation along them (potentially nonsurvivable conditions):
2 points if there are potentially nonsurvivable roads
Are there any significant evacuation concerns in this district?
1 point if there are significant evacuation concerns
Are there any haz-mat facilities or sites?
1 point if there is any hazmat present
Are there enough hydrants or draft/dip sites in the district?
1 point if there is not adequate water present
Are there many above-ground powerlines?
1 point if there are many overhead powerlines
Are there any safety zones in this district?
1 point if there are no potential safety zones
Do most roads and addresses have clear, reflective street and address signs?
1 point if the street and address signs are not mostly clear and reflective

TABLE 6.3
HAZARD ASSESSMENT BY FIRE DISTRICT/DEPARTMENT

Yakima County Fire Districts or Departments provided information for the assessment and land managers/owners with fire protection authorities and responsibilities. Not all fire districts/departments submitted information to complete the assessment. Local stakeholders provided information to assign hazard ratings.

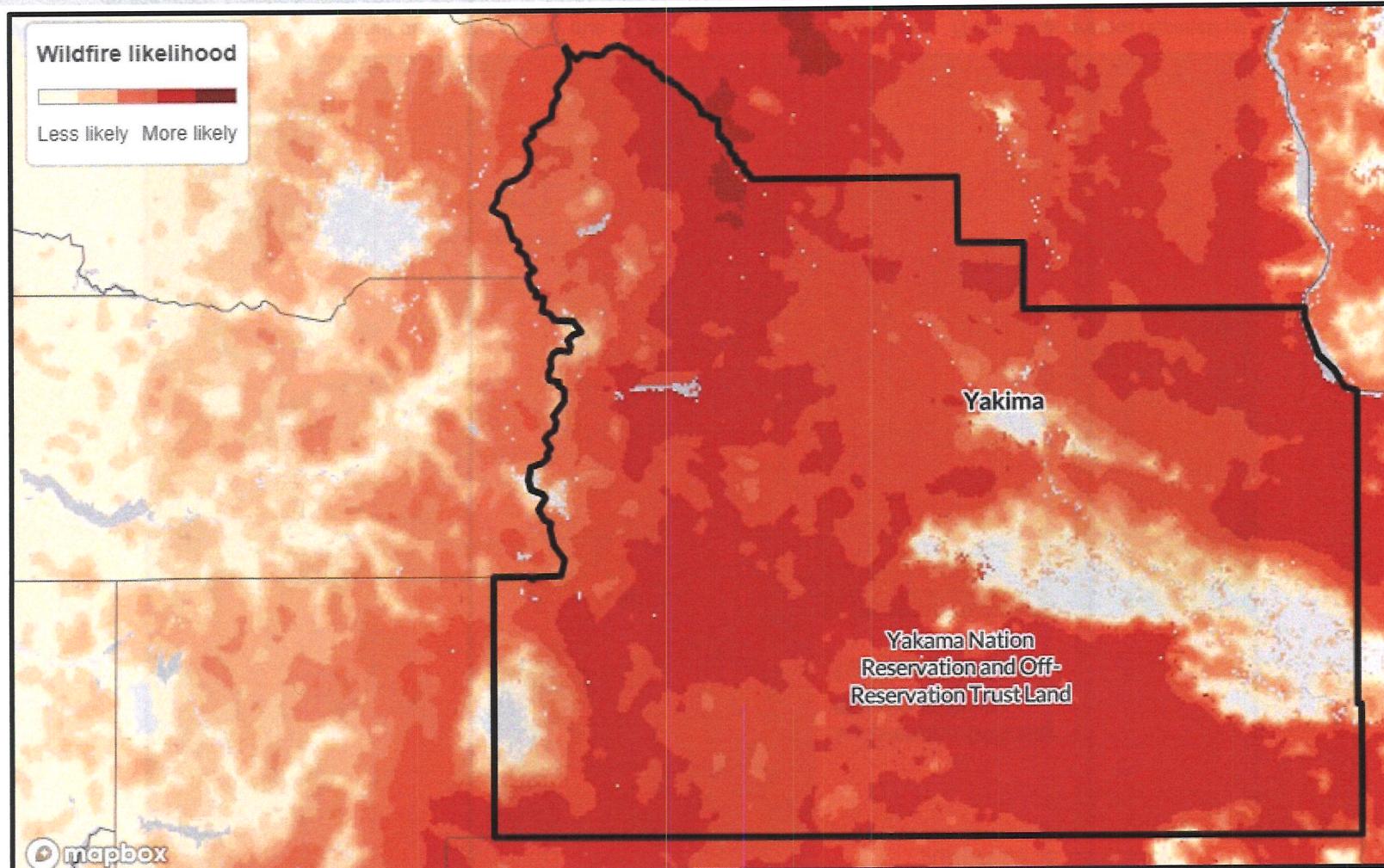
Fire District Name	Size	Population	Vulnerable Population Facilities	Other vulnerable populations	Topography	Defensible Space	Home Hardening	One-Way neighborhoods	Road Accessibility	Roadway Survivability	Evacuation concerns	Haz Mat	Water Sources	Powerlines	Safety Zones	Signage	Total	Rating
#1 Highland	1	1	1	1	1	0	2	1	1	1	1	1	1	1	1	1	9	Moderate
#12 West Valley	1	2	1	1	1	2	0	1	1	2	1	1	1	1	1	1	14	High
#14 Nile-Cliffdell	1	1	1	1	2	1	1	3	1	2	1	1	1	1	1	1	16	High
#2 Selah	2	2	2	2	2	3	1	2	1	1	1	1	1	1	1	1	20	Extreme
#3 Naches	1	1	1	1	2	1	1	1	1	2	1	1	1	1	1	1	15	High
#4 East Valley	1	2	2	1	2	2	3	2	1	2	1	1	1	1	1	1	22	Extreme
#5 Lower Valley	1	2	2	1	2	1	3	2	2	1	1	1	1	1	1	1	19	High
#6 Gleed	1	0	1	2	1	3	2	2	1	1	1	1	1	1	1	1	16	High
#9 Naches Heights																	13	High
FPD	1	2	1	2	2	0	1	2	1	1	1	1	1	1	1	1	5	Lower
City of Mabton	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Moderate
City of Toppenish, Fire Department	1	2	1	0	1	1	1	1	1	1	1	1	1	1	1	1	10	Moderate
City of Wapato Fire Department	1	2	2	3	3	0				1	1	1	1	1	1	1	13	High
City of Yakima	2	2	2	2	2	3	2	1	1	1	1	1	1	1	1	1	21	Extreme
City of Zillah	1	1	2	2	2	1	3	2	1	1	1	1	1	1	1	1	17	High
USFS	1	0	2	2	2	1	2	1	2	1	1	1	1	1	1	1	13	High
Yakima Training Center		0	1	2	2	1	2	1	1	1	1	1	1	1	1	1	13	High

FIGURE 6.6
FIRE SUPPRESSION DIFFICULTY MAP FOR YAKIMA COUNTY



NOTE: Suppression may be more difficult across the county due to steep terrain and limited access. These areas are not depicted as "More Difficult" on the map. Consideration should be taken in areas such as Yakima Ranches, Selah area, and Tampico. Map: wildfirerisk.org

FIGURE 6.7
DETERMINATION OF RELATIVE THREAT LEVEL MAP FOR YAKIMA COUNTY

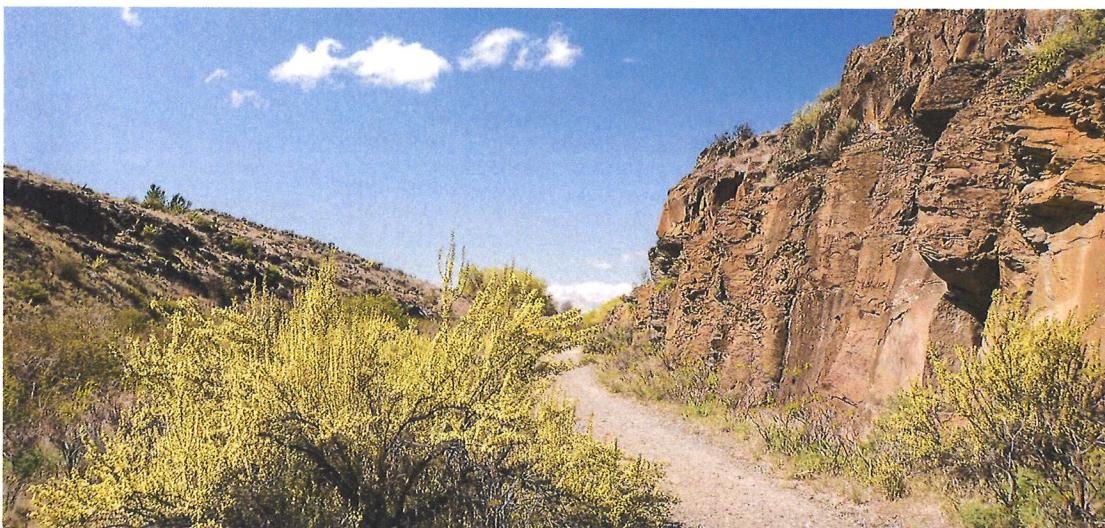


Wildfire likelihood is the probability of wildfire burning in any given year. At the community level, wildfire likelihood is averaged where housing units occur. Communities in all but the lowest classes need to be prepared for wildfire. Populated areas in Yakima County have, on average, greater wildfire likelihood than 87% of the counties in the US. Map: wildfirerisk.org

6.3.3 Communities and Jurisdictions with Highest Hazard Ratings

Three communities received the "Extreme" hazard rating: Yakima County Fire District #2 - Selah, Yakima County Fire District #4 - East Valley, and the City of Yakima Fire Department. While all communities can benefit from outreach and education, these communities are where the county can focus its educational and outreach resources to have the most impact.

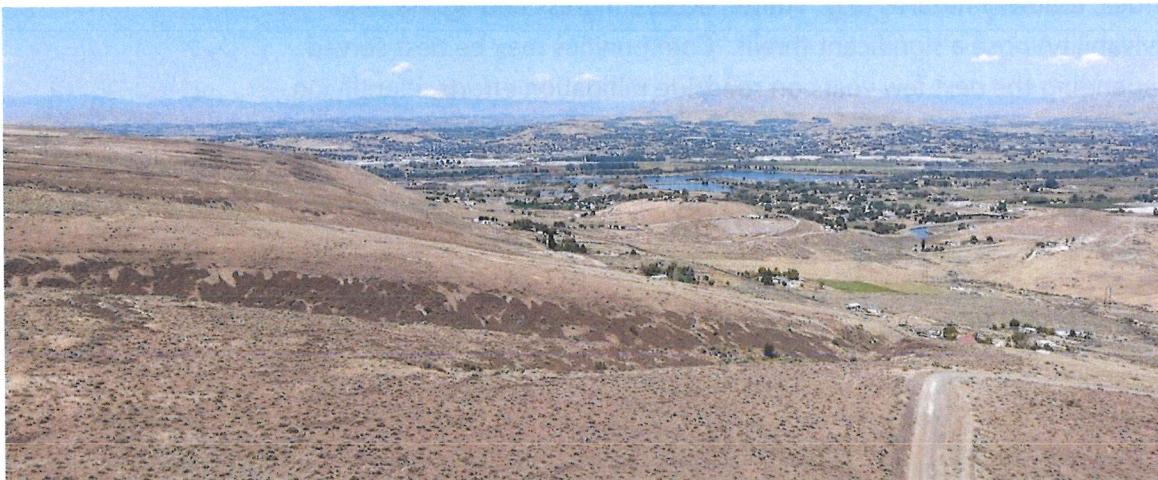
In other fire districts, such as Yakima County Fire District #14 – Nile Cliffdell, roadway hazards (e.g., limited access, ingress and egress, and survivability) pose a significant threat. Communities may be best served by spending the next few years on roadside mitigation efforts, identifying potential alternate evacuation routes, and ensuring emergency alert notification systems are in place and up to date.



Recreation trail in the shrub-steppe eco-type. Photo by Cowiche Canyon Conservancy.

Yakima County Fire District #2 - Selah is a shrub-steppe eco-type with sagebrush and grass. The district includes steep slopes and ravines that can exacerbate fire behavior. Many vulnerable populations and communities may need assistance with mitigation and evacuation. Less than half the homes in the district have adequate defensible space, and less than a quarter have good home hardening. There are evacuation concerns, such as congestion and roadways that may be unsafe as evacuation routes during a wildfire event. There are several one-way-in neighborhoods, and the fire district's engines cannot access all the roads

in the district, meaning that homes along those roads would be non-defensible. The fire department is aware that some roads in this area are potentially nonsurvivable in extreme wildfire conditions, and they have many concerns if there were a need for a large-scale evacuation. The district does not have adequate hydrants and draft sites and relies on tenders to supply water to fire engines. Home addresses and street signs are not clear and reflective, making navigation difficult for evacuees and incoming firefighters, especially in smokey and windy conditions. The fire district is especially concerned about the Yakima and Conrad Ranches neighborhoods.



North side of Yakima Ranches. Photo by Yakima Valley Emergency Management.

Yakima County Fire District #4 - East Valley is a grassland and sagebrush ecosystem with steep slopes and ravines that can exacerbate fire behavior. It is a large district with seven schools and five elder care facilities that may require extra assistance evacuating. Less than half the homes in the district have adequate defensible space, and less than a quarter have good home hardening. There are some one-way-in neighborhoods here, and while the fire district's engines can drive all the roads, some private drives remain inaccessible to fire engines and would be non-defensible. The fire department is aware that some roads in this area are potentially nonsurvivable in extreme wildfire conditions, and they have many concerns if there were a need for a large-scale evacuation. The fire district is especially concerned about the Yakima Ranches neighborhoods.

The City of Yakima Fire Department's service area is covered by grass, shrubs, and timber and has steep slopes and ravines that can exacerbate

fire behavior. The area has over 100 schools, elder care facilities, hospitals, and homeless shelters that may require extra assistance preparing for and evacuating during a wildfire. Less than half the homes in the district have adequate defensible space, and less than a quarter have good home hardening. There are several one-way-in neighborhoods, and the fire district's engines cannot access all the roads in the district, meaning that homes along those roads would be non-defensible. The fire department is aware that some roads in this area are potentially nonsurvivable in extreme wildfire conditions, and they have many concerns if there were a need for a large-scale evacuation. Home addresses and street signs are unclear and reflective, making navigation difficult for evacuees and incoming firefighters, especially in smokey and windy conditions. The unhoused community utilizes parks, The Yakima Greenway, and other open spaces as their homes. This population is significantly vulnerable to wildfires, may be difficult to evacuate, and causes human ignitions in natural areas (warming fires, drug use/production, etc.).



A wildfire in the Yakima Greenway was caused by human ignition. Photo by The Yakima Greenway Foundation

6.3.4 Assessing Wildfire Risk

The Advisory Committee considered hazard ratings, fire suppression difficulty (Figure 6.6), fire risk (Figure 6.3), evacuation hazards (Figure 7.3), and home ignition potential (Figure 6.1) to assess relative wildfire risk.

Local knowledge will be critical in determining this risk level, where to allocate resources, identify priorities, and intended impact. For example, areas within fire districts may have a high hazard rating; however, the ignition probability may be low due to certain factors, such as the location of irrigated lands around a community, which lessen the potential for wildfire spread. Though these communities may not experience wildfires frequently, mitigation actions may not be as prevalent in specific places. These factors should not deter community actions or allocation of resources, but the type of actions and entry points for community engagement may differ from those experiencing frequent fires.

The jointly developed **Yakima County Multi-Jurisdictional Hazard Mitigation Plan (HMP)**, approved by FEMA in 2022, identified the wildfire risk rating for the county and summarized the wildfire risk assessment results by fire district. Table 6.4 Summarizes the Risk Ranking determined in the County's HMP.

TABLE 6.4
RISK RANKING BY FIRE DISTRICT/DEPARTMENT IN COUNTY HMP

Jurisdiction	2022 Risk Ranking
City of Grandview	High
City of Granger	High
City of Moxee	High
City of Selah	High
City of Sunnyside	High
City of Tieton	High
City of Toppenish	High
City of Union Gap	High
City of Yakima	High
Town of Harrah	Medium
Town of Naches/FD #3	High
FD#1 (Highland), FD#2 (Selah), FD #4 (East Valley), FD #6 (Gleed), FD #12 (West Valley)	High



*Looking over Yakima. Photo by Michael S. Shannon,
https://commons.wikimedia.org/wiki/File:Yakima,_Washington_as_seen_from_Lookout_Point.jpg*

CHAPTER 7

RECOMMENDATIONS AND MITIGATION ACTION PLAN

This chapter describes accomplishments and ongoing activities undertaken by the partners involved in this CWPP, followed by recommended general mitigation actions applicable across the county. The CWPP Action Plan then describes specific, prioritized actions for the planning areas—from fuel reduction to community outreach and post-fire recovery.

7.1 Accomplishments and Ongoing Activities

Over the last eight years, stakeholders have been working to accomplish the action items identified in the 2015 Yakima County CWPP. In addition to completing discrete tasks, several partners have ongoing programs to address wildfires. This section summarizes these actions and the lead agency coordinating or implementing these actions.

7.1.1 Response

- Constructed a new fire station along Highway 410 to aid Fire District #14 in providing adequate protection for residents, recreational homeowners, and tourists. Completed with support from the Advisory Committee and district residents. (YCFD#14)
- Safety zones have been maintained and used during recent fires. Safety zone locations include Bumping Dam/Lakebed, Rimrock Lakebed, Flying H Youth Ranch, Jim Sprick Park, and Tieton State Airstrip. (USFS)
- Road closures and maintenance to facilitate firefighting access are ongoing. Schedules vary for a number of reasons. (USFS)
- Development and refinement of pre-incident plans. (YTC)
- Periodic review and refinement of the wildland fire risk matrix. (YTC)
- Maintenance of wildland fire containment areas (e.g., established live-fire ranges) where fires are contained and suppressed within an established boundary. (YTC)
- Maintenance of fire exclusion areas where fire prevention and suppression are a high priority to protect high-value resources. (YTC)
- Implement temporal constraints during high fire danger periods to reduce the risk of ignition and minimize the occurrence of catastrophic fires, fires in exclusion areas, or fires leaving the installation. (YTC)
- Aerial fire suppression capability. (YTC)
- Maintenance and development of new water developments for support of suppression efforts. (YTC)
- Maintenance of established firebreaks. (YTC)

7.1.2 Resident Mitigation

Fuel Reduction

- DNR hosts the Forest Health Treatment Tracker that maps the planned, completed, and in progress forest health treatments across Washington State. The interactive tool illustrates the scale at which treatments occur across landscapes, land ownership, and ecosystems. The treatment tracker is updated regularly as landowners and land managers report new information across all ownerships.
<https://foresthealthtracker.dnr.wa.gov/Results/ProjectMap>
[https://www.dnr.wa.gov/ForestHealthPlan \(DNR\)](https://www.dnr.wa.gov/ForestHealthPlan (DNR))
- Over the past eight years, annual spring and fall chipping events have yielded an average of 1,500 cubic yards chipped each season (fall and spring). North Yakima Conservation District sponsors a Washington State Conservation Corps Crew annually to provide landowners with chipping services. (NYCD)
- Approximately 176 acres were treated between 2015 and 2022, including a 58-acre fuel break along private roads for the North Fork Firewise USA ® site just outside Tampico. The remaining 118 acres of work occurred on individual private landowner parcels. (Private landowners and DNR)
- Figure 7.1 illustrates fuel reduction and forest health activities over several years.

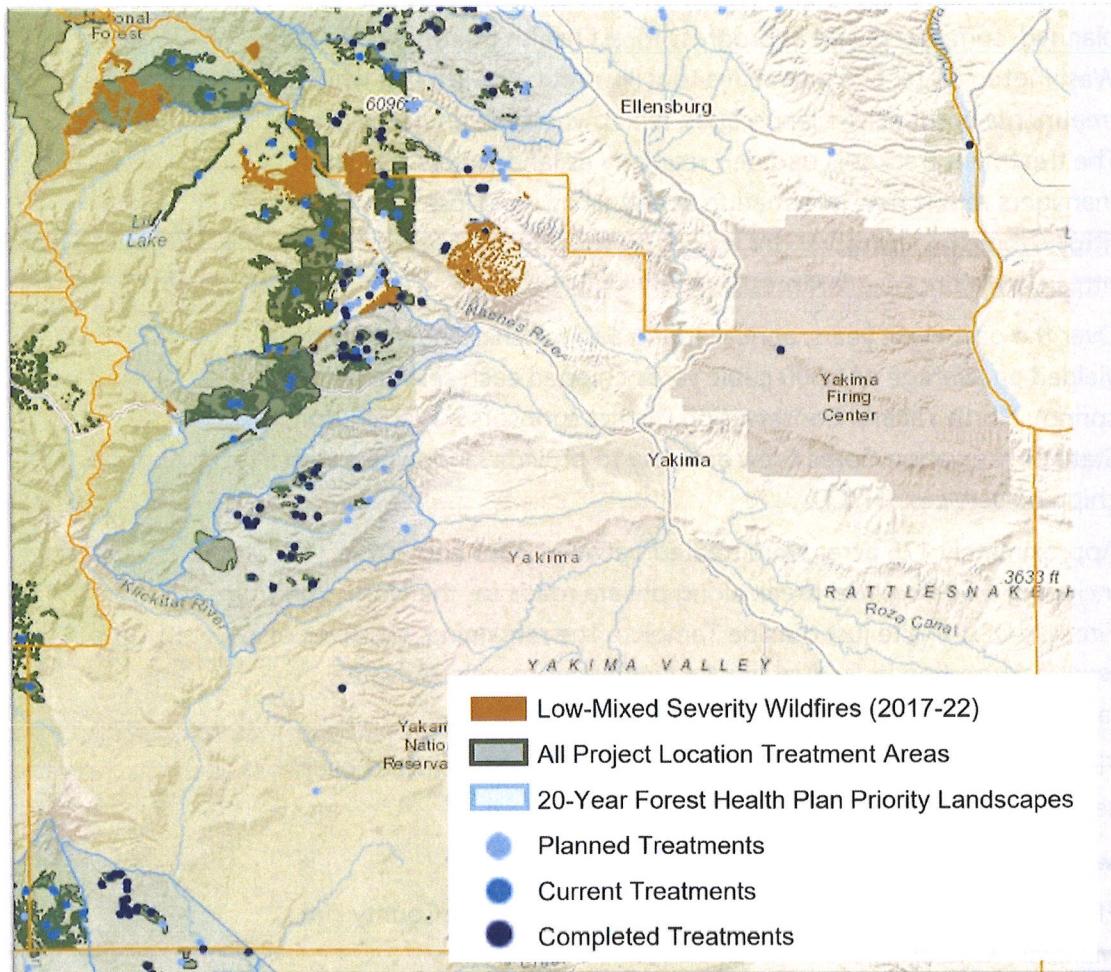
Firewise

- Eleven Firewise USA ® sites were established. (Yakima County Fire Marshal's Office)

Education and Outreach

- Ongoing wildfire risk assessments to advise on vegetation removal and disposal; home hardening projects; presentations; outreach campaigns for site assessment; and chipping program sign-ups. (NYCD)
- Established a six-week-long "Ciclo Verde" wildfire preparedness workshop series for the Latin community. As part of the "Ciclo Verde" program, residents identified and prioritized actions to prepare, respond, and recover from a wildfire. (Nuestra Casa)

FIGURE 7.1
COMPLETED FUEL REDUCTION AND FOREST HEALTH TREATMENTS ON PRIVATE, STATE, AND FEDERAL LANDS (2017-2022)



For current information on planned, completed, and current forest health and fuel reduction projects,
Visit DNR's [DNR Forest Health Tracker](#)

7.1.3 Landscape Treatments

- Shaded fuel breaks around Bootjack Cabin Association have been completed and are underway for the Indian Creek Cabin Association. (NYCD)
- WDFW has completed the following thinning activities in the Oak Creek Wildlife Area:
 - Commercial Thinning: 775 acres
 - Precommercial Thinning: 824 acres
 - Prescribed Burning: 373 acres
- WDFW is working with private landowners around Highways 24 and 241 to establish green strip fuel breaks in strategic locations near roadsides to break up the fire regime on the landscape:
 - Seven miles of green strips were established during a pilot project in Yakima County and neighboring Benton County with the help of SYCD, NYCD, BCD, and private landowners.
 - Three miles of green strip fuel breaks were established in 2022 along Highway 241 by WDFW, SYCD, and a private landowner. The site was prepared with mechanical mowing and herbicides treatments to create a clean seedbed. A Forage Kochia and other valuable grasses or forbs for livestock and wildlife seed mix were spread in high-risk areas.
- Noncommercial thinning activities, commercial timber harvest, prescribed fire (both under burning and pile burning). (USFS)
- Looking into air curtain incinerators and other fuel reduction methods and slash disposal. (USFS)
- Prescribed fire activities have been ongoing since 2015, including under-burning and pile-burning on USFS lands. Partnerships with DNR and NYCD to perform fuel treatments around communities continue in different White and Chinook Passes areas. (USFS)
- Figure 7.1 illustrates completed forest health treatments in priority watersheds.

7.1.4 Post-Fire

- Personal-use firewood gathering areas have been designated within recent timber sale areas and as part of post-fire activities. This

ongoing activity reduces timber sale residues and removes the dead, standing volume of large woody debris to meet requirements. (USFS)

- Site restoration for wildland fire impacts following fires. (YTC)

7.1.5 Planning and Capacity Building

- A Type 3 Wildland Fire Risk Assessment was completed in June 2017 by Colorado State University. (YTC)
- The previous Wildland Fire Management Plan (initially prepared in 2004) underwent a comprehensive revision by the Seattle District U.S. Army Corps of Engineers. (YTC)
- The training center staff has added a full-time (dedicated) Wildland Fire Program Manager position. Recruitment is ongoing. (YTC)
- Adoption of Yakima County All Hazard Mitigation Plan. (Yakima County/YVEM)

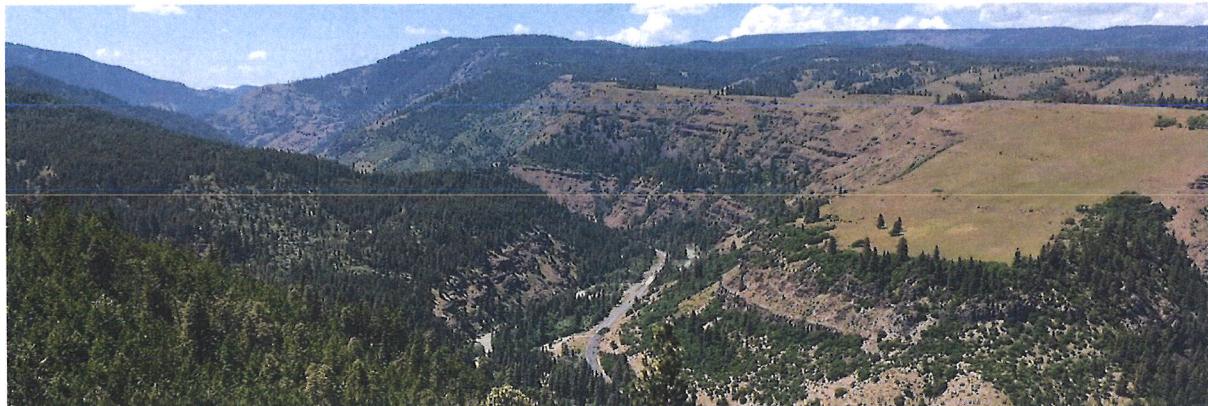


Photo by Kara Karboski, Washington Resource Conservation and Development Council

7.2 Recommended Actions

Recommendations for general mitigation activities that apply to all Yakima County residents, organizations, and all fuel types can help improve safety in the area. These mitigation activities are listed below. Area-specific mitigation activities are discussed within the individual risk assessments and CWPP Action Plan in Section 7.3.

7.2.1 Response

Once a fire has started, how much and how large it burns depends on the availability of suppression resources in addition to fire weather, fuel conditions, topography, and accessibility. In most cases, rural fire departments are the first to respond and have the best opportunity to halt wildland fire spread. For many districts, reaching these suppression objectives largely depends on the availability of functional resources, infrastructure, and trained individuals.

Recommendations

1. Increase departments' capacity through funding and equipment acquisition to improve response efforts and reduce the potential for resource loss.
2. Recruit additional firefighters to serve as secondary response units for wildfires.
3. Provide portable water tanks in areas at risk of wildfire to provide firefighters quick access to water to save time and property during wildfires.
4. Purchase backup power generators for critical facilities such as fire stations and emergency shelters.
5. Engage in spatial fire planning with fire response entities; local city, county, state, and federal agencies; and local area partners (such as The Yakima Greenway Foundation). Safely engage the fire if mitigation measures have been implemented adjacent to communities and critical infrastructure. To safely engage fire, utilize potential operational delineations (PODs) and potential control lines (PCLs) to develop a strategic response strategy for wildfire, including burnout operations.
 - a. Coordinate with local fire managers, line officers, partners, and incident management teams to share information and data about POD and PCL locations and expectations for utilizing them to achieve long-term local fire management objectives and alignment with national initiatives. Identify areas where firefighters can more safely engage with fire.

- b. Engage with the public on the value of utilizing PODs to build an understanding of fire response operations as various response strategies that affect evacuation, smoke, access, and longevity of a fire.
- c. Consult with Tribal representatives, local biologists, and resource specialists to identify sensitive areas, culturally significant areas, or critical habitats before utilizing PCLs and PODs as containment lines.

7.2.2 Roadway Hazards and Evacuation

Yakima County identified critical ingress and egress routes for emergency responders to use during a wildfire and areas to be evacuated (Figures 7.2 and 7.3). County-maintained roads, while easily accessed by low-clearance passenger cars, are limited. Forest roads are generally rock or native surface and are suitable for high-clearance or off-road vehicles. As development continues at middle and higher elevations, residents, visitors, and emergency responders alike must be aware that roads to these properties may not be accessible by emergency vehicles. Finding and evacuating the unhoused community living in open spaces, parks, public lands, and lands in The Yakima Greenway planning area may be challenging.

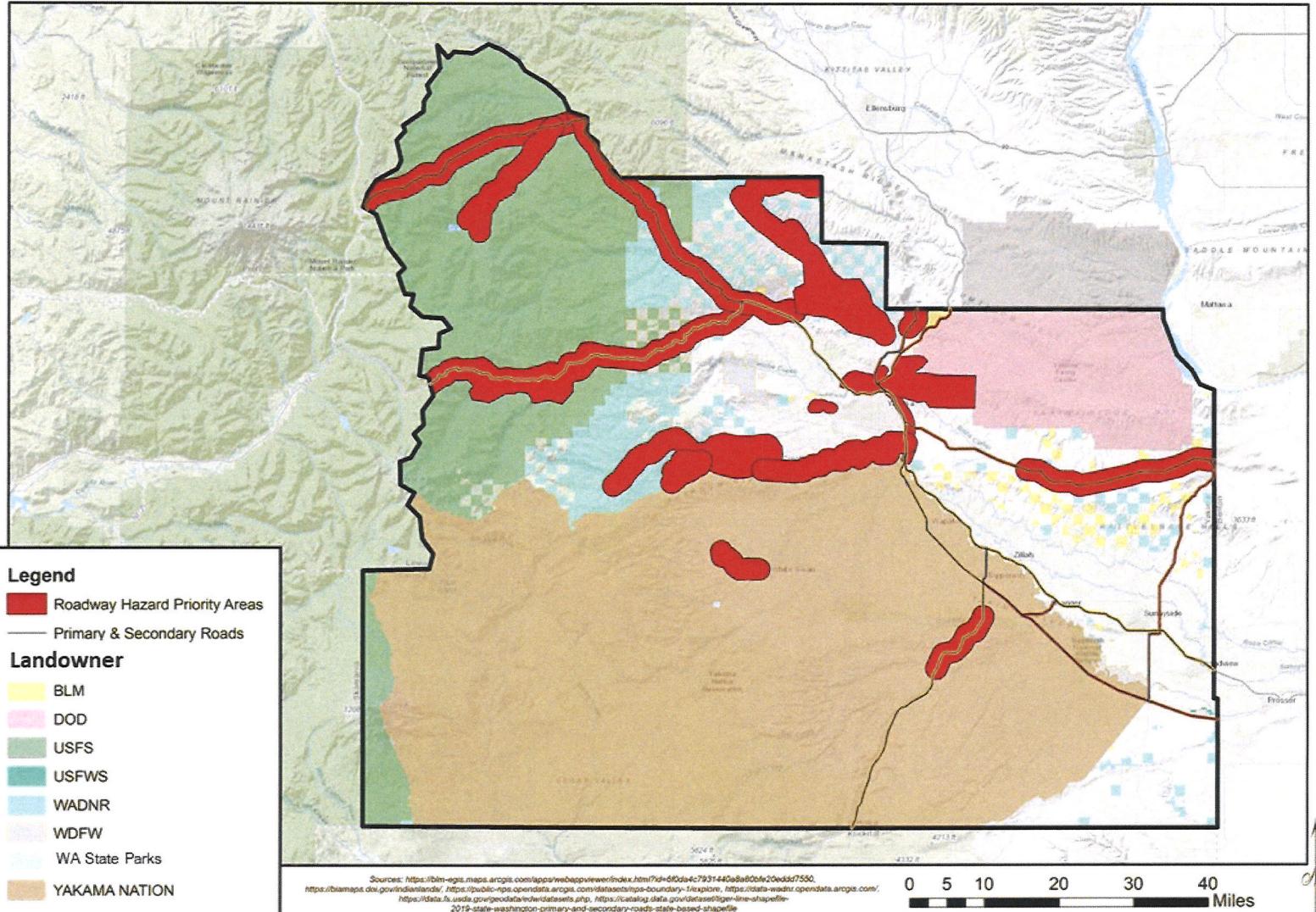
Recommendations

1. Implement fuel breaks and manage vegetation along roads.
Implement fuel breaks to ensure human safety by creating potentially survivable conditions along roadways, including driveways and roads with one-way in/out.
 - a. Strategically design fuel breaks based on principles of ecological restoration at least 100-150 feet uphill and 150-250 feet downhill of the center of the road while considering evacuation pinch points. In some cases, it may be necessary to create shaded fuel breaks or an overstory tree removal.
 - b. Maintain fuel breaks to ensure they are effective and allow for clear passage for vehicles. Monitor fuel accumulation, control regrowth, or remove dead or hazardous vegetation.

- c. Mow light, flashy fuels, or clear brush along roadsides. Manage and control invasive species along roads.
2. Plan for evacuation. Develop community evacuation plans to ensure an orderly evacuation in the event of a threatening wildland fire.
 - a. Coordinate with land managers and response entities to identify and assess options for PCLs and evacuation planning.
 - b. Designate and post escape routes to reduce escape times for evacuees.
 - c. Establish community safety zones in the event of compromised evacuations.
 - d. Educate homeowners. Utilize neighborhood leads or existing homeowner associations to act as conduits for information.
 - e. Engage in neighborhood and family evacuation planning. Participate in practice drills. Ensure everyone knows how to open a gated exit. Review evacuation routes out of a community. Create evacuation plans for pets and livestock.
 - f. Encourage residents to know their workplace, school, and commuter route evacuation plans.
 - g. Inform and encourage residents to sign up for local emergency notification alerts.
 - h. Work with health and human services organizations to develop a plan for notifying and evacuating the unhoused community.
3. Improve accessibility. Accessibility to homes by emergency apparatus is crucial. If firefighters cannot protect a home safely, firefighter health and safety will not be jeopardized to protect a structure. Thus, the home's fate will largely be determined by the homeowner's actions before the event.
 - a. Create pullouts and remove vegetation from turnaround locations for emergency responders.
 - b. Remove vegetation overhanging roadways or driveways to allow emergency vehicles at least a 14-foot clearance height.

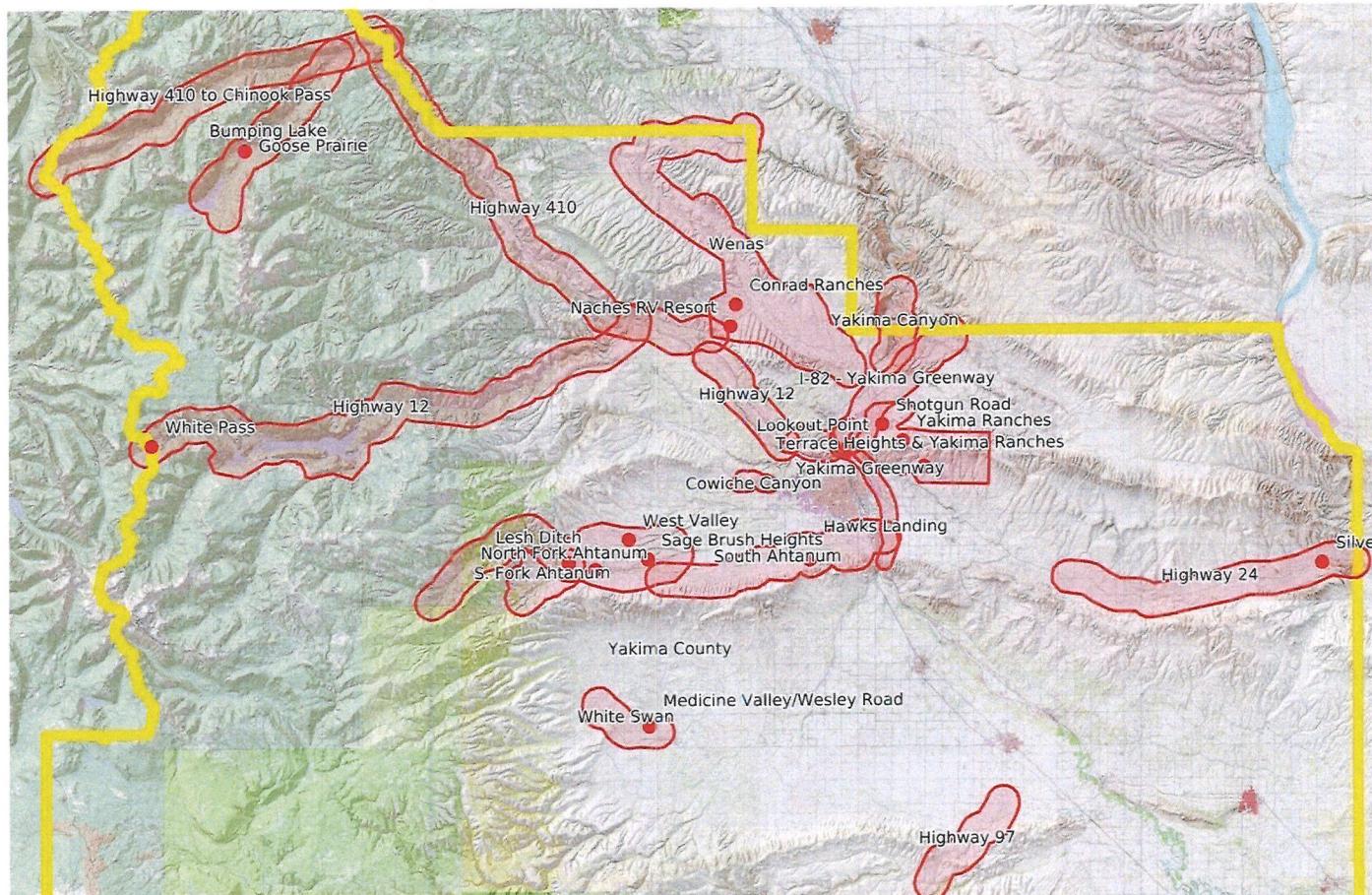
- c. If feasible, widen driveways. Ensure an unobstructed width of 12 feet for large vehicles.
- 4. Coordinate spatial fire planning efforts with landowners. Utilize potential operational delineations (PODs) and potential control lines (PCLs) to develop a strategic response strategy for wildfires. If mitigation measures have been implemented along roadways and ingress/egress routes, burnout operations may be used to engage the fire safely.
 - a. Coordinate with local fire managers, line officers, partners, and incident management teams to share information and data about POD and PCL locations and expectations for utilizing them to achieve long-term fire management objectives.

FIGURE 7.2
ROADWAY HAZARD PRIORITY AREAS OVERVIEW



Roadway hazard priority areas identified by the Yakima CWPP Core Advisory Committee.

FIGURE 7.3
ROADWAY HAZARD PRIORITY AREAS – DETAIL



Roadway hazard priority areas identified by the Yakima CWPP Core Advisory Committee.

7.2.3 Landscape Restoration and Fuels Treatment

7.2.3.1 Native American Influence

Ecological restoration and use of cultural burning is critical to Tribal practices, culture, and land management. In Yakima County, Native American influence and use of the land and fire is vital.

Recommendations

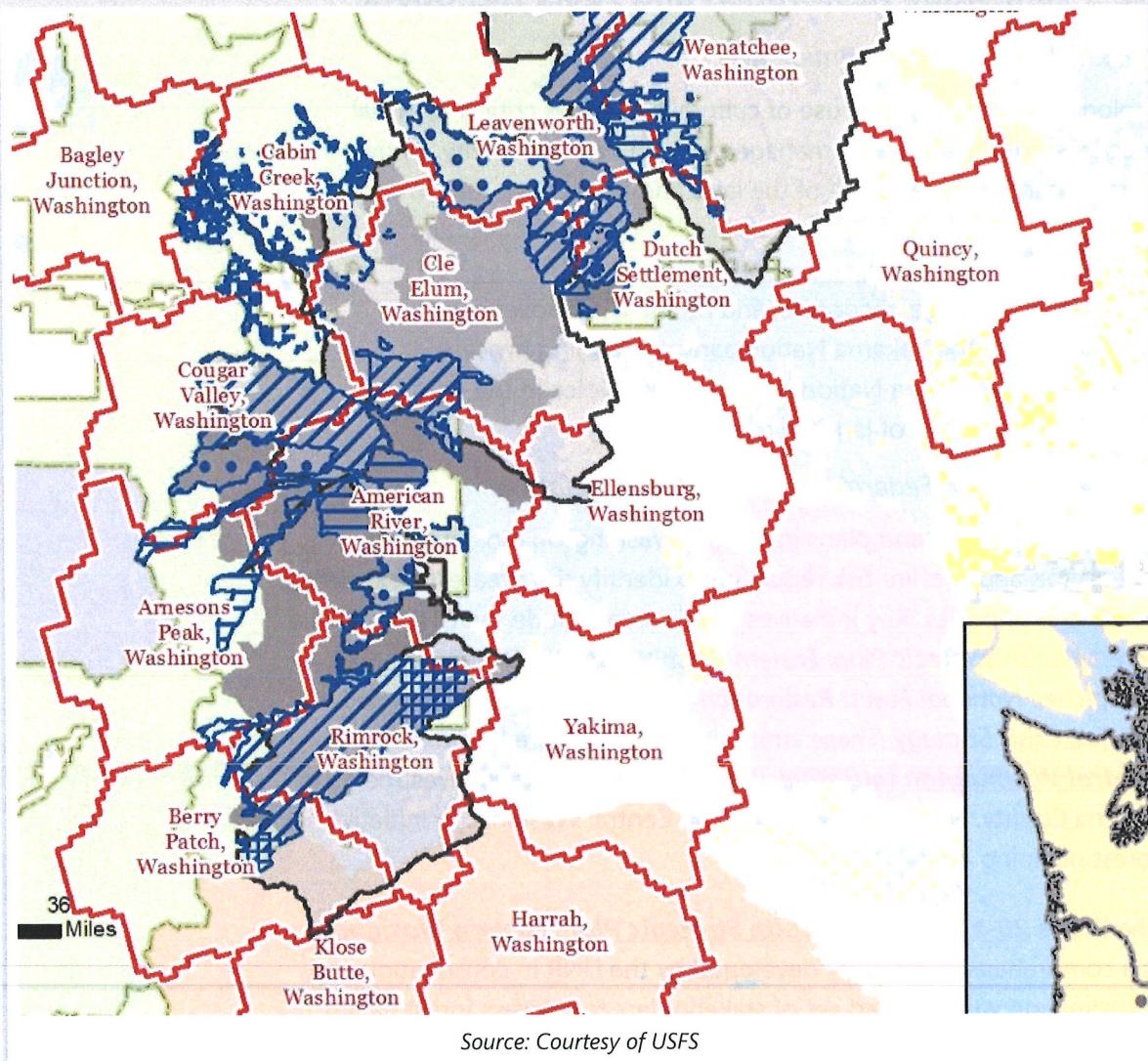
- a. Acknowledge, recognize, and honor Tribal sovereignty.
- b. Engage the Yakama Nation early in planning processes.
- c. Ensure Yakama Nation has a standing voice in the co-management of lands across the County.

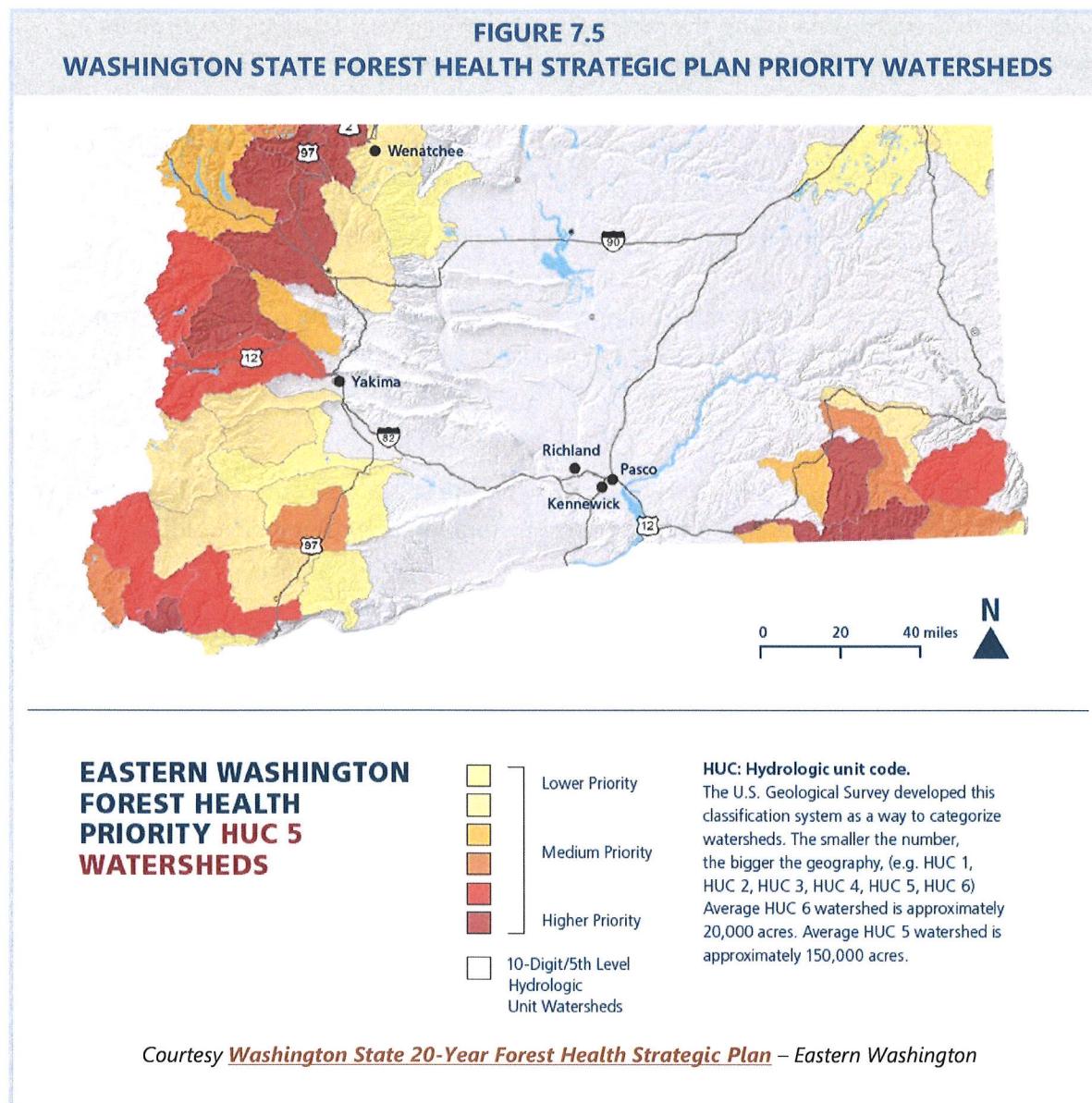
7.2.3.2 Aligning Federal, State, and Local Initiatives

Several evaluations and plans in Central Washington look at forest restoration and wildfire risk reduction to identify the greatest treatment needs and priorities. Key initiatives in this area include the DNR's *20-Year Forest Health Strategic Plan: Eastern Washington*, the *Okanagan-Wenatchee National Forest Restoration Strategy*, and the recent USFS *Wildfire Crisis Strategy*. These strategies combined are known as the **Central Washington Initiative**, which includes targeted investments in Yakima County. Figure 7.4 illustrates the Central Washington Initiative forest planning areas.

The DNR's **20-Year Forest Health Strategic Plan: Eastern Washington** is a comprehensive strategy developed by the DNR in consultation and coordination with a broad set of stakeholders to address forest health issues, reduce the risk of wildfire, enhance economic development in rural communities, coordinate landscape-scale forest restoration treatments to meet landowner objectives, and develop a forest health monitoring program in the eastern part of the state. The plan focuses on improving the resilience of forests to pests, diseases, and wildfires through proactive management practices. The Yakima CWPP WUI Planning Area encompasses DNR's Priority watersheds identified in the 20-Year Forest Health Strategic Plan (Figure 7.5).

FIGURE 7.4
CENTRAL WASHINGTON INITIATIVE FOREST PLANNING AREAS





The [**Okanogan-Wenatchee National Forest Restoration Strategy**](#) is another important initiative that aims to restore and maintain the ecological health of the forest. This strategy is a collaborative effort between the USFS, local communities, and other stakeholders. It identifies priority areas for restoration activities, such as thinning overgrown forests, reducing fuel loads, and restoring aquatic habitats. By implementing these measures, the strategy aims to reduce the risk of wildfires to communities and enhance the overall health and resilience of the forest ecosystem.

In addition to these regional plans, the recent **USFS Wildfire Crisis Strategy** has brought attention to the urgent need for wildfire risk reduction across the country. This crisis has highlighted the importance of implementing effective wildfire management strategies to protect human communities and natural resources. The USFS is actively developing and implementing innovative wildfire prevention, detection, and suppression approaches.

State, federal, and local partners are also working to finalize the **Washington Shrub-Steppe Restoration and Resiliency Initiative**. The strategy aims to identify and prioritize priority shrub-steppe landscapes for restoration, spatial priorities for conservation, gaps in fire coverage (fill gaps for unprotected lands), identify management tools to reduce fire-prone conditions on public and private lands, community engagement and protection, support suppression, and identify post-fire restoration actions.

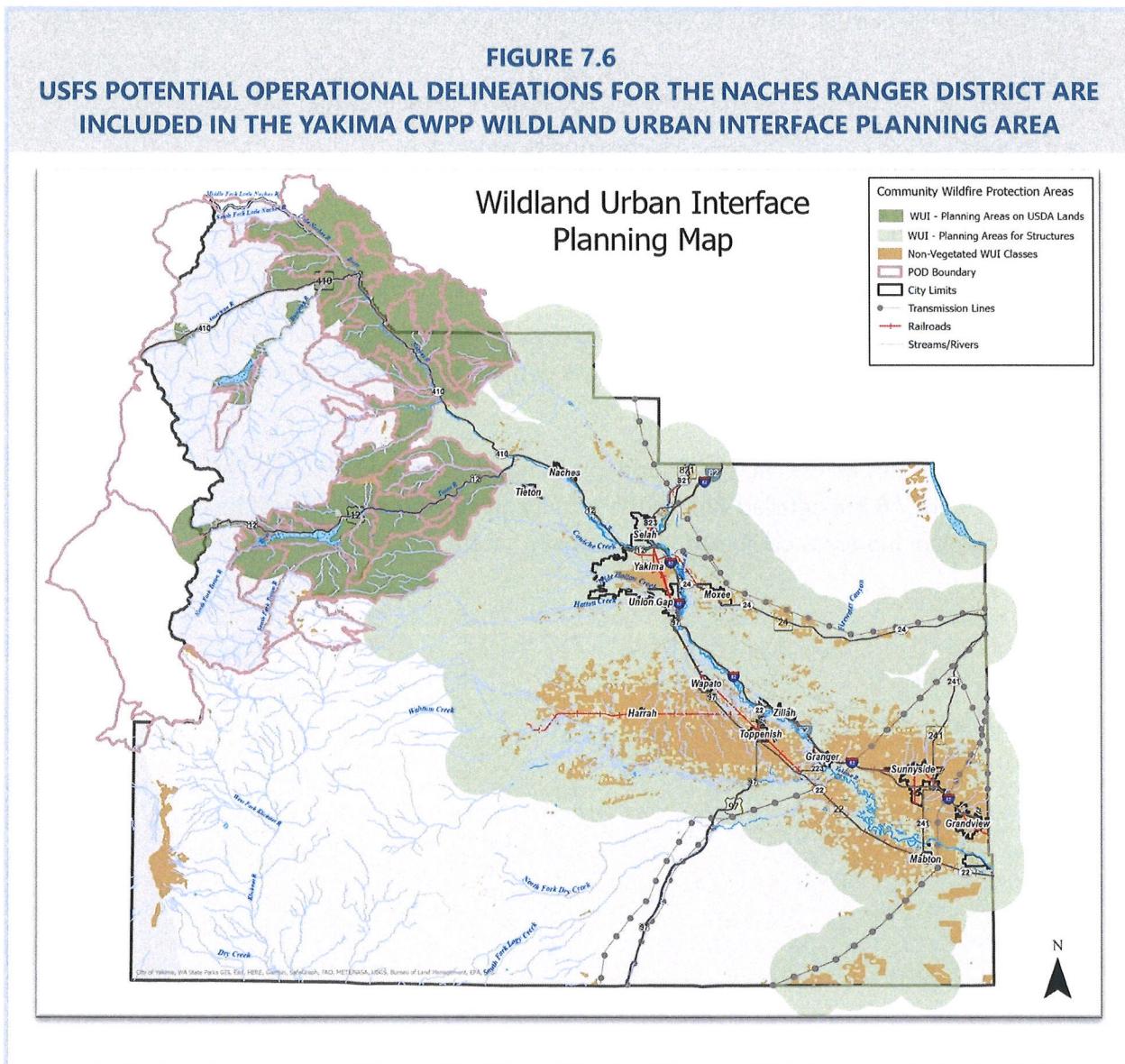
The DNR is finalizing a **State Prescribed Fire Strategy**. The strategy aims to identify barriers and opportunities for utilizing prescribed fire for forest restoration and community wildfire protection.

Decision-makers can comprehensively evaluate the initiatives and Yakima County CWPP to align the greatest needs, priorities, and wildfire risk reduction for forest and shrub-steppe restoration in the county.

Recommendations

1. Align and coordinate priority landscape restoration and wildfire risk reduction planning and implementation across neighboring private, state, and federal lands. Collaborate with federal and state partners to direct resources to the most critical areas, ensuring effective and efficient management of natural resources and protection of communities.
2. Monitor and track the progress of landscape and fuel reduction treatments on private lands within and adjacent to the Central Washington Initiative planning areas and Shrub-Steppe Restoration and Resiliency Initiative to demonstrate progress toward federal, state, and local collective goals and objectives.
3. Align CWPP priority project areas with federal priority planning areas, including identified PODs in forest and shrub-steppe lands (Figure 7.6), to pre-plan for fire operations (including prescribed fire planning and implementation), risk management to communities, response, and ecosystems. Partner to make place-based, locally informed decisions for project implementation and restoration in forest and shrub-steppe landscapes.
 - a. If feasible and during low to moderate fire danger and favorable conditions, utilize PODs to manage wildfire (this can be more cost-effective than planning and implementing prescribed fire or mechanical fuel reduction treatments).

4. Identify opportunities for cooperative prescribed burning on federal, state, and private lands.



7.2.3.3 Proposed Fuel Reduction Priority Project Areas

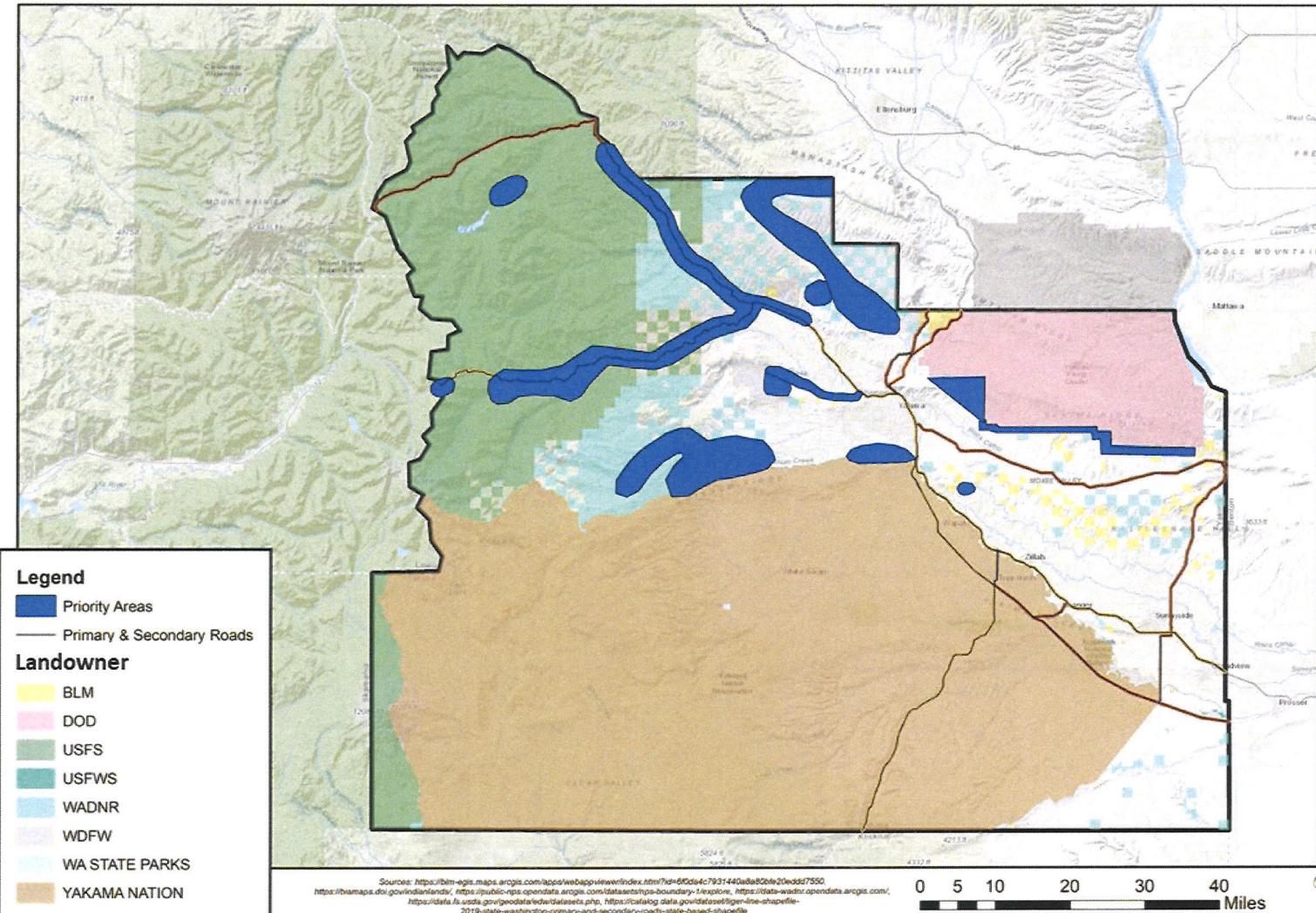
Yakima County identified priority fuel reduction project areas based on values at risk, social vulnerability index, suppression difficulty, and risk to structures. Treatment areas were selected to:

- Create connectivity between previous treatments or large fires that have occurred.
- Protect critical infrastructure or for community protection
- Ensure large acreage (in forest and shrub-steppe)
- Change wildfire behavior (i.e., lessen severity and extent)
- Landscape restoration needs (e.g., minimize cheatgrass invasion, etc.)

Once selected areas were identified, the Advisory Committee, Contributors, and Reviewers completed a prioritization process to identify key priorities based on needs/benefits and feasibility of implementation.

Figure 7.7 provides an overview of priority planning areas for fuel reduction across Yakima County. Figure 7.8 is a detailed view of the priority areas. Figure 7.9 shows the priority fuel reduction planning areas combined with roadway hazard mitigation areas.

FIGURE 7.7
PRIORITY PROJECT PLANNING AREAS FOR FUEL REDUCTION



Source: Yakima County Core Advisory Committee

FIGURE 7.8
PRIORITY PROJECT PLANNING AREAS FOR FUEL REDUCTION - DETAIL

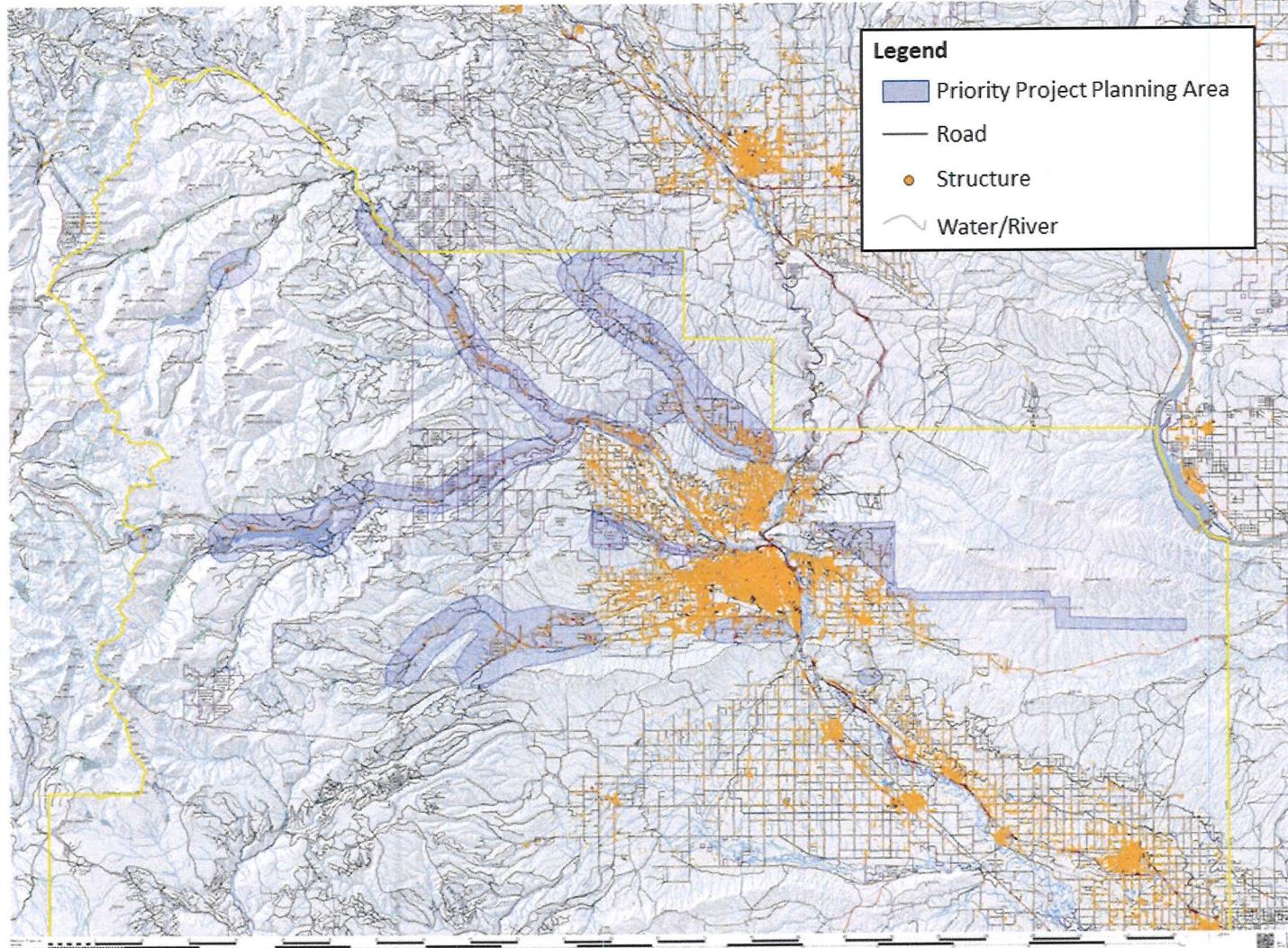
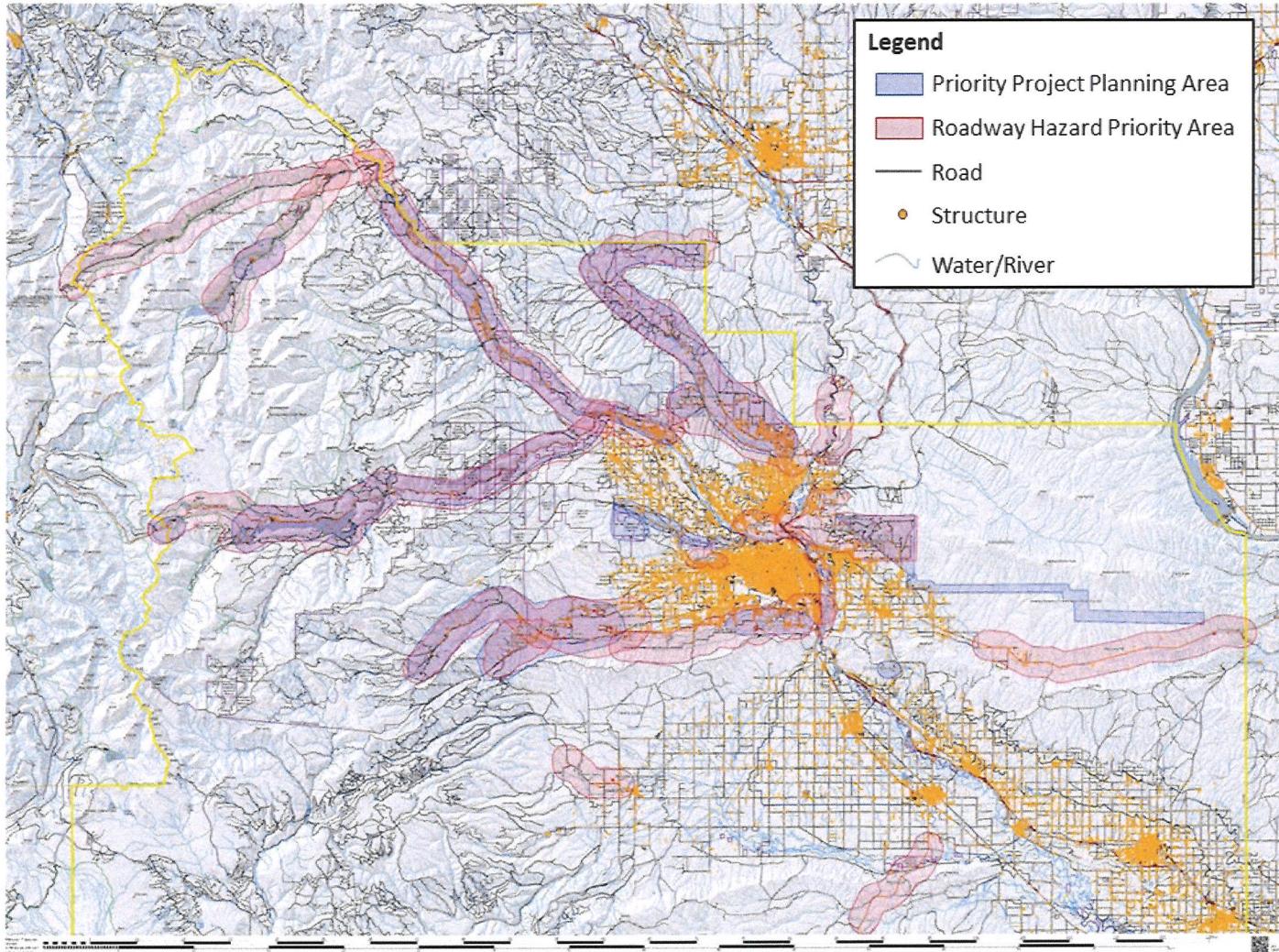


FIGURE 7.9
PRIORITY PROJECT PLANNING AREAS FOR FUEL REDUCTION AND MITIGATING ROADWAY HAZARDS – COMBINED DETAIL



Priority project planning areas for fuel reduction and mitigating roadway hazards identified by the Yakima CWPP Core Advisory Committee. Map: CalTopo

7.2.4 Methods to Reduce Structure Ignitability

Property loss happens mostly during catastrophic wildfires due to Home Ignition Zone conditions. The National Fire Protection Association defines the Home Ignition Zone as “the condition of the home and everything around it.” This zone includes the area within a close distance of a home.

Treating the home and the surrounding area is crucial to mitigate the risk of property loss during wildfires. Taking proactive measures can significantly affect the outcome for the home, property, and firefighters. Several programs and resources exist for residents, community-based organizations, and agencies to support collaborative actions to reduce structural ignitability and organize around neighborhood and community wildfire mitigation. See Appendix F for a list of programs and resources available to residents and community-based organizations in Yakima County.

7.2.4.1 Home Hardening

Home hardening is a method to reduce the likelihood of structural ignition by including ignition-resistant features and materials. The main parts of the home to focus on are the roof, vents, windows, exterior siding, decks, and gutters.

Recommendations

1. Have a Class A roof - it is crucial for ensuring fire safety. It has the highest resistance to fire and is less likely to ignite from an ember.
2. Keep the roof and gutters clean. Remove leaves, twigs, and branches from roofs and gutters. They can easily ignite. Ensure branches are not overhanging the house, decks, or patios.
3. Use noncombustible materials for siding, decking, and fencing.
4. Cover vents with 1/8-inch mesh screening to minimize ember intrusion.
5. Avoid mulch or flammable landscaping materials adjacent to the home or other structures. Creating a border around the base of the home made of rock or other non-combustible material can further enhance the structure's fire resistance.

Figure 7.10 illustrates examples of home hardening practices.

FIGURE 7.10
EXAMPLES OF HOME HARDENING PRACTICES

Wildfire-Resistance: Make the “RIGHT” Choices



Source: [Insurance Institute for Business & Home Safety](#)

7.2.4.2 Defensible Space

Defensible space is an area around a building in which vegetation, debris, and other combustible fuels have cleared or reduced to slow the spread of fire to and from the building. The name reflects protecting firefighters from injury and providing an area around a structure where firefighters can safely work.

Defensible space is crucial in ensuring the safety of homes and entire neighborhoods from wildfires. When defensible space is established around homes and linked throughout the neighborhood, it creates a collective defense mechanism that enhances the overall defensibility.

By implementing defensible space practices collectively, neighborhoods can effectively change the risk profile and reduce the vulnerability to wildfires. This collective action allows for strategic decision-making and coordinates efforts to mitigate the potential impacts of wildfires.

One of the critical aspects of defensible space is the prevention of ember cast, which is a major cause of home ignitions during wildfires. While vegetation treatments can help reduce the risk of ember cast from

adjacent areas, they may not prevent it from igniting fuels within the neighborhood.

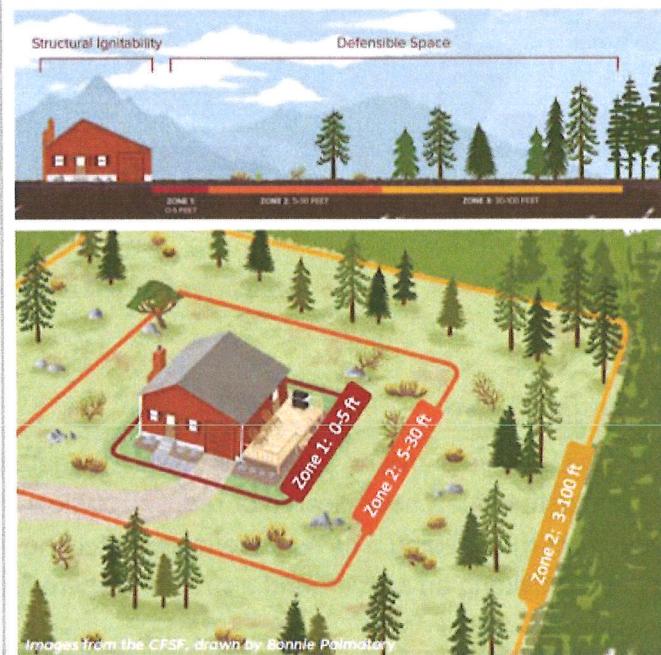
Reducing structural ignitability through home hardening and defensible space together with wildland fuel treatments is the most effective way to protect homes and properties from wildfire. Figure 7.11 provides a schematic of defensible space around a structure.

FIGURE 7.11
DEFENSIBLE SPACE SCHEMATIC

Principles of defensible space

Creating a buffer between your home and the surrounding grasses, trees, and/or wildlands is essential to slow the spread of wildfire and create a safe space for firefighters to defend your home. Learn more [here](#).

- 1 – Immediate Zone (0 to 5 ft):**
Install noncombustible ground cover. Use fire-resistant or noncombustible materials for decks, porches, railings, or fences that attach to the home.
- 2 – Intermediate Zone (5-30 ft):**
Plant trees no closer than 30 feet to the home. Space tree crowns 18 feet apart or further on slopes. Trim branches up to 6 to 10 feet from ground and at least 10 feet from structures.
- 3 – Extended Zone (30-100 ft):**
Remove vegetation next to outbuildings. For trees 30 to 60 ft from the home, space so mature canopies are at least 12 feet apart; for 60 to 100 feet from the home, space so tree canopies are at least 6 feet apart.



Source: [NFPA - Preparing homes for wildfire](#)

7.2.4.3 Recommendations

1. Request a wildfire risk home assessment. To assist residents with developing a parcel-based plan to implement the practices described above, local fire districts, Yakima County Fire Marshal's Office, and the DNR provide home assessments. Home assessments are an opportunity to build awareness and develop an action plan for homeowners. These professional evaluations of the external conditions of the home and the surrounding property provide

information for the residents to determine their susceptibility to wildfire and what actions to take to make their home more defensible.

2. Creating a defensible space around a home involves multiple measures, including but not limited to actions within the following distance zones:
 - **0-5 feet from the outer walls of the structure.** Remove combustible materials such as dead plants, leaves, and debris. Keep this area clear of firewood, propane tanks, or other flammable items. Consider using noncombustible materials for siding, roofing, and deck.
 - **5-30 feet from the outer walls of the home.** Reduce fuel loads in this area. Regularly maintain vegetation by removing dead or dry plants, trimming trees, and spacing them apart. Use fire-resistant plants and consider creating fuel breaks like gravel paths or irrigated lawns to interrupt the continuity of flammable vegetation.
 - **30-100 feet or more from the outer walls of the home.** Manage vegetation and create defensible space. Remove dead plants, thin out vegetation, and create horizontal and vertical spacing between shrubs and trees. These actions help prevent fire spread and reduce the chances of home ignition.

See Appendix G for resources available to inform property owners about methods to reduce structure ignitability.

7.2.4.4 Priority Areas to Reduce Structural Ignitability, Create Defensible Space, and Improve Access

The following residential neighborhoods (private lands) and USFS lands with leased cabins (Table 7.1) have been identified as priority focus areas for home hardening, defensible space, and improving access to support wildfire response:

- Bear Cove
- Deer Cove
- Eagles Nest
- Fountaine Lane

- Pine Cliffs
- Union Creek
- Chelminar
- Big Rock
- Sleepy Hollow
- Naches

TABLE 7.1
USFS LANDS WITH LEASED CABINS

Chinook Pass/ 410 Tracts	Total Cabins	Rimrock/ 12 Tracts	Total Cabins
AMERICAN FORKS	21	ANDY CREEK	72
AMERICAN RIVER	12	BEAR COVE	49
BUMPING LAKE	14	BEAR CREEK	6
CEDAR SPRINGS	2	BOOTJACK	9
CLIFFDELL	14	CHELMINAR GROTTO/ RIMROCK VILLAGE	35
CRAG	17	HART CREEK	35
EDGAR ROCK	7	HORSESHOE COVE	16
EDGEWATER	13	INDIAN CREEK	19
GOLD CREEK (35) & KLOSHE/GOLD (10)	45	RUSSELL CREEK	17
HAWKS NEST	4	SILVER COVE	21
IDLEHOUR	7	SOUTH FORK	24
IDLEWILD	9		
INDIAN FLAT	29		
LITTLE NACHES	11		
LOST CREEK	1		
PLEASANT VALLEY	7		
SLEEPY HOLLOW	15		
STILLWATER	8		
TIMBER CREEK	13		
UNION CREEK	6		
WILLOW SPRINGS	10		

Priority projects for these areas include, but are not limited to:

- Implement fuel breaks and facilitate the creation of defensible space around structures.
- Maintain and daylight roads 30 feet on either side to provide efficient and safe access.
- Implement hazard fuel reduction projects, such as removing slash and other wildfire fuels within and around neighborhoods.
- Create safety zones and delineate evacuation routes.
- Leverage existing and future programs (wildfire risk assessments (e.g., DNR Wildfire Ready Neighbors program), Firewise USA®, home hardening, and vegetation removal assistance programs, etc.) to reduce structural ignitability.

7.2.5 Challenges

The following is a brief overview of the many complex issues currently challenging Yakima County in providing wildland fire safety to citizens. In most cases, the Advisory Committee has developed action items (Section 7.3) intended to begin effectively mitigating these issues.

7.2.5.1 *Residents and Homeowners*

Public Wildfire Awareness

As the potential fire risk in the WUI continues to increase, fire service organizations cannot be solely responsible for protecting lives, structures, infrastructure, ecosystems, and all of the intrinsic values accompanying living in rural areas. Public awareness of the wildland fire risks and homeowner accountability for the risk on their properties is paramount to protecting all the resources in the WUI.

7.2.5.2 *Fire and Emergency Responders*

Rural Fire Protection

People moving from mainland urban areas to the more rural parts of Yakima County frequently have high expectations for structural fire protection services. Often, new residents do not realize that the services provided are not the same as in an urban area. Substantial limits on the amount and types of equipment and personnel may exist in rural areas. Fire protection may rely more on the landowner's initiative to take measures to protect their property. Furthermore, subdivisions on steep

slopes and the greater number of homes exceeding 3,000 square feet are also factors challenging fire service organizations. In the future, public education and awareness may play a greater role in rural or urban interface areas. Fire protection techniques are being improved to adapt to large, rapidly spreading fires that threaten large numbers of homes in interface areas.

Pre-planning in High-Risk Areas

Although conducting home, community, and road defensible space projects is a very effective way to reduce the fire risk to communities in Yakima County, recommended projects cannot all occur immediately, and many will take several years to complete. Thus, developing pre-planning guidelines specifying which and how local fire agencies and departments will respond to specific areas is very beneficial. These response plans should include assessments of the structures, topography, fuels, available evacuation routes, available resources, response times, communications, water resource availability, specific populations (unhoused communities, elderly, limited English proficiency, disabled populations, under-resourced communities, children, etc.) and any other factors specific to an area. These plans should be available to the local fire departments and dispatch personnel.



Overgrown vegetation adjacent to recreation trails in The Yakima Greenway. Photo by The Yakima Greenway Foundation.

The Yakima Greenway poses significant challenges for response entities, civic and community leaders, business owners, and residents living adjacent to and utilizing The Yakima Greenway. The Yakima Greenway provides urban low-income neighborhoods with a nature and recreational

experience they won't get anywhere else. The Yakima Greenway Foundation staff has no authority or training to fight or extinguish structural or wildland fires. Evacuation plans, signage, or strategies to facilitate evacuation for recreational and the unhoused community have not been developed. Emergency location identifiers are needed to help the public communicate the emergency location to first responders and 911. There is no funding or management plan to remove overgrown vegetation for structural protection within The Yakima Greenway and to protect adjacent landowners.

Multi-jurisdictional Areas

Certain areas within Yakima County, such as The Yakima Greenway, intersect multiple fire response jurisdictions, and the high wildfire risk in these areas threatens other response jurisdictions. Planned, coordinated response strategies between response entities, local organizations/partners (such as The Yakima Greenway Foundation and entities that support the unhoused community), and residents will be helpful in suppression efforts as well as ensuring community safety.

Transportation Corridors

A significant number of wildfire ignitions occur along major roadways and transportation corridors because of broken catalytic converters, problems with vehicle drive trains or wheel areas, and dragging trailer chains.

In addition, human-caused ignitions, such as unattended fires resulting in wildfires, may threaten major transportation routes, especially those accessing the west side of the state. For example, a fire along The Yakima Greenway Trail could result in the closure of Interstate 82 along the Yakima River or State Route 12 along the Naches River. Smoke from wildfires may affect visibility, or wildfires could ignite within the right-of-way or spread to the road, impacting safety.

Volunteer Fire Personnel

The fire departments of today are struggling to recruit and retain firefighters. For several years, the trend in many volunteer fire departments has been that membership has decreased. The decrease in capacity can be attributed to the need for two wage earners in a household to support their family, the lack of desire from today's generation, and the tremendous amount of time spent in training to satisfy the ever-increasing regulations from state and federal agencies.

Whether it be job and family commitments combined with hobbies or competition with other volunteer organizations, it comes down to the fact there is very little time left for being a volunteer firefighter. This is exacerbated by the added stress of emergencies and the inherent dangers of the job. Our society is generally less appreciative of the commitment and sacrifices made by volunteer firefighters.

Today's fire departments, career and volunteer, find themselves in a position where there is an increased demand for their services but are confronted with rising operational costs and, overall, less revenue. In rural settings with limited revenue and volunteers, this can add up to a fire service with lower capacity.

Leadership Turnover

A critical issue for Yakima County is the sheer turnover in leadership in various land management and fire response entities. As with any organization or business, building relationships and trust among staff and colleagues takes time. Leadership turnover and promotions requiring staff to relocate are prevalent among most state and federal land management agencies. This issue has been acknowledged by numerous collaborative groups working on natural resource issues. Forestry and other natural resource-based professions also suffer from an aging demographic as fewer young people enter the field.

7.2.5.3 Civic and Community Leaders

Unprotected Lands

One challenge for firefighters in Yakima County is the presence of non-jurisdictional lands, unprotected lands, particularly on rangelands where swift initial attack is essential to prevent rapid fire spread. Yakima County has approximately 81,000 acres of land outside the Yakama Nation Reservation. Most of these acres are adjacent to over 147,000 such acres in Benton County, where fires regularly cross county lines. The presence of non-jurisdictional areas can lead to delayed response, jurisdictional confusion, disorientation, and lack of coordination that puts residents and firefighters in great danger. This issue remains a source of tension between residents and fire emergency responders in Yakima County.

Unhoused Communities

A significant population of the unhoused community is living in areas such as The Yakima Greenway. The concern for the unhoused is wildfires,

flooding, and inclement weather. Human ignitions from warming fires, drug use, unattended fires, and other kinds of fire-starting paraphilia, etc. cause unintended wildfires, causing public safety concerns. There are no mechanisms for enforcement to minimize ignitions or to ensure the unhoused community is living in wildfire-safe areas. When items such as propane tanks are identified and labeled, businesses selling these items are contacted, and strategies are created to limit the unhoused from acquiring hazardous materials that may pose future wildfire threats.

The unhoused community is at risk of getting hurt because of their remote locations and lack of communication to ensure safe evacuation during emergencies, such as wildfires.

Smoke-safe spaces or smoke readiness mitigation (masks) have not been established for the unhoused community during wildfire smoke events.



Human ignitions within The Yakima Greenway pose a significant wildfire threat. Photo by The Yakima Greenway Foundation.

Unauthorized/Illegal Encampments

There are wildfire threats from illegal fires in dense and highly flammable vegetation, away from roads and access points, and out of sight – often in areas where illegal encampments are established.

It is difficult for law enforcement and others to track transient camp locations and trespassers, and transient camps require significant patrol and fire protection by local agencies.

Yakima County has been diligent about the enforcement of unauthorized and illegal encampments. The Board of Yakima County Commissioner's adopted an Encampment Policy on July 1, 2023, that provides the

foundation for coordinated and collaborated enforcement and cleanup of county, cities, state, private properties, and nonprofit entities while ensuring that outreach services are initially provided.

When responding to wildfires or other emergencies in these areas, there are safety concerns: sanitation issues, discarded syringes, aggressive dogs, weapons, etc. Firefighters may not enter camps until law enforcement arrives.

While Yakima County will continue to address and work with partners to manage and maintain their properties to enforce the unauthorized use of illegal camps and the removal of potential ignition and fuel sources, funding is limited. Agencies and human service organizations are limited in their capacity to address unauthorized and illegal encampments.

Additional funding is needed to add staff to identify camps, safety gear, and heavy equipment for cleanups. Enforcement is working; however, the unhoused who are “service resistant” and transient populations pose challenges for ongoing outreach and engagement. No immediate or permanent solutions are available. An outreach coalition of agencies may need to be formed to address this issue.

The Yakima Greenway Foundation staff will continue working with Yakima County, the City of Yakima, and outreach organizations to minimize the rest of illegal camping along the Yakima River and with local fire districts to minimize flammable fuels.

7.2.5.4 County/City Planners, Designers and Developers

Urban and Suburban Growth

One challenge Yakima County faces is the large number of houses in the urban/rural fringe. Since the 1970s, a segment of Washington's growing population has expanded further into traditional rural or resource lands. The “interface” between urban and suburban areas and the resource lands created by this expansion has significantly increased threats to life and property from fires. It has pushed existing fire protection systems beyond their original or current design or capability. This growth has also increased pressure on native ecosystems and the associated plant and animal life as habitats are fragmented or removed.

Land Use Conversion

Land use conversion involves changing one type of land use into another. The alteration can be minor, resulting in almost undetectable impacts, or major, with visible effects immediately. The Washington State Growth Management Act is designed to reduce the inappropriate conversion of rural and resource lands; however, as the population grows, incremental changes, though less noticeable, will eventually lead to a complete conversion of land use. For Yakima County, the threat of land use conversion is predominately within the rural and resource areas, with limited public or emergency services available.

Every day, the County receives applications for land development in the rural and resource areas. The majority of land development applications are for residential structures and similar uses. Fortunately, Yakima County's development regulations limit the density of residential uses based on several key factors, such as proximity to a full-time responding fire station or the type of road surface available to the structure (gravel vs. paved). However, the County does not have the same limitations on those development applications involving commercial and industrial land uses.

Commercial and industrial land uses are typically larger and far more extensive and can lead to a complete conversion of land use based on size and intensity of use. For example, facilities such as solar farms or lithium battery storage can convert hundreds and, in some cases, thousands of acres of land especially need to have a thorough and concise plan for wildfire safety, assurance that these sites have adequate ingress and egress for firefighting equipment and response vehicles, or wildfire mitigation strategies. These land conversions require additional fire protection resources, especially where hazardous materials are present.

7.3 CWPP Mitigation Action Plan

The following CWPP Action Plan is categorized by type of mitigation strategy. Yakima County stakeholders have prioritized actions.

Tier 1 Actions are high priority; they have been assigned a lead coordinating organization and prioritized by the feasibility of and value based on the factors shown in the graphic at right. Tier 1 projects have a higher likelihood of implementation in the next 1 to 5 years if funding is secured.

Tier 2 Actions are considered high-priority projects with a coordinating agency lead assigned; however, prioritization has not been completed. Tier 2 projects will be assessed for feasibility and prioritized during the annual review of the CWPP or as needed as Tier 1 projects are completed. Tier 2 projects should be considered for funding based on opportunities and the willingness of partners to collaborate. They may supersede Tier 1 projects if/when funding opportunities are available to support these actions or when collaborating partners (residents, local organizations, and agencies) align efforts to develop further and implement Tier 2 projects.

Approved Firewise USA® Action Plans or other approved community wildfire mitigation or action plans, regardless of their status at the time of writing, are incorporated into this plan. Action or mitigation plans for communities drafted after this plan are considered part of this CWPP and will be adopted into the plan at the next scheduled update.

All projects identified in this CWPP are implementable should local entities and their partners garner funding, staff time, and community support and identify a high chance for success regardless of ranked priority at the time of writing.

Tables 7.2 through 7.7 summarize the Tier 1 and Tier 2 actions of the CWPP Action Plan. Actions denoted with (**) are also recommended in the [**Yakima County Multi-Jurisdictional Hazard Mitigation Plan.**](#)

Appendix G describes the various DNR programs to support Yakima County partners in wildfire risk mitigation efforts and initiatives.

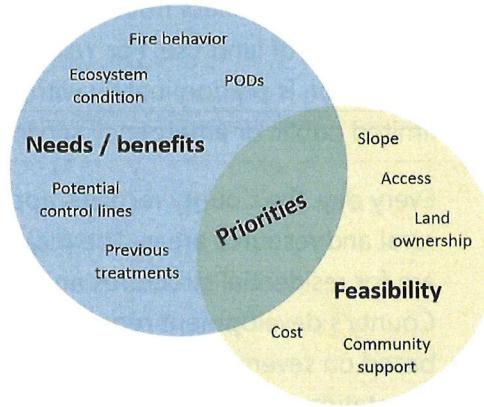


TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
Planning - Tier 1 Actions					
A-1. Create a prioritized list of fuel reduction projects for Cowiche Canyon Conservancy properties in management plan updates. Include timelines for project implementation and a list of partners for each project.	High	High	Landscape Treatments	Cowiche Canyon Conservancy	Washington RC&D, Yakima County Fire Districts
A-2. Work collaboratively with partners to identify fuel reduction projects (such as PODs, PCLs, shaded fuels breaks, thinning, and prescribed fire) to alleviate severe damage from wildfires on state-owned (WDFW) lands to protect 1,000 new identifiable acres a year.	High	High	Landscape Treatments	WDFW	DNR, USFS, local agencies, Yakima County Fire Districts, neighbors, WRCD Community Prescribed Fire Program
A-3. Identify other strategic fuel break areas not along roads in the North Fork and South Fork Ahtanum Creek Road areas	High	Medium	Landscape Treatments	DNR	
A-4. Develop a partnership with neighboring fire districts to assess and reduce fuels on shared fence lines biannually (in spring and fall)	Medium	High	Landscape Treatments	YTC Fire Department	East Valley Fire Department/YCFD#4 and YCFD#2/Selah Fire Department

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-5. Develop a fuel mitigation and vegetation management plan for The Yakima Greenway.	High	Medium	Community mitigation, landscape treatments	The Yakima Greenway Foundation, DNR, Fire districts	YVEM
A-6. **Plan fuel breaks around the City of Grandview	High	High	Community mitigation and response	City of Grandview, YCFD#5, and YVEM	DNR, Landowners, BLM
Planning - Tier 2 Actions					
A-7. WDFW and DNR collaborate on forest thinning and prescribed fire for shaded fuel breaks			Landscape Treatments	WDFW and DNR	WRCD Community Prescribed Fire Program
A-8. Connect fuel reduction actions between state, federal, and private lands			Landscape Treatments	USFS, DNR, BLM, North Yakima CD, South Yakima CD	
A-9. Develop Potential Operational Delineations (PODs) and prescribed fire on Department of Defense Lands			Landscape Treatments	YTC	WRCD Community Prescribed Fire Program

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
Capacity Building - Tier 1 Actions					
A-10. Form a fuels reduction crew to reduce fuels around participating residential and commercial structures by 50% to reduce the threat to structures during a wildland incident. This project should be completed by 2030.	High	Medium	Resident & Community Mitigation	Yakima County Fire Districts and YVEM	DNR, USFS, Yakima County Fire Districts, Fire Departments, North Yakima CD, private landowners
Capacity Building - Tier 2 Actions					
A-11. Develop a grazing program to reduce fuel and manage invasive species			Landscape Treatments	North Yakima CD and South Yakima CD	WDFW, DNR, Cowiche Canyon Conservancy
A-12. Develop thinning and prescribed fire programs			Landscape Treatments	North Yakima CD, South Yakima CD, Cowiche Canyon Conservancy, WDFW	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, private landowners, WRCD Community Prescribed Fire Program
A-13. Establish tractor disking and dozer line programs for residents around their homes			Resident & Community Mitigation	North Yakima CD, South Yakima CD	Landowners, WDFW, BLM

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-14. Develop a Firewise USA ® site program to encourage fuel reduction and property protection in areas within WUI.			Resident & Community Mitigation	DNR, Yakima County Fire Districts, City Fire Departments, YVEM	Residents
A-15. Establish a program for machine mowing in large, flat, grassy areas and brush mastication in areas where manual chainsaw treatment would be too expensive.			Landscape Treatments	North Yakima CD and South Yakima CD	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, private landowners
Implementation - Tier 1 Actions					
A-16. Implement a chipping program within the WUI with high fuel loads around home ignition zones 1 and 2 of structures	High	High	Resident & Community Mitigation	North Yakima CD	DNR, USFS, private landowners

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-17. Reduce invasive annual grass cover where possible at Konnowac Pass Recreation Area. Incorporate prescribed burning and herbicide applications where appropriate—Replant native perennial grass species. Focus on fuel reduction at the trailhead and work with neighbors to reduce fuel along Konnowac Pass Road. Work with local fire resources to develop wildfire mitigation and emergency management plans.	High	High	Landscape Treatments	Cowiche Canyon Conservancy	Yakima County Fire Departments and neighbors
A-18. Reduce fuels at Snow Mountain Ranch, focusing on fields adjacent to parking areas and roads. Implement chipping projects where appropriate. Assess the need for fuel reduction projects in oak woodlands and riparian zones and implement them where appropriate.	High	High	Landscape Treatments	Cowiche Canyon Conservancy	
A-19. Reduce fuel through mowing, slash treatment, chipping, and grazing, and create fuel breaks for the community and infrastructure in the Conrad Ranches area.	High	High	Fuels Reduction	YCFD#2	YCFD#3, WDFW, North Yakima CD, DNR
A-20. Reduce fuels through mowing, slash treatment, chipping, and grazing, and create fuel breaks for the community and infrastructure in the Yakima Ranches area. Conduct home assessments.	High	High	Fuels Reduction	YCFD#2 and YCFD#4	North Yakima CD, DNR

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-21. Conduct home assessments and implement fuel reduction around structures on private lands (including mowing and spraying) over four years to protect communities and infrastructure	High	High	Fuels Reduction	All Yakima County Fire Districts	DNR
A-22. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in Goose Prairie/Bumping Lake Communities. Coordinate fuel reduction in zone 3 around homes with USFS by 2028.	High	High	Fuels Reduction Projects	North Yakima CD	USFS
A-23. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in the Ahtanum Community. Establish fuel breaks in shrub-steppe areas by 2028.	High	High	Fuels Reduction	North Yakima CD	YCFD#12
A-24. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in the Nile/Cliffdell community. Coordinate fuel reduction efforts in zone 3 around homes with USFS by 2028.	High	High	Fuels Reduction	North Yakima CD	USFS, YCFD#14

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-25. Reduce fuels through mowing, slash treatment, prescribed fire, chipping, grazing, and creating fuel breaks for the community and infrastructure protection in the following areas/communities: <ul style="list-style-type: none"> • Tampico North Fork • Tampico South Fork • Conrad Ranches • Yakima Ranches/Sage Trail • Highway 24 to Highway 240 interchange 	High	High	Fuels Reduction	YCFD#2, YCFD#4, YCFD#12, and YVEM	DNR, USFS, Yakima County Fire Districts, Fire Departments, North Yakima CD, private landowners
A-26. **Implement fuel breaks around the City of Grandview	High	Lower	Community mitigation and response	City of Grandview, YCFD#5, YVEM	DNR Landowners BLM
A-27. Remove vegetation along ingress and egress routes within The Yakima Greenway to facilitate emergency vehicle access.	High	Medium	Response	The Yakima Greenway Foundation	Fire districts DNR
A-28. Remove vegetation and create defensible space in zones 1 and 2 around structures within and adjacent to The Yakima Greenway.	High	Medium	Community protection and response	The Yakima Greenway Foundation, Fire Districts, DNR	Private landowners

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-29. Create green strips to reduce fuel loads and reduce invasive species in the shrub-steppe to protect roadways, infrastructure, and communities	High	Lower	Landscape Treatments	North Yakima CD	WDFW, BLM, private landowners
A-30. Plan, coordinate, and implement fuel reduction commercial timber harvest, noncommercial thinning, and prescribed fire in South Fork Tieton	High	Lower	Landscape Treatments	USFS	WRCD Community Prescribed Fire Program
A-31. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in the "Cleamans Mountain" community. Establish fuel breaks in shrub-steppe areas by 2030.	High	Lower	Fuels Reduction	North Yakima CD	
A-32. Mechanically reduce woody fuels along North Fork and South Fork Ahtanum Creek Roads on as many participating landowners as possible by 2024	High	Medium	Landscape Treatments	DNR	
A-33. Mechanically reduce woody fuels within 100 feet of homes and structures on as many participating landowners as possible by 2024	High	Medium	Fuels Reduction	DNR	

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-34. Mechanically reduce fuels surrounding the private community in Goose Prairie and within 100 feet of homes and structures with as many participating landowners as possible by 2028	High	Medium	Fuels Reduction	DNR	
A-35. Mechanically reduce woody fuels along the Highway 410 corridor and within 100 feet of homes and structures on as many participating landowners as possible by 2028	High	Medium	Fuels Reduction	DNR	
A-36. Reduce fuels through mowing, slash treatment, chipping, and grazing, and create fuel breaks for community and infrastructure protection in the Falcon Ridge Community	High	Medium	Fuels Reduction	Yakima County Fire District #12 (West Valley) and YVEM	DNR, USFS, North Yakima CD, private landowners
A-37. Cowiche Creek fuel reduction through grazing starting in 2025 and rotating every 5 years	Lower	Lower	Landscape Treatments	North Yakima CD	
A-38. Reduce fuels through mowing, slash treatment, chipping, and grazing, and create fuel breaks for the community and infrastructure in the North Wenas Community	High	Medium	Fuels Reduction	YCFD#2, YVEM	DNR, USFS, North Yakima CD, private landowners

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-39. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in the Russel Ridge community.	Medium	High	Fuels Reduction	North Yakima CD	
A-40. Complete wildfire risk home assessments and fuel reduction (mechanical thinning and chipping) in zones 1 and 2 around homes in North Fork and South Fork communities. Establish fuel breaks in shrub-steppe areas by 2030.	Medium	Medium	Fuels Reduction	North Yakima CD and YVEM	
A-41. Highway 12 and Highway 410 fuel treatments for community protection, including commercial timber harvest, noncommercial thinning, and prescribed fire	Medium	Medium	Landscape Treatments	USFS	WRCD Community Prescribed Fire Program
A-42. Establish green strips along Highway 24	Medium	Medium	Landscape Treatments	North Yakima CD; East Valley Fire District #4	BLM, WSDOT, DNR, WDFW, and landowners
A-43. Reduce fuels through mowing, slash treatment, chipping, and grazing, and create fuel breaks for the community and infrastructure in the South Wenatchee Community	Medium	Medium	Fuels Reduction	North Yakima CD, YCFD#2, and YVEM	DNR, USFS, Fire Departments, North Yakima CD, private landowners

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
A-44. Implement priority neighborhood projects as listed in Chapter 7. Reduce Structure Ignitability.	High	Medium	Resident & Community Mitigation	North Yakima CD, Fire Districts, YVEM, DNR, Landowners	
A-45. Implement wildfire protection measures around the city's wastewater facilities to reduce risk, including fire breaks, planning for protective measures, and equipment purchases.	High	Medium	Community Mitigation	City of Grandview	Grandview Fire Department, Yakima County District #5,
A-46. Implement Firewise USA® site action plans or community wildfire mitigation or risk reduction action plans. <i>Approved Firewise USA® Action Plans or other approved community wildfire mitigation plans, regardless of their status at the time of writing, are incorporated into this plan. Action or mitigation plans for communities drafted after this plan is adopted will be considered a part of this plan, regardless of their adoption date, and incorporated into this plan at the next scheduled update.</i>	High	High	Community Mitigation	All collaborative partners	All collaborative partners

TABLE 7.2
LANDSCAPE RESTORATION AND FUEL REDUCTION MITIGATION TREATMENTS

Action Item	Prioritization		Mitigation Strategy	Coordinating Organization	Partner Organizations
	Value	Feasibility			
Implementation - Tier 2 Actions					
A-47. Provide dumpsters for community clean-up days (for 1-5 feet from homes)			Resident & Community Mitigation	Nuestra Casa	DNR
A-48. Create 200' wide shaded fuel breaks along public and private roads			Landscape Treatments	WSDOT, Yakima County Roads, City Public Services, North Yakima CD	DNR, WDFW, Yakima County, Cowiche Canyon Conservancy
A-49. Create green strips to create fuel breaks			Landscape Treatments	North Yakima CD and South Yakima CD	Yakima County Fire Districts, City Fire Departments, YVEM, WDFW, DNR, USFS, Yakima County and City Public Works

TABLE 7.3
COMMUNITY OUTREACH AND ENGAGEMENT

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Capacity - Tier 1 Actions				
B-1. Develop a universal campaign for fire mitigation used by all emergency responders. Complete by 2025.	High	High	Yakima Valley Emergency Management	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, North Yakima CD, private landowners
B-2. Expand outreach programs focused on limited English-speaking populations	High	Medium	Nuestra Casa	Yakima Greenway, nonprofits
B-3. Develop a Firewise USA® program	High	Medium	Yakima County Fire Marshal's Office	DNR
B-4. Promote Firewise USA ® programs in communities that are adjacent to Cowiche Canyon Conservancy lands, especially Snow Mountain Ranch and Konnowac Pass	High	Medium	Cowiche Canyon Conservancy	WDFW, BLM, Yakima County Fire Districts
B-5. Work with partners to establish and define a Firewise USA® site education initiative for WDFW by 2025	Medium	Medium	WDFW	DNR, USFS, local agencies, Yakima County Fire Districts, nonprofits, and neighbors
Capacity - Tier 2 Actions				
B-6. Create and expand youth programs			Nuestra Casa	
B-7. Sustain and expand existing educational programs, including home assessment programs (such as Wildfire Ready Neighbors), evacuation, and smoke exposure education focused on reaching limited English-speaking populations and renters.			Nuestra Casa	

TABLE 7.3
COMMUNITY OUTREACH AND ENGAGEMENT

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
B-8. Create, modify, and sustain new and existing youth programs to establish a more cohesive approach to family preparedness.			Nuestra Casa	
B-9. Develop a risk reduction and outreach and engagement program for renters			Nuestra Casa	
B-10. Establish two 6-person crews for home assessments			YCFD#2, YCFD#4, and YCFD#12	All other Yakima County fire districts and DNR
B-11. Engage with the home insurance industry and local real estate companies for homeowner education resources				
B-12. Develop and facilitate an outreach coalition of agencies and human service organizations to develop a plan for engaging the unhoused community in fire safe practices, wildfire prevention, and illegal fire starts/encampments.				Yakima County, The Yakima Greenway Foundation, fire districts, social service organizations
Implementation - Tier 1 Actions				
B-12. Coordinate and provide outreach and education events, including the development of wildfire landscaping and mitigation demonstration site at the Yakima Greenway Visitor Center	High	Medium	Yakima Greenway	Nuestra Casa YVEM

TABLE 7.3
COMMUNITY OUTREACH AND ENGAGEMENT

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
B-13. Develop and implement a communications plan and outreach strategy for wildfire prevention, evacuation, emergency alerts, warming, and cooking fire safety for The Yakima Greenway, specifically for recreational users, unhoused communities, and limited English-speaking populations.	High	High	The Yakima Greenway Foundation	Fire Districts The Yakima Training Center DNR YVEM
B-14. Develop a communications strategy and maps/signage for the public to convey information (location, fire hydrant location, points of interest, etc.) to emergency responders when reporting wildfire incidents in The Yakima Greenway.	High	High	The Yakima Greenway Foundation	Fire Districts The Yakima Training Center DNR YVEM
Implementation - Tier 2 Actions				
B-15. Support the development of Firewise and Fire Adapted Communities action plans			Yakima County Building & Fire Safety Division	
B-16. Plan, host, and coordinate home hardening workshops for residents			YVEM, Nuestra Casa	DNR
B-17. Enhance existing outreach to include climate impacts, clean air, and water initiatives in Lower Yakima Valley			Nuestra Casa	
B-18. Create news releases and media outreach for responsible public recreation on state lands			WDFW and DNR	

TABLE 7.3
COMMUNITY OUTREACH AND ENGAGEMENT

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
B-19. Continue to include fire ecology in Cowiche Canyon Conservancy education programs, such as Yakima Valley College winter lecture series, field trips, etc.			Cowiche Canyon Conservancy	
B-20. Improve access issues by encouraging residents to improve accessibility to their property.			County-wide	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, North Yakima CD, private landowners
B-21. Offer hands-on workshops to highlight individual home vulnerabilities and how-to-techniques to reduce ignitability of common structural elements and encourage residents to participate.			County-wide	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, North Yakima CD, private landowners
B-22. Implement Wildfire Ready Neighbors (home assessments) program to encourage fuel reduction and property protection in areas within WUI.			DNR	DNR, USFS, Yakima County Fire Districts, Fire Departments, YVEM, North Yakima CD, private landowners

TABLE 7.4
POST-FIRE RECOVERY

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Tier 1 Projects				
C-1. Coordinate and support landowner recovery efforts by rebuilding infrastructure (fencing) and implementing landscape restoration activities (replanting, springs, etc.)	High	Lower	North Yakima Conservation District	Landowners, Washington State Conservation Commission, NRCS
C-2. Develop an outreach strategy to identify post-fire recovery needs on private lands	Medium	Lower	North Yakima Conservation District	Washington State Conservation Commission, WDFW, NRCS, landowners
Tier 2 Projects				
C-3. Research, identify, and implement planning and development policies to facilitate rebuilding during disaster recovery. Establish post-fire recovery methodology.			Yakima County and City Planning Divisions	Yakima County, WDFW, DNR, human service organizations
C-4. Adopt planning and development policies to facilitate rebuilding			Yakima County Building & Fire Safety Division	
C-5. Coordinate community recovery efforts			Nuestra Casa Yakima County Human Services	
C-6. Address landscape stabilization concerns post-fire through contracts and cost-share			North Yakima Conservation District	

TABLE 7.4
POST-FIRE RECOVERY

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
C-7. Apply and provide Washington Shrub-Steppe Restoration and Resiliency Initiative funding for fire restoration			WDFW	
C-8. Submit legislative decision package for wildfire restoration funding			WDFW	
C-9. Coordinate donations for post-fire recovery			Nuestra Casa	
C-10. Assess and implement emergency stabilization projects to reduce additional hazard risks in wildfire burn areas, as detailed in Burned Area Emergency Response (BAER) Assessments for the Schneider Springs Fire (2021), Evans Canyon Fire (2020), and North Brownstown Fire (2020).			North Yakima CD	

TABLE 7.5
PUBLIC HEALTH (AND AIR QUALITY)

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Tier 1 Actions				
D-1. Establish cooling and clean air shelters. ** <i>The County Hazard Mitigation Plan emphasizes the need for clean air shelters in the following communities/fire response jurisdictions:</i> --City of Moxee --Union Gap --City of Yakima --Town of Harrah --Town of Naches/YVFD#3	High		Yakima Health Department City of Moxee Union Gap City of Yakima	City and County elected officials, Nonprofit organizations, Business owners, Fruit processing facilities, Agricultural producers, and Human and health service organizations providing support for vulnerable or under-resourced populations, including the unhoused and elderly communities or those with pre-existing health conditions
D-2. Coordinate with local health and social services for advance warning and protective actions for smoke and air quality ** <i>The County Hazard Mitigation Plan emphasizes the need for clean air outreach and protective actions in the following communities/fire response jurisdictions:</i> --Union Gap --City of Yakima --Town of Harrah --Town of Naches/YVFD#3	High	High	Yakima Valley Emergency Management Nuestra Casa Yakima Health Department	Human and health service organizations provide support for vulnerable or under-resourced populations, including the unhoused and elderly communities or those with pre-existing health conditions. Neighborhood leaders
D-3. Create and improve existing mental health services to include populations impacted by wildfires.	High		Nuestra Casa	

TABLE 7.6
CODES, REGULATIONS, POLICIES, AND PLANS

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Tier 1 Actions				
E-1. Update building design requirements to comply with current fire-resistant design standards to ensure safe construction for occupants/public. Ensure resources in Spanish by the first quarter of 2024 - "ongoing."	High	High	Yakima County Building & Fire Safety Division	Yakima County Planning, USFS, Nuestra Casa
E-2. Annual oversight and review of CWPP. Track and monitor progress and accomplishments. Update priorities.	High	High	YVEM	All Yakima County stakeholders
E-3. Reduce risk of wildfire by enforcing WUI code and development regulations on over 75% of WUI homes within Yakima County over the next 5 years	Medium	Lower	Yakima County Building & Fire Safety Division	
Tier 2 Actions				
E-4. Ensure adequate fire protection for new development per the County's comprehensive plan			Yakima County Building & Fire Safety Division and Yakima County Planning Department	
E-5. Voluntary building improvements to meet code			North Yakima CD and South Yakima CD	Yakima County Building & Fire Safety Division

TABLE 7.6
CODES, REGULATIONS, POLICIES, AND PLANS

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
E-6. Fire Apparatus Access Road (FAAR) Access for construction and proposed development			Yakima County Building & Fire Safety Division	
E-7. Adopt county codes to address development in the WUI that addresses land use conversion			Yakima County	

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Safety & Evacuation - Tier 1 Actions				
F-1. Work with local homeowners to improve access, egress routes, and post address signs. Perform a revisit to see if work was performed. This will improve public safety in emergencies. This project should be completed by 2026.	High	High	Yakima County Fire Departments	
F-2. Continue implementing ALERT Yakima by working with businesses, partners, and the community to sign individuals up to receive notifications. Ongoing. 1,000 people a year.	High	Medium	YVEM	Community partners
F-3. Coordinate outreach and response efforts for wildfire smoke fire over roads to improve emergency response. <i>**The County Hazard Mitigation Plan emphasizes the need for coordination of response and outreach for highway closures impacted by wildfire and smoke in the following communities/fire response jurisdictions:</i> --City of Moxee --City of Granger --City of Sunnyside --City of Toppenish --Town of Naches/YVFD#3	Medium	High	Wildfire Response Entities and WA Department of Transportation	Yakama Agency Fire, YCFD#5, YCFD#4, tribal, county, and state police, City and County government Agricultural Producers Fruit processing facilities Business owners

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
F-4. Identify and locate fire response resources (fire hydrants), safety zones, and evacuation routes in The Yakima Greenway and for those managing and utilizing The Yakima Greenway parks and trail system, including, but not limited to, recreational users and the unhoused community.	High	High	Fire Districts, City of Yakima, and The Yakima Greenway Foundation	The Yakima Training Center DNR YVEM
F-5. Develop and install signage and directional markings for The Yakima Greenway to allow adequate location recognition in emergencies and ingress and egress routes to parking lots, trailheads, public roads, or safety zones.	High	High	The Yakima Greenway Foundation	Fire Districts, The Yakima Training Center, YVEM, Health-centric organizations, Organizations supporting access and functional needs
F-6. Develop an emergency response map for The Yakima Greenway in coordination with response entities and Suncomm 911 to better communicate the best access points (including public roads) and evacuation routes.	High	High	The Yakima Greenway Foundation	Fire Districts, The Yakima Training Center, Suncomm 911, YVEM
F-7. Train firefighters and emergency responders to manage hazardous materials that may ignite during a wildfire (drug-making equipment/materials and chemicals, garbage (tires, televisions, furniture, plastic, dead animals, etc.), and plastics from playgrounds that may ignite.	High	Medium		Fire Districts The Yakima Training Center

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
F-8. Clean up hazardous materials that may ignite during a wildfire (drug-making equipment/materials and chemicals, garbage (tires, televisions, furniture, plastic, dead animals, etc.), and plastics from playgrounds that may ignite. Wildfire fighting experience would be necessary. Priority areas: • The Yakima Greenway Purchase protective equipment for clean-up and management of hazardous materials.	High	Medium	The Yakima Greenway Foundation	
Safety & Evacuation - Tier 2 Actions				
F-9. Apply for grant funding to purchase back-up power generators for critical facilities			YVEM	
F-10. Identify secondary evacuation centers (e.g., Sarg Hubbard Park) **The County Hazard Mitigation Plan emphasizes the need for emergency evacuation centers in the following communities/fire response jurisdictions: --City of Moxee --City of Sunnyside --City of Toppenish --Tieton --Town of Naches/YVFD#3	High		YVEM	City and County government entities Agricultural producers Fruit processing facilities Business owners Residents All fire response entities

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
F-11. **Evacuation coordination			YVEM	City and County government entities Agricultural producers Fruit processing facilities Business owners Residents All fire response entities Health centric organizations The Yakima Greenway Foundation
F-12. Work with local response entities, human service organizations, and The Yakima Greenway Foundation to develop and communicate evacuation plans for the unhoused community.			Yakima County Human Services	City and County government entities All fire response entities Health centric organizations The Yakima Greenway Foundation
F-13. Add staff capacity to identify illegal encampments and purchase safety gear and heavy equipment for illegal encampment clean-up.			Yakima County	City and County government entities All fire response entities The Yakima Greenway Foundation
Wildfire Response - Tier 1 Actions				
F-13. Develop a mutual response plan for unprotected lands in Yakima County (i.e., closest resource initial attack)	High	Lower	YTC	BLM, USFWS, DNR, Yakima County Fire Departments, Department of Defense, WSDOT, landowners, adjoining counties

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
Wildfire Response - Tier 2 Actions				
F-14. Improve and acquire wildland fire equipment **The County Hazard Mitigation Plan emphasizes the need for additional fire protection resources (including personnel) and equipment in the following communities/fire response jurisdictions: --City of Grandview --Tieton/YCFD#1 --All fire districts	High		Yakima County Fire Districts, City of Grandview, and YVEM	
F-15. Work with first responders on access to state lands and public notification for incidents			WDFW/DNR	
F-16. Identify leads and agreements (if necessary) for responding to wildfires on Unprotected Lands			Fire Districts and Yakima County Board of Commissioners	
F-17. Recruit additional volunteer firefighters			Yakima County Fire Districts	
F-18. Provide water storage at Station 54 in Tampico and a 4x4 tactical water tender			West Valley Fire Department/Yakima County District #12	

TABLE 7.7
SAFETY, EVACUATION, AND WILDFIRE RESPONSE

Action Item	Prioritization		Coordinating Organization	Partner Organizations
	Value	Feasibility		
F-19. Provide portable water tanks for quick firefighter access			Yakima County, Yakima County Fire Districts, DNR	



Photo by Kara Karboski, Washington Resource Conservation and Development Council

CHAPTER 8

MONITORING

This chapter describes recommendations for stakeholder coordination and tracking of progress and accomplishments.

Yakima County stakeholders should host regular meetings to ensure project accountability, participate in cross-boundary mitigation programs like the Central Washington Initiative and the Washington Shrub-Steppe Restoration and Resiliency Initiative, and back community-based priorities and local initiatives.

As a next step, it is recommended that the Advisory Committee establish qualitative and quantitative measures to track progress and accomplishments. Programmatic and project reviews with committee members, stakeholders, and residents can help identify opportunities for additional protection actions, partnerships, and projects to meet the CWPP goals and objectives effectively. This information may indicate successes and gaps that this plan has not addressed. In turn, it can result in new goals and objectives.

Leadership from the CWPP must play a central role in coordinating meetings and ensuring that stakeholders have an opportunity to share

their views about wildfire issues. Suggestions for improving emergency preparedness efforts and feedback from project partners and community members may come from CWPP leaders. Partner surveys may help refine strategies to strengthen collaborative relationships and wildfire preparedness – including joining forces to develop projects and apply for funding.

Project stakeholders must maintain their focus on the plan's ability to prepare citizens for natural disasters. Inviting community response is critical for understanding the public's awareness of wildfire and emergency issues. Local citizens can measure their level of information about fuel reduction activities, disaster preparedness, and programs available to vulnerable populations.

Representatives from fire departments, county agencies, the state forestry agency, BLM, and USFS possess expertise for prioritizing areas that require wildfire protection, improving response efforts, and eliminating gaps in disaster protection. These groups can also assess the progress of hazardous fuel reduction activities on federal and nonfederal land by providing technical knowledge and program data. An acknowledged national need to track hazardous fuel work on private lands exists. The WA DNR has taken steps towards this need by creating the Forest Health Tracker database.

Amendments may be necessary after the group(s) have moved through plan implementation and monitored and assessed this Plan's strengths and weaknesses. Because this CWPP will be adopted into the Yakima County Multi-Hazard Jurisdiction Hazard Plan, it will be reviewed annually and updated as needed. Project partners are encouraged to participate in this review and update and work together to identify action items that need to be changed, items that have been completed, and items that should be added. The last step in the evaluation process is to present the updated goals and actions to the public and project partners.

CHAPTER 9

REFERENCES

Crawford, R.C., 2003. A Riparian Vegetation Classification of the Columbia Basin, Washington. Available at: https://www.dnr.wa.gov/publications/amp_nh_veg_class_columbia.pdf

Bakker, J.D., Dunwiddie, P.W., Hall, S.A., Evans, J.R., Davies, G.M., and E. Dettweiler-Robinson, 2011. Vegetation Impacts of Recurring Fires on Sagebrush Ecosystems in Washington: Implications for Conservation and Rehabilitation. Report to Joint Fire Sciences Program JFSP Project 08-1-5-20. December 2011.

Barrett, J.W, 1979. Silviculture of ponderosa pine in the Pacific Northwest: the state of our knowledge. USDA Forest Service, General Technical Report PNW-97. Pacific Northwest Forest and Range Experiment Station, Portland, OR.

County Health Rankings and Roadmaps (2020) Yakima, Washington. Available at: <https://www.countyhealthrankings.org/explore-health-rankings/washington/yakima?year=2020>

Johnson, C.G., 1998. Vegetation Response after Wildfires in National Forests of Northeastern Oregon.

Johnson, C.G.; Clausnitzer, R.R.; Mehringer, P.J.; Oliver, C.D., 1994. Biotic and Abiotic Processes of Eastside Ecosystems: The Effects of Management on Plant and Community Ecology, and on Stand and Landscape Vegetation Dynamics. Gen. Tech. Report PNW GTR-322. USDA-Forest Service. PNW Research Station. Portland, Oregon.

Mack, R. N, 2011. Fifty years of "waging war on cheat grass": Research advances while meaningful control languishes, p. 253-265. In: D.M. Richardson (ed.), Fifty Years of Invasion Ecology: The Legacy of Charles Elton. 1st edition, West Sussex, UK: Blackwell.

North Yakima Conservation District, 2009. Yakima County Community Wildfire Protection Plan. Yakima, Washington. June 2009.

Parks, S.A., C. Miller, J.T. Abatzoglou, L.M. Holsinger, M.A. Parisien, and S.Z. Dobrowski, 2016. How will climate change affect wildland fire severity in the western US? Environmental Research Letters 11 (2016) 035002.

South Central Washington Shrub-Steppe/Rangeland Partnership, 2010. "Conserve what we have, restore what we can: A Conservation Strategy for the Shrub-Steppe/Rangelands of South Central Washington." Yakima, Washington.

U.S. Census Bureau, 2019 Census Quick Facts—Yakima County, Washington. Available at:
<https://www.census.gov/quickfacts/yakimacountywashington>

Yakima County Health District (2020) Yakima County Health District: COVID-19 Data Summary.
<https://www.yakimacounty.us/2404/Data-Summary>

GLOSSARY

Controlled Burn - Controlled burning, also known as prescribed burning, involves setting planned fires to maintain the health of a forest or other ecosystem.

Crew - An organized group of firefighters under the leadership of a crew boss or other designated official.

Crown Fire - A fire that advances from tree top to tree top more or less independently of the surface fire. Sometimes crown fires are classed as either running or dependent, to distinguish the degree of independence from the surface fire.

Convection - A type of heat transfer that occurs when a fluid, such as air or a liquid, is heated and travels away from the source, carrying heat along with it. The air around and above a wildfire expands as it is heated, causing it to become less dense and rise into a hot convection column. Cooler air flows in to replace the rising gases, and in some cases, this inflow of air creates local winds that further fan the flames. Hot convective gases move up slope and dry out fuels ahead of the flaming front, lowering their ignition temperature and increasing their susceptibility to ignition and fire spread. Homes located at the top of a slope can become preheated by convective heat transfer. Convection columns from wildfires carry sparks and embers aloft.

Defensible Space - The area within the perimeter of a parcel, development, neighborhood, or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structures fires. The perimeter used in this definition is the area encompassing the parcel or parcels proposed for construction and development, excluding the physical structure itself. The establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures characterize the area.

Disturbance - An event that affects the successional development of a plant community (examples: fire, insects, windthrow, and timber harvest).

Diversity - The relative distribution and abundance of different plant and animal communities and species within an area.

Ecosystem - An interacting system of interdependent organisms and the physical set of conditions upon which they are dependent and by which they are influenced.

Exotic Plant Species - Plant species that are introduced and not native to the area.

Fire Adapted Ecosystem - An arrangement of populations that have made long-term genetic changes in response to the presence of fire in the environment.

Fire Behavior - The manner in which a fire reacts to the influences of fuel, weather, and topography.

Fire Behavior Forecast - Fire behavior predictions are prepared for each shift by a fire behavior analyst to meet the planning needs of the fire overhead organization. The forecast interprets fire calculations made, describes expected fire behavior by areas of the fire with special emphasis on personnel safety, and identifies hazards due to fire for ground and aircraft activities.

Fire Brand - A small, often smoldering ember that breaks off a plant or structure during a wildland fire and can loft up several kilometers ahead of the main fire front, igniting new spot fires.

Fire Break - An area cleared of flammable material to prevent a fire from spreading across it.

Fire Danger - A general term used to assess fixed and variable factors such as fire risk, fuels, weather, and topography, which influence whether fires will start, spread, and damage; also, the degree of control difficulty is expected.

Fire Ecology - The scientific study of fire's effects on the environment, the interrelationships of plants, and the animals that live in such habitats.

Fire Exclusion - The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

Fire Intensity Level - The rate of heat release per unit of fire front. Four-foot flame lengths or less are generally associated with low-intensity burns, and four- to six-foot flame lengths generally correspond to moderate-intensity fire behavior. High-intensity flame lengths are usually greater than eight feet and pose multiple control problems.

Fire-Prone Conditions - The expression of an area's propensity to burn in a wildfire based on common denominators such as plant cover type, canopy closure, aspect, slope, road density, stream density, wind patterns, position on the hillside, and other factors.

Fire Management - The integration of fire protection, prescribed fire, and fire ecology into land use planning, administration, decision-making, and other land management activities.

Fire Management Plan (FMP) - A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. This plan is supplemented by operational procedures such as preparedness, preplanned dispatch, burn plans, and prevention. The fire implementation schedule documents the fire management program in the approved forest plan alternative.

Fire Occurrence - The number of wildland fires started in a given area over a given period of time. (Usually expressed as number per million acres.)

Fire Prevention - An active program in conjunction with other agencies to protect human life, prevent modification of the ecosystem by human-caused wildfires, and prevent damage to cultural resources or physical facilities. Activities directed at reducing fire occurrence, including public education, law enforcement, personal contact, and reduction of fire risks and hazards.

Fire Regime - The fire pattern across the landscape, characterized by occurrence interval and relative intensity. Fire regimes result from a unique combination of climate and vegetation. Fire regimes exist on a continuum from short-interval, low-intensity (stand maintenance) fires to long-interval, high-intensity (stand replacement) fires.

Fire Return Interval - The number of years between two successive fires documented in a designated area.

Fire Risk - The potential that a wildfire will start and spread as determined by the presence and activities of causative agents.

Fire Severity - The effects of fire on resources displayed in terms of benefit or loss.

Flame length - The distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface). Flame length is measured on an angle when the flames are tilted due to wind and slope effects. Flame length is an indicator of fire intensity (NWCG 2018b).

Flashy Fuel - Quick drying twigs, needles, and grasses that are easily ignited and burn rapidly.

Forb - Any broad-leaved herbaceous plant that is not a grass, especially one that grows in a prairie or meadow.

Fuel - The materials that are burned in a fire: duff, litter, grass, dead branchwood, snags, logs, etc.

Fuel Break - A natural or manmade change in fuel characteristics that affects fire behavior so that fires burning into them can be more readily controlled. Fuel breaks differ from firebreaks due to the continued presence of vegetation and organic soil. Trees in shaded fuel breaks are thinned and pruned to reduce the fire potential, but enough trees are retained to create a less favorable microclimate for surface fires.

Fuel Loading - Fuel loading is defined as the amount of combustible material (dead and live biomass) present, expressed quantitatively in terms of oven-dry weight of fuel per unit area. Fuel loading is commonly expressed in tons per acre (tons/ac) or kilograms per meter squared (kg/m²).

Fuel Ladder - Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees with relative ease. Ladder fuels help initiate torching and 118 crowning and assure the continuation of crowning. Ladder fuels can include small trees, brush, and lower limbs of large trees.

Fuel Type - An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics, which will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

Fuels Management - Manipulation or reduction of fuels to meet protection and management objectives while preserving and enhancing environmental quality.

Green Strip – An area where green fire-resistant vegetation is planted to help prevent the spread of fire.

Habitat - A place that provides seasonal or year-round food, water, shelter, and other environmental conditions for an organism, community, or population of plants or animals.

Habitat Type - A group of habitats with strongly marked and readily defined similarities that, when defined by their predominant or indicator species, incites a general description of the area, such as a ponderosa pine habitat type.

Heavy Fuels - Fuels of a large diameter, such as snags, logs, and large limbs, ignite and are consumed more slowly than flashy fuels.

Human-Caused Fires - Refers to fires ignited accidentally (from campfires, equipment, debris burning, or smoking) and by arsonists; does not include fires ignited intentionally by fire management personnel to fulfill approved, documented management objectives (prescribed fires).

Intensity - The rate of heat energy released during combustion per unit length of fire edge.

Invasive Vegetation – Plants that spread rapidly and crowd out desirable plant species.

Ladder Fuels - Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees with relative ease. They help initiate and assure the continuation of crowning.

Landscape - All the natural features, such as grasslands, hills, forests, and water, distinguish one part of the earth's surface from another; usually, the eye can comprehend that portion of land in a single view, including all its natural characteristics.

Litter - The top layer of the forest floor is composed of loose debris, including dead sticks, branches, twigs, and recently fallen leaves or needles, little altered in structure by decomposition.

Native - Indigenous; living naturally within a given area.

Natural Ignition - A wildland fire ignited by a natural event such as lightning or volcanoes.

Non-Native Vegetation – Plant species that have been introduced to an area in the time since European settlement.

Noxious Weeds - Rapidly spreading plants that have been designated "noxious" by law, which can cause a variety of major ecological impacts to both agricultural and wildlands.

Prescribed Fire - Any fire ignited by management actions to meet specific objectives.

Prescription - A set of measurable criteria that guides the selection of appropriate management strategies and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Reburn - Subsequent burning of an area where fire has previously burned but has left flammable light fuels that ignite when burning conditions are more favorable.

Riparian - Riparian areas are the lands adjacent to a body of water. These areas may experience periods of wetness or dryness depending on water levels. Certain riparian plant species have adapted to these changing conditions.

Spotting - Behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire. Spotting is classified as short-range or long-range spotting (NWCG 2018b).

Stand-Replacing Fire - A fire that kills most or all of a tree stand.

Surface Fire - Fire that moves through duff, litter, woody dead, and down and standing shrubs, as opposed to a crown fire.

Thinning – Removal of trees and other vegetation to improve forest health and reduce the risk of fire. Some thinning is done as part of commercial tree harvest.

Watershed - The region draining into a river, river system, or body of water.

Wildland Fire - Any non-structure fire, other than prescribed fire, which occurs in the wildland.

APPENDIX A

WILDLAND FIRE

CHARACTERISTICS

An informed discussion of fire mitigation is not complete until basic concepts that govern fire behavior are understood. In the broadest sense, wildland fire behavior describes how fires burn; the manner in which fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels supporting the fire, the topography in which the fire is burning, and the weather and atmospheric conditions during a fire event. At the landscape level, both topography and weather are beyond our control. We are powerless to control winds, temperature, relative humidity, atmospheric instability, slope, aspect, elevation, and landforms. It is beyond our control to alter these conditions, and thus impossible to alter fire behavior through their manipulation. When we attempt to alter how fires burn, we are left with manipulating the third component of the fire environment; fuels which support the fire. By altering fuel loading and fuel continuity across the landscape, we have the best opportunity to control or affect how fires burn.

A brief description of each of the fire environment elements follows in order to illustrate their effect on fire behavior.

Weather

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.¹ Once conditions are capable of sustaining a fire, atmospheric stability and wind speed and direction can have a significant effect on fire behavior. Winds fan fires with oxygen, increasing the rate at which fire spreads across the landscape. Weather is the most unpredictable component governing fire behavior, constantly changing in time and across the landscape.

Topography

Fires burning in similar fuel types, will burn differently under varying topographic conditions. Topography alters heat transfer and localized weather conditions, which in turn influences vegetative growth and resulting fuels. Changes in slope and aspect can have significant influences on how fires burn. Generally speaking, north slopes tend to be cooler, wetter, more productive sites. This can lead

¹ NOAA website <http://www.nws.noaa.gov/om/wfire.shtml>. Accessed on July 30, 2012

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. These slopes also tend to be on the windward side of mountains. Thus, these slopes tend to be “available to burn” a 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.²

Fuels

Fuel is any material that can ignite and burn. Fuels describe any organic material, dead or alive, found in the fire environment. Grasses, brush, branches, logs, logging slash, forest floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content, and continuity and arrangement all have an effect on fire behavior. Generally speaking, 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 grass fires 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.³

When burning under a forest canopy, the increased intensities can lead to torching (single trees becoming completely involved) and potential development of crown fires. That is, they release much more energy. 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.

² Auburn University website https://fp.auburn.edu/fire/topos_effect.htm. Accessed on July 30, 2012.

³ Gorte, R. 2009. Congressional Research Service, Wildfire Fuels and Fuel Reduction.

APPENDIX B

NATIONAL COHESIVE WILDLAND FIRE MANAGEMENT STRATEGY GOALS

In 2009 Congress passed a bill asking the Department of Interior and the Department of Agriculture to produce a national Cohesive Strategy for Wildland Fire Management (The National Cohesive Strategy). The Strategy recognized several alarming trends including a rapid escalation of extreme fire behavior, increased risk to responders, home and property losses, higher costs, and increased threats to communities and landscapes. The National Cohesive Strategy was updated in 2023 and centers on three goals and associated challenges to managing the wildland fire situation in the United States:

1. **Resilient Landscapes** – Landscapes, regardless of jurisdictional boundaries are resilient to fire, insect, disease, invasive species and climate change disturbances, in accordance with management objectives.
2. **Fire Adapted Communities** – Human populations and infrastructure are as prepared as possible to receive, respond to, and recover from wildland fire.
3. **Safe, Effective, Risk-based Wildfire Response** – All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

APPENDIX C

DESCRIPTION OF AIR QUALITY AUTHORITIES

Washington Department of Ecology

The Washington Department of Ecology's Air Quality Program protects public health and the environment from pollutants caused by vehicles, outdoor and indoor burning, and industry. The program oversees permitting for nonforested burning (i.e., on agricultural land and rangeland). Yakima County falls under the jurisdiction of the local clean air agency, Yakima Regional Clean Air Agency.

Yakama Nation

The Yakama Nation Air Quality Section complies with the Federal Air Quality Rules for Reservations and manage air quality with technical assistance from the [Environmental Protection Agency](#).



Photo by Kara Karboski, Washington Resource Conservation and Development Council

Yakima Regional Clean Air Agency

The mission of the Yakima Regional Clean Air Agency is to protect the people and the environment of Yakima County from air pollution. The agency implements a comprehensive program of planning, regulation, enforcement, and promotion of the understanding of air quality issues.

Washington Department of Natural Resources

The Washington Department of Natural Resources (DNR), Washington State Department of Ecology, U.S. Forest Service (USFS), National Park Service (NPS), Bureau of Land Management (BLM), U.S Fish and Wildlife Service (USFWS), participating Native American nations, Department of Defense military installations, and small and large forest landowners have worked together to deal with the effect of outdoor burning on air. Protection of public health and preservation of the natural attractions of the state are high priorities and can be accomplished along with a limited, but necessary, outdoor burning program.

The **Washington State Smoke Management Plan** pertains to DNR-regulated silvicultural outdoor burning only and does not include agricultural outdoor burning or outdoor burning that occurs on improved property. Although the portion of total outdoor burning covered by the Smoke Management Plan is less than 10% of the total air pollution in Washington, it remains a significant and visible source.

The purpose of the Washington State Smoke Management Plan is to coordinate and facilitate the statewide regulation of prescribed outdoor burning on lands protected by the DNR and on unimproved, federally managed forest lands and participating tribal lands. The plan is designed to meet the requirements of the Washington Clean Air Act.

The plan provides regulatory direction, operating procedures, and advisory information regarding the management of smoke and fuels on the forest lands of Washington State. It applies to all persons, landowners, companies, state and federal land management agencies, and others who do outdoor burning in Washington State on lands where the DNR provides fire protection, or where such burning occurs on federally managed, unimproved forest lands and tribal lands of participating Native American nations in the state.

The Smoke Management Plan does not apply to agricultural outdoor burning and open burning as defined by Washington Administrative Code (WAC) 173-425-030 (1) and (2), nor to burning done "by rule" under WAC 332-24 or on non-forested wildlands (e.g., range lands).

APPENDIX D

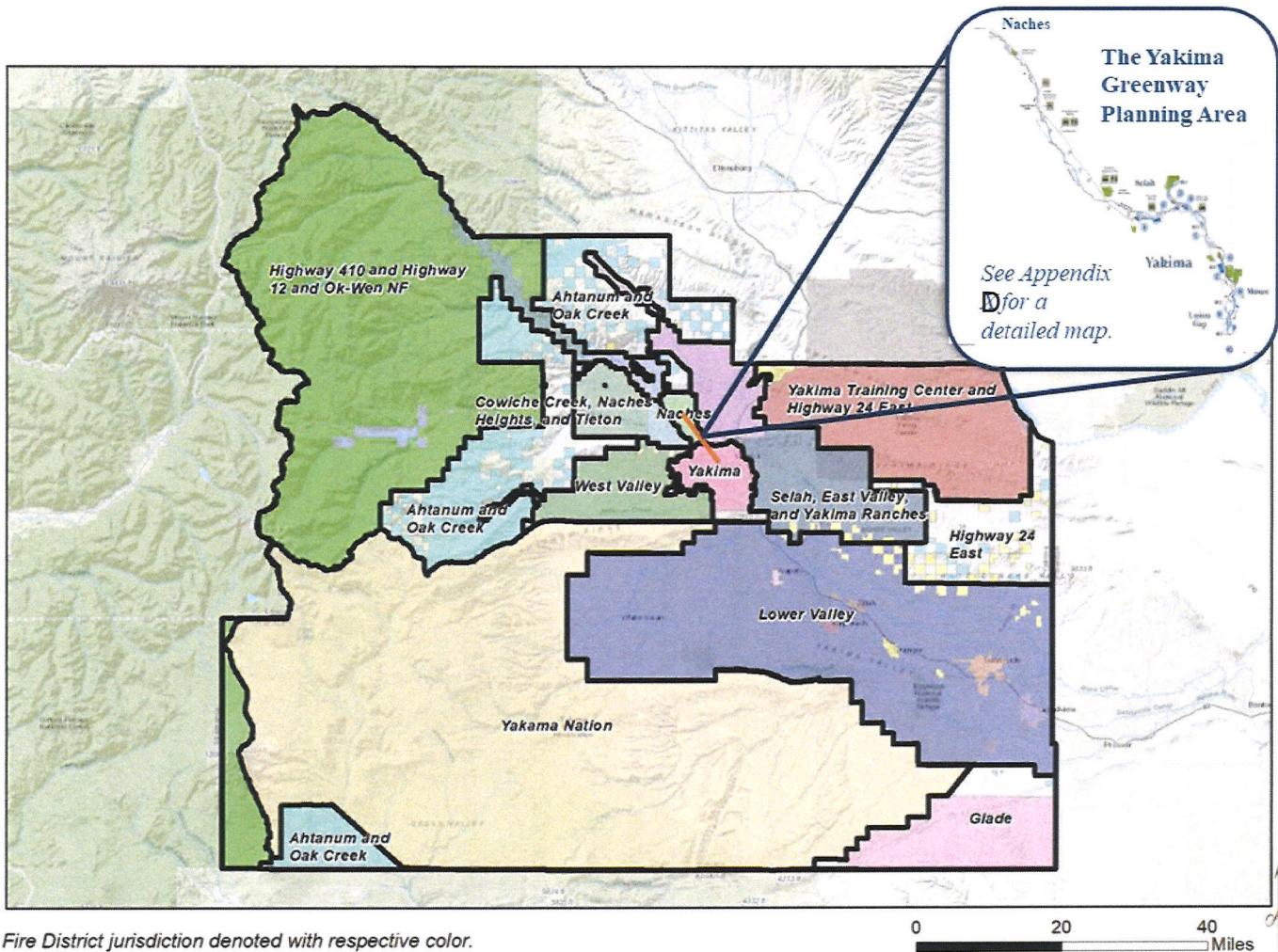
CWPP PLANNING AREA

DESCRIPTIONS AND

ASSESSMENTS

Figure D.1 on the next page illustrates the Yakima County CWPP planning areas. Each planning area is then described following the map.

FIGURE D.1
YAKIMA COUNTY CWPP PLANNING AREA MAP



The information provided in the planning area assessments was used to define the CWPP Planning Area boundaries. The boundary delineations were based on common factors such as: mutual aid and response agreements, response capacity, unique community or landscape characteristics, and opportunities for cross jurisdictional and cross-boundary community protection or mitigation planning.

Planning Area: Cowiche Creek, Naches Heights, and Tieton

Fire Jurisdictions: Yakima County Fire District #1 (Highland)/ Yakima County Fire District #9

The overall planning area encompasses the suburban fringe of Yakima out to the forest zone of the western portion of the county. The CWPP focuses on the shrub steppe and rangelands lying west of Yakima comprising approximately 89,000 acres of land. The character of residential development on private lands within the Cowichee corridors is rural in nature. The Urban Growth Boundary defined jointly by the City of Yakima and Yakima County is westerly from the current incorporated city limits, indicating the ongoing pressure to expand into the shrub- steppe zone. Besides the rural, unincorporated areas of Yakima County, the planning area includes the communities of Cowiche, Tieton, West Valley, Tampico, Naches Heights, and Ahtanum. In addition to year-round established residences and agricultural facilities, recreational residences are distributed throughout the planning area.

Snow Mountain Ranch and Cowiche Canyon Uplands Recreation Areas

The Cowiche Canyon Conservancy owns and manages land open to the public. Within this planning area, CCC currently owns or manages land on Cowiche Canyon/Cowiche Canyon Uplands (592 acres), Snow Mountain Ranch (2080 acres), Rocky Top (a 43-acre conservation easement), and North Fork Cowiche (3000 acres managed in partnership with WDFW). Properties owned and managed by CCC hold over 45 miles of trails open to the public for hiking, trail running, snowshoeing, mountain biking, and horseback riding. Love for these lands draws over 100,000 visitors per year.

Cowiche and Snow Mountain. Lying on a ridge of the Cascade Mountains, Cowiche Mountain and Snow Mountain Ranch have a complex topography, including lithosol, shrub steppe and riparian zones. These zones have a high biodiversity, including shrub-steppe plants, wildflowers, and a large variety of birds.

Characteristics. Within this planning area, the 2012 Cowichee Mountain CWPP has identified a number of evacuation routes and centers, safety zones, command posts, and staging areas that will help direct residents and provide a safe work environment for firefighters in the event of a fire.

Water for firefighting is limited within the CWPP boundary in comparison to many areas throughout the western United States, or even in eastern Washington. The area lacks major rivers and lakes that are commonly used as water sources for drafting and for aircraft.

The Fire Districts have inventoried and mapped water sources on lands under their jurisdiction. Fire districts would benefit from the development of ponds and fire hydrant systems in and along the irrigated lands.

Many landowners have become more aware of the risk coming from wildland fires based on large fires within the planning area. The surrounding Cowiche Mountain landowners have worked with federal and state agencies for post-fire assistance grants, and the Cowiche Canyon Conservancy began

working on its lands and with adjacent landowners to initiate restoration activities beginning in 2012. In 2020, CCC partnered with local fire resources to implement a prescribed burn in a 16-acre field of primarily great basin wild rye. CCC implemented a public outreach campaign prior to the burn to educate neighbors and the public about burn activities and benefits. Local press and CCC supporters were invited to view the burn from the Snow Mountain Ranch Property. The burn has been largely viewed as a success- dead dry fuels from more than 10 years of sustained growth were greatly reduced, and the field is recovering vigorously. As part of the 2012 CWPP, Yakima County Fire Marshal's office committed to launching Firewise and other defensible space programs in the area, and the Cowiche CWPP group planned to seek additional resources through National Fire Plan Grants and Western States Grants that can provide funding for fuels reduction and prevention and education programs. It is unclear what the outcome of these efforts was- to CCC staff's current knowledge, a Firewise community was not successfully created in the area. CCC staff feel this would still be a valuable pursuit.

Cowiche Canyon Conservancy has recognized the following areas as being a priority for protection, mitigation, or as having significant wildland fire risk:

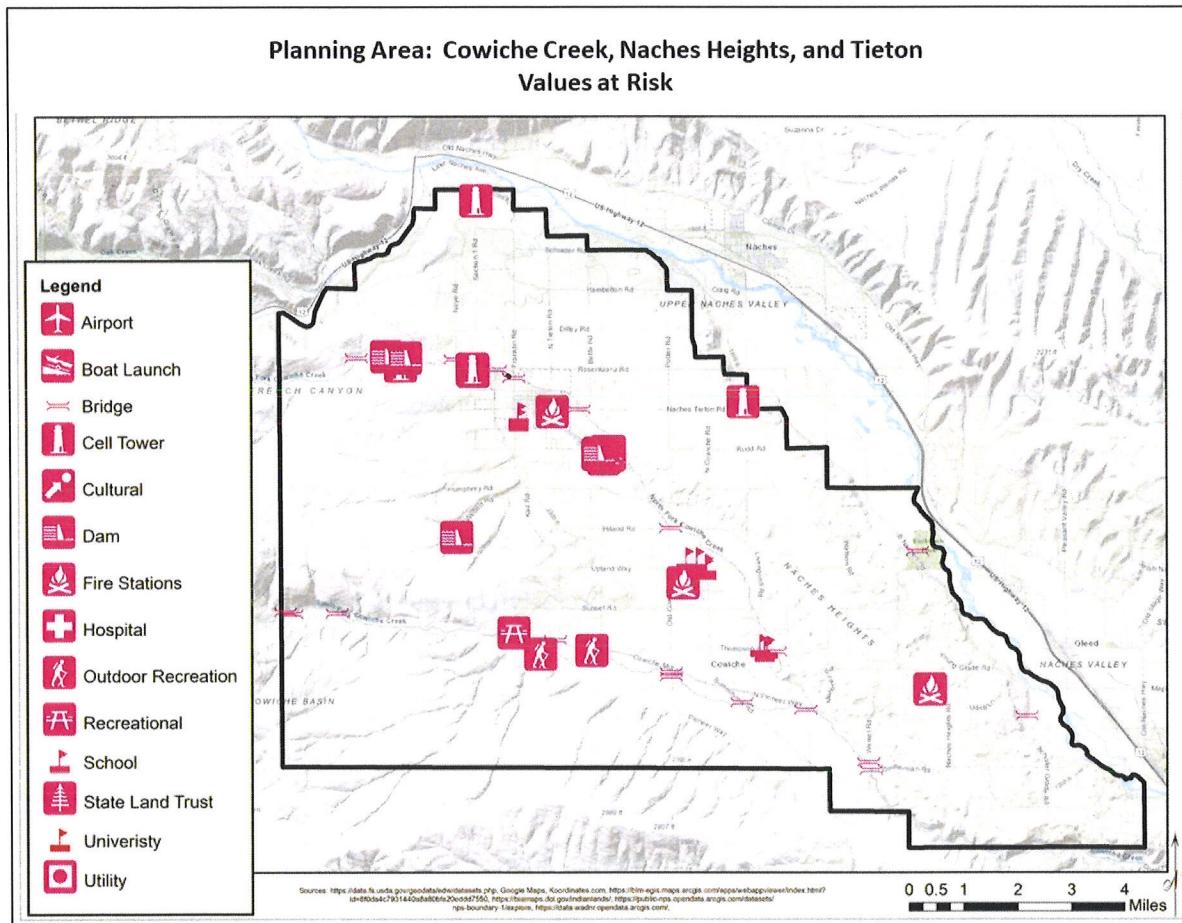
Unique Ecosystems	Structures	Cultural and Social	Infrastructure
<ul style="list-style-type: none"> -Native bunchgrass -Native shrubland -Lithosol -Oak woodlands -Riparian -Ravine habitats -Talus slopes and cliffs 	Historic cattle and ranching structures at Snow Mountain Ranch property.	<p>All CCC properties are the traditional homelands of the Confederated Tribes and Bands of the Yakama Nation.</p> <p>All CCC properties hold high recreation and conservation value to the public.</p>	<p>Cowiche Canyon West Trailhead</p> <p>Cowiche Canyon East Trailhead</p> <p>Summitview Trailhead</p> <p>Uplands Trailhead</p> <p>Snow Mountain Ranch Trailhead</p> <p>Snow Mountain Ranch Access Road(s)</p> <p>Historic Jeep Trail at Cowiche Canyon UPlan</p> <p>Cellular tower</p>

Fire Protection. Fire protection is supplied by numerous agencies, each with its own charge, capabilities, and limitations. Cooperative agreements exist that allow all agencies to work together to best protect lives, property, and natural resources. Local county, state, and federal agencies have forged positive working relations.

Yakima County Fire Protection District 12 (West Valley), District 1 (Highland), District 4 (East Valley), and District 9 (Naches Heights) are the primary first responders within the CWPP boundary. The emphasis of these departments is to take action for fire suppression, rescue, and emergency medical and hazardous materials emergencies, and to provide fire prevention and education programs for the citizens in the response area. All fire districts respond within their districts and outside of district by request. The ability to respond to large wildland fires is limited by equipment and personnel.

The DNR and USFS are the primary wildland firefighting agencies west of the area. Through co-operative agreements, either agency is able to mobilize large amounts of personnel, equipment, aircraft, and logistical support. However, the actual number of firefighting resources stationed in the locale is small in relation to the area covered and Cowiche Canyon Conservancy Lands constitutes only a small portion of the district they protect. Delays in the arrival of suppression forces of several hours to several days are likely, depending on the availability of these resources. These agencies are not equipped or trained to fight structure fires and do not provide protection of this nature.

For more information about the Cowiche landscape, fire history, wildfire potential, infrastructure, and fire protection, check out the 2012 **Cowiche Community Wildfire Protection Plan**.

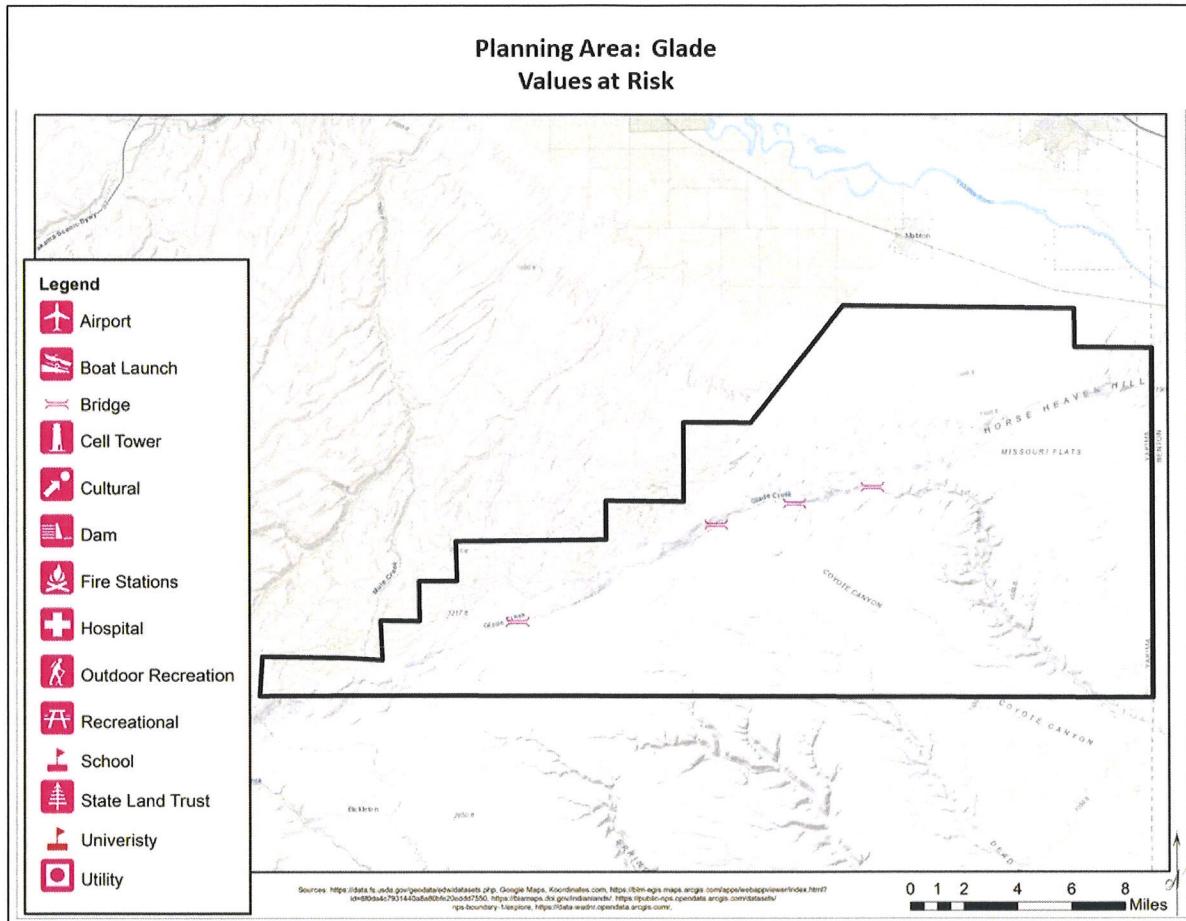


Fire District #1 (Highland)	
Chief: Rick Woodall 509-678-4563 highlandfire1@centurytel.net 51 Cowiche City Road PO Box 177 Cowiche, WA 98923	
Population	6000
Size and Jurisdiction	18 square miles Structural and wildland fire protection responsibilities for the area
Local Preparedness Capability	
Mutual Aid	
Address signs	Most roads and homes have clear, reflective street and address signs
Safety Zones	Multiple areas could be used as safety zones.
Adequate number of hydrants or draft sites	Hydrants do cover part of the district. There are no identified dip sites.
Topography and Vegetation	Mostly flat terrain consisting mostly of orchards and ranches (hay)
Access and Evacuation	All roads can be accessed by a type 3 engine
Estimate % of homes with defensible space	50%
Estimate % of homes with class A roof and fire-resistant siding	80%
Hazmat facilities or sites	Large amount of farm and agricultural facilities all have their own hazmat facilities on site.
Fire Department Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	Significant vegetation along ingress and egress routes Very few significant evacuation concerns
Hazardous Fuels and Defensible Space Concerns	Pioneer Way, northern edge of district
Unique Ecosystems	
Structures	
Community Values	Large non-English speaking population
Infrastructure	Above ground powerlines Three schools

Fire District #9 (Naches Heights)	
Chief: Chris O'Dell 509-965-7292 5000 Naches Heights Road PO Box 298 Cowiche, WA 98923	
Population	1000
Size and Jurisdiction	12 square miles Provides structural and wildland fire protection
Local Preparedness Capability	
Mutual Aid	
Address signs	Most roads and addresses have clear, reflective address signs
Safety Zones	Safety zones have been identified
Adequate number of hydrants or draft sites	Yes
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, heavy fuel loading Vegetation consists of light flashy fuels (cheat grass)
Access and Evacuation	All roads can be accessed by a type 3 engine
Estimate % of homes with defensible space	50%
Estimate % of homes with class A roof and fire-resistant siding	90%
Hazmat facilities or sites	Yes
Fire Department Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	Three neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out)
Hazardous Fuels and Defensible Space Concerns	Roads have significant amounts of vegetation along ingress and egress routes. Cheat grass South Naches Road South of Naches Road South Fork Cowiche Creek
Unique Ecosystems	
Structures	Mobile home and trailer home parks
Community Values	Limited English-speaking population Unhoused community
Infrastructure	Above ground powerlines

Planning Area: Glade

Fire Jurisdictions: Yakama County Fire District #7

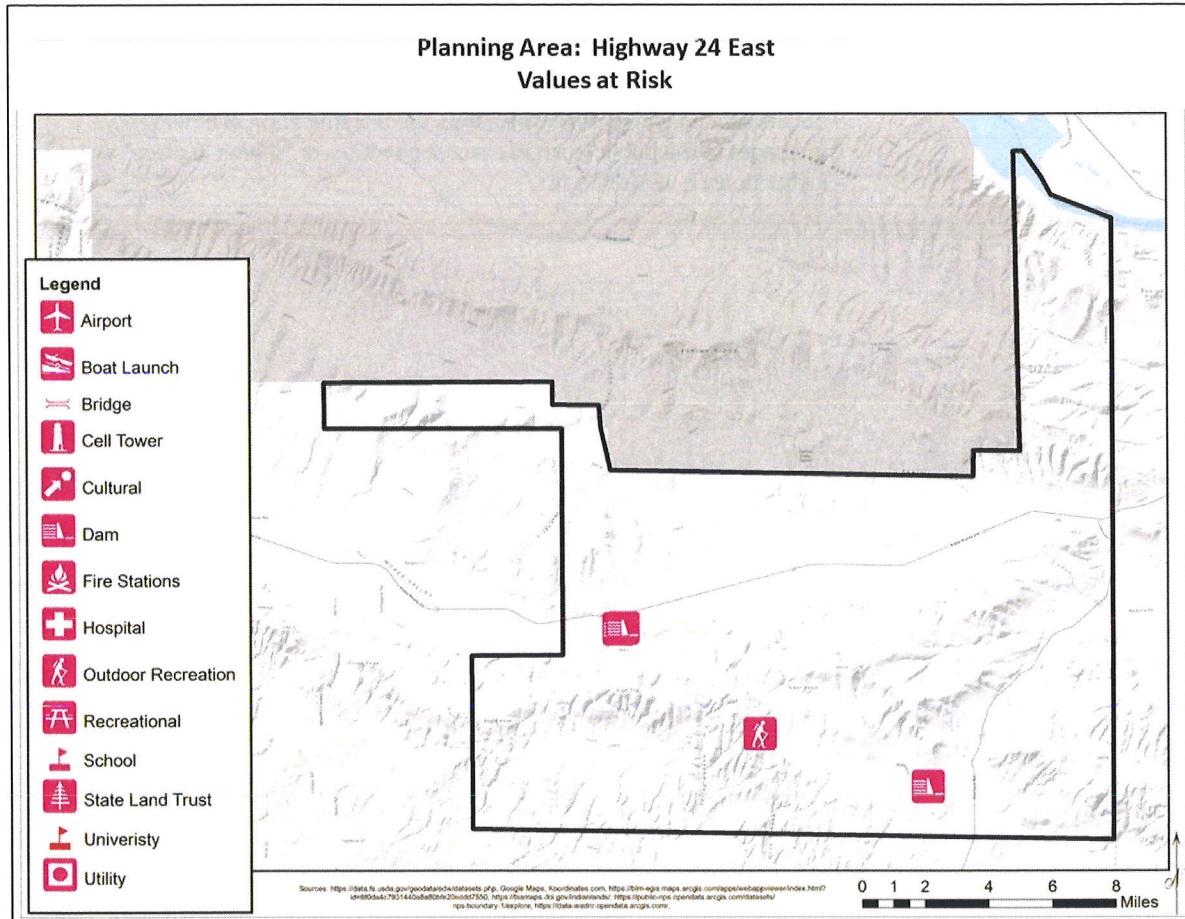


Fire District #7 (Glade)	
Chief: Rhon Raschko 509-894-4034 YakimaFire7@yahoo.com PO Box 49 Bickleton, WA 98935	
Population	
Size and Jurisdiction	Provides structural and wildland fire protection
Local Preparedness Capability	Staffed predominantly by volunteer firefighters. There is one fire station on Ridge Road and one station on Alderdale Road. The Fire District operates a variety of brush trucks and tenders.
Mutual Aid	Yakima County Fire District #7 has Mutual Aid agreements with ALL neighboring Districts.
Address signs	
Safety Zones	
Adequate number of hydrants or draft sites	No
Topography and Vegetation	Topography and fuel content represents a significant potential hazard during the dry season each year.
Access and Evacuation	Yakima County Fire District #7 comprises the remote areas between Mabton, Bickleton, and Alderdale.
Estimate % of homes with defensible space	
Estimate % of homes with class A roof and fire-resistant siding	
Hazmat facilities or sites	
Fire Department Needs	As a volunteer-staffed fire service, the community's demographics impact the ability to recruit and retain firefighters. As the population ages, willing and able volunteers become an increasingly scarce resource.
Top Concerns and Priorities for Protection	
Access and Evacuation	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	
Structures	
Community Values	Limited English-speaking population

Fire District #7 (Glade)	
Infrastructure	<p>Above ground powerlines</p> <p>Communications: The topography and infrastructure of Yakima County Fire #7 create numerous areas where radio communication between the 9-1-1 Center and emergency responders is difficult or impossible. Commercial cell phone service is not available in many areas, making it difficult for those without access to a "land line" telephone to report a fire. In addition, there are no mass media outlets located within our District; thus, the dissemination of emergency messages to the public (such as evacuation routes or "shelter in place" instructions) is very difficult.</p>

Planning Area: Highway 24 East

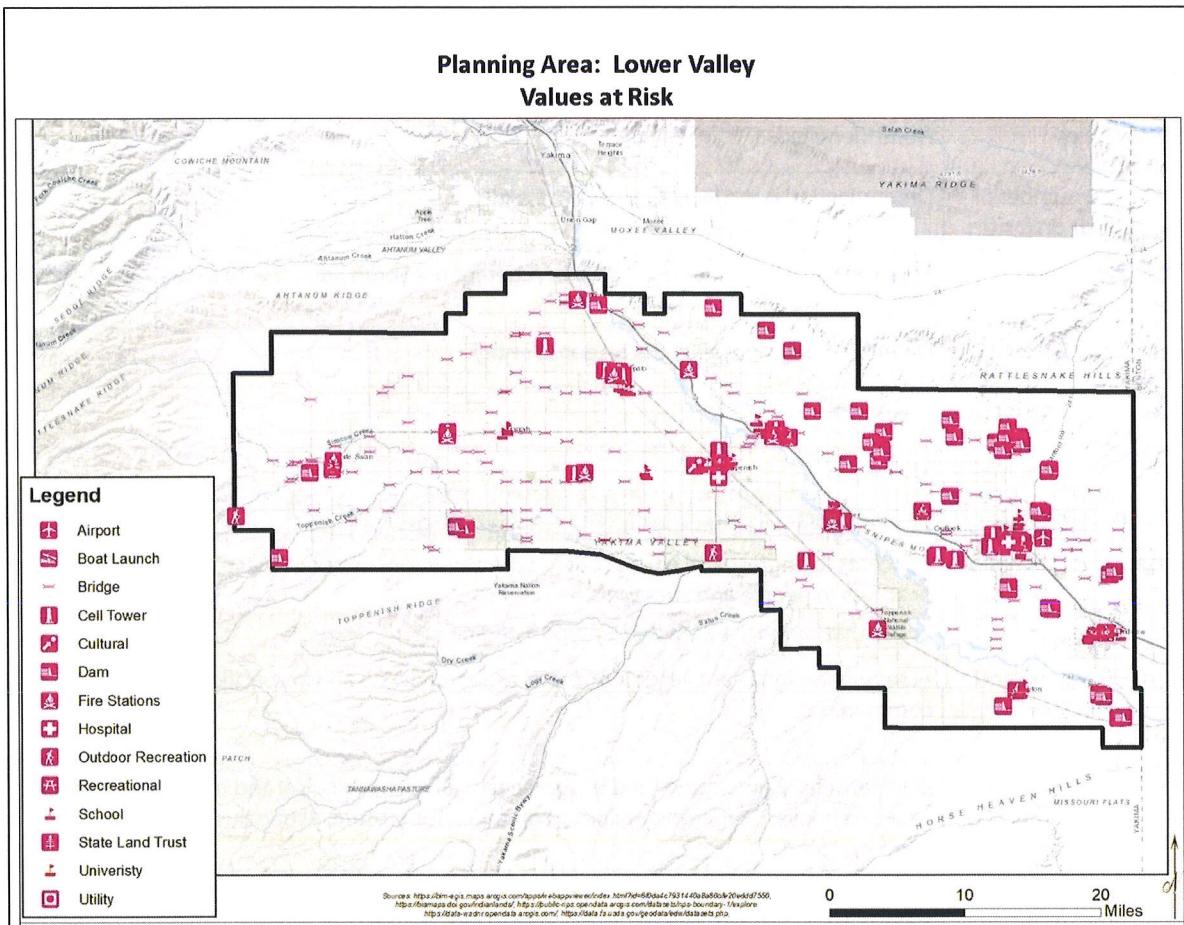
Fire Jurisdictions: Bureau of Land Management, Unprotected Lands, State Lands



Bureau of Land Management	
Size and Jurisdiction	The BLM manages small pieces of land in the eastern portion of the County and in the area north of Selah in addition to several scattered sections that create a checkerboard with private and State ownerships.
Local Preparedness Capability	The district staffs two type 6 engines, both located in the Wenatchee Field Office. The district also has a 10-person, veteran hand crew located in Spokane.
Mutual Aid	Yakima County Fire District #2, Yakima County Fire District #4, Kittitas County Fire District #2
Address signs	Unknown-Assume lacks clearly marked address signs.
Safety Zones	None identified.
Adequate number of hydrants or draft sites	Determination is made by the response entity.
Topography and Vegetation	Steep terrain with limited road access. Vegetation is Shrub Steppe with extensive amounts of cheat grass.
Access and Evacuation	Determination is made by the response entity.
Hazmat facilities or sites	Unknown
Fire Department Needs	Unknown
Top Concerns and Priorities for Protection	
Access and Evacuation	Concerns for ingress and egress routes, one-way-in/one-way-out that can inhibit evacuation or access to people and structures. Roads that cannot be accessed by type 3 engine.
Hazardous Fuels and Defensible Space Concerns	Areas where significant vegetation exists along roadways and in specific neighborhoods or communities.
Unique Ecosystems	BLM Sensitive Plants, raptor and big game habitat, archaeological and traditional values. <i>Tauschia hooveri</i> , <i>Erigeron basalticus</i> , <i>Lomatium tuberosum</i> , <i>Astragalus misellus</i> var. <i>pauper</i> , raptors,
Structures	Communities along Selah Creek Drive, Burbank Creek Road, and Canyon Road (HWY 821), Naches, Wenas Valley, etc.; structures along Highway 24.
Community Values	Recreational, historical, cultural, and scenic points of interest.
Infrastructure	Utility services, highways, Repeaters, Campgrounds

Planning Area: Lower Valley

Fire Jurisdictions: Yakima County Fire District #5, Sunnyside Fire and EMS, US Fish and Wildlife Service, Zillah, Wapato, Granger, Grandview, Mabton, Toppenish



Konnowac Pass Recreation Area

The Cowiche Canyon Conservancy owns land on Konnowac Pass (772 acres). This area encompasses a developing network of 14 miles of trails open to the public for hiking, trail running, snowshoeing, and mountain biking.

The area is defined by steep to moderate slopes, rocky ravines, patches of remnant native vegetation, and overwhelmingly dominant invasive annual grass species- especially on southerly slopes. An existing trail system on these lands connects to public BLM land. The area has become increasingly popular with hikers and mountain bikers in the lower Yakima Valley.

Cowiche Canyon Conservancy has recognized the following areas as being a priority for protection, mitigation, or as having significant wildland fire risk:

Unique Ecosystems	Structures	Cultural and Social	Infrastructure
<ul style="list-style-type: none"> -Native bunchgrass -Native shrubland -Lithosol -Ravine habitats -Talus slopes and cliffs 	None on CCC lands; however, there is a cell tower on adjacent private lands	<p>All CCC properties are the traditional homelands of the Confederated Tribes and Bands of the Yakama Nation.</p> <p>All CCC properties hold high recreation and conservation value to the public.</p>	<p>Konnowac Pass Trailhead</p> <p>Konnowac Pass Access Road(s)</p>

Fire Protection. Yakima County Fire Protection District 5 (Lower Valley) provide services to Konnawac Pass Recreation Area.

Fire District #5 (Lower Valley)	
Chief: Ken Shipman 509-829-5111 ycfd5.org	
P.O. Box 447 Zillah, WA 98953	
Population	45,000
Size and Jurisdiction	<p>750 square miles (largest fire district in Washington)</p> <p>Structural and wildland fire protection responsibilities</p> <p>YCFD #5 provides structural and wildland fire protection to much of the Rattlesnake Hills' southern exposure from the Parker area eastward all the way to the County line.</p>
Local Preparedness Capability	<p>180 dedicated volunteer firefighters and 19 YCFD #5 career personnel protect approximately 45,000 rural residents from White Swan to Grandview. Owning over 100 pieces of apparatus, the district provides a wide array of public services, including wildfire and structure fire protection, Basic Life Support, (BLS) medical services, and injury prevention.</p>
Mutual Aid	<p>The district has mutual aid agreements with all the fire departments in the County and response agreements with Bureau of Land Management, Yakama Nation, and Bureau of Indian Affairs. The district is also a party to the County-wide Mutual Aid Agreement with all County Fire Districts and participates in the Statewide Fire Mobilization Plan. The district works closely with the U.S. Fish and Wildlife Service along with the Washington Department of Fish and Wildlife. The district contracts fire protection for the Town of Harrah, Fort Simcoe Job Corp, and Fort Simcoe State Parks.</p>
Address signs	
Safety Zones	

Fire District #5 (Lower Valley)	
Adequate number of hydrants or draft sites	
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, heavy fuel loading. Vegetation consists of light flashy fuels (grasses) and vegetation found in shrub-steppe ecotypes.
Access and Evacuation	
Estimate % of homes with defensible space	
Estimate % of homes with class A roof and fire-resistant siding	
Hazmat facilities or sites	
Fire Department Needs	<p>As fire personnel in the volunteer ranks continue to dwindle and budget is not there for career firefighters, the district is always striving to have the most modern equipment possible for its dedicated firefighters to respond with. This includes the need to continually evaluate the response tactics which will reduce heavy personnel needs and personnel time on the fire. The district's dozer is such a tool where the district firefighter's burn off a secure dozer control line and then one experienced operator can fight fire with a front monitor from inside the cab before getting out to finish mop-up. This reduces both time and labor needs.</p> <p>Since the district has 700 square miles to cover, 1 dozer is often not enough. To be successful an additional Dozer with transport would be on the district's wish list. Also, with water supplies short at times, tenders are always premium to have and on the district's list. Our tenders double as suppression units on wildfires and water tenders on structure fires. Specialized tools for fuel treatment in the district combined with the district's prevention program is always at the short end of the budget process and always in need.</p>
Top Concerns and Priorities for Protection	
Access and Evacuation	Limited Access Concerns: Holmason Road, northwest corner of District
Hazardous Fuels and Defensible Space Concerns	<p>Hazardous Fuels and Defensible Space Concerns: Byron, white Swan, Medicine Valley Road, Towtnuk Road, Hawk Road, Simcoe Creek Road, North Fork Simcoe Creek, Agency Creek</p> <p>Prescribed Fire Concerns: Wapato, Parker, & Toppenish</p>
Unique Ecosystems	<p>Toppenish Wildlife Refuge</p> <p>Byron Ponds Wetland area</p> <p>Mool Mool Spring</p>
Structures	Residential growth in the wildland urban interface
Community Values	<p>Limited English-speaking population</p> <p>Over half of the district is on the Yakama Reservation where history and small-town charm creates a weekend destination for many people that do not reside in the Fire District, whether it be historical visitation to Fort Simcoe State Park, Yakama Nation Heritage Center and museum, Legends Casino, or to enjoy our the bounties of the agriculture in the district from wine tasting to apples and</p>

Fire District #5 (Lower Valley)	
	vegetables. Although the possibility for population growth may be slow, tourism is on the rise with more pressure being put on the services of the Fire District.
Infrastructure	Above ground powerlines Three radio repeaters Irrigation canals Communications: Yakima County Fire District 5 provides dispatch services to nine emergency departments beside themselves. Because of the large land mass and 45 miles between communities in the district, it is always a challenge to cover the outlying areas with emergency communications.

Sunnyside Fire and EMS	
Chief: Cameron Haubrich 509-575-6060 401 N Front Street Yakima, WA 98901	
Population	17,250
Size and Jurisdiction	<p>7.5 square miles</p> <p>City of Sunnyside</p> <p>Provide Advanced Life Support to Sunnyside and the lower Yakima Valley (180 square miles) and neighboring cities.</p> <p>All hazards service.</p>
Local Preparedness Capability	Four Lifeline Ambulances mounted on Ford E-450 chassis. 16 career staff and 18 volunteer firefighters
Mutual Aid	
Address signs	
Safety Zones	
Adequate number of hydrants or draft sites	
Topography and Vegetation	<p>The Sunnyside area is situated in the lower Yakima River basin between the Horse Heaven Hills and the Rattlesnake Hills. The area lies within the Walla Walla section of the Columbia Plateau physiographic province. With the exception of the Harrison Hill area, the terrain in Sunnyside and its urban growth area is nearly level. Slopes within the urban growth area average 0% to 5%. Slopes in the Harrison Hill area are steeper, averaging 8% to 15%.</p> <p>The Yakima River passes approximately 3 miles south of the City. No natural perennial streams pass through Sunnyside or its urban growth area. The Sunnyside Canal passes approximately 1 mile north of the city.</p> <p>The Sunnyside area lies within the big sage brush-blue bunch wheatgrass. This area was historically composed of shrubs, grasses, forbs, and a surface crust of lichens and mosses. Farming practices have resulted in alteration of vegetation over much of the landscape. Very few native plants exist within the area with areas of invasive and noxious weeds present within and adjacent to the farmed portions of the area.</p>
Access and Evacuation	
Estimate % of homes with defensible space	
Estimate % of homes with class A roof and fire-resistant siding	
Hazmat facilities or sites	
Fire Department Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	

Sunnyside Fire and EMS	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	
Structures	
Community Values	
Infrastructure	One public library Astria Sunnyside Hospital 14 Schools Above ground powerlines

U.S. Fish and Wildlife Service	
https://www.fws.gov/refuge/toppenish	
Size and Jurisdiction	The U.S. Fish and Wildlife Service manages the Toppenish National Wildlife Refuge, which consists of 2,105 acres of land within Yakima County. The Refuge is composed of 13 distinct tracts of land located in the bottomlands of the Toppenish Creek drainage.
Local Preparedness Capability	
Mutual Aid	
Address signs	
Safety Zones	
Adequate number of hydrants or draft sites	
Topography and Vegetation	
Access and Evacuation	
Top Concerns and Priorities for Protection	
Access and Evacuation	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	
Structures	
Community Values	
Infrastructure	

Planning Area: Naches, Nile, and Cliffdell

Fire Jurisdictions: Yakima County Fire District #3, Nile-Cliffdell Fire and Rescue/Fire District #14, and USFS

Highways 410 and 12

Highways 410 and 12 Overview. The following is excerpted or summarized from the Highways 410 and 12 Community Wildfire Protection Plan (2005).

The Highway 410 and 12 CWPP area is approximately 284,712 acres and lies west of the City of Yakima and Town of Naches in Yakima and Kittitas Counties, Washington. Areas within Highway 410 and 12 corridors are defined by watersheds and sub-watersheds. These major drainages and their tributaries include: Tieton River, South Fork Tieton River, North Fork Tieton River, Rimrock Lake, Clear Lake, Naches River, lower Little Naches River, Rattlesnake Creek, Nile Creek, Bumping River, American River, and Bumping Lake.

About 63% (178,893 acres) of the area is federally (USFS) managed. This represents approximately 32% of the entire Naches Ranger District. The character of residential development on private lands within Highway 410 and 12 corridors is rural in nature. Much of the lower elevation areas have already been developed; thus, higher elevations less accessible areas are under more pressure for residential growth.

Besides the rural, unincorporated areas of Yakima and Kittitas Counties, the planning area includes the communities (also unincorporated) of Goose Prairie, Cliffdell, and Rimrock Retreat. In addition to year-around established residences, recreation residences on federal land make up a large component of the dwellings within the CWPP area, accounting for over 500 homes plus organization camps.

Goose Prairie. This community is a mix of mostly recreational residences with a few full-time residents. Goose Prairie is home to Camp Fife, a large Boy Scout camp, typically housing more than 200 scouts and staff members during summer months. Telephone and electrical service are not provided to the area. Goose Prairie is very unique in being a private in-holding completely surrounded by Forest Service administered land. Within 400 feet and on all sides of the boundary of Goose Prairie is the William O. Douglas Wilderness Area. Access is one-way in, one-way out by way of Bumping River Road. Goose Prairie is not within a Fire District and structural protection may not be provided unless by contract with Yakima County Fire Protection District 14 (Nile).

Cliffdell. The community of Cliffdell is comprised mostly of full-time residents with a few recreation residences. Access is by way of State Highway 410, coming from Naches and Yakima to the east and Chinook Pass to the west. Whistlin' Jack Lodge is a major tourist attraction within the community, providing cabins, a motel, a restaurant and lounge, and a convenience store with gasoline available. Electrical and telephone services are provided to Cliffdell.

Nile Valley and Highway 410. This rural area includes the privately-owned lands beginning at the intersection of State Highway 410 and U.S. Highway 12 and extending to the community of Cliffdell. Business interests include Gold Creek Station, Black Bear Resort, The Woodshed/Eagle Rock Resort and

other privately owned businesses. Access is provided by Highway 410, the Nile Loop Road, and Old River Road. These roads serve as collectors for numerous arterials and Forest Roads. Growth continues in this area, and housing is being developed at higher elevations. Those being built at mid and upper slopes currently rely on cellular phones (limited coverage) and alternate energy sources such as wind, solar, and generator supplied power. The higher elevation homes are remote and not in a fire district.

Rimrock Retreat. The community of Rimrock Retreat is located on U.S. Highway 12 approximately 16 miles west of the Town of Naches. Residents are largely year-around. The community is served by electricity and telephone. Three businesses, all of which are protected by Yakima County Fire District #3, are located in Rimrock Retreat: Trout Lodge Restaurant and Motel, Getaway Sports, and Gameridge Motel.

Highway 12. This rural area includes the privately-owned lands beginning at the intersection of U.S. Highway 12 and State Highway 410 and extending to approximately mile post 170, two miles west of Rimrock Retreat. Fire District #3 provides protection for these widely scattered, year-round residents.

Recreation Residences. Recreation residences are those in which privately owned cabins are established by lease on Forest Service administered land. The Naches Ranger District has the second highest number of recreation residences of any in the National Forest system. By permit, the structure may not be used as a principal place of residence. Amenities range across the spectrum from no plumbing/electricity/telephone to full service with all of the facilities of a typical family home. As these are on federal land, the land itself is protected by the U.S. Forest Service and the structures may be protected through an agreement with the Yakima County Fire Protection Districts 3 (Naches) or 14 (Nile). Recreation residences are located along major travel routes off of U.S. Highway 12, State Highway 410, the Tieton Loop Road, and Bumping River Road. Recreation residences are typically within "Summer Home Groups" of 6-72 lots. A few groups contain only 1-3 lots.

Highway 410 and 12 Risk Assessment

Community members have expressed concern about fuel conditions and fire hazard. Of special concern is the current epidemic of western spruce budworm (*Choristoneura occidentalis* Freeman) and the increased fire hazard as a result of dying and dead trees. Treatment and prevention of such epidemics are ideally the same as treatments that would be conducted to reduce hazardous fire conditions, e.g., thinning of shade tolerant, fire susceptible trees species in overstocked dry forest types. Escape routes were also identified as a priority consideration. The Bumping River drainage and the community of Goose Prairie are at extreme risk due to threats associated with increased fire hazard as a result of western spruce budworm epidemic in the drainage, a high incidence of human caused and lightning fires, and a one-way-in, one-way-out escape route on a narrow, winding road.

Communications are difficult along both corridors. Goose Prairie has no phone service. Cellular telephone providers at this time have no plans of installing cellular phone towers in the area, due to low profitability. Community members have identified the installation of cellular towers or other communication systems as a key component to improving fire protection to the residents and wildlands within the CWPP boundary.

The Highways 410 and 12 CWPP has identified a number of evacuation centers, safety zones, command posts, and staging areas that will help direct residents and provide a safe work environment for firefighters in the event of a fire. Many of the residents are aware that emergency response times within this area can be 90 minutes or more, depending on location and time of day; thus, preplanning and preparedness are critical.

Services within the community include electricity, telephone, businesses, an organizational camp, a community center/library, Community Park, and a community church.

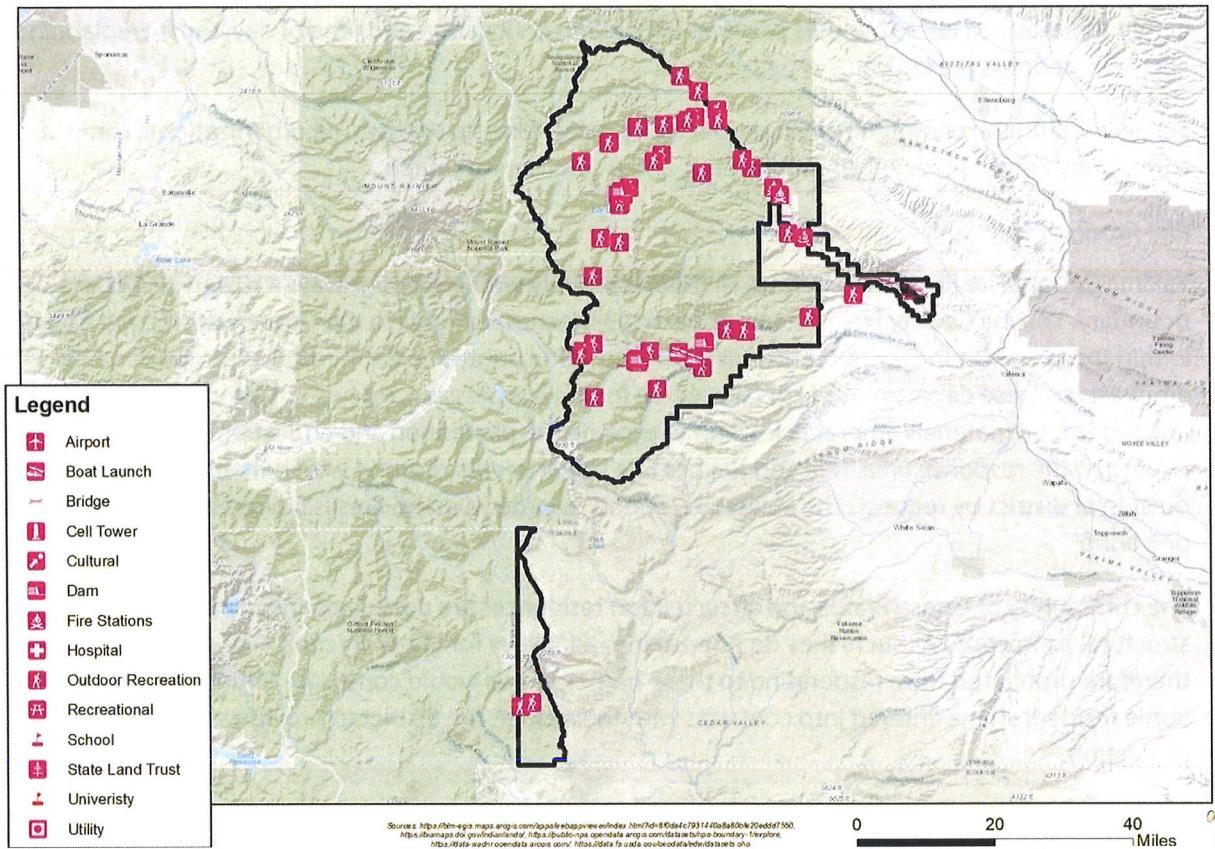
Fire Protection

Yakima County Fire Protection District 14 (Nile) is entirely within the Highways 410 and 12 CWPP boundary. Yakima County Fire Protection District 3 (Naches) extends to the Upper Tieton Loop Road within the CWPP boundary but responds to the western county line for medical emergencies. The emphasis of these departments is to take action for fire suppression, rescue, and emergency medical and hazardous materials emergencies, and to provide fire prevention and education programs for the citizens in the response area. Nile and Naches Fire Departments respond within their districts and outside of district by request. The ability to respond to large wildland fires is limited by equipment and personnel.

The community of Goose Prairie and all recreation residences are outside of any fire district providing structural protection. As such, they do not pay into a tax levy for fire protection. Fire districts are therefore prohibited from responding to these homes as this would constitute gifting of public funds. Some residents have entered into contracts with the nearest fire district to provide structural protection.

The Washington State Department of Natural Resources and USDA Forest Service are the primary wildland firefighting agencies within the CWPP boundary. Through cooperative agreements, either agency is able to mobilize large amounts of personnel, equipment, aircraft, and logistical support. However, the actual number of firefighting resources stationed in the locale is small in relation to the area covered, and the CWPP boundary constitutes only a small portion of the district they must protect. Delays in the arrival of suppression forces of several hours to several days are likely, depending on the availability of these resources. These agencies are not equipped or trained to fight structure fires and do not provide protection of this nature.

**Planning Area: Naches, Nile, and Cliffdell
Values at Risk**



Fire District #3 (Naches)	
Chief: Alan Baird 509-653-2380 nachesfd@yahoo.com	
PO Box 24 102 Naches Avenue Naches, WA 98937	
Population	
Size and Jurisdiction	Structural and wildland fire protection responsibilities for the area
Local Preparedness Capability	The fire district is staffed by volunteer firefighters. There is one station located in the town of Naches with a fleet of eight apparatus consisting of 2 structural engines, 1 brush, 1 tender, 1 rescue/brush, 1 transport capable rescue, and 2 command vehicles
Mutual Aid	Fire District #3 has cooperative agreements with Washington DNR, Washington DFW, and U.S. Forest Service. YCFD#3 also participates in a Yakima County-wide Mutual Aid Agreement and participates in the Statewide Fire Mobilization Plan. Fire District #3 provides services for the Naches Fire Department.
Address signs	
Safety Zones	
Adequate number of hydrants or draft sites	
Topography and Vegetation	
Access and Evacuation	Yakima County Fire District #3 encompasses the valley floor to the ridge tops of the Naches Valley with its east end beginning at State Highway 12 milepost 193.5 and extending west to milepost 159. The section of the district from the interchange with Highway 410 west to the Upper Tieton Road is not contiguous.
Estimate % of homes with defensible space	
Estimate % of homes with class A roof and fire-resistant siding	
Hazmat facilities or sites	
Fire Department Needs	Development of additional water sources that are readily accessible to fire apparatus, fuel and fire risk reduction projects – including access to active Firewise USA ® sites Recruiting and retention of volunteer firefighters.
Top Concerns and Priorities for Protection	
Access and Evacuation	Camps and cabin groups located around Rimrock Lake and Clear Lake
Hazardous Fuels and Defensible Space Concerns	Camps and cabin groups located around Rimrock Lake and Clear Lake Lewis Road
Unique Ecosystems	

Fire District #3 (Naches)	
Structures	<p>Residential growth and individual developments in the wildland urban interface</p> <p>The district includes all of the camps and cabin groups located around Rimrock Lake and Clear Lake.</p> <p>Rimrock Retreat – The community of Rimrock Retreat is located on U.S. Highway 12 approximately 16 miles west of the Town of Naches. Residents are largely year-around. The community is served by electricity and telephone. Three businesses, all of which are protected by Yakima County Fire District #3, are located in Rimrock Retreat: Trout Lodge Restaurant and Motel, Getaway Sports, and Gameridge Motel.</p> <p>Highway 12 – This rural area includes the privately-owned lands beginning at the intersection of U.S. Highway 12 and State Highway 410 and extending to approximately mile post 170, two miles west of Rimrock Retreat. Fire District #3 provides protection for these widely scattered, year-round residents.</p>
Community Values	
Infrastructure	<p>Above ground powerlines</p> <p>The topography of the White Pass area makes communication with 9-1-1 Center/Dispatch difficult in some areas. Coverage with cellular phone is intermittent with some carriers and nonexistent with others making it difficult for those without access to a "land line" telephone to report a fire.</p>
Structures	<p><i>Old River Road Neighborhood</i></p> <p><i>Residential Growth:</i> More new construction of homes in the district is encroaching into wildland/timber areas that at times can be difficult to access safely by fire apparatus.</p> <p><i>Goose Prairie</i> – This community is a mix of recreational residences and a few full-time residents. Goose Prairie is home to Camp Fife, a Boy Scout camp, typically housing more than 200 scouts and staff members during summer months. Telephone and electrical service are not provided to the area. Goose Prairie is a private in-holding completely surrounded by USFS land. Within 400 feet and on all sides of the boundary of Goose Prairie is the William O. Douglas Wilderness Area. Access is one-way in, one-way out by way of Bumping River Road. Goose Prairie is not within a Fire District and structural protection may not be provided unless by contract with Yakima County Fire Protection District 14 (Nile).</p> <p><i>Cliffdell</i> – The community of Cliffdell comprises mostly full-time residents with a few recreation residences. Access is by way of State Highway 410, coming from Naches and Yakima to the east and Chinook Pass to the west.</p> <p>Whistlin' Jack Lodge is a major tourist attraction within the community, providing cabins, a motel, a restaurant and lounge, and a convenience store with gasoline available. Electrical and telephone services are provided to Cliffdell.</p>

Nile-Cliffdell Fire & Rescue/Fire District #14	
Chief: Ryan Clark 509-658-2212 stevemary8961@yahoo.com 14550 State Route 410 Naches, WA 98937	
Population	1600 The population increases significantly during recreation seasons with visits by those who are hunting, fishing, camping, snowmobiling, skiing, etc.
Size and Jurisdiction	115 square miles The district covers both sides of State Route 410 extending from the intersection with US Highway 12 and westward for 21 miles to just east of the Bumping Lake Road. The district medical service area includes significant response to the Wenatchee National Forest and DNR lands bordering the district.
Local Preparedness Capability	
Mutual Aid	The district has an agreement for mutual aid with both the DNR and the U.S. Forest Service. There are also mutual aid agreements with all Yakima County Fire Districts.
Address signs	Roads and addresses have clear, reflective street and address signs
Safety Zones	Safety zones have been identified
Adequate number of hydrants or draft sites	There is an adequate number of hydrants and draft sites
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, heavy fuel loading Timber and flashy fuels
Access and Evacuation	There are roads that cannot be accessed by Type 3 engines.
Estimate % of homes with defensible space	50%
Estimate % of homes with class A roof and fire-resistant siding	50%
Hazmat facilities or sites	No
Fire Department Needs	Training for the District and volunteer firefighters is ongoing and a priority. Helping educate homeowners to mitigate fire risk.
Top Concerns and Priorities for Protection	
Access and Evacuation	Over 12 neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out) There are roads that cannot be accessed by Type 3 engines
Hazardous Fuels and Defensible Space Concerns	Several roads have a significant amount of vegetation creating significant risk. Goose Prairie Bumping Lake Highway 410 Cliffdell
Unique Ecosystems	
	Nile Valley and Highway 410 – This rural area includes the privately-owned lands beginning at the intersection of State Highway 410 and U.S. Highway 12 and extending to the community of Cliffdell. Business interests include Gold Creek Station, Black Bear Resort, The Woodshed/Eagle Rock Resort and other privately owned businesses. Access is provided by Highway 410, the Nile Loop Road, and Old River

Nile-Cliffdell Fire & Rescue/Fire District #14	
	Road. These roads serve as collectors for numerous arterials and Forest Roads. Growth continues in this area, and housing is being developed at higher elevations. Those being built at mid and upper slopes currently rely on cellular phones (limited coverage) and alternate energy sources such as wind, solar, and generator supplied power. The higher elevation homes are remote and not in a fire district. Services within the community include electricity, telephone, businesses, an organizational camp, a community center/library, Community Park, and a community church.
Community Values	We have multiple transient residents living in cars and tents on public lands in and around our district. Camp Fire Youth Camp
Infrastructure	Above ground powerlines 1 hospital/school/elderly care center Two repeaters are used in for response. Communications: Radio communications can be affected by our mountainous area, hills, and valleys Organizational camp Community center/library Community Park Community church

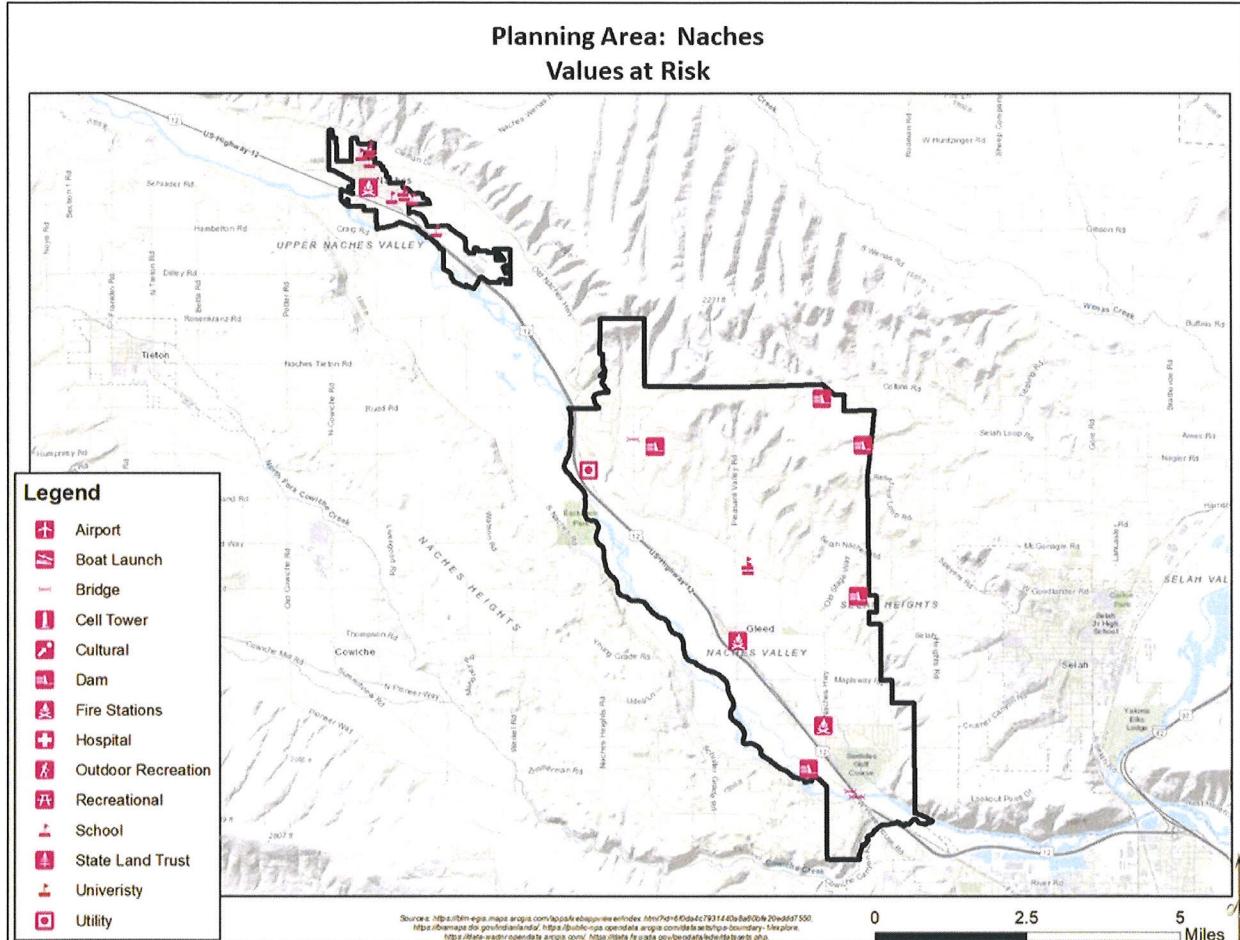
U.S. Forest Service	
10237 US-12 Naches, WA 98937	
The Okanogan-Wenatchee National Forests cover nearly 4 million acres of forested lands on the eastern slopes of the Cascade Mountains. National Forest lands span from the Canadian border south to the Yakima Indian Reservation and from the Cascade crest to the Okanogan County and Columbia River line on the Okanogan-Wenatchee National Forest (OK-WEN).	
Size and Jurisdiction	The northwestern portion of Yakima County encompasses the Naches Ranger District of the Okanogan-Wenatchee National Forest. The Naches Ranger District encompasses approximately 518,000 acres of forest land extending from the crest of the Cascades east towards the town of Naches.
Local Preparedness Capability	There are approximately 900 red carded Forest Service employees that participate directly in fire suppression or support fire suppression activities.
Mutual Aid	
Address signs	Recreational cabin owners and roads do not have adequate reflective street/road and address signs
Safety Zones	Safety zones have been identified
Adequate number of hydrants or draft sites	Multiple draft and dip sites
Topography and Vegetation	Lower elevations and the eastern end of the planning area is largely shrub/steppe (grasses, bitterbrush, sagebrush). Farther westward and in higher elevations, the forest transitions from dry deciduous (Oregon white oak and cottonwood), through dry conifer (ponderosa pine, Yakima-fir) and mid-elevation conifer (grand fir, western larch, western hemlock), to high elevation wet conifer (mountain hemlock, pacific silver fir).
Access and Evacuation	
Hazmat facilities or sites	No
Estimate % of homes with defensible space	25% (Recreational cabins on USFS leased lands)
Estimate % of homes with class A roof and fire-resistant siding	0-25% (Recreational cabins on USFS leased lands)
Agency Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	Significant evacuation concerns for recreational residences and visitors Communities of Goose Prairie, Cliffdell, Nile Valley and Highway 410, Rimrock Retreat, and Highway 12
Hazardous Fuels and Defensible Space Concerns	Roads have significant amounts of vegetation
Unique Ecosystems	

U.S. Forest Service	
Structures	<p>Recreational residences located on or adjacent to USFS lands. Goose Prairie, Cliffdell, Nile Valley and Highway 410, Rimrock Retreat, and Highway 12</p> <p>Recreation residences are those in which privately owned cabins are established by lease on Forest Service administered land. The Naches Ranger District has the second highest number of recreation residences of any in the National Forest system. By permit, the structure may not be used as a principal place of residence. Amenities range across the spectrum from no plumbing/electricity/telephone to full service with all of the facilities of a typical family home. As these are on federal land, the land itself is protected by the U.S. Forest Service and the structures may be protected through an agreement with the Yakima County Fire Protection Districts 3 (Naches) or 14 (Nile). Recreation residences are located along major travel routes off of U.S. Highway 12, State Highway 410, the Tieton Loop Road, and Bumping River Road. Recreation residences are typically within "Summer Home Groups" of 6-72 lots. A few groups contain only 1-3 lots.</p>
Community Values	Popular recreation areas and facilities, and areas on or adjacent to USFS lands.
Infrastructure	<p>Above ground powerlines</p> <p>Communication sites (provides services to USFS and other agencies)</p>

Planning Area: Naches

Fire Jurisdictions: Yakima County District #3, Naches Fire

Note: The Yakima Greenway is located within this Planning Area. Please refer to [The Yakima Greenway Planning Area](#) for more information.



Fire District #6 (Gleed)	
Chief: Ken Frazier 509-966-5060 81 Gleed Road Yakima, WA 98901	
Population	5300
Size and Jurisdiction	12 square miles Provides structural and wildland fire protection to much of the Rattlesnake Hills' southern exposure from the Parker area eastward all the way to the County line.
Local Preparedness Capability	
Mutual Aid	
Address signs	
Safety Zones	Safety zones have been informally identified
Adequate number of hydrants or draft sites	There are an adequate number of hydrants if power is not lost to the fire pump house at North Gleed and Mapleway.
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, specifically the hill bordering Yakima County Fire District #2. Cheat grass, sage, river bottom.
Access and Evacuation	All roads can be accessed by a type 3 engine. Most roads and addresses have clear, reflective address signs
Estimate % of homes with defensible space	50-75%
Estimate % of homes with class A roof and fire-resistant siding	0-25%
Hazmat facilities or sites	Yakima Water Treatment Plant, Kershaw, Price, and Apple King Warehouses
Fire Department Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	15-20 neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out). 2-3 roads have significant amounts of vegetation along ingress and egress routes. Evacuation concerns between Highway 12 and the Naches River
Hazardous Fuels and Defensible Space Concerns	3300 Block of Mapleway neighborhood
Unique Ecosystems	
Structures	Residential growth in the wildland urban interface Two trailer parks
Community Values	Limited English-speaking population
Infrastructure	Above ground powerlines Pump house to provide water to hydrants

Planning Area: Selah, East Valley, Yakima Ranches

Fire Jurisdictions: Yakima County Fire District #2/Selah Fire Department, and Yakima County Fire District #4

Note: The Yakima Greenway is located within this Planning Area. Please refer to [The Yakima Greenway Planning Area](#) for more information.

East Valley and Rattlesnake Hills

The East Valley area extends from the Yakima River near Yakima along Highway 24 to Moxee and continues eastward. The valley is roughly bounded by Yakima Ridge to the north and Rattlesnake Hills to the south. Much of the valley bottom is currently being cultivated for vineyards and other irrigated crops.

The Yakima Training Center lies directly to the north of this area and encompasses much of the Yakima Ridge and associated foothills. The Rattlesnake Hills have several recognizable landforms that can be seen from the East Valley on their north side or the Yakima River valley to the south including Elephant Mountain, Zillah Peak, Eagle Peak, High Top, and Tabletop.

Wildfire Potential. Nearly all of this area is characterized by shrub-steppe vegetation where agricultural or other development hasn't altered the vegetation. The shrub-dominated overstories typically support species of sagebrush and other shrubs, and the understories support perennial bunchgrasses, such as blue bunch wheatgrass and Sandberg's bluegrass. Shrublands are typically dominated by big sagebrush, with bunchgrasses and annual and perennial forbs in the understory. Grasslands tend to occur on the north-facing aspects of the Rattlesnake Hills and are similar to shrublands, except that the shrub component is greatly reduced or absent, has been eliminated by some type of disturbance, or is represented by rabbitbrush, which may sprout vigorously after a fire. Dwarf shrublands, typically found in areas with shallow, stony soils, are dominated by Sandberg's bluegrass and a layer of dwarf shrub species including buckwheat and stiff sagebrush. Invasive plants, particularly cheatgrass, are also very predominant in the native shrub-steppe and grassland areas. Invasive plants tend to alter the natural fire regime, which significantly impacts the native ecosystem.

Ignition and fire spread potential is high in this area due to the military activities occurring on the Yakima Training Center installment immediately to the north as well as agricultural activities in East Valley and natural ignitions. The shrub-steppe fuel type and topography would generally support rapidly spreading, but primarily low and mixed severity fires.

Ingress-Egress. The main access route through East Valley is State Highway 24 running east to west. There are also numerous secondary access routes, particularly on the west end surrounding Moxee and Terrace Heights. Access becomes more limited further east as the valley narrows and farms and residences become more infrequent. There is one-way access in and out of Yakima Ranches, which spans both East Valley and Selah response areas.

Access to Rattlesnake Hills is limited to a handful of primitive dirt roads, many of which are gated or posted. There are also numerous OHV routes; however, access is limited due to the checker boarded ownership of private lands, BLM, and Washington DNR.

Infrastructure. Infrastructure in the East Valley and Rattlesnake Hills area consists of numerous private and public structures associated primarily with the communities of Terrace Heights and Moxee, a large irrigation network, Highway 24, and a communications site on Elephant Mountain.

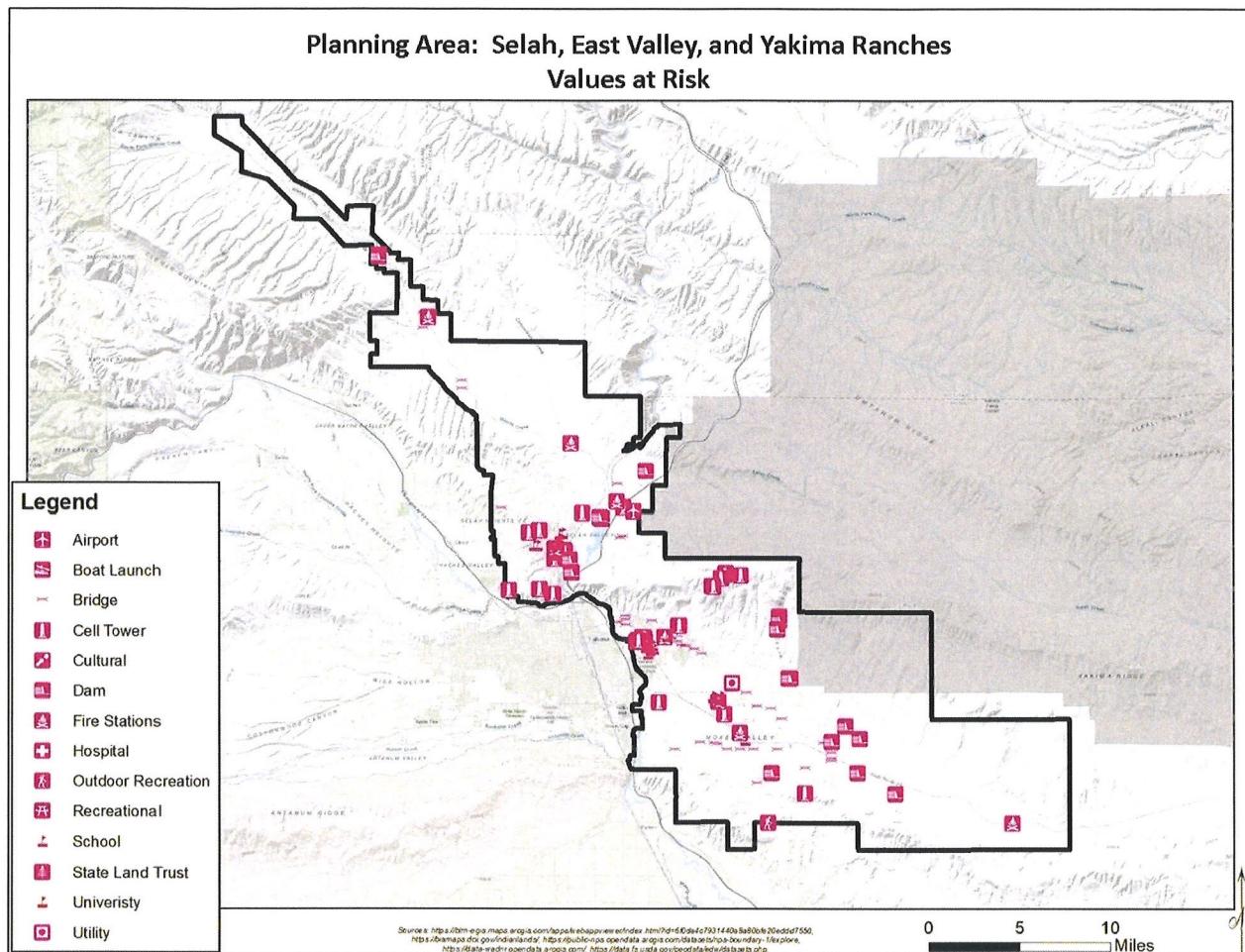
Fire Protection. Yakima Valley Fire District #4 provides structural and wildland fire protection to the majority of residents and infrastructure within the East Valley and Terrace Heights areas from the Yakima River east to the approximate headwaters of the valley near Firewater Canyon. District #4 also covers the north foothills of the Rattlesnake Hills including Elephant Mountain.

Yakima Valley Fire District #5 provides structural and wildland fire protection to much of the Rattlesnake Hills' southern exposure from the Parker area eastward all the way to the County line.

The BLM and DNR provide supplemental wildland fire protection throughout the East Valley and Rattlesnake Hills areas; however, these agencies have limited resources staged in Yakima County and rely on the local fire districts for initial attack. Additionally, these agencies do not provide structural protection. There is a large area between Yakima Ridge and the Rattlesnake Hills on the far eastern edge of the County that is not currently protected by any of the Yakima County fire districts.

Mitigation. Mitigation measures needed in the agricultural landscape include maintaining a defensible space around structures and access routes that lie adjacent to annual crops and other wildland fuels. Around structures, this includes maintaining a green or plowed space, mowing weeds and other fuels away from outbuildings, pruning and/or thinning larger trees, using fire resistant construction materials, and locating propane tanks, fuel tanks and firewood away from structures. Roads and driveways accessing rural residents may or may not have adequate road widths and turnouts for firefighting equipment depending on when the residences were constructed. Performing road inventories in high-risk areas to document and map their access limitations will improve firefighting response time and identify areas in need of enhancement. Primitive or abandoned roads that provide key access to remote areas should also be maintained in such a way that enables access for emergency equipment so that response times can be minimized. Roads can be made more fire resistant by frequently mowing along the edges or spraying weeds to reduce the fuel. Aggressive initial attack on fires occurring along travel routes will help ensure that these ignitions do not spread to nearby home sites. Designing a plan to help firefighters control fires in CRP lands that lie adjacent to agricultural crops would significantly lessen a fire's potential of escaping to the higher value resource. Mitigation associated with this situation might include installing fuel breaks or plowing a fire-resistant buffer zone around fields and along predesigned areas to tie into existing natural or manmade barriers or implementing a prescribed burning program during less risky times of the year.

Maintaining developed drafting sites, increasing access to water from irrigation facilities, and developing other water resources throughout the agricultural landscape will increase the effectiveness and efficiency of emergency response during a wildfire.



Fire District #2 and Selah Fire Department	
Chief: James Lange 509-698-7310 206 W Fremont Ave. Selah, WA 98942	
Population	20,300
Size and Jurisdiction	65 square miles Structural and wildland fire protection responsibilities for the area
Local Preparedness Capability	
Mutual Aid	Fire District #2 provides services to Selah jointly with Selah Fire Department
Address signs	Most roads and homes have clear, reflective streets and address signs.
Safety Zones	Fire department has identified safety zones
Adequate number of hydrants or draft sites	Hydrants do cover part of the district; however, there is not an adequate number to cover the whole district. There are no identified dip sites.
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, heavy fuel loading Vegetation consists of light flashy fuels (grasses) and vegetation found in shrub steppe eco-types
Access and Evacuation	All public roads can be accessed by a type 3 engine. Private driveways may create challenges for type 3 engine access.
Estimate % of homes with defensible space	25-50%
Estimate % of homes with class A roof and fire-resistant siding	0-25%
Hazmat facilities or sites	Fruit warehouses and agricultural facilities have hazmat facilities on site.
Fire Department Needs	Increase number of hydrants Improve reflective address sign program. Develop and improve relationship with County Road department to address vegetation management and evacuation concerns. Collaborate with community groups (churches, etc.) to develop and improve wildfire preparedness and recovery planning efforts throughout the communities
Top Concerns and Priorities for Protection	
Access and Evacuation	Evacuation concerns for multiple private residence and 3-4 communities At least five neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out).
Hazardous Fuels and Defensible Space Concerns	Some roads have significant amounts of vegetation on along ingress and egress routes. Wenas (north of creek), Lookout Point Road, Collins Road, South Wenas Road, Box Canyon Road, Conrad Road
Unique Ecosystems	

Fire District #2 and Selah Fire Department	
Structures	Four trailer parks and homeless camps along the river Conrad Ranches and Yakima Ranches neighborhoods located in East Selah Prescribed Fire Concerns: Selah (fires resulting from YTC training activities)
Community Values	Non-English-speaking population
Infrastructure	Above ground powerlines 8-10 hospitals, schools, and elderly care facilities

Fire District #4 (East Valley)	
Chief: Dale Hille 509-457-8615 2003 Beaudry Road Yakima, WA 98901	
Population	29,000
Size and Jurisdiction	<p>125 square miles</p> <p>Structural and wildland fire protection responsibilities within the East Valley and Terrace Heights areas from the Yakima River east to the approximate headwaters of the valley near Firewater Canyon. District #4 also covers the north foothills of the Rattlesnake Hills, including Elephant Mountain.</p> <p>There are four stations covering 29,000 citizens. Additionally, Fire District 4 also covers State Route 24 to the Yakima County line for medical emergencies, EMS Levy Funds.</p>
Local Preparedness Capability	East Valley is a combination department of paid on-call and paid members. 31 response personnel and 15 apparatus.
Mutual Aid	Fire District 4 and districts throughout the county rely on mutual aid during significant events. This is accomplished in a pre-determined Task Force procedure that dispatches mutual aid resources from multiple agencies. The city of Moxee has been annexed into Fire District #4.
Address signs	Most roads and homes do not have clear, reflective street and address signs
Safety Zones	The fire department has identified safety zone at the dump
Adequate number of hydrants or draft sites	Not an adequate number of hydrants
Topography and Vegetation	Steep slopes, saddles, ravines, remote areas, heavy fuel loading. Vegetation consists of light flashy fuels (grasses) and vegetation in shrub-steppe eco-types.
Access and Evacuation	The East Valley Fire Department serves the residents of Terrace Heights, Moxee, and includes the area's east of the Yakima River from ridge-top to ridge-top. The district is bordered on the west by the cities of Yakima and Union Gap and on the north by Selah and the Yakima Training Center. The district's east border is milepost 19 on State Route 24 and its southern border is Fire District #5, the Lower Valley Fire Department. The main access route through East Valley is State Highway 24, running east to west. There are also numerous secondary access routes, particularly on the west end surrounding Moxee and Terrace Heights. Access becomes more limited further east as the valley narrows and farms and residences become more infrequent.
Estimate % of homes with defensible space	25-50%
Estimate % of homes with class A roof and fire-resistant siding	0-25%
Hazmat facilities or sites	
Fire Department Needs	Coordinate with Yakima Ranches and Washington Department of Natural Resources to develop wildfire preparedness strategy
Top Concerns and Priorities for Protection	
Access and Evacuation	<p>Not all roads can be accessed by a type 3 engine.</p> <p>Significant number of neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out).</p> <p>Some roads have significant amounts of vegetation along ingress and egress routes.</p> <p>Most roads and homes do not have clear, reflective streets and address signs.</p> <p>Significant evacuation concerns throughout the district</p>

Fire District #4 (East Valley)	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	<p>Sports State Park</p> <p>North Ridge from Selah Gap to the Yakima Training Center</p> <p>South Ridge (Union Gap to Konnowac Pass)</p> <p>Western Boundary of the District</p>
Structures	<p>Infrastructure in the East Valley and Rattlesnake Hills area consists of numerous private structures associated primarily with Terrace Heights and Moxee communities.</p> <p>Mobile home and trailer home parks</p> <p>Yakima Ranches neighborhood</p> <p>Residential growth in the wildland urban interface</p>
Community Values	<p>Unhoused community</p> <p>Limited English-speaking population</p>
Infrastructure	<p>Above ground powerlines</p> <p>Roza Canal</p> <p>7 schools</p> <p>5 elderly care facilities</p> <p>large irrigation network</p> <p>Highway 24</p> <p>Communications site on Elephant Mountain</p>

Planning Area: Washington State Lands

Fire Jurisdictions: Washington Department of Natural Resources and Washington Department of Fish and Wildlife (State Lands and DNR-Forest Protection Parcels)

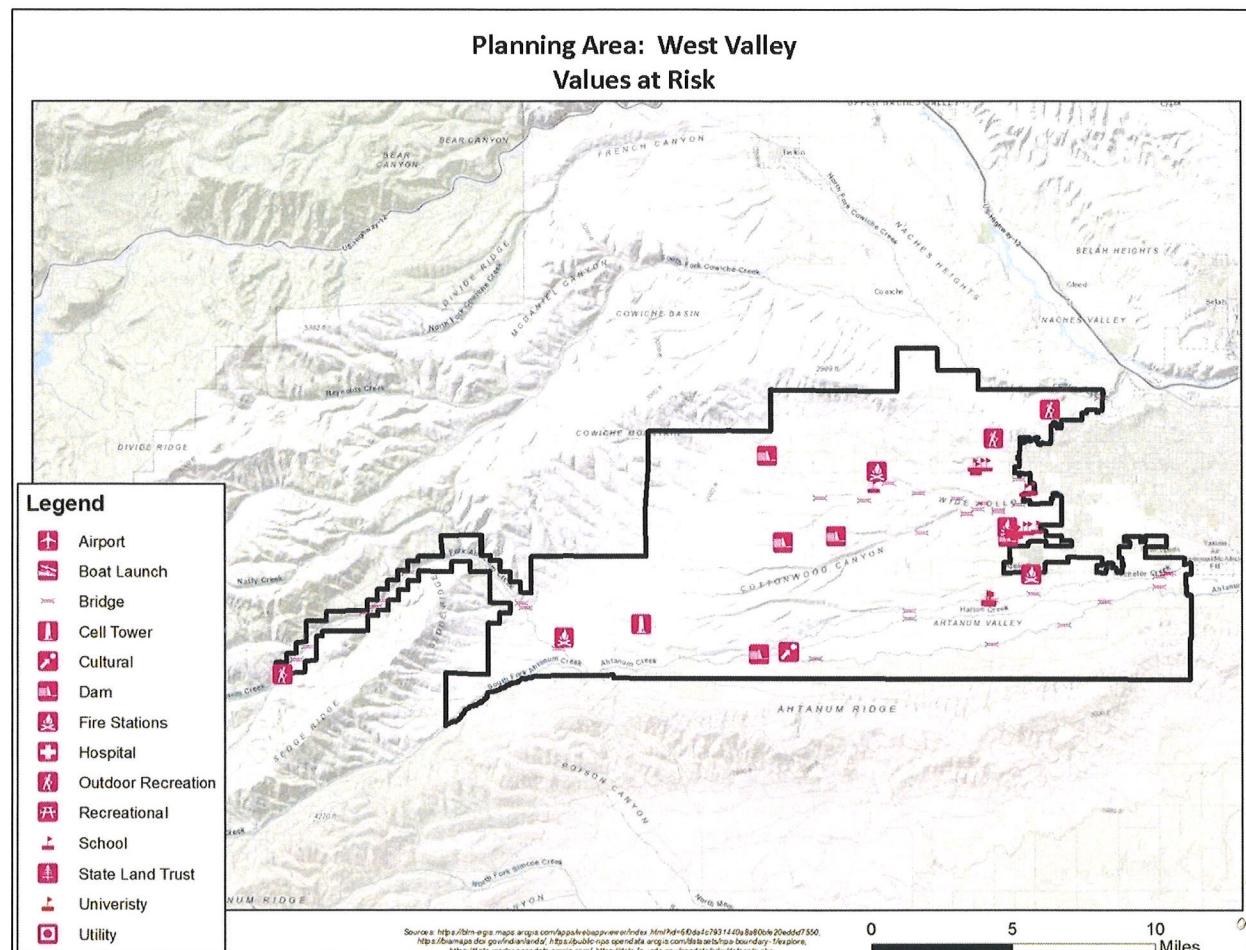
Much of the Washington Department of Fish and Wildlife (WDFW) land is intermixed with WDNR lands in the north-central portion of the County, encompassing State Wildlife Areas around the Nile and Wenas areas. WDFW also manages many other scattered parcels throughout the County including some near Byron Lakes and Mabton. Yakima County is part of WDFW's South Central Region, which manages more than 400,000 acres of department-owned land, all of which is open for public recreation.

Washington Department of Natural Resources (DNR)	
713 Bowers Road, Ellensburg, Washington 98826	
Size and Jurisdiction	The WDNR manages parcels of land in the north-central portion of the County as well as the areas bordering U.S. Forest Service lands on the western edge of the County. The WDNR also owns numerous scattered sections that create a checkerboard with private and BLM land, particularly in eastern Yakima County. The WDNR plays an intrinsic part in fire and fuels management in the County, as well as statewide.
Local Preparedness Capability	<p>DNR is the largest on-call fire department in the State with 1,200 permanent and temporary employees that fight fires on private and state-owned forest lands. The DNR's fire protection and safety equipment requirements help local Fire Protection Districts respond to wildfires.</p> <p>The Washington DNR maintains a statewide fire support system of which the Southeast Region of the DNR supports Yakima County with resources to educate the public on fire risks and resources to suppress fires on private and state lands that are under various "patrol assessment" structures.</p> <p>Staffing:</p> <ul style="list-style-type: none"> • 1 NRS-2 fulltime fire staff, Supervisor (Unit Fire Manger, working title) • 1 NRS-1 fulltime fire staff, Ahtanum Crew Superintendent • 1 9-month Permanent w/seasonal layoff, Ahtanum Crew Foreman • 3 Seasonal Squad Bosses, Ahtanum • 15 Seasonal Fire Fighters, Ahtanum • 4 Seasonal Engine Leaders, Engines • 6 Seasonal Fire Fighters, Engines
Mutual Aid	DNR maintains a number of mutual aid agreements with fire districts within Yakima County as well as with the U.S. Forest Service.
Safety Zones	Safety zones have been identified
Adequate number of hydrants or draft sites	
Topography and Vegetation	
Access and Evacuation	
Hazmat facilities or sites	N/A
Agency Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	

Washington Department of Natural Resources (DNR)	
Structures	Residential Growth: Residential growth is a growing concern as it presses on the outskirts of what has been the wildland urban interface in the county. Pressure from new residents creates a number of issues requiring cooperation with the County Fire Marshal's Office and local fire districts including assessment of new risks, education of residents, and expansion strategies on how best to employ resources to protect personnel, residents, property, and fire resources.
Cultural and Social	
Infrastructure	Above ground powerlines Communication sites (provides services to DNR and other agencies; maintained through Central Washington Incident Command Center)

Planning Area: West Valley

Fire Jurisdictions: Yakima County Fire District #12

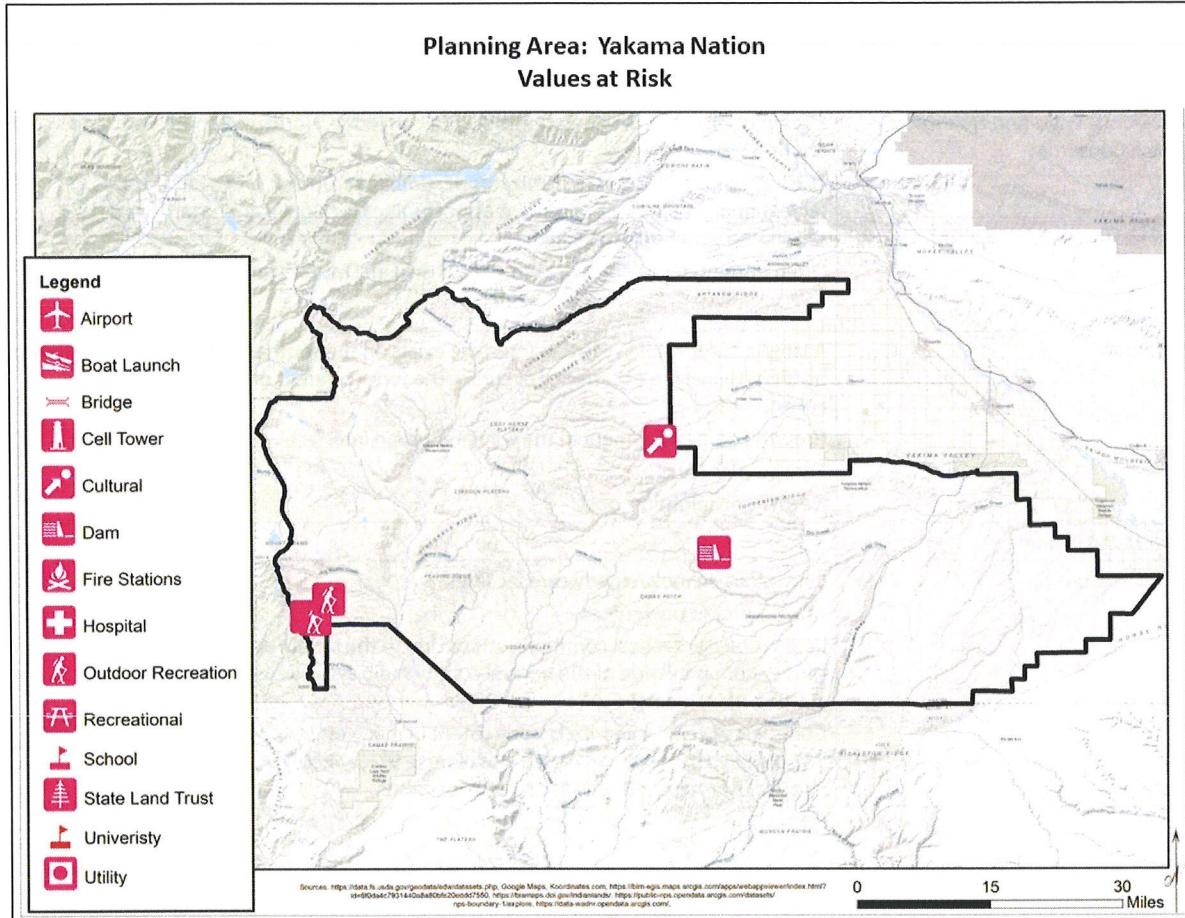


Fire District #12 (West Valley)	
Chief: Nathan Craig 509-966-3111 dleitch@westvalleyfire.com 10000 Zier Road Yakima WA 98908	
Population	15,500
Size and Jurisdiction	<p>90 square miles</p> <p>Located west of the City of Yakima. Commonly named small communities of Harwood, Tampico, Wiley City, and Ahtanum are located in the district's response area. The district's southern border is shared with the Yakama Nation and the west border is shared with the Washington Department of Natural Resources.</p>
Local Preparedness Capability	The response is made up of career and on-call, part time firefighters. There are four fire stations strategically located throughout the district housing structural fire engines, water tenders, wildland engines, medical rescues, a rehabilitation bus, air truck, ATVs, and snow machines.
Mutual Aid	Yakima County Fire District 12 is a member of the Yakima County Fire Chief's Mutual Aid Agreement Plan. Several adjacent departments respond under an Automatic Aid Agreement. Inter-Local Agreements are also in place with the Yakama BIA, Washington DNR, U.S. Forest Service, and the State Fire Mobilization Plan.
Address signs	Roads and addresses have clear, reflective street and address signs
Safety Zones	<p>Safety zones identified.</p> <p>Large parking lots in urban areas</p> <p>Safety zones in these areas are rare and not advisable for large groups of people</p>
Adequate number of hydrants or draft sites	<p>Inadequate number of hydrants</p> <p>Water supply in rural and remote areas is nonexistent and a hindrance to fire suppression efforts. Incipient fires during initial attack often grow larger due to the lack of suppression water and sufficient firefighter response. The area lacks rivers, streams, ponds, and lacks sufficient to use air resources efficiently.</p>
Topography and Vegetation	<p>Drainages and steep canyons</p> <p>Suburban and rural development gives way to extensive irrigated agriculture lands which are predominantly fruit trees. The lands transition to shrub steppe and timber with checker boarded ownership of private and state lands, with the exception of the entire southern edge, which is managed by the Yakama Nation/BIA.</p>
Access and Evacuation	All roads can be accessed by a type 3 engine.
Estimate % of homes with defensible space	50%
Estimate % of homes with class A roof and fire-resistant siding	50%
Hazmat facilities or sites	Fruit cold storage facilities
Fire Department Needs	<p>Coordinate with Red Cross and Washington Department of Natural Resources to develop preparedness and recovery initiatives.</p> <p>The Fire District is constantly looking for ways to improve the safety of its firefighters and the response to those in need as well as ways to prevent future incidents.</p> <p>Financial support from patrons, grants, or matching funds is used to augment the current budget. Firefighter training, suppression equipment, and water storage and delivery are some of the top priorities as we see more growth and expansion into the urban interface areas.</p>

Fire District #12 (West Valley)	
Top Concerns and Priorities for Protection	
Access and Evacuation	<p>Five neighborhoods do not have alternate evacuation routes (i.e., one-way-in, one-way-out)</p> <p>Evacuation concerns on the north half of Falcon Ridge</p> <p>Many locations along the Ahtanum corridor do not provide for alternative access routes.</p>
Hazardous Fuels and Defensible Space Concerns	<p>Significant amount of vegetation along Falcon Ridge, North and South Fork, and South Ahtanum Road</p> <p>The inter-mix of structures, shrub steppe, timber, scrub oak, and a large state recreational area creates abundant opportunities for significant hazards and risks associated with human behavior.</p> <p>Open burning regulations are not part of the Fire District's governance.</p>
Unique Ecosystems	
Structures	<p>A large area of Wildland Urban Interface exists on the southern, western, and northern borders. Heavy fire occurrence occurs in the forested areas of the Ahtanum State Forest.</p> <p>Growth and development in the wildland urban interface</p> <p>Three trailer parks</p> <p>North Fork neighborhood</p>
Community Values	
Infrastructure	<p>5 hospitals/schools/elderly care facilities</p> <p>Above ground powerlines</p> <p>Radio repeater-tactical communications due to the terrain and large coverage area (this system is outside of the normal county radio systems used for paging and alerting of incidents)</p> <p>Commercial cellular service is nonexistent in many of the western edge locations. The 911 dispatch center is not capable of reverse 911, which would advise residents of the need to evacuate and possible shelter locations.</p>

Planning Area: Yakama Nation

Fire Jurisdictions: Yakama Nation Fire Management



Yakama Nation	
Overview	As a large landowner and stakeholder in Yakima County, the Yakama Nation plays an important role in wildfire prevention with its partners, including the Washington Department of Natural Resources (DNR), local fire districts and departments, the U.S. Forest Service, the U.S. Fish and Wildlife Service, and the Washington State Fire Marshal. The objectives of the Yakama Nation's Prevention Plan focus on firefighter safety, fire detection and suppression, and prevention efforts. The Yakima County CWPP will dovetail with the Yakama Nation's Plans and help leverage resources that may be mutually beneficial.
Size and Jurisdiction	<p>The southern portion of the County is made up predominantly of Yakama Nation lands. The Reservation covers an area of approximately 1.3 million acres in Yakima and Klickitat counties. Bordering the reservation, the Yakima River flows southward from the Cascade Mountains to the Columbia River. Located along the eastern slopes of the Cascade Mountain Range, the Yakama Nation forest consists of 600,000 acres of timbered lands. The Yakama Nation has numerous enterprises that contribute to the economy of the Reservation as well as Yakima County including Yakama Forest Products, Legends Casino, Yakama Nation Cultural Center, Yakama Nation Resort and RV Park, and Yakama Power. Today the nation is governed by the Yakama Tribal Council, which consists of representatives of 14 tribes and bands.</p> <p>The Yakama Nation occupies portions of Yakima, Klickitat, and Lewis Counties in south central Washington State. The Reservation is bounded on the west by the crest of the Cascade Mountains, and on the east by the Yakima River. Ahtanum Creek serves as the northern boundary. A line from Greyback to Satus Pass to the Horse Heaven Hills to where it meets the Yakima River serves as the southern boundary. The Yakama Reservation encompasses 1,377,638 acres. The Yakama Nation has nearly 10,000 enrolled members living in Washington.</p> <p>Land ownership is comprised of tribal trust lands with individual tribal allotments held in trust and fee patent lands intermixed throughout the Reservation's agricultural and forest areas. Within the agricultural area, a rural setting of ranches and homes characterize an area of checkerboard ownership covering 191,060 acres.</p>
Local Preparedness Capability	<p>The Yakama Nation protects 1.2 million acres from uncontrolled fires and may respond to fires in mutual areas in coordination with Yakima County Fire Protection District #5.</p> <p>The Bureau of Indian Affairs, Portland Office, has entered into cooperative agreements with the U.S. Forest Service's Wenatchee and Gifford Pinchot National Forests, Washington DNR, West Valley Fire (Yakima County Fire District 12), and Yakima County Fire District 5. These agreements provide that an area of one mile depth on either side of mutual boundaries is a common protective zone. They also may provide resources during extreme emergencies and may make available suppression labor and equipment for fires that require extended attack. Fire District resources are available under rental agreements with BIA.</p> <p>Approximately 360 square miles of the Yakama Reservation is within the protection of Yakima County Fire District 5, which has stations dispersed throughout the area. Occasional assistance is provided by municipalities or Yakama Agency resources when serious threats to life, property, structures, or natural resources exist. Fire suppression on trust land requires coordination with an Agency Resource Advisor.</p>
Mutual Aid	
Address signs	
Safety Zones	

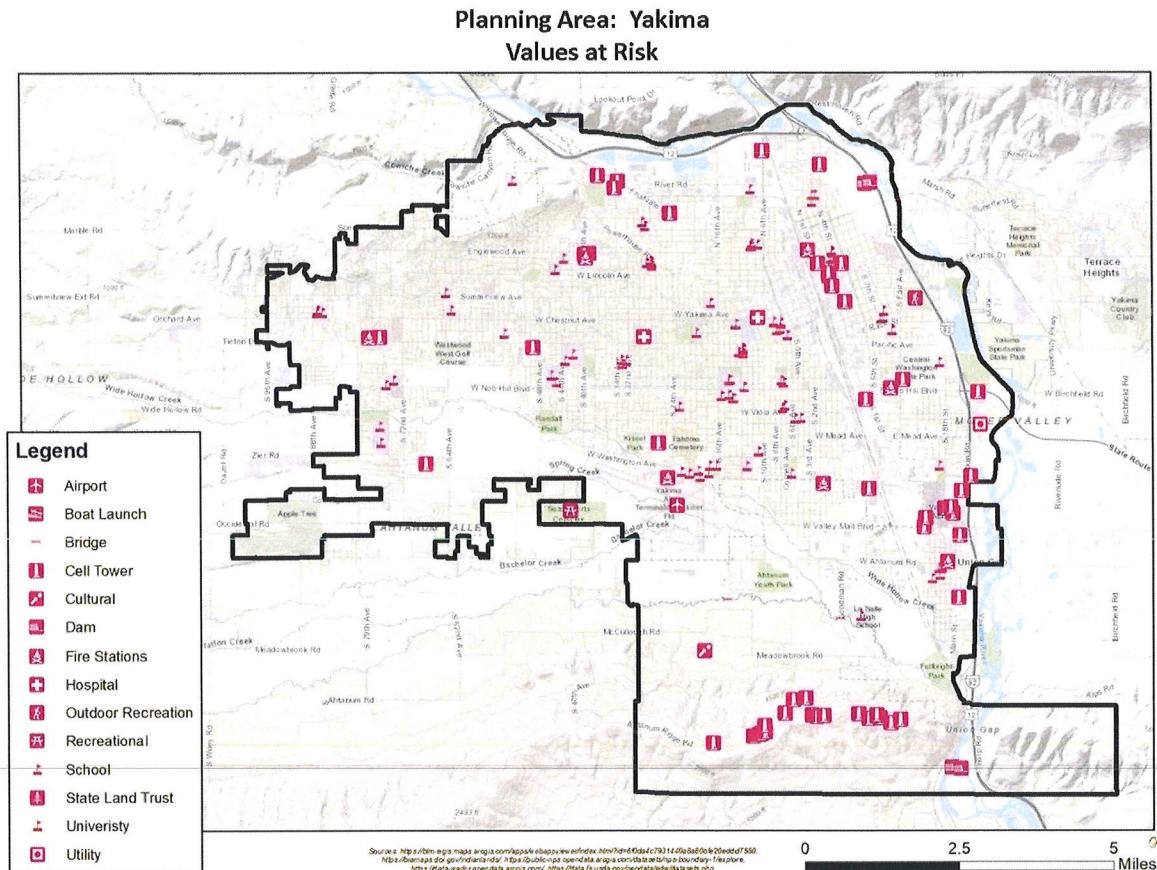
Yakama Nation	
Adequate number of hydrants or draft sites	
Topography and Vegetation	<p>The relatively low lying, gentle landscape of the eastern Reservation contrasts sharply with the high elevation, rugged western lands near the Cascade Crest. Between these two extremes is an abundance of different landforms.</p> <p>The Yakama Reservation can be divided into three major ecotypes as follows.</p> <p>Forestland. The forestland ecotype is the most varied. These variations are mainly driven by the significant gradients in precipitation and topography. Forest types include oak woodlands, pine, pine-fir, mixed fir, true fir, and subalpine. Correspondingly, all fire regimes are well represented. The forestland is managed predominantly for commercial timber. Forest resource values at risk to wildfire are high. Fuel treatments focus on the pine and pine-fir forest types. These forest types border the rangeland and are typically classified as Fire Regime 1. Mechanical and prescribed fire treatments are used in combination to restore these areas to more open, and hence more fire resilient, historic conditions.</p> <p>Rangeland. The rangeland is classified as shrub-steppe composed of sagebrush, its variants, and grasses. Fire Regimes are III (35-100+ years; mixed severity) and IV (35-100+ years; stand replacing). Fuel treatments are limited. Mechanical, chemical, and prescribed fire treatments are used in combination to minimize the spread of invasive species and restore critical lowland shrub-steppe habitat. All areas rising from the valley floor have high potential for rapid fire spread and can quickly grow to excessive size causing a threat beyond the capabilities of fire districts to manage with local resources.</p> <p>Agricultural. The agricultural zone is predominantly active farmland. It is Fire Regime I (0-35 years; low severity). Rural communities are immediately adjacent or in close proximity to the rangeland and active farmland is intermix with areas of natural vegetation. From a fire protection standpoint, these intermix areas have a high risk to life and property. Fuel treatments in these areas are numerous. Mechanical treatments include disced and mowed fuel breaks around rural residences and developments. Prescribed fire near field burning has also proven to be an effective treatment as most fires result from fireworks or arson.</p>
Access and Evacuation	Interstate 82, a major transportation route, travels the length of the Yakima Valley north of the Yakama Reservation. State Route 97 extends southward to Goldendale and northward to Union Gap while State Route 22 travels eastward to Mabton and northward to Interstate 82 from the Reservation. State Route 220 extends from Toppenish west to White Swan.
Estimate % of homes with defensible space	
Estimate % of homes with class A roof and fire-resistant siding	
Hazmat facilities or sites	
Fire Department Needs	
Top Concerns and Priorities for Protection	
Access and Evacuation	
Hazardous Fuels and Defensible Space Concerns	
Unique Ecosystems	

Yakama Nation	
Structures	
Community Values	
Infrastructure	There are several small communities and tribal enterprises within and surrounding the Reservation. U.S. Highway 12/Interstate 82 travels along the Reservation's northern border while U.S. Highway 97, State Highways 22 and 223, and numerous secondary routes provide access throughout the area. There are also powerlines, communication tower sites, rural airstrips, and a complex irrigation system that are critical to the community.
Major populations Centers and their risk:	High: Wapato, White Swan, Yakima River corridor Moderate: Fort Simcoe, Medicine Valley, North/South Ahtanum

Planning Area: Yakima

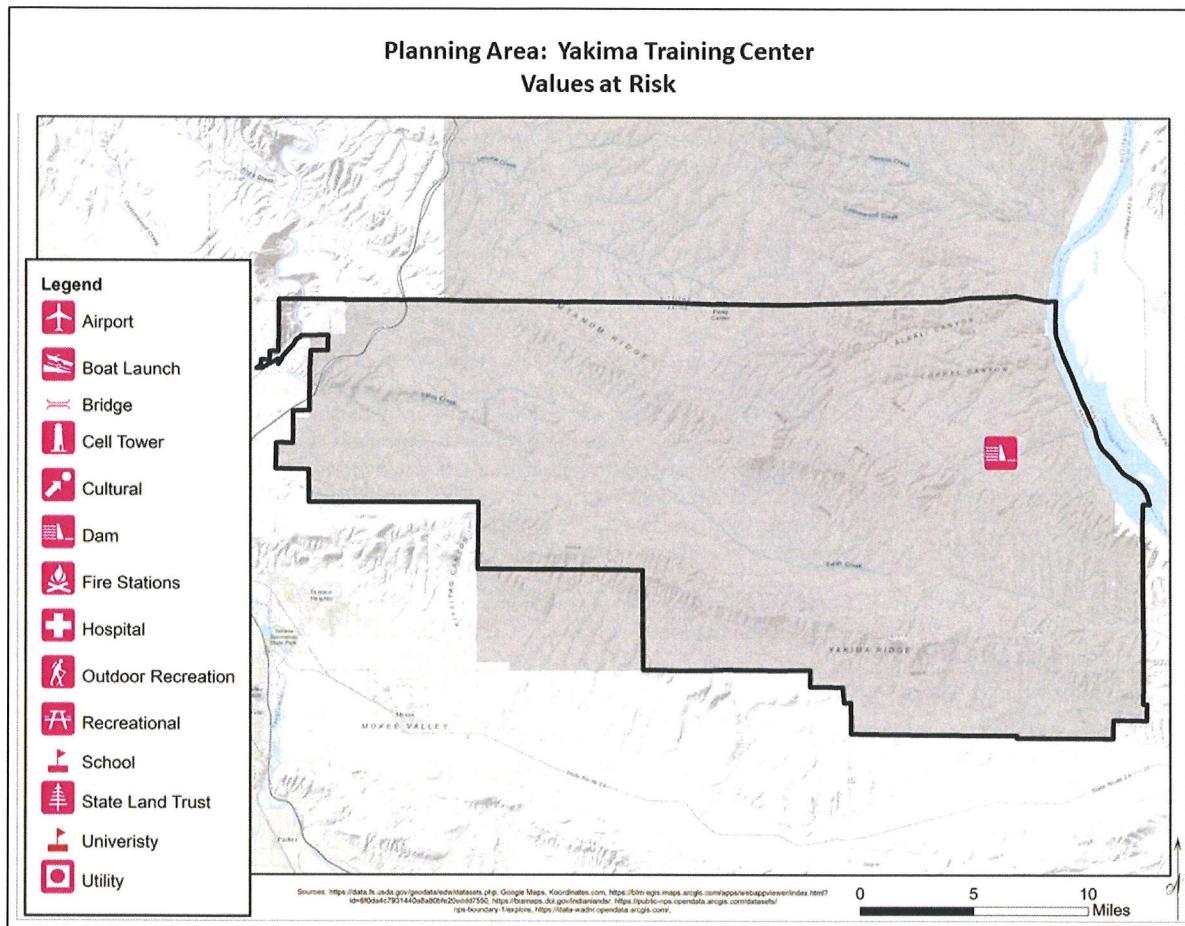
Fire Jurisdictions: City of Yakima Fire Department

Note: The Yakima Greenway is located within this Planning Area. Please refer to [The Yakima Greenway Planning Area](#) for more information.



Planning Area: Yakima Training Center

Fire Jurisdictions: Joint Base Lewis-McChord, Yakima Training Center Fire Department



Joint Base Lewis-McChord (JBLM), Yakima Training Center (YTC)	
Overview	<p>The primary mission of Joint Base Lewis-McChord (JBLM), Yakima Training Center (YTC) is to provide realistic combined arms, joint, and coalition forces training for U.S. and allied military units in support of operational readiness requirements. In addition, JBLM YTC is responsible for management of wildland fires as the potential for devastating impacts to personnel, real property (both on- and off-post), and cultural and natural resources represents a high risk.</p> <p>YTC provides structural and wildland fire protection at the installation and has a full suite of resources at its disposal including aerial fire suppression support. YTC participates in coordination meetings with adjoining fire districts on an annual basis and has mutual aid agreements with surrounding jurisdictions. When mutual aid requests occur, YTC will send a command officer and a brush truck. Aerial resources at YTC are not authorized to respond to fires that are not directly threatening YTC. If a fire is threatening YTC, they will deploy all resources.</p> <p>With consistent military training on-site, wildland fires are an unavoidable and inevitable hazard, particularly during the fire danger season (May through October). JBLM YTC has established several policies and procedures directed at reducing or mitigating wildland fires but are explicit and scattered. The JBLM YTC Integrated Wildland Fire Management Plan (IWFMP) consolidates the existing policies and procedures into one document. The IWFMP provides comprehensive policy and procedures regarding firefighter and public safety, wildland fire management, wildland fire program capabilities, and funding. The IWFMP integrates wildfire risks, management goals, and strategies to be used to reduce the risk of fires on the installation and improve YTC's ability to reduce fire losses.</p> <p>The JBLMYTC is one of the top employers in the County, therefore having a large impact on the local economy.</p>
Size and Jurisdiction	<p>The Joint Base Lewis McChord Yakima Training Center (JBLM YTC) is located in the northeast corner of the County and covers 327,242 acres of land, most of which consists of shrub-steppe, making it one of the largest areas of shrub-steppe habitat remaining in Washington. The terrain is undulating and dominated by three east-west parallel ridges, which are part of the Yakima Fold Belt near the western edge of the Columbia River Plateau. Development within the installation boundary is limited making many areas of the installation austere with limited improvements and limited accessibility (e.g., safe access routes).</p>
Local Preparedness Capability	<p>It is YTC's policy to suppress all wildfires on the installation, with the exceptions of those that occur in impact or dud areas and those that occur within the limits of established ranges where prior management actions have been implemented (e.g., prescribed burns and establishment/maintenance of firebreaks) to contain such fires. Fires occurring in impact areas are only suppressed when they threaten to escape the impact area boundary and are only suppressed via aerial assets or through backburning. Ground suppression personnel are only allowed to conduct suppression or back burn operations along the outer perimeters of impact areas.</p>
Mutual Aid	<p>YTC maintains mutual aid agreements with all local upper valley fire department jurisdictions and with Hanford Fire to assist with wildfire suppression requirements (ground and aerial), as well as structural fires. Mutual aid agreements are in place with more than 13 separate Fire Protection Districts and Municipalities that can be called upon during emergency operations.</p> <p>Aerial resources at YTC will not respond fires off-post unless the fire threatens to burn onto YTC lands. Aerial resources are only available to local fire districts through the state mobilization process.</p>

Joint Base Lewis-McChord (JBLM), Yakima Training Center (YTC)	
Topography and Vegetation	<p>Like much of the lower Columbia River Basin, YTC is characterized by shrub-steppe vegetation. The shrub-dominated over stories typically support species of sagebrush and other shrubs, and the understories support perennial bunchgrasses, such as blue bunch wheatgrass and Sandberg's bluegrass. Shrublands are typically dominated by big sagebrush, with bunchgrasses and annual and perennial forbs in the understory. Grasslands are similar to shrublands, except that the shrub component is greatly reduced or absent, has been eliminated by some type of disturbance (e.g., fire, military training), or is represented by rabbitbrush, which may sprout vigorously after a fire. Dwarf shrublands, typically found in areas with shallow, stony soils, are dominated by Sandberg's bluegrass and a layer of dwarf shrub species including buckwheat and stiff sagebrush.</p> <p>Wildfire poses a significant threat to the sensitive ecosystems, cultural sites, and training lands of the Army. Army training activities require the use of munitions and weapons systems that often increase the chance of wildfire ignition and may damage important resources.</p>
Wildfire Risk Potential	<p>On YTC, most fires are started by military training activities including live-fire exercises, use of tracer rounds, explosive ordinance, and some aspects of maneuver training. These fires primarily start on existing ranges or in the Central Impact Area (CIA) or other designated dud areas. While most fires are contained in these areas (note -these areas are considered primary wildland fire containment areas), there is the risk of a fire escaping and expanding into other portions of the installation, and potentially to off-post areas surrounding YTC.</p> <p>Wildfires have burned an average of approximately 11,428 acres annually (1987-2023 average); however, annual burn acreages are highly variable and have ranged from 50 acres in 1991 to nearly 155,000 acres in 2016 (these values include on- and off-post values). Some areas on YTC have been burned repeatedly due to their location (e.g., CIA, high use ranges, etc.). High fire loss years have occurred in the last 25 years. These include 1984 (27,921 acres), 1987 (28,070 acres, of which approximately 4,011 acres burned off-Post), 1996 and 2003 (34,827 acres, of which 146 acres burned off-Post). More recent high loss years include 2014-2021 when a series of large landscape fires occurred that impacted large areas both on- and off-post. The increase in large fire occurrence is not unique to YTC and appears to be strongly influenced by climatic and persistent drought factors throughout the western United States.</p>
Access and Evacuation	<p>YTC and the nearby City of Yakima, with its surrounding suburban communities, are accessed via I-82, the major north-south interstate freeway in the area. Near YTC, I-82 is a divided freeway with two travel lanes in each direction. Historically such wide "firebreaks" would have likely contained most landscape level fires; however, recent climatic changes have resulted in extreme weather events associated with large wildfires resulting such "firebreaks" being ineffective for containment of large fires.</p> <p>The primary access is via Firing Center Road (Exit #26), which is the main Access Control Point (ACP) onto YTC. Another readily accessible access point from I-82 is at Military Road exit (Exit #11) which provides an entry point for military convoys; otherwise, it is typically gated and locked. Additional remote access points are located at other locations around the perimeter of YTC from the north, east and south sides of the installation.</p>

Joint Base Lewis-McChord (JBLM), Yakima Training Center (YTC)

Top Concerns and Priorities for Protection

There are many high value priority resources on YTC that include infrastructure (e.g., buildings and utilities), designated high value habitats, and designated high value resource areas (e.g., riparian corridors, rare/sensitive plant locations, archaeological sites, etc. These sites are identified by markers called Siebert Stakes. They are 18-inch-long ABS pipes mounted on Tee Posts, with alternating red, yellow, white reflective tape. A narrow black strip is located on the protection side of the markers to identify the side to be protected. Foot traffic only is allowed within areas where Siebert Stakes are found. The Yakima Training Center has recognized the following areas as being a priority for protection, mitigation, or as having significant wildland fire risk:

Unique Ecosystems	Sage Grouse Protection Areas and riparian areas (includes some Siebert Stake Areas)
Structures	Cantonment Area Facilities, Range Operations, MTEF, Fuel Station, and other buildings located throughout the Range Areas
Community Values	Siebert Stake Areas
Infrastructure	<p>The Cantonment Area serves as the administrative center for most training activities at YTC, except for range management, which is located at Range Operations and the MTEF facility; both are located approximately 5 miles east of the main Cantonment Area and accessed via Firing Center/Cold Creek Road. Residential areas limited to transient barracks in the Cantonment Area only. Administrative areas provide buildings for offices, headquarters, classrooms, and other administrative functions. Commercial uses are limited to the Post Exchange and restaurant/club uses. Light industrial uses include warehousing, motor pool, and maintenance shops.</p> <p>Above ground utilities (e.g., power lines, communication towers and control buildings. This includes buried utilities (e.g., high voltage power lines and communications lines), and it includes above ground high voltage power lines (e.g., PacifiCorp and BPA lines)</p>
Other areas of concern	<p>YTC has extensive firefighting resources including mutual aid agreements with surrounding fire departments and federal and state agencies, but large portions of the lands adjacent to YTC are not within the jurisdiction of any fire district. There are approximately 23,000 acres to the West mostly in Kittitas County that are non-forested (and hence not covered by state department of natural resources) and not within the jurisdiction of a county or municipal fire protection district. A larger area to the southeast in Yakima and Benton Counties includes approximately 85,000 acres. A 2009 wildfire burned 40,000 acres in this zone causing one death, destroying several structures, and has removed large areas of sagebrush cover. Ongoing expansion of rural residences either near or within these areas that are outside of the jurisdiction of a fire district increases potential threats to life and property, complexity of fire suppression efforts, and increased wildfire threat to high value natural and wildlife resources (e.g., sage grouse and their habitat). Cross-boundary fire prevention and suppression efforts are imperative in these areas.</p>

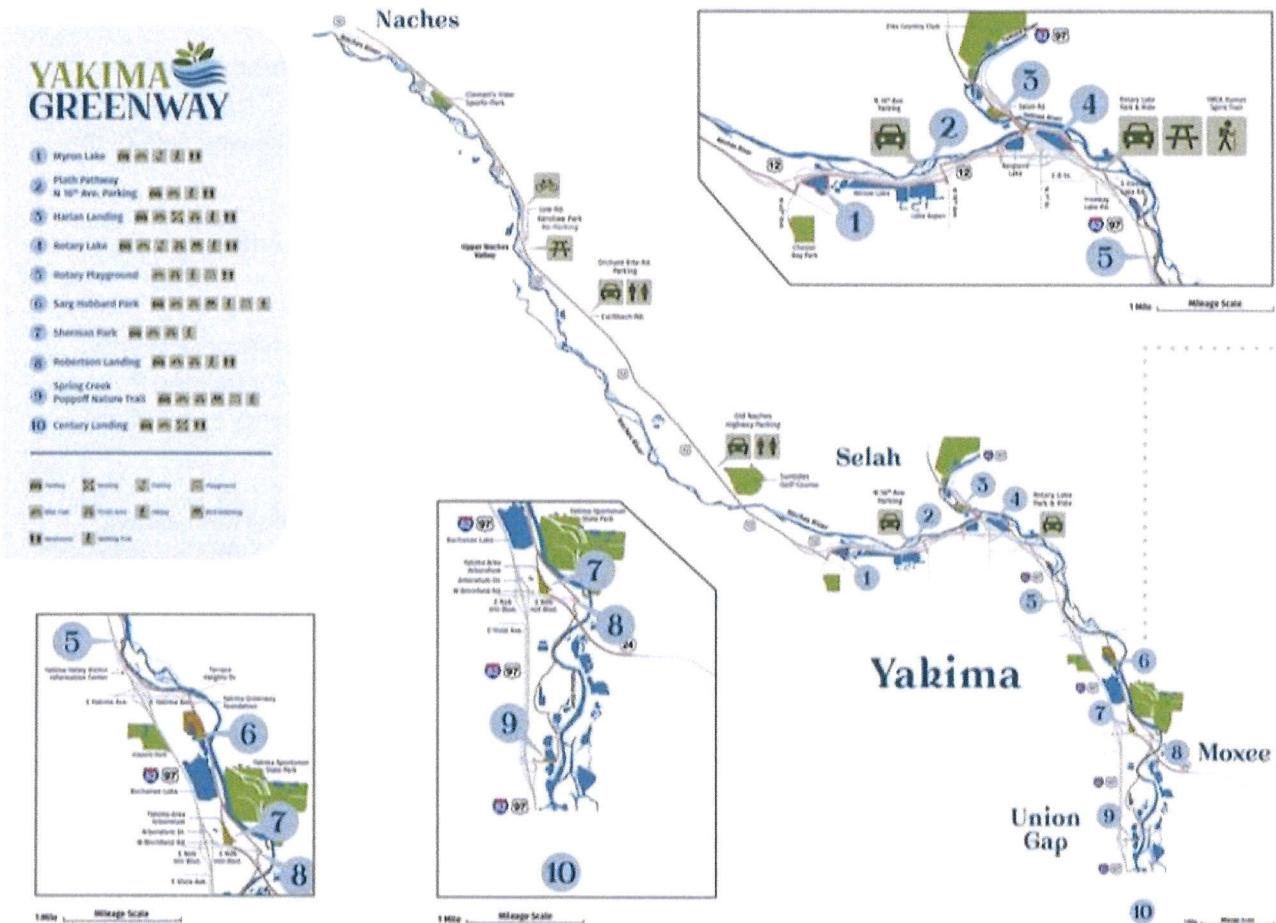
Planning Area: The Yakima Greenway

Fire jurisdictions: Yakima County Fire Districts, Yakima City, Naches, Selah, East Valley, Union Gap, and Yakima Training Center

Planning area: The Yakima Greenway trail system runs from the City of Naches thru Yakima County and ends at Union Gap.

It is a 20-mile trail system along the Yakima and Naches rivers and includes several wetland areas, which are home to many birds and wildlife. There are also four public parks, playgrounds, and fishing ponds. The river shoreline is heavy with natural debris, trees, and wildlife.

The original 10 miles of trail from Gap to Gap are the most vulnerable to fire.



Use and Management: The Yakima Greenway Foundation (The Foundation) is a 501(c)(3) nonprofit organization that stewards The Yakima Greenway (The Greenway) parks and trail system along the Yakima and Naches River corridor. The Greenway is not part of a municipal parks department and is funded through contributions from the public and private sectors. Any Federal, State, County, or City funding must be done in cooperation with those agencies unless specified that nonprofit will qualify. Although the Yakima River has been a long-time haven for recreation, it has also been significantly impacted by consistent mining, dumping, and neglect. The Greenway Foundation was established to preserve, conserve, and protect the Yakima River corridor. The Foundation is currently updating its Master Plan, which was first written in 1976. There was no mention of a fire protection plan and the impact that fire would have on the Greenway, let alone the surrounding community development. The Greenway trail system intersects with urban and rural communities; parts of The Greenway are more vulnerable to fire.

Planning area population: The City of Yakima is roughly 100,000, with Yakima County around 200,000. Approximately 50,000 residents from the Upper Yakima Valley from Naches thru Yakima City and Union Gap to the South are within walking distance of The Greenway.

Size of Planning area: The planning area consists of 20 miles of trail and riverfront property from Naches, Selah, Yakima city, East Terrace Heights, Union Gap, and Spring Creek. The Greenway planning area consists of both sides of the river. The Greenway Foundation only maintains the west side of the trail.

Structures in this area include the Visitors Center, Yakima human society, Yakima Arboretum, Picnic pavilions, tables, benches, playgrounds, parking lots, and restrooms.

Emergency preparedness: The Yakima Greenway is 100% dependent on wildfire response services provided by first responders and agencies. The Foundation staff have no authority or training in wildfire response and suppression. Greenway staff need to gain training in emergency evacuation procedures and identify and locate city resources, like fire hydrants.

Address signs: Currently, there are no universal markings along the Greenway trail system allowing for adequate location recognition in an emergency. Access to many areas is limited to the parking lot and trail access point. A truck or equipment would need to drive on long stretches of the pathway to get to a fire area. Sometimes the best access is a public road. 911 dispatch does not have a coordinated map for accurate direction and communication to emergency vehicles.

Safety Zones: There is no formal establishment of specific safety zones along the Greenway trail in the event of a fire or emergency. There must be signage or proper communication along the path for the public to refer to.

Fire hydrant and drafts: Very limited fire hydrants are available along the Greenway. The public needs help determining where they are and sometimes needs to provide that information to first responders. Many parts of the trail and parks are unprotected. The Greenway depends on trucks carrying water or having a pump to access water from the Yakima River.

Topography and Vegetation: The typography of the Greenway is 20 miles of river shoreline, (double if you count both sides). Because of this, the shore is littered with many years of downed woody debris, overgrown dry grasses, and other naturally accruing vegetation.

The Yakima Greenway Foundation was established to protect the river from years of mining, dumping of public waste, mill site waste, and wood tailings from Boise Cascade lumber mill. Many years of rock mining have taken a toll, including a city dump which was located where Sarg Hubbard Park now stands.

The shoreline and structures are very vulnerable to fire, wind, and human ignitions.

Access: Because the trail is along the river, there is limited access to vulnerable areas that often catch fire. Entrance is only available thru trailheads and parking lots. The path is 6 feet wide in places and prevents large trucks from getting into areas that catch fire. Dense vegetation, fallen trees, and unpaved footpaths restrict close access to the fire. Very old, tall dead trees are a hazard.

Defendable structures: 50% of the facilities along the Greenway trail are defensible. Neighborhoods and businesses are within a ¼ mile of the Greenway and the Yakima River. Even though there is fire protection in those areas, the nature of a Greenway fire, with its tall trees and very dry brush, could spread to these areas and lead to something catastrophic under the right conditions: interstate 82 and HWY 1 run to the west of the Greenway trail and Yakima River. Traffic is often restricted because of a Greenway fire.

Hazmat: At times, a fire could be located in a camp area where drug-making equipment or hazardous debris has been moved to the site, such as tires, old televisions, furniture, plastic, and dead animals. Drug needles and tinfoil, along with other chemicals, can be found.

The Firefighters and first responders need training for a variety of situations that happen along the Greenway. Wildfire fighting experience would be necessary. Protective equipment for hazardous materials would be needed. Several playgrounds are made of recycled plastic.

Signage and location markers are needed along the Greenway trail to help first responders and the community identify and communicate the location of the emergency to 911 and emergency responders.

APPENDIX E

VALUES AT RISK

The following values at risk were identified by the Yakima County CWPP Core Advisory Committee, landowners, and fire district representatives.

Infrastructure	Notes
Communication Sites (6)	<i>Identified by the 2022 Yakima All Hazards Plan (*)</i>
Education (Schools and Universities)	<i>Identified by the 2022 Yakima All Hazards Plan (*)</i>
Emergency Services (4)	<i>Identified by the 2022 Yakima All Hazards Plan (*)</i>
Hospitals	<i>Identified by the 2022 Yakima All Hazards Plan (*)</i>
Natural gas distribution lines	Provided by Cascade Natural Gas Corporation throughout the County
Electrical lines (distribution and transmission)	Provided by Pacific Power and Light and Benton Rural Electric Association
Rail lines	Provided by Burlington Northern Sante Fe and Union Pacific with 200 active spurs throughout the county serving numerous industrial sites
Wastewater treatment sites	Various cities throughout the county
Communications: satellite systems and cell towers	
Dams: Nelson Dam and small private dams	Small dams are susceptible to post-fire debris flows
Water systems	City of Yakima Out take on Naches River
Bridges	
Fire stations	
Puget Sound Energy Infrastructure	Including areas where new transformers have been installed
Solar Farm	Currently under development in the Black Rock area
Yakima Training Center	
Airports: Yakima Airport, Sunnyside Airfield, Yakima Training Center airfields	
Reach Monument	
Irrigation Systems	Some wood canals are above ground. Areas subject to slides and debris flows at points of diversion after a wildfire

*According to the 2018 Washington State HMP, 2.5% of Yakima County's built infrastructure is exposed to wildland fires, while 47% or 280 critical facilities are located withing wildfire exposed areas (medium or higher risk). Local drinking water systems have been impacted due to the increase in turbid water from burn scars. Turbid water can contain viruses, parasites, and bacteria, and lead to increased filtration and processing burdens for water infrastructure. The 2022 exposure analysis considered critical facilities in Yakima County with high or extreme wildfire risk. Facilities of note include four fire stations in the Nile-Cliffdell Fire District, three dams (Tieton, Clear Creek, and Bumping), a heliport in White Swan, and Naches Valley Highschool and Hope Academy, both in Naches.

Greenspace in Commercial and Highly Developed Areas	Notes
Yakima Greenway	Non-motorized recreation (walking, biking) Access to Yakima River for community Habitat and Green Space Safe housing locations for unhoused community Sensitive bird, amphibian, and fish habitat Bike path from Greenway to Naches
Yakima Sportsman's State Park	<i>Similar use as Yakima Greenway</i>
<u>Cleman's View Sports Park</u>	
Yakima Canyon	Recreation and wildlife
<u>Eschbach Nature Area</u>	
Cowiche Canyon Conservancy Lands	Habitat as identified by Conservancy. Recreation areas (trails, etc.)
Rattlesnake Ridge	Hiking and biking
Recreation Sites and Open Spaces	
Snow Mountain Ranch	<u>White Pass Ski Area</u>
<u>Sozo Sports Complex</u>	<u>William O. Douglas Trail</u>
<u>Roza Recreational Waterfront</u>	Rocky Top Mountain Bike Trails
Conaloch Pass Recreation Area(?)	Summer Camps: Camp Dudley, Camp Primetime, and those in the Rimrock Lake Area
<u>Tieton River Nature Trail</u>	<u>Ahtanum St. Joe Mission Park</u>
Cowiche Canyon Elk Feeding Station	<u>Central Washington Agricultural Museum</u>
Yakama Nation: Cultural Center, Hotel, Legends Casino	<u>Fort Simcoe Historical State Park</u> <u>Fort Simcoe Job Corps Civilian Center</u> (one way in and one way out) <u>Public Boat Access</u> sites
<u>Bumping Lake:</u> USFS campgrounds and trailheads	LT Murray Wildlife Area

Formal Subdivisions**	Notes
Yakima Ranches	East Selah and Yakima Heights
Conrad Ranches and Wenac	RV park(s)
Falcon Ridge	
H2A	Tieton, Selah, Collins Road
Terrace Heights	
All neighborhoods in upper county	
Tampico and West Valley	North and South Fork
Highway 410 and Highway 12 Corridors	
Goose Prairie	

*** May be subject to municipal codes and HOA ordinances. Ordinances may impact building design and vegetation management. The proximity of adjacent structures also poses a unique risk to structures in the Wildland Urban Interface.*

Working Landscapes <i>(Agriculture (e.g., orchards, crops and animals), rangeland (grazing), land extraction (rock and minerals) and timber harvest)</i>	Notes
Economic	Smoke impacts on high value crops State Trust Land (timber and leased land value) Industrial timberlands Working landscapes on USFS lands
Forage and habitat on rangeland	Fuel breaks Priority on rangeland adjacent to irrigated ground. Elk feeding stations. USFWS lands
Safe Zones for Ranchers	Include in leases with agencies
Rural Lifestyle <i>(Access to public or wildlands. Outdoor recreation. Land management. Often surrounded by large public or private landowners.)</i>	Notes
Ahtanum State Forest	
State Trust Lands	
Cold Creek Station	
Air Quality	Notes
The topography in Yakima County allows for good transport of air. Small scale temperature inversions that affect air quality are not common. Large scale inversions are common in the fall and can be associated with regional air quality degradation. Impacts to air quality are also associated with pollution flowing with weather patterns through White and Chinook Passes from west-side sources.	

Riparian Areas and Floodplains	Notes
All salmon bearing streams and riparian areas	<p>Including, but not limited to those within the BOR inholdings, Wenas Creek; fish recovery impacts water available for irrigation; floodplain management.</p> <p>++Need to identify a strategy for mitigation (e.g., shaded fuel breaks) and keeping riparian areas intact; riparian areas can serve as a pathway for fire flow from one community to the next</p>
Fish and Wildlife (General)	
<p>The upper reaches of the Yakima River and its tributaries are in the moist evergreen forests and alpine areas of the Cascade Mountains. Forests in higher elevation areas typically consist of Douglas-fir, grand fir, western and mountain hemlock, and subalpine fir. The lower elevation forestlands in western Yakima County are dominated by ponderosa pine and Douglas-fir. These dry forests are home to the declining white-headed woodpecker, golden eagle, Rocky Mountain elk, mountain lion, and many other wildlife species.¹</p>	
<p>The river valleys of the Yakima Basin create broad floodplains filled with cottonwoods, willows, and other deciduous trees. These riparian forests are oases supporting a wide range of migratory birds, reptiles and amphibians, and other wildlife.²</p>	<p>Much of the lower elevation sage-steppe in Yakima County has been converted into irrigated agricultural lands. The remaining areas support working ranches; provide critical winter ranges for elk, deer, and bighorn sheep; and are home to sensitive species.</p>
<p>Much of Yakima County's sage and grasslands support rare shrub-steppe wildlife, including one of the two remaining populations of greater sage-grouse in Washington and 30 species in greatest need of conservation action by WDFW. Frequent large wildfires are removing large areas of sagebrush in south-central Washington faster than it can be replaced.</p>	<p>30 species, including Townsends ground squirrel and pygmy rabbit, in greatest need of conservation action by the Washington State Department of Fish and Wildlife</p>
<p>https://wdfw.wa.gov/species-habitats/ecosystems/shrubsteppe#species</p>	
<p>Threatened and Endangered Plant species, e.g., Ahtanum buckwheat</p>	

¹ Yakima Basin Fish and Wildlife Recovery Board 2014.

² Yakima Basin Fish and Wildlife Recovery Board 2014.

Greater Sage Grouse

There are two established populations of Greater sage-grouse in WA State, one in Douglas County, and the other on YTC. The presence in Yakima County of the greater sage-grouse renders efforts to restore resilient landscapes all the more urgent yet all the more complicated. Washington State listed the grouse as threatened in 2001 and completed a recovery plan in 2004. The plan identified fire as one of the greatest threats to the grouse.

Washington Department of Fish and Wildlife completed a species status review in 2021 and elevated the species status to endangered. Subsequently, as a result of devastating wildfires within the state in 2020, the Washington Shrub-Steppe Restoration and Resiliency Initiative was implemented and is currently developing a long-term strategy for the conservation and recovery of shrub-steppe habitat within the state to include YTC. This strategy will also address the threat of wildfire on shrub-steppe in Washington.

The federal government ruled the grouse a candidate for listing under the Endangered Species Act (ESA) in 2010 and again cited the cycle of invasive species and repeated fires as a prime threat (75 FR 13910).

The annual grass/fire cycle precludes the re-establishment of sagebrush and reduces or eliminates native forbs and grasses essential for sage-grouse food and cover. In September of 2015, the U.S. Fish and Wildlife Service decided not to list the grouse under the ESA which would have resulted in further restrictions on military training and agricultural activities in the county. This decision not to list the species under ESA was, in part, based on various agencies within the range of the species, including YTC, having beneficial management actions/plans for the conservation of the species in place and committing to continued implementation of those actions/plans. A subsequent status assessment to be conducted sometime in the future will assess the actual level of implementation and whether those actions are effective in conserving the species and its habitat. This range-wide status assessment is still outstanding at the time of this review (2023).

The YTC has a Sage-grouse Management Plan that identifies protection, restoration, and monitoring actions for the conservation of the species and sustainment of the military mission. Approximately 25% of the installation is within a land allocation (Sage-grouse Protection Areas) that emphasizes management for the critical life-history requirements for the species (i.e., breeding, nesting, brood-rearing).

YTC also has a comprehensive fire management plan and holds meetings annually between first responders and environmental and training staff to review the plan's efficacy and prepare for the coming fire season. The augmentation of human and material resources and the establishment of primary and secondary containment areas around training ranges have helped reduce the number of fires escaping containment areas. However, fires originating on the adjacent interstate highways and from lightning continue to ignite fires in unpredictable locations and large portions of adjacent lands and on YTC, including Sage Grouse Protection Areas, continue to be impacted. Some of the adjacent lands are not within the jurisdiction of any fire district complicating timely and effective initial attack.

Maintenance of nesting and brood rearing habitat poses a fuel management challenge as the vegetative conditions that are suitable habitat constitute heavy fuels from a wildfire perspective. Keeping fires small and applying fire prevention actions to existing seasonally critical habitats will ensure that at least some of those areas for grouse remain.

Restoring resilient landscapes in South Central Washington rangelands requires strategic control of fire followed by active weed control and establishment of competing vegetation. Cost-effective, dependable techniques that can be applied beyond the 10's of acres to non-arable land have yet to prove successful. Even if such restoration was feasible, land management objectives vary across checkerboard ownerships making landscape-scale treatments difficult to plan and implement. Resiliency objectives in Yakima County rangelands should be: 1) have fewer acres burn annually 2) decrease acres dominated by weeds and 3) increase acreage of perennial forage or native grasses. Cooperative agreements between fire services and rangeland owners should be pursued along with landscape design of firebreaks and other strategic fuel reduction actions.

The risk of Greater Sage-grouse habitat loss from wildfire remains great. YTC and Washington Department of Fish and Wildlife should advise and collaborate with adjacent fire services to ensure that incident commanders and fire line bosses have maps of areas that should be protected from burning. YTC and Washington Department of Fish and Wildlife should continue to provide training resources to fire districts regarding the value of sage grouse habitat, the difficulty in its restoration, and the consequences of the cheat grass fire cycle, building on past efforts.

APPENDIX F

RESOURCES FOR RESIDENT AND COMMUNITY BASED ORGANIZATIONS

Several state and national programs provide tools and resources for residents and community based organizations to becoming fire adapted.

Resident and Neighborhood Scale

Wildfire Ready Neighbors

Wildfire Ready Neighbors is a program administered by the Washington Department of Natural Resources. Residents request a wildfire risk home assessment and are provided recommendations for taking action around their home and property to reduce the risk of home ignition. Residents work with a representative from DNR or a local organization to develop a mitigation plan.

Firewise USA®

Firewise USA® is a recognition program administered by the National Fire Protection Association (NFPA) and provides a framework for neighbors in a geographic area organize, create a wildfire mitigation action plan, and collaboratively prioritize and take action to increase the ignition resistance of their homes and neighborhood to wildfire. The Washington Department of Natural Resources, conservation districts, fire districts, and other nonprofit organizations can provide technical assistance and help guide neighborhood leaders through the Firewise USA® recognition process.

Ready, Set, Go! Program (RSG)

The Ready, Set, Go! Program seeks to empower fire departments to engage the residents they serve in wildland fire community risk reduction. The RSG! Program provides tools and resources for fire departments to use while providing residents with an understanding of their wildland fire risk and actions individuals can take to reduce that risk. The Ready, Set, Go Program is administered by the International Association of Fire Chiefs and implemented by local fire departments and districts.

Map Your Neighborhood

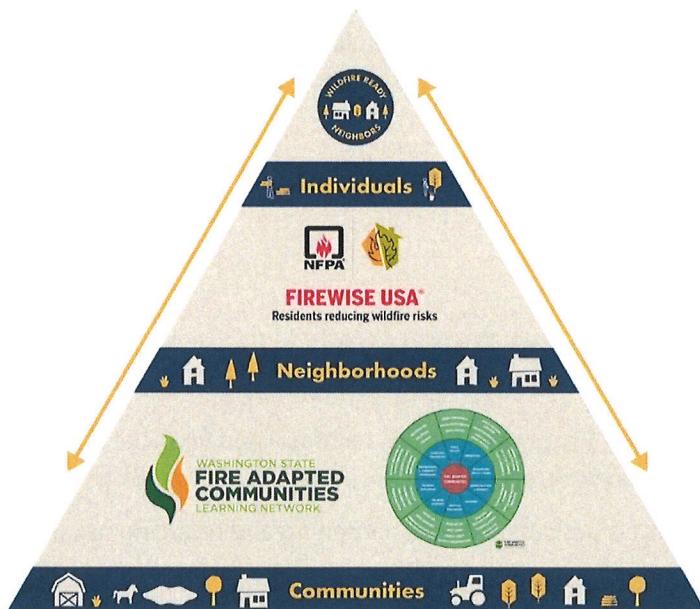
The **Map Your Neighborhood** program guides neighbors through simple steps to help enhance your preparedness for an emergency. These steps will help you to quickly and safely take actions that can minimize damage and protect lives. It is designed to improve disaster readiness at the neighborhood

level, 15-20 homes or a defined area that you can canvas in 1 hour. It teaches neighbors to rely on each other during the hours or days before fire, medical, police or utility responders arrive. Program resources are available on the Washington Military Department website.

Organization and Community Scale

The **Washington Fire Adapted Communities Learning Network** (WAFAC) provides tools and resources to local organizations leading and agencies supporting community fire adaptation efforts in place. WAFAC supports organizations in developing and acting on place-based strategies and priorities. WAFAC is a state-wide peer-to-peer learning network administered by the Washington Resource Conservation and Development Council.

The national **Fire Adapted Communities Learning Network** (FACNet) is a national peer-to-peer learning network administered by The Watershed Research and Training Center. FACNet provides training, tools, and resources to improve wildfire resilience to community wildfire resilience practitioners across the nation.



APPENDIX G

DNR PROGRAMS

To view planned, current, and completed forest health and fuel reduction projects on private, state, and federal lands, visit **DNR's Forest Health Tracker**.

Service Forestry Program

Formerly known as Landowner Assistance or the Cost-Share Program.

The program is part of the state's plan for improving the resiliency of our forests to threats including insects, disease, climate change, drought, and wildfire and involves maximizing the effectiveness of forest health treatments by coordinating and prioritizing forest management activities across watersheds and large landscapes. Service Foresters:

- Provide technical and financial assistance to implement forest health or wildfire mitigation treatments and for forest management plans to non-industrial private landowners who own less than 5,000 acres of land.
- Help identify and complete strategically placed shaded fuel breaks on private land along roadways to improve ingress/egress.

[DNR Landowner Assistance Portal](#)

Community Resilience Program

[DNR's Community Resilience Program](#) provides technical and financial assistance to communities in Washington state to adapt, prepare, and recover from wildfire. Community Resilience Coordinators:

- Advise residents on best practices for home hardening and reducing risk of home ignition.
- Provide training, technical assistance, and funding to local entities who complete wildfire risk home assessments, including the implementation of DNR's wildfire risk home assessment program: Wildfire Ready Neighbors.
- Award and administer Community Wildfire Resilience and Preparedness Grants, including federal Community Wildfire Defense Grant (CWDG) program.
- Help with Community Wildfire Protection Planning efforts. Facilitating signature process with the State Forester.
- Process and approve all Firewise USA® site renewals and new applications. Provide grants to current and potential Firewise USA® sites to implement action plans.

Wildland Fire Management

DNR provides **wildland fire protection** on 300,000+ acres in Yakima County. The following resources are stationed in Yakima County to meet response and suppression objectives: 3 Overhead, 5 engines, 1 hand crew, 1 dozer, 1 Heli base and one Single Engine Air Tanker (SEAT) base. DNR has several cooperative agreements in place with County, State, Tribal and Federal partners to better manage wildland fire across jurisdictional boundaries in Yakima County and share resource in times of need. Primary responsibilities:

- Respond to and suppress wildland fires on State and Private lands under Forest Fire Protection Assessment (FFPA) and other protection agreements in accordance with RCW 76.04.
- Assist with meeting Agency objectives in fuels management, prescribed fire, forest, and community resilience.

Post-Fire Recovery Program

DNR's Post Fire Recovery Program provides rehabilitation assistance to private landowners who have been impacted by wildfire. Cost-share percentages may become available and be determined by activities, such as: reforestation and replanting, soil stabilization, erosion control, native revegetation, stream and riparian restoration and rehabilitation.

Prescribed Fire Program

DNR's Prescribed Fire Program aims to achieve the goals of the 20-Year Forest Health Strategic Plan and Forest Action Plan, the Prescribed Fire Program:

- Supports prescribed fire treatments across all-land ownerships
- Provides funding to partners for prescribed fire planning, coordination and implementation of project and plans across boundaries.
- Sets internal DNR policy, regulation, and standards for prescribed burning.
- DNR staff participate on the Washington Prescribed Fire Council and the Pacific Northwest Wildfire Coordinating Group (PNWCG) Fuels Committee.
- Coordinates statewide Strategic Planning and prescribed fire-related agreements and contracts.
- Assists with Prescribed Fire Training Exchanges (TREX).
- Provides training to staff and partners on burning techniques and fuels measurements.
- Manages the state-sponsored Certified Burner Program and supports prescribed burn associations.

Recreation – DNR's Southeast Region Recreation Program:

- Develops and maintains designated recreation sites including campgrounds, trailheads, trails, and day use areas on DNR managed lands.
- Manages public use and dispersed recreation outside of designated recreation sites on DNR lands, which includes much of the Green Dot Road System in Chelan, Kittitas and Yakima counties. (In Yakima County, the main DNR recreation destinations are the Ahtanum State Forest and the Wenas and Rattlesnake blocks.)

State Lands

Southeast Region DNR Forested State Trust Land Management Program manages forested state trust lands to maintain healthy forests, reduce wildfire hazard, and generate revenue for the Trust beneficiaries. Work may include commercial forest treatments, pre-commercial thinning, fuel breaks, strategic fuels reduction, prescribed fire, and reforestation.