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September 2018
Kittitas County

Community Wildfire Protection Plan

Prepared for the Kittitas Fire Adapted Communities Coalition
and Kittitas County Conservation District

September 2018
Kittitas County

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Prepared for

The Kittitas Fire Adapted Communities Coalition, Kittitas County Public Works, and the community of Kittitas County.

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Adoption of The Kittitas County Community Wildfire Protection Plan

Under the Healthy Forests Restoration Act, the applicable local government, the local fire department(s), and the state entity responsible for forest management approve the Kittitas County Community Wildfire Protection Plan (CWPP). The Kittitas County CWPP was originally completed and signed in December 2006, and a revision was completed in April 2009. As directed by this CWPP, extensive fuels reduction and fire prevention activities have been completed on public and private lands. Recent wildland fires have also impacted the landscape and neighborhoods. Combined, these events have changed the priorities outlined in the previous documents.

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

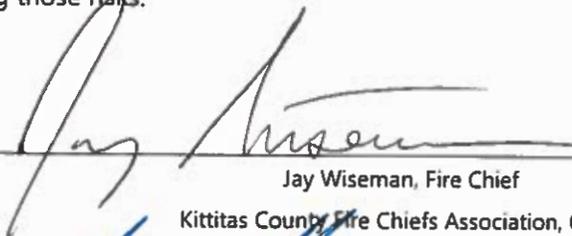
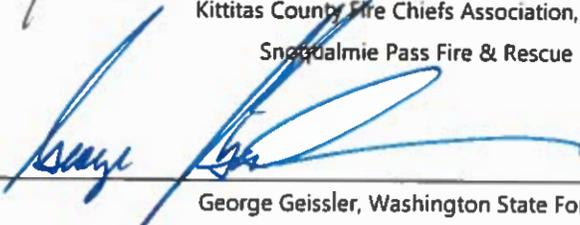
 _____ Jay Wiseman, Fire Chief Kittitas County Fire Chiefs Association, Chair Snoqualmie Pass Fire & Rescue	9/21/2018 _____ Date
 _____ George Geissler, Washington State Forester Washington State Department of Natural Resources	10/9/18 _____ Date
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ABBREVIATIONS

BLM	U.S. Bureau of Land Management
CEMP	Comprehensive Emergency Management Plan
Cohesive Strategy	National Cohesive Wildland Fire Management Strategy
CWPP	Kittitas County Community Wildfire Protection Plan
DNR	Washington State Department of Natural Resources
DNR LOA	DNR Landowner Assistance Program
FEMA	Federal Emergency Management Agency
FLAME	Federal Land Assistance, Management, and Enhancement
HFI	Healthy Forests Initiative
HFRA	Healthy Forests Restoration Act
HIZ	Home Ignition Zone
HOA	homeowner association
HUC	Hydrologic Unit Code
IWUIC	International Wildland Urban Interface Code
KCCD	Kittitas County Conservation District
KFACC	Kittitas Fire Adapted Communities Coalition
MTRL-RP	Manastash Taneum Resilient Land – Restoration Project
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
PNRA	Pacific Northwest Region Wildfire Risk Assessment
PNRS	Pacific Northwest Research Station
RAWS	Remote Automated Weather Stations
TNC	The Nature Conservancy
USFS	U.S. Forest Service
WAFAC	Washington Fire Adapted Communities Learning Network
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WUI	Wildland Urban Interface

1 Introduction

This section (Section 1) provides the purpose and mission of the document, which include both the restoration of resilient fire adapted ecosystems as well as resilient, fire adapted communities. Section 2 provides a history of this living document and the stakeholders involved in its inception and this update. Section 3 looks at the factors influencing fire, probability, severity, and risk in Kittitas County including demographics, infrastructure, terrain, the location and conditions of all vegetation and other potential fuels, and the conditions specific to the Wildland Urban Interface (WUI). Section 4 begins with a history of fire in Kittitas County and the fire regime before fire suppression efforts began. The section describes tools used by the authors to assess risk at the community level and the strategies that address those risks specifically. The section also includes an analysis of physical conditions, specific concerns, and risks related to ten individual communities (sub areas).

The idea for community-based forest planning and prioritization is neither novel nor new. Kittitas County communities were reminded by the recent Jolly Mountain fire of the need to engage in comprehensive forest planning and prioritization. This document includes a review of Kittitas County's past fire history and current conditions affecting fire probability, severity, and risk. This plan addresses risks to health, safety and property, and a comprehensive strategy to improve resiliency to wildfire.

Section 5 begins with the goals of a cohesive strategy for Kittitas County based on national strategy developed by the U.S. Forest Service (USFS).¹ Section 5 also describes past accomplishments with regard to promoting an ecosystem-based fire management, promoting fire adapted communities, preparing communities for wildfire, increasing wildfire response, and responding after fires both in the short and long term. Section 6 describes how this plan will be implemented, monitored, and evaluated.



Teahaway River Fire, 2017; Kittitas County Conservation District

¹ The USFS's national strategy can be found online at: <https://www.fs.fed.us/restoration/cohesivestrategy.shtml>.

1.1 Purpose

The purpose of the Kittitas County Community Wildfire Protection Plan (CWPP) is to accomplish the following goals:

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

1.2 Mission

The overall **mission** of the Kittitas County Community Wildfire Protection Plan is **to protect against loss of life, property, and natural resources as the result of wildland fire**. The CWPP has met its mission and continues to serve as the leading document providing direction and guidance to those seeking to protect the resources of Kittitas County.

Wildland fire is a natural and necessary component of forest ecosystems across the country. Central Washington is no exception. Historically, wildland fires have shaped the forests valued by residents and visitors. Forests and other wildlands in Kittitas County, however, are now significantly altered due to past forest management practices, fire prevention efforts, modern suppression activities, residential development, and a general lack of large-scale fires. These activities have resulted in overgrown forests—some with closed canopies and all with abundant ladder fuels that dramatically increase the chances of large wildland fires that burn intensely and cause catastrophic losses.

Kittitas County has experienced decades of population growth and home building, which has led to increased residential development into forests and into the WUI. This has in turn led to increased risk of life and property presenting a challenge for fire protection, fire prevention, and law enforcement agencies.

Although reducing risk of high intensity wildfire is the primary motivation behind this plan, managing the forests and wildlands for hazardous fuels reduction and fire resilience is only a part of the larger picture. Residents and visitors desire healthy, fire-resilient forests and wildlands that provide habitat for wildlife, recreational opportunities, and scenic beauty. By establishing a more fire-adapted community through work on private property and a more fire resilient landscape, the fire response will be better integrated and successful.

This update outlines the revised priorities, strategies, and action plan for fuels reduction treatments in the WUI and post fire recovery. This updated CWPP again addresses special areas of concern and makes recommendations for reducing structural vulnerability and creating defensible spaces in communities at risk. With this revision, the Kittitas County CWPP remains a living vehicle for fuels reduction, education, and other projects to decrease overall risks of loss from wildland fire.



2 History of the Kittitas County Community Wildfire Protection Plan

2.1 Recent Federal Initiatives and Legislation

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



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

The development and implementation of this CWPP gives the communities of Kittitas County the opportunity to participate in determining where federal agencies place their fuels reduction efforts. With a CWPP in place, Kittitas County, Kittitas County Conservation District (KCCD), community groups, and other stakeholder groups can apply for federal grants to treat hazardous fuels and address special concerns to reduce the risk of catastrophic loss as a result of wildland fire.

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

- To safely and effectively extinguish fire, when needed; use fire where allowable; manage our natural resources; and as a Nation, live with wildland fire
- The primary, national goals identified as necessary to achieving the vision are:

- Resilient landscapes: Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- Fire-adapted communities: Human populations and infrastructure can withstand a wildfire without loss of life and property.
- Wildfire response: All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

2.2 Kittitas Fire Adapted Communities Coalition

In May 2017, a group of stakeholders convened at the Swauk-Teaway Grange Hall to discuss the formation of a group later called the Kittitas Fire Adapted Communities Coalition (KFACC). This group discussed needs and goals to better address growing wildfire concerns and coordinate resources to efficiently increase resiliency in the Kittitas County community. Members of the KFACC include Kittitas County Fire & Rescue No. 7, Kittitas Valley Fire & Rescue, Washington State Department of Natural Resources (DNR) Southeast Region, USFS – Okanogan Wenatchee National Forest, The Nature Conservancy (TNC), Kittitas County, Army National Guard, Hidden Valley-Swauk Fire Adapted Community, Kittitas Conservation Trust, Suncadia, Washington Farm Forestry Association (WFFA), Natural Resources Conservation Service (NRCS), KCCD, and private landowners.



Washington State Department of Natural Resources



Kittitas County Conservation District

Formal formation of the KFACC has been initiated and expanded to include many more fire districts, Kittitas Chapter of Washington Farm Forestry Association, County Commissioner, local governments, Suncadia Resort, and others. KFACC has developed a charter, short-term and long-term goals for community wildfire resiliency, and meets monthly to share, learn, and coordinate efforts toward meeting established goals. Goals include updating this CWPP, mapping in GIS accomplishments and priority needs, modeling fire simulations for high priority neighborhoods as part of CWPP and GIS project, and community outreach that results in greater engagement and participation in risk reduction.

KFACC participants have recognized the need to coordinate actions and work. Participants are dedicated to finding methods and approaches to obtaining higher density of participation and

treatment rather than a “shotgun” approach that result in more effective fire response and reduction of wildfire impacts including potential loss of human life, property, and natural resource damage. KFACC is being used as a platform for coordination between agencies, stakeholders, and landowners to have a coordinated approach to education and outreach for spreading awareness of wildfires before, during, and after they occur.

2.3 The Formation of the Kittitas CWPP Subcommittee

The KFACC created the CWPP subcommittee to develop and complete this plan. The Kittitas County CWPP Subcommittee includes members of the public and representatives from local fire districts, DNR, Kittitas County, USFS, and KFACC. This CWPP was assembled in the true spirit of collaboration, and the following people are acknowledged for their participation and commitment which has resulted in this 2018 Kittitas County CWPP: The Nature Conservancy, Washington Farm Forestry Association, Suncadia, Kittitas County Board of County Commissioners, Kittitas County Public Works, Kittitas County Community Development Services, Kittitas County Fire Districts #1, 6, 7, 51, City of Cle Elum and City of Roslyn Fire Departments, Kittitas Valley Fire & Rescue, United States Forest Service – Okanogan Wenatchee National Forest, Bureau of Land Management, Washington State Department of Natural Resources – SE Region, Washington Department of Fish and Wildlife, Tapash Sustainable Forest Collaborative, Yakima Training Center – Fire Department, Kittitas Conservation Trust, Kittitas County Conservation District, City of Cle Elum Council and Staff, US Army National Guard and several private landowners representing the areas of Lauderdale Junction, Liberty, Hidden Valley and Buffalo Springs.

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

2.4 Community Wildfire Protection Plan Update Process

The most recent revision of the Kittitas County CWPP was adopted in April 2009. Continued efforts have been made by local, state, and federal agencies to reduce the threat of high intensity wildland fires through landowner education as well as fuels reduction activities on both public and private lands. In addition, private landowners have responded enthusiastically to the defensible space and preparation guidelines and recommendations to reduce hazardous fuels on their own properties.

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

In keeping with the strategy of the original Kittitas County CWPP, the Subcommittee revisited the planning outline in *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee et al. 2004). That document provides an eight-step process for updating a CWPP. Below are eight steps and the achievements of the Subcommittee in taking each of the steps outlined.

- **Step one: Convene the decision makers.**

The Kittitas County CWPP Subcommittee reconvened in April 2018 to review the work completed within and adjacent to the WUI boundary on public and private lands and to reevaluate the priorities for future fuels reduction treatments. The Subcommittee is comprised of the Program Director from Project Wildfire; Fire Marshals from local fire districts; representatives from DNR; representatives from the U.S. Bureau of Land Management (BLM); the Kittitas County Forester, other stakeholders, and members of the public.

- **Step two: Involve state and federal agencies.**

HFRA directed communities to collaborate with local and state government representatives, in consultation with federal agencies and other interested parties in the development of a CWPP. The Subcommittee recognized the importance of this collaboration and involved not only members from the USFS, but DNR and Kittitas County representatives as well. Each agency brought a wealth of information about fuels reduction efforts planned and completed, along with educational information based on current research across the nation.

- **Step three: Engage interested parties.**

The Subcommittee included representatives from the Communities at Risk, members of local businesses, road districts, homeowner/neighborhood associations, and other organizations and individuals. The Subcommittee encouraged a collaborative environment for the stakeholders to accomplish the 2017 revision of the Kittitas County CWPP. Collaboration and coordination between agencies, community members, and landowners is the fundamental goal of the Cohesive Strategy.

- **Step four: Establish a community base map.**

The Subcommittee reviewed the previous maps and boundaries from the 2009 CWPP. The group approved the 2018 CWPP boundary, which now has nine rating areas that replaced the previous eight. The Subcommittee was able, with this change to the base map, to accurately assess the risk in two areas, which were in one rating area in the previous plan, each with two distinctly different vegetation types.

- **Step five: Develop a community risk assessment.**

The Subcommittee relied on Pacific Northwest Quantitative Wildfire Risk Analysis from USFS Pacific Northwest Region 6 and the Structural Vulnerability factors for each of the ten Communities at Risk.

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

Based on the assessments, the Subcommittee produced items in the action plan for each rating area. The Subcommittee also made recommendations to reduce structural vulnerability based on information in the assessments and local knowledge.

- **Step seven: Develop an action plan and assessment strategy.**

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

- **Step eight: Finalize the Community Wildfire Protection Plan.**

A draft of the Kittitas County CWPP was available for public comment for 30 days prior to the final signing and approval of the plan. Interested parties provided comments during this period. The Kittitas County CWPP was mutually accepted and signed by local fire districts, the DNR State Forester, KFACC, and the Kittitas County Board of Commissioners as demonstrated in the Declaration of Agreement.

2.5 Additional State and Federal CWPP Guidelines Integration

This CWPP includes compatibility with Federal Emergency Management Agency (FEMA) requirements for a Hazard Mitigation Plan, while also adhering to the guidelines proposed in the National Fire Plan, and HFRA. This CWPP has been prepared in compliance with:

- The National Fire Plan: A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan (USDA 2006)
- HFRA
- The FEMA's Region 10 guidelines for a Local Hazard Mitigation Plan as defined in 44 Code of Federal Regulations parts 201 and 206 and as related to a fire mitigation plan chapter of a Multi-Hazard Mitigation Plan
- National Association of State Foresters – guidance on identification and prioritizing of treatments between communities (2003). The objective of combining these complementary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts to achieve the protection of people, structures, the environment, and significant infrastructure in Kittitas County while facilitating new opportunities for pre-disaster mitigation funding and cooperation. Additional information detailing the state and federal guidelines used in the development of the Kittitas County CWPP.

3 Kittitas County Local Environment

3.1.1 Overview

Kittitas County is located in central Washington and bound by the Cascade Mountains to the west and the Columbia River to the east. **More than 70% of the County is publicly owned.**

Approximately two thirds of the public lands are managed by federal agencies including the USFS (Okanogan-Wenatchee National Forest) and the U.S. Army (Yakima Training Center). The remaining one third of publicly owned land is split primarily between DNR and the Washington Department of Fish and Wildlife (WDFW). Private lands are highly influenced by the availability of irrigation water in Kittitas County. Like the rest of the Yakima River watershed, irrigation infrastructure including reservoirs and delivery systems, maintained by the U.S. Bureau of Reclamation, irrigation districts, and companies, provide water to agricultural lands allowing for significant crop production. Additionally, private lands are influenced by significant winds, especially in the Kittitas Valley.

Kittitas County includes portions of three watersheds, which are known as Water Resource Inventory Areas (WRIAs). Most of Kittitas County is within the Upper Yakima (WRIA 39), which drains into the Yakima River, and a small portion of the eastern county is in the Alkali-Squilchuck (WRIA 40), which drains into the Columbia River. Additionally, a small portion of the county is within the Naches (WRIA 38).



The USFS manages the Okanogan-Wenatchee National Forest, Snoqualmie National Forest, and Alpine Lakes Wilderness (31% of the County). Additionally, the Department of Defense manages 10% of the county as the U.S. Army Yakima Training Center located in the southeast. Only approximately half of this 327,000-acre military installation is in Kittitas County, with the other half in Yakima County. State owned lands (28% of the County) are managed primarily by the WDFW and DNR and include the Teanaway Community Forest, Naneum Ridge State Forest, Colockum Wildlife Area, and LT Murray Wildlife Area. **Privately-held land comprises only 28% of the land base in Kittitas County**, which includes a mixture of rural development, agriculture, and commercial forestry (Kittitas County et al. 2013).

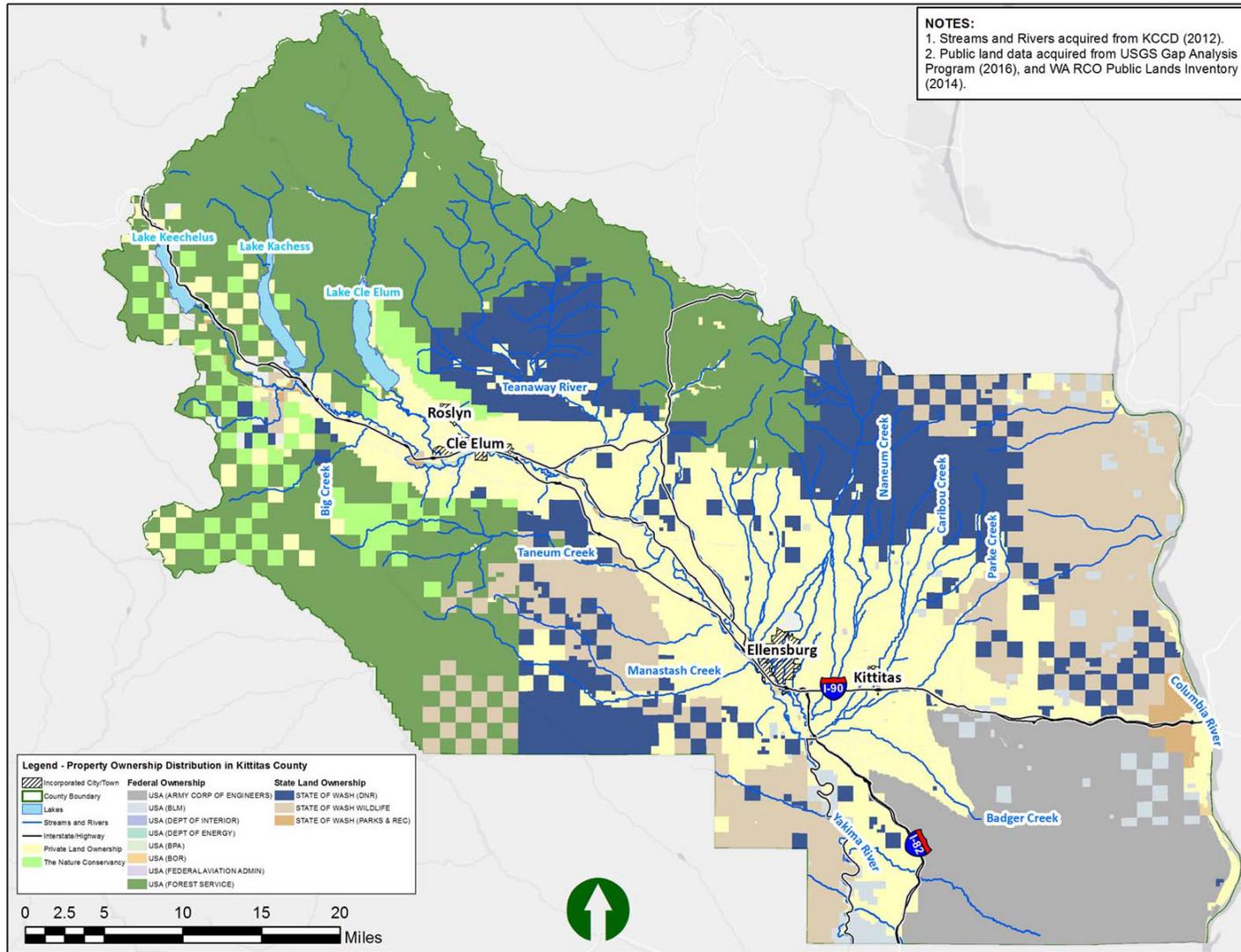
Rangelands are areas that are primarily kept in a natural or semi-natural state to facilitate grazing of livestock. These areas are essential for production of livestock, but also provide value to many wildlife species by preventing conversion to more intensive land uses. In Kittitas County, there are two types of rangeland practices, forested rangeland and shrub-steppe rangeland. Forested rangeland occurs mostly in the foothills of the Cascade Mountains and is characterized by livestock that graze on vegetation beneath the forest canopy. Grazing in these areas often has the additional benefit of reducing ladder fuels for forest fires. Shrub-steppe rangelands are located on the Columbia Plateau and often overlap with shrub-steppe habitat. Stewardship practices on these rangelands aim to support vegetation growth, maintain healthy soils, and reduce herbaceous fuel loading for wildland fires. These actions help protect ecological functions and values and maintain economic viability.

3.2 Demographics

In the last few years, Kittitas County has experienced tremendous growth with approximately 11,355 new residents locating within the county from 2000 to 2016 (Headwaters Economics 2018). The most recent estimate of the Kittitas County population, from 2017, was 46,205 (U.S. Census Bureau 2018). Kittitas County has five incorporated communities: Ellensburg (est. pop. 20,326), Cle Elum (pop. 1,993), Kittitas (est. pop. 1,491), Roslyn (est. pop. 947) and South Cle Elum (est. pop. 560) (U.S. Census Bureau 2018). The remaining population lives within the unincorporated areas of the county (WA OFM 2017).

While Kittitas County remains rural in comparison to its westerly neighbors, increased population and secondary home growth is projected to be significant (Berk Consulting 2016).

**Figure 1
Land Ownership Map**



**Figure 2
Kittitas County Demographic Information**

KITTITAS				Amount	Rank
		Population – 2017	44,730	23	
		Unincorporated	20,395	24	
		Incorporated	24,345	22	
		Land Area in Sq. Mi.	2,297.27	8	
		Density Pop./Sq. Mi.	19.47	27	
		Assessed Value – 2016			
		Total \$ In Thousands	\$5,343,469	21	
		Per Capita \$/Person	\$119,461	9	
		Personal Income – 2016			
		Total \$ In Thousands	\$1,801,883	22	
Per Capita \$/Person	\$40,161	28			
County Seat - Ellensburg	Taxable Retail Sales – See Table LT01				

POPULATION AS OF APRIL 1, 2017			
Components of Pop. Change	City/Town	Population ^k	
2010 to 2017			
Estimated Births	2,864 Cle Elum	1,875	
Estimated Deaths	1,995 Ellensburg	19,550	
	Kittitas	1,500	
Natural Increase	869 Roslyn	890	
Net Migration	2,946 South Cle Elum	530	
Total Population Change	3,815		
Marriages in 2016	413		
Per 1,000 Pop.	9.4		
Divorces in 2016	102		
Per 1,000 Pop.	2.3		

POPULATION BY NON-HISPANIC RACE AND HISPANIC ORIGIN BY RACE							
	Total	White	Black	AIAN	Asian	NHOPI	2 or More
2010 Census Non-Hisp.	37,794	35,278	342	356	795	56	967
2010 Census Hispanic	3,121	2,776	52	84	45	3	161
2017 Est. Non-Hisp.	40,830	37,883	378	396	911	63	1,199
2017 Est. Hispanic	3,900	3,426	65	110	61	5	233

AIAN: American Indian and Alaska Native; NHOPI: Native Hawaiian and Other Pacific Islander

STATE COLLECTED REVENUES DISTRIBUTED TO COUNTY GOVERNMENTS ^a				
State Fiscal Year	2014	2015	2016	2017
Criminal Justice	\$3,021,970	\$3,235,070	\$3,557,061	\$3,990,887
Federal Revenues	630,556	571,799	561,905	78,109
Forest Excise & Reclassified	67,793	58,882	49,471	32,622
Hotel/Motel Tax	711,378	728,993	857,927	1,021,827
Liquor Excise Tax	10,685	13,118	30,996	38,974
Liquor Profits	75,593	75,368	75,483	76,963
Local Sales & Use Tax/Interest	3,873,931	4,278,567	5,081,811	5,801,759
Miscellaneous	626,123	549,280	664,319	667,490
Motor Vehicle Fund	2,369,422	2,459,933	2,587,160	2,575,452
Natural Resources Transfers	–	166,602	232,321	232,321
PUD Privilege Tax	312,934	246,404	281,243	287,421
Total Revenues Distributed	\$11,720,386	\$12,384,016	\$13,969,697	\$14,803,825

REAL ESTATE EXCISE TAX COLLECTIONS - 1% OF SALES			
State Fiscal Year	2014	2015	2016
State Fiscal Year 2014:	\$5,098,813	State Fiscal Year 2016:	\$5,826,593
State Fiscal Year 2015:	\$5,315,872	State Fiscal Year 2017:	\$6,775,310

COUNTY REVENUES AND EXPENDITURES-CALENDAR YEAR 2016 ^a			
Revenues	Expenditures		
Property Taxes	\$13,181,019	General Govt Services	\$11,313,394
Retail Sales & Use	10,349,121	Security of Persons & Property	10,742,362
All Other Taxes	1,126,214	Physical Environment	3,360,912
Licenses & Permits	1,742,780	Transportation	7,716,624
Intergovernmental Revenues	9,615,557	Economic Environment	2,230,348
Charges for Services	9,246,496	Mental & Physical Environment	2,809,772
Fines & Forfeits	1,672,598	Culture & Recreation	1,962,321
Miscellaneous Revenue	2,791,617	Debt Service	864,960
Other Financing Resources	5,562,872	Capital Outlays	4,820,605
Total Revenues	\$55,288,275	Total Expenditures	\$45,821,287

AVERAGE MONTHLY EMPLOYMENT AND TOTAL WAGES IN COVERED EMPLOYMENT-CY 2016							
Industry	Employers	Av. # of Employees	Percent of Total	Wages Paid	Percent of Total		
Agric., Forestry, Fishing & Hunting	122	967	6.7	\$31,256,101	5.6		
Mining	–	–	–	–	–		
Utilities	–	–	–	–	–		
Construction	205	927	6.4	\$42,430,915	7.6		
Manufacturing	43	556	3.9	\$20,682,260	3.7		
Wholesale/Retail Trade	201	2,282	15.8	\$73,217,632	13.0		
Transp. & Warehousing	45	180	1.3	\$8,264,737	1.5		
Information	19	176	1.2	\$8,783,649	1.6		
Fin., Ins., & Real Estate	88	415	2.9	\$23,526,385	4.2		
Professional & Tech. Services	73	246	1.7	\$11,324,084	2.0		
Mgmt of Companies & Enterprises	–	–	–	–	–		
Administrative & Waste Services	61	255	1.8	\$7,570,890	1.3		
Educational Services	22	132	0.9	\$4,505,881	0.8		
Health Care & Social Assistance	184	1,250	8.7	\$37,160,424	6.6		
Arts, Entertainment, & Recreation	23	130	0.9	\$2,096,732	0.4		
Accommodation & Food Services	142	2,612	18.1	\$48,607,294	8.7		
Other Svcs., except Public Admin.	99	324	2.3	\$8,860,953	1.6		
Government	65	3,881	27.0	\$227,628,980	40.6		
Not Elsewhere Classified	10	67	0.5	\$5,216,426	0.9		
Total	1,402	14,400	100.0	\$561,133,343	100.0		

PUBLIC ASSISTANCE PROGRAMS IN STATE FISCAL YEAR 2017				
Program	Total Grants	Monthly Average	Persons Served	Rank by % of Pop
Basic Food	\$6,684,650	4,819	10,774	33
CEAP	495	3	0.007	17
Disability Lifeline	156,098	64	0.143	33
Diversion Cash	34,968	9	0.020	9
MA Cash Assistance	934	3	0.007	28
Refugee Assistance	–	–	–	–
State Supplemental SSI	44,000	92	0.206	38
TANF	\$548,269	252	0.563	35

PUBLIC K-12 SCHOOLS			
Number of Districts	6	School Apportionment	
Avg. Ann. FTE Enroll 2015-16:	5,029	State Fiscal Year 2016:	\$44,196,989
Avg. Ann. FTE Enroll 2016-17:	5,103	State Fiscal Year 2017:	\$47,724,786

Major Sources of Operating Rev.-FY 2016-17		Sel. Expend. For Instructional Prog.-FY 2016-17	
State	\$41,856,212	Basic Education	\$29,568,778
Federal	3,679,422	Special Education	5,890,558
Local Tax	12,845,279	Vocational Education	1,816,047
Other Local	1,079,063	Transportation	2,225,074
Other Sources	271,583		
Total	\$59,531,559	Total Selected Expenditures	\$39,488,458

TRANSPORTATION ^a : REGISTRATIONS FOR CALENDAR YEAR 2016				
Total Licensed Drivers:	31,744			
Licensed Vehicles:	Passenger	24,594	Other	14
	Trucks	14,809	Exempt	43
	Recreational	9,290	Total ^b	57,505
	Trailers	8,755	Vanity ^c	533

COUNTY POPULATION BY AGE AND SEX-APRIL 1, 2017							
Age	Total	Male	Female	Age	Total	Male	Female
0-4	2,181	1,110	1,072	50-54	2,454	1,241	1,214
5-9	2,252	1,148	1,104	55-59	2,744	1,408	1,336
10-14	2,278	1,171	1,107	60-64	2,734	1,376	1,358
15-19	6,012	2,929	3,083	65-69	2,500	1,251	1,248
20-24	6,343	3,367	2,976	70-74	1,925	978	947
25-29	2,495	1,395	1,100	75-79	1,237	629	608
30-34	1,887	1,031	856	80-84	800	391	409
35-39	1,676	889	787	85+	638	345	494
40-44	1,916	993	923	Total	44,730	22,886	21,844
45-49	2,259	1,146	1,112	Median Age	32.13	31.57	32.81

Note: Data may not add due to rounding. ^aSee footnotes page. Footnote symbol meanings differ by section.

Source: WA OFM 2017

3.2.1 Local Economy

Since 2000, the industry sectors with the largest numbers of jobs were government (4,224 jobs), services (3,958 jobs), retail trade (3,520 jobs), and farming (1,459 jobs) (Headwater Economics Socioeconomic Profile 2018). Kittitas County continues to have a large percent of total farm employment (6.78%) compared nationally. Agricultural employment in most parts of the United States has been declining, largely as a result of mechanization and other efficiencies of scale, for most of the last century. However, this is not the case everywhere. In addition, not all geographies have lost or attracted farm employment at the same rate. Agricultural producers (primarily of hay) operate on approximately 13% of the unincorporated areas of Kittitas County. Private agricultural crop and pasture lands can be split into three categories, irrigated, dryland, and orchard/vineyard crops. Irrigated crop and pasture comprise 6.5% of the County, and both dryland crops and orchard and vineyard areas comprise less than 1% of the County respectively. Kittitas County crop lands produce approximately 68% of the value of products sold in the county (USDA 2012). Rangelands account for 6.4% of county land, and county-wide livestock sales account for approximately 32% of the value of products sold (USDA 2012). There are approximately 1,000 farms in the county that vary in size ranging from relatively small, with agricultural product sales of less than \$1,000, to large, with agricultural product sales of greater than \$500,000. According to the U.S. Department of Agriculture's Census of Agriculture (2012), Kittitas County produces approximately \$68 million in market value from agricultural products statewide.

Resource industries such as timber, have been a small percentage in comparison to agriculture's strong presence. From 1998 to 2015, timber employment shrank from 106 to 79 jobs, a 25% decrease while non-timber employment grew from 6,801 to 11,007 jobs a 61% increase. Timber sectors such as harvesting and manufacturing have all decreased substantially; while mills grew from 6 to 34 jobs, a 466% increase from 1998 to 2015 (Headwaters Economics 2018). There are 914,469 forested acres in Kittitas County, mostly public and 2,600 small forest landowners accounting for 58,000 forest acres (UW State Forestland Database 2007).

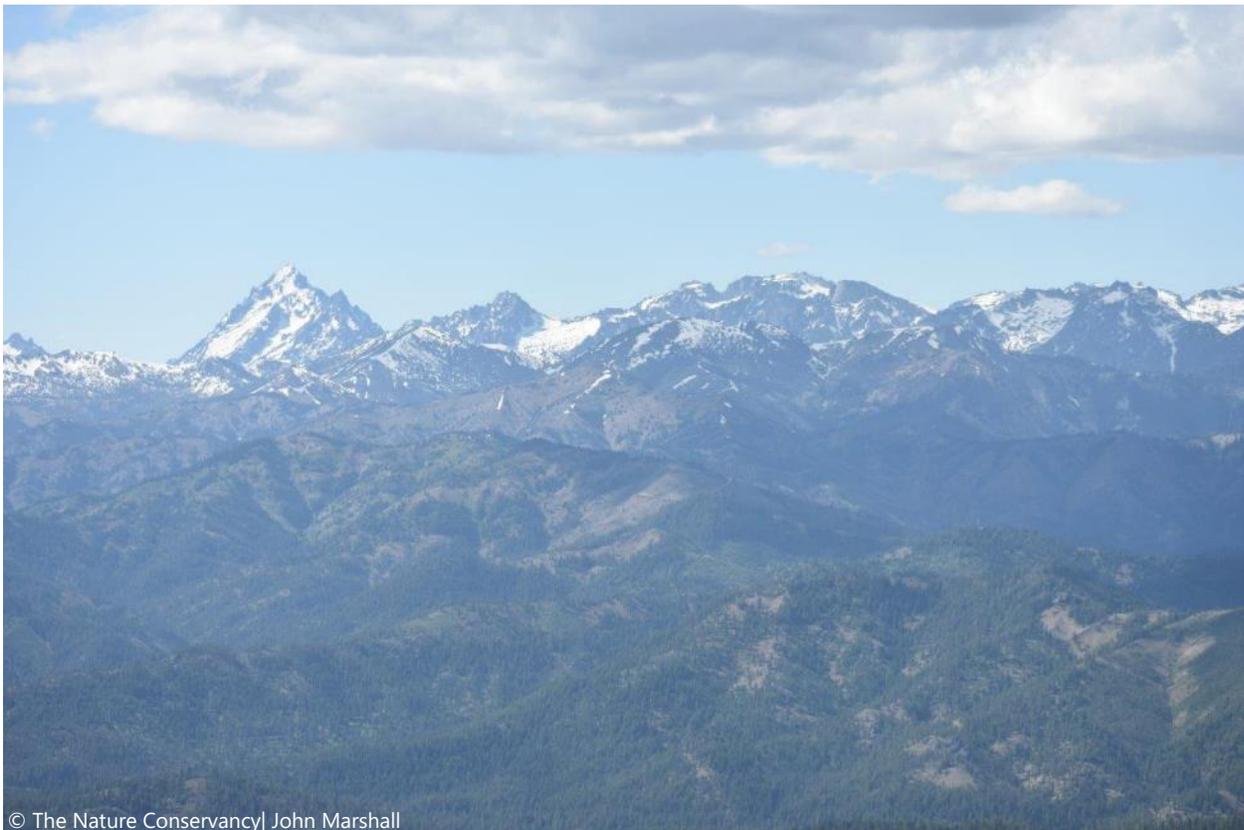
3.3 Critical Infrastructure

Critical facilities and infrastructure are those that are essential to the health and welfare of the population. These become especially important after a hazard event. Critical facilities typically include police and fire stations, schools, and emergency operations centers. Critical infrastructure can include the roads and bridges that provide ingress and egress and allow emergency vehicles access to those in need, and the utilities that provide water, electricity, and communication services to the community. Also included are "Tier II" facilities and railroads, which hold or carry significant amounts of hazardous materials with a potential to impact public health and welfare in a hazard event.

3.4 Terrain/Geomorphology

Three distinct regions are found in the County which include the Cascades, Eastern Cascades Slopes and Foothills, and Columbia Plateau. The Cascade region is located in the western portion of the County and is characterized by glaciated valleys and high peaks. The Cascade region is mainly forested and within the Okanogan-Wenatchee National Forest. The Eastern Cascades Slopes and Foothills region comprises the majority of the central portion of the County and is characterized by open forests, mainly ponderosa pine. The Columbia Plateau region is located to the east of the Eastern Cascades Slopes and Foothills and is characterized as the Yakima River Valley and the Columbia River Valley. Much of the area in the Yakima River Valley has been converted to irrigated agriculture. Shrub-steppe habitat is also prominent within the Columbia Plateau region.

Soils in the mountainous areas in the county are characterized as basalt and glacial deposits. These soils are eroded and deposited in the Yakima River Valley as alluvium. Upland of the Columbia River, basalt forms steep talus slopes with large particle sizes (ranging from sand to boulders). The shoreline of the Columbia River is characterized by natural alluvium and sand dunes, but some areas have been modified by riprap and artificial fill (Kittitas County et al. 2013).



3.5 Vegetation

3.5.1 *Fire Adapted Landscape*

Historically Kittitas County has undergone frequent low-intensity fire, like much of the lower and mid-elevation forests, but resulting primarily from over 100 years of successful fire suppression activities, these areas have seen excessive fuel buildup, altering the historical fire regime intensity and severity. The most recent forest health assessment for the Okanogan and Wenatchee National Forests found widespread susceptibility to insect and disease outbreaks and large-scale severe wildfire (USFS 2004) The report found that climate and fire suppression were the primary drivers of this change. The health of shrub steppe habitat in the eastern county has also declined increasing the risk of range fire.

3.5.1.1 Forest Vegetation

Woodland fuels are mostly present in the western half of the county. As you move west the forest transitions from wet deciduous and shade tolerant conifer 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 characteristic of the river valleys in the region, can result in high intensity fires with large flame length 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 results 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 wildfire.

3.5.1.2 Rangeland Vegetation

Sagebrush is found throughout the mid to eastern edge of Kittitas County and is of great concern as ladder fuel intermixed with stands of mixed conifers. Sagebrush is highly susceptible to fire and rarely re-sprouts. Under historic conditions, sagebrush took approximately 20 years to reach pre-burn densities following a wildfire event. Without periodic fire, sagebrush reaches an uncharacteristic old-growth form with increased height, woody stems, and thick accumulations of leaves – all highly flammable with fire behavior that is very similar to crown fires in larger conifers. Changes in fire occurrence along with fire suppression and livestock grazing have contributed to the current condition of sagebrush in the planning area. Introduction of annuals, especially cheat grass, has increased fuel loads so that fire carries easily, increasing the potential for significant and dangerous fire behavior.



Kittitas County Conservation District

3.5.1.3 Noxious Weeds

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

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

**Figure 3
Vegetation Cover Map**

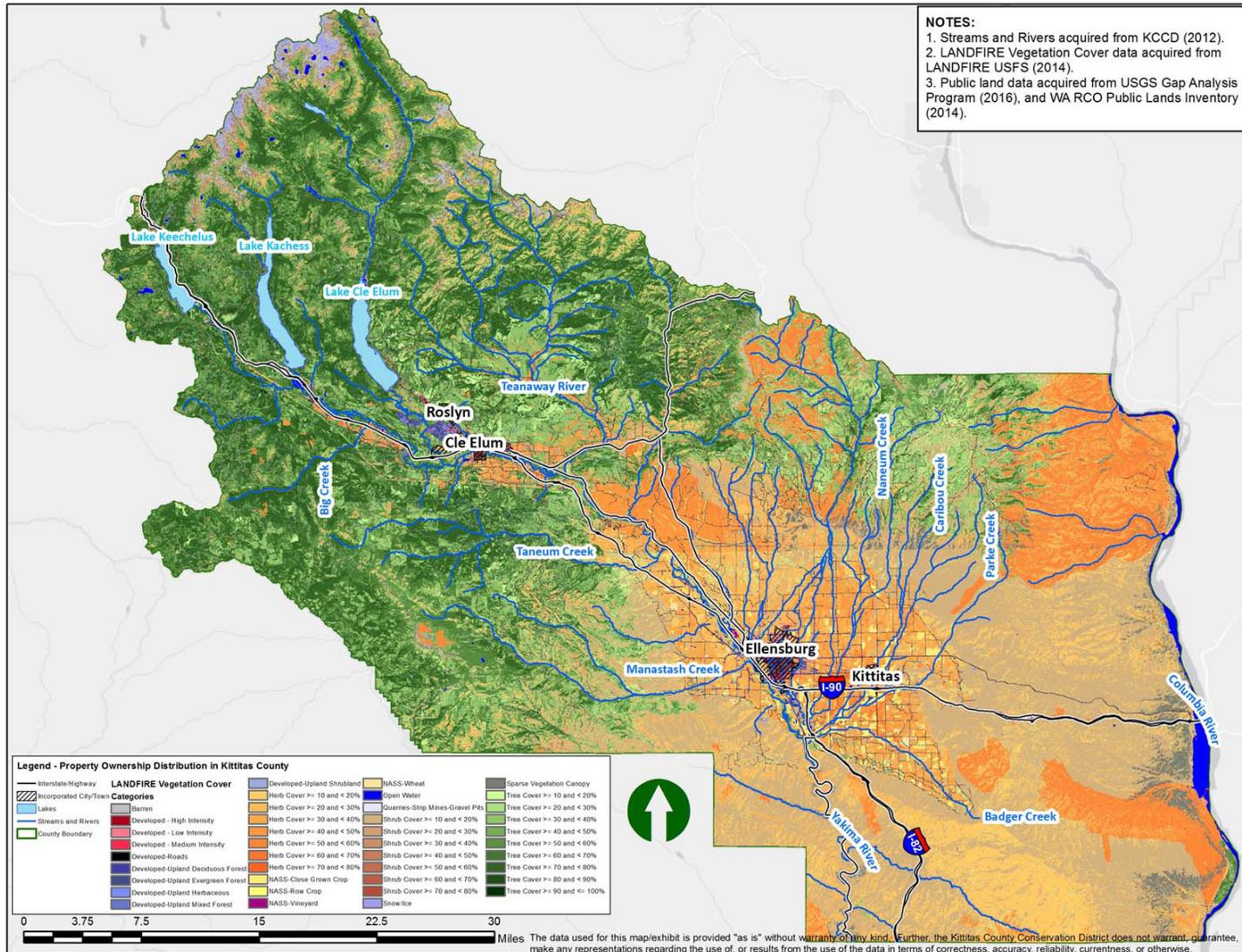
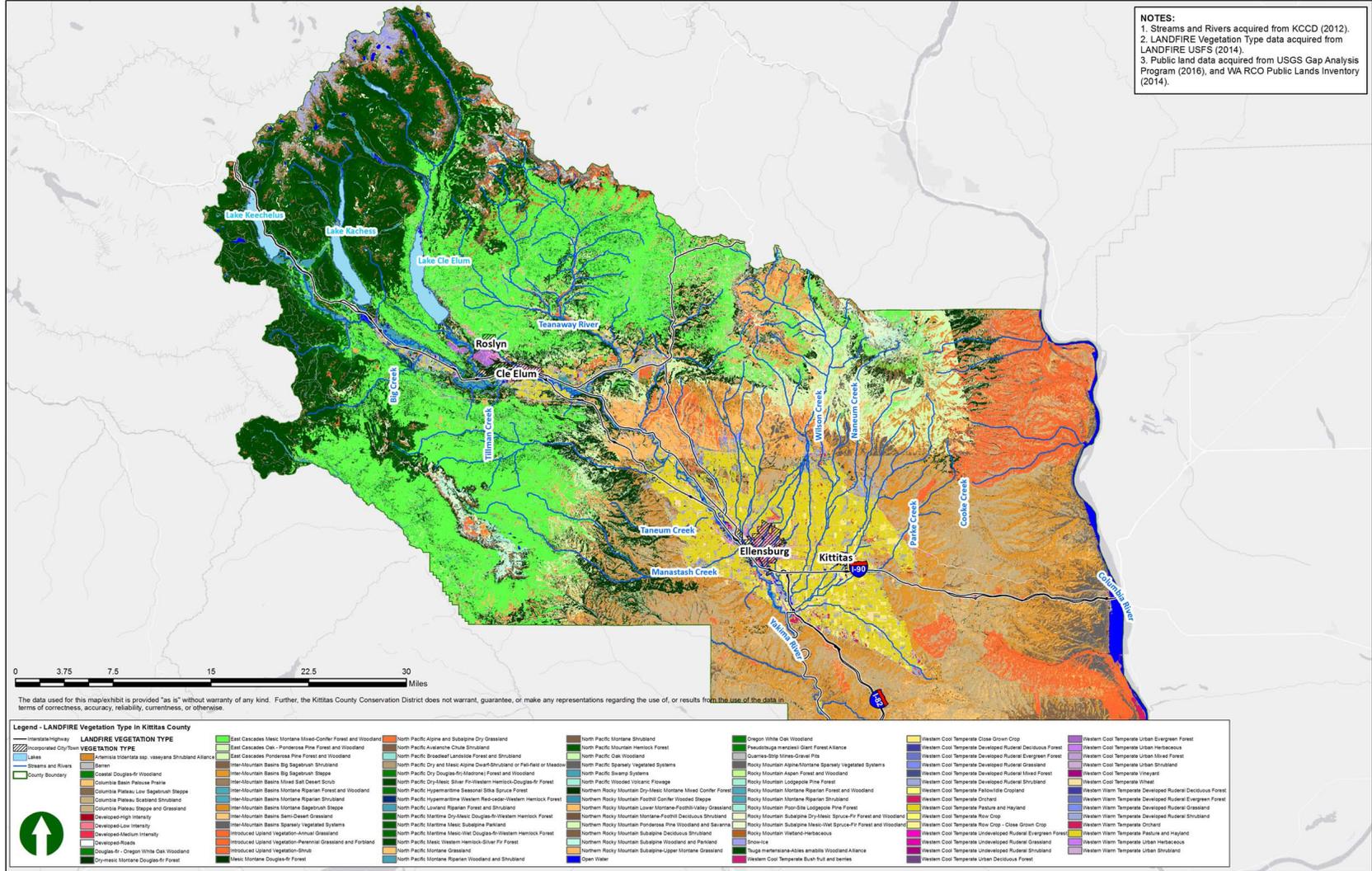


Figure 4
Vegetation Type Map



3.5.2 *Climate and Temperature*

As is typical of areas in the lee of large coastal mountain ranges, the Yakima River Basin is generally arid. Precipitation varies with elevation and distance from the Cascades, from 150 inches annually at the Cascade crest to 10 inches at the Columbia River. Disparities in precipitation rates from one area to another affect runoff rates and the character of rivers in different drainages, which influence flooding and land-use potential. Summers in Kittitas County tend to be dry; approximately two-thirds of the county's precipitation occurs between October and April, with much in the form of snow. In the winter, considerable snow often accumulates in the higher elevations. In the Kittitas Valley, snow season generally ranges from November through February, with significant variation from one season to the next.



Because of the variation in elevation, temperatures vary greatly in the Yakima River Basin. In the Kittitas Valley, summers tend to be hot, with wide divergent fluctuations, and mild to severe winters. Data are scarce for higher elevations; however, those areas are generally characterized by cool summers and cold winters. For example, in the Subalpine Fir forest zone, which extends from approximately 2,000 feet to the timberline, mean July temperatures in the range of 55°F to 65°F can be expected.

3.5.2.1 **Wind**

During the summer, pressure is higher on the western side of the Cascades and lower over the heated basin of eastern Washington, with the pressure difference increasing during the day as temperatures soar over eastern Washington. Air accelerates from high to low pressure and it finds the weakest location called Stampede Gap, where the terrain is only 3,000 to 4,000 feet high. Air accelerates through the gap and spreads out over the Kittitas Valley, with northwest winds on many summer days gusting to 30 to 40 miles per hour (Mass 2009).

The prevailing wind is from the northwest. The daily wind speed averages 8 to 10 miles per hour in the spring and summer, although wind speeds up to 20 to 30 miles per hour are not uncommon in the Kittitas Valley.

3.6 Wildland Urban Interface

The Wildland Urban Interface in Kittitas County encompasses large areas of land. Within these areas is an increased risk of wildfire. There is also an increased risk structure to structure ignition or being wildfires inadvertently caused in more densely populated areas. Wildfire risk can be reduced using a number of different mitigation strategies like vegetation management and code development. Kittitas recently adopted new building and land use development rules to help ensure any new building or development in the WUI is adequately defensible from wildfire and fire resistant to avoid the spread of fire in and from the home.

As Kittitas County population steadily increases in the WUI, risk management will need to include short-term and long-term strategies to increase community resiliency addressing developments, vegetation management and other facets of living in a wildfire prone landscape.



This 2018 Kittitas County CWPP defines the concept of WUI as,

“any area where the combination of human development and vegetation have a potential to result in negative impacts from wildfire on the community.”

The formal definition of WUI is rooted in the Code of Federal Regulations and describes conditions under which vegetation and structures meet or intermix. This definition uses levels of structure density or population density to subdivide WUI into Interface and Intermix categories. Interface refers to areas where structures directly abut wildland fuels, but there is a clear line of demarcation between developed and wildland areas. Intermix refers to areas where structures are scattered throughout a wildland area. While the Code of Federal Regulations guidelines for structure density are helpful, the definitions are still fairly vague in terms of geographically defining WUI with a set of mappable criteria.

3.6.1 *History of Wildland Urban Interface Code in Kittitas County*

Kittitas County adopted the International Wildland Urban Interface Code (IWUIC) in January 2013 (no. 2013-013) with amendments located in Kittitas County Code Title 20 and Appendix B: Vegetation Management Plan as a tool to mitigate wildland fire risk as vacant private land is converted to the built environment. IWUIC was adopted shortly after the Taylor Bridge wildfire in 2012 which destroyed over sixty residential homes and cabins. In April 2018, the Kittitas

County Board of Commissioners included the adoption of Appendix C of the IWUIC allowing for individual site analysis and removal of certain sprinkler requirements for building requirements. The intent of the IWUIC is to supplement adopted International building and fire codes and establish a minimum set of regulations for life and property from wildland fires and mitigate potential structure fires turning into wildfires. Communities in Kittitas County are faced with Wildland Urban Interface in two contexts that pertain differently to each constituent depending on their land objectives; the

International Wildland Urban Interface Code (IWUIC) as it pertains to future construction development in the Kittitas County and the second distinction as part of the holistic strategy brought forth by the National Cohesive Strategy’s three goals: resilient landscapes, fire adapted communities and safe and effective wildfire response.

3.6.2 Wildland Urban Interface Risk in the West

According to the Headwaters Economic WUI snapshot report (2018), Kittitas County was in the 85th and 89th percentile of existing WUI risk (amount of forested land where homes have already been built next to public lands), and future WUI risk (the area of undeveloped, forested private land bordering fire-prone public lands) in the West (there are a total of 413 western counties and the higher the percentile (100th percentile being the highest) the higher the risk) in 2010. Kittitas County is in the 44th percentile in Washington State when ranked by existing risk and 69th percentile for future potential risk according 2010 data. While home construction is not the only contributor to the rising cost of fighting fires, it is an important factor and one that is expected to rise with continued development, particularly in the absence of well thought-out land use planning. A warming climate will exacerbate the costs even further continuing the established risk rankings.

3.6.3 Wildland Urban Interface Planning Areas

The Kittitas County CWPP is multi-jurisdictional and addresses all lands and all ownership within the boundaries of the plan area. The Swauk-Liberty Planning area overlaps the Swauk Basin Wildfire Protection Plan last updated in January 2005.

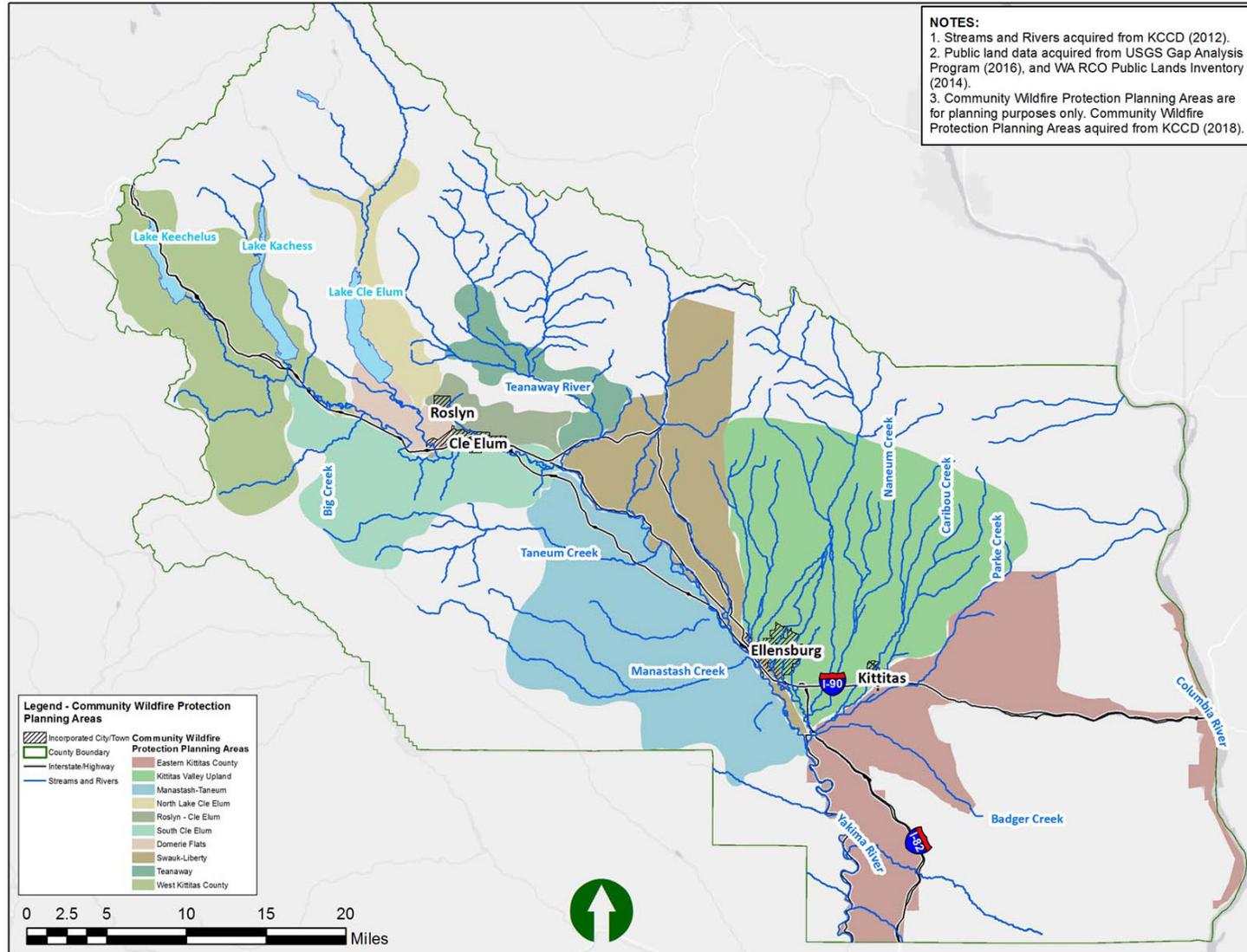
In all nine identified sub regions, the 1.5-mile WUI boundary follows the CWPP planning area boundary. For the purposes of this CWPP, the WUI boundary and the CWPP planning area are a similar geographical region; however, the planning boundaries are more general and include private property that may be isolated from the WUI boundary. The Kittitas County WUI boundary is approximately 1,018 square miles and covers 651,795 acres.

**Table 1
Wildland Urban Interface Planning Area Fire Coverage**

WUI Planning Area Name	Acres	Fire District Coverage
Eastern Kittitas County	109,854	BLM, Yakima Training Center, DNR, Vantage Fire Department, Kittitas Valley Fire & Rescue
Kittitas Valley Upland	150,789	DNR, Kittitas Valley Fire & Rescue, USFS
Swauk-Liberty	75,500	DNR, Kittitas County Fire District No. 7, USFS
Manastash-Taneum	113,098	DNR, Kittitas Valley Fire & Rescue, USFS
Teanaway	22,332	Kittitas County Fire District No. 7, DNR
North Lake Cle Elum	23,170	Kittitas County Fire District No. 6, DNR, USFS

WUI Planning Area Name	Acres	Fire District Coverage
Roslyn – Cle Elum	13,419	City of Roslyn FD, City of Cle Elum FD, Kittitas County Fire District No. 7, DNR, USFS
Domerie Flats	11,523	Kittitas County Fire District No. 7, DNR, USFS
West Kittitas County	94,084	Kittitas County Fire District No. 51, Kittitas County Fire District No. 8, Kittitas County Fire District No. 7, DNR, USFS
South Cle Elum	58,355	City of South Cle Elum Fire Department, Kittitas County Fire District No. 7, DNR, USFS

Figure 5
Wildland Urban Interface Planning Areas Map



4 Wildfire in Kittitas County

4.1.1 Fire History

The wildfire occurrence in Kittitas County has changed significantly since the 2009 CWPP plan. While the 2009 CWPP noted many occurrences and starts from 1972 to 2008, since 2008, Kittitas County has been faced with significant wildfires, both human and lightning caused.

Table 2
Kittitas County Recent Fire History

Fire Name	Year	Size	County	Structures Lost
Reecer	2004	107	Kittitas	
Lauderdale	2004	247	Kittitas	
Elk Heights	2004	296	Kittitas	
Lick Creek	2005	734	Kittitas	
Polallie	2006	961	Kittitas	
Amabilis	2006	116	Kittitas	
Crow Creek	2007	83	Kittitas	
Easton Ridge	2007	401	Kittitas	
Ellensburg Pass	2007	452	Kittitas	
Ellensburg Pass	2007	452	Kittitas	
WDFW-Tarpiscan	2008	575	Kittitas	
Lemah	2009	649	Kittitas	
Umtanum Falls	2011	252	Kittitas	
MP 124	2011	450	Kittitas	
Taylor Bridge	2012	23,501	Kittitas	61
Trail Creek	2012	24	Kittitas	
Stafford Creek	2012	33	Kittitas	
Diamond Head	2012	1,055	Kittitas	
Gold Creek Springs	2012	31	Kittitas	
Old Blewett Pass	2012	22	Kittitas	
Moon Beam	2012	1	Kittitas	
Jack Creek Pass	2012	7	Kittitas	
French Cabin Creek	2012	42	Kittitas	
Peavine Canyon	2012	19,997	Kittitas	
Table Mountain Fire	2012	42,481	Kittitas	5
Quilomene	2012	156	Kittitas	
Little Parke Creek	2012	700	Kittitas	
Umtanum 2	2012	180	Kittitas	

Fire Name	Year	Size	County	Structures Lost
Burbank	2013	202	Yakima	
Colockum Tarps	2013	81,733	Chelan	5
Christensen	2013	175	Kittitas	
Manastash Ridge	2013	2,351	Kittitas	
Cottonwood	2014	8,942	Kittitas	
South Cle Elum Ridge	2014	887	Kittitas	
I-82 Manastash	2014	1,994	Kittitas	
Saddle Mountain	2014	24,917	Kittitas	5
Bighorn	2014	265	Kittitas	
Snag Canyon	2014	12,599	Kittitas	22
Corral	2014	148	Kittitas	
Mile Post 9	2015	22	Kittitas	
Gingko	2016	124	Kittitas	
Rock Creek	2016	1,382	Kittitas	
130 Vantage	2016	363	Kittitas	
MP 133	2016	570	Kittitas	
Hayward Firing Range	2016	167	Kittitas	
Ryegrass	2017	192	Kittitas	
Poison Springs	2017	353	Kittitas	
Jolly Mountain	2017	36,808	Kittitas	
Hult Butte	2017	138	Kittitas	
Teanaway River	2017	336	Kittitas	

Note:
Fires over 10,000 acres highlighted.

Wildfires often cross jurisdictions and it is rare that one fire stays completely contained in one land ownership. Kittitas County has a mix of ownership that add to the complexity of land and wildfire management.

Forest Health Trends in a Changing Fire Regime

This information is from DNR's 20-Year Forest Health Strategic Plan for Eastern Washington (2017)

The Scale of the Forest Health Problem Throughout the western United States, including Washington State, forest health has been in decline for several decades. At a broad scale, the decline can be attributed to past management practices, including past fire management practices, that have resulted in uncharacteristically overstocked forests; and episodic droughts that have increased the competition among trees for available moisture, resulting in increased stress and loss of vigor. These densely packed and moisture-stressed forests have become less resistant to wildfires and insects and disease outbreaks. Combined with record-setting summer droughts, forest fires often burn with uncharacteristic severity and duration, in part because of dense and continuous fuel accumulations. Tree mortality rates associated with bark beetles and other insects and diseases have also increased substantially over large areas. Much of the 10 million acres of forestland in eastern Washington faces serious threats to forest health. Decades of fire suppression and past management practices have put these forests at higher risk of damage by disease, insects and wildfire and reduced ecosystem resilience in the face of climate change. An analysis by The Nature Conservancy and the U.S. Forest Service identified nearly 2.7 million acres of eastern Washington forestland requiring some sort of active management or disturbance to create forest structures more resilient against insects, diseases, and wildfires (Haugo et al. 2015). The acres of trees that have been killed or damaged in the first decade of the 2000s was 150 percent greater than the 1990s and

An aerial photograph of a forested hillside. The foreground shows a large area of charred, brown earth, likely a fire scar, with some sparse, young green trees growing back. The rest of the hillside is covered in a dense forest of tall, thin trees, many of which appear to be dead or dormant, with brown and grey foliage. The sky is clear and blue. The text is overlaid on the image, providing information about forest health and wildfire risk in Washington state.

200 percent greater than in the 1980s. The National Insect and Disease Risk Map (NIDRM) projects continued elevated levels of damage will occur from insects and diseases (Krist et al. 2014). NIDRM estimates that 2.7 million acres of Washington state forestland are at risk to suffer severe damage from insects and diseases from 2013-2027. Increasingly large and expensive wildfires have led other states to identify pathways to accelerate the pace and scale of forest health management and restoration and take actions to reduce wildfire risk in communities. In 2015, more than 1,500 wildfires burned over one million acres and 230 homes across Washington State. Wildfires cost state taxpayers \$89 million that year, which is almost three times the 10-year annual average of \$34 million. In 2015, wildfires represented the second largest single carbon emitter in the state – second only to the transportation sector. In total, agencies and landowners collectively spent more than \$319 million on fire suppression activities that year in Washington. While the 2015 wildfire season broke many records, predictions indicate that the Pacific Northwest may experience four times more acres burned annually in the 2080s compared to the median annual area burned from 1916 to 2006 (Littell et al. 2010). Without active restoration and management, including changes in the approach and methods for treating broad forest landscapes, forest health will continue to decline, and occurrence of uncharacteristic wildfires will continue to increase.

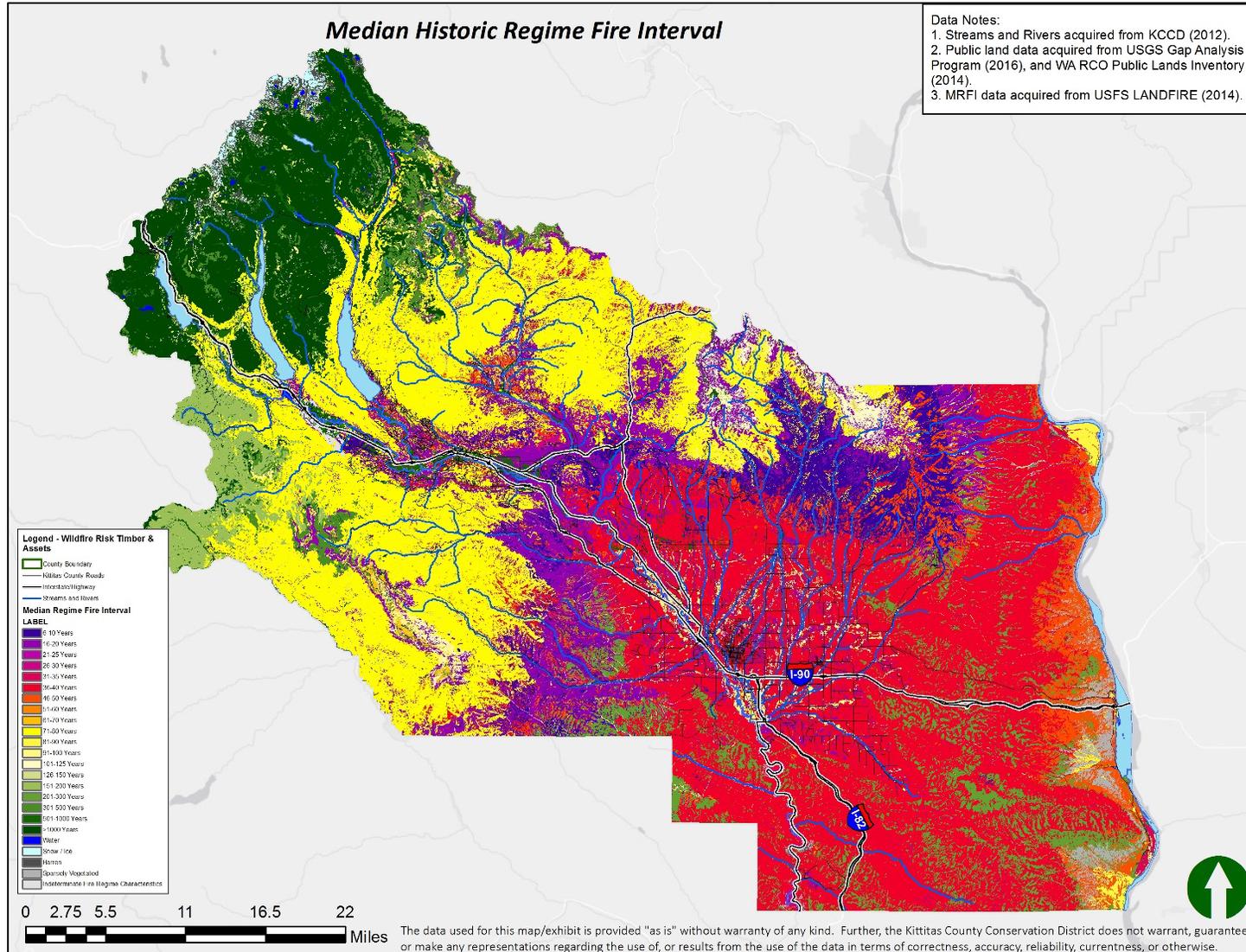
Historic fire seasons occurred between July and September, with the middle to end of August being the period of the most extreme fire conditions. Cheat grass matures by July, while most native species it replaces mature in late August. With cheat grass dominant, wildfires tend to occur earlier in the season, when native perennials are more susceptible to injury by burning. These fires are larger and more uniform, with fewer patches of unburned vegetation remaining within burns. Cheat grass thrives in grounds that have been disturbed by activities such as recreation or building. There are many areas within Kittitas County that have cheat grass invading the landscape, in some cases creating ladder fuel adjacent to homes in the WUI. Cheat grass is not recognized as a noxious weed in Kittitas County, however the flammability of the annual invasive species poses a risk to homes and infrastructure. Other noxious weeds like Scotch Broom and Gorse, although not present in Kittitas County but located in bordering counties, create dense thickets of highly flammable, dry woody material escalating the intensity of wildfire and increasing the risk and damage to nearby properties.

4.1.2 Change in Fire Regimes in Kittitas County

Changes in climate patterns, land management strategies and other factors have contributed to changes in vegetation and forest structure. Fire frequency and severity has responded to these changes. Historical fire regimes ranged from over 900 years to as frequent as every 20 years or so.

Generally, the changes in the fire regime trend toward larger, hotter, and less frequent fires in much of the county. Fire suppression, timber management, and the buildup of fuels in the forest have had a combined effect that can only be mitigated with a comprehensive strategy, such as the one laid out in Section 5.

Figure 7
Median Historic Regime Fire Interval



4.2 Risk Assessment Evaluation Tools

Wildfire risk is a measure of both the probability and consequences of uncertain future wildfire events. For any location within Kittitas County, wildfire risk depends on the chances of a fire occurring there, the likely intensity of the fire, and the vulnerability of something of value at that location. Scientists describe these three components of risk using a triangle where the sides are likelihood, intensity, and susceptibility. These three factors, and the resultant wildfire risk, vary across the county. In this section, we describe tools currently available to assess this risk in Kittitas County. This provides spatial context for where different wildfire management and mitigation strategies will be most effective.

By understanding the components that contribute to wildfire risk and engaging in a coordinated and collaborative planning effort, the county can take steps to influence each side of the risk triangle in different ways. For example, prevention measures that reduce human-caused fires can reduce the likelihood of fire occurrence, particularly in areas of human activity. Vegetation treatments focused on reducing fuel loads can reduce the intensity of fires that do occur, and efforts to reduce the flammability of building materials and increase defensible space around structures and communities can reduce susceptibility of homes and other structures to wildfire.

4.2.1 Landscape Risk Assessments

The assessment used for risk analysis is a combination of local and landscape scales. The landscape risk analysis has been provided by Pyrologix LLC via the USFS Pacific Northwest Research Station in a report, *Pacific Northwest Quantitative Wildfire Risk Assessment: Method and Results* (Pyrologix 2018). The report covers 1.5 million acres of USFS land in Kittitas County and over 100 million acres in all. The report documents the methodology and results of the USFS Pacific Northwest Region Wildfire Risk Assessment (PNRA). This assessment tool provides foundational information about wildfire hazard and risk to Highly Valued Resources and Assets across the geographic area. This information is used to support decisions related to wildfire suppression, fuel management planning, and resource allocation decisions. It is also critical for developing land and resource management plans.

Assets are human-made features, such as commercial structures, critical facilities, and housing that have a specific importance or value. **Resources** are natural features, such as wildlife habitat and federally threatened and endangered plant or animal species. These also have a specific importance or value. Generally, the term “values at risk” has previously been used to describe both assets and resources. For PNRA, the term Highly Valued Resources and Assets is used to describe what has previously been labeled values at risk. There are two reasons for this change in terminology. First, resources and assets are not themselves “values” in any way that term is conventionally defined—they have value (importance). Second, while resources and assets may be exposed to wildfire, they are not necessarily “at risk”—that is the purpose of the assessment.

Developing, to the greatest degree possible, accurate data on wildfire risk data is critical for effective fire management strategies. The PNRA analysis uses a software package called FlamMap. FlamMap is a fire behavior mapping and analysis program that computes potential fire behavior characteristics such as spread rate, flame length, and fire line intensity. These outputs are resolved spatially across the region to estimate the following:

- Likelihood of a fire burning
- Intensity of a fire if one should occur
- Exposure of assets and resources based on their locations
- Susceptibility of those assets and resources to wildfire

The outputs and comparisons of FlamMap can be used to identify hazardous combinations of fuel and topography, aiding in prioritizing fuel treatments (e.g., prescribed fire and mechanical fuel treatments). In addition, the risk data can be used to support fire operations in response to wildfire incidents by identifying those assets and resources most susceptible to fire. This can aid in decision making for prioritizing and positioning of firefighting resources.

FlamMap does not include a temporal scale and does not simulate the growth and spread of fire in the way that wildfire simulation tools are intended to do. While landscape tools are useful in planning and risk reduction, additional tools are key to preparing effective fire response strategies during the preparation phase and in effectively distributing resources during a wildfire response.

4.2.2 *Wildfire Simulation and Mapping*

Computer simulation modeling of hypothetical wildfires provides a robust and scientifically defensible means of mapping wildfire likelihood and potential intensity. Fire models use weather data from long-term stations in the county, along with detailed spatial data depicting topography and aspects of vegetation that characterize wildland fuels to simulate fire spread across the landscape from semi-random ignition points. Simulations can be run for an entire suite of statistically possible weather scenarios across thousands of iterations of a whole fire season using a model called FSim. The outputs from FSim include maps of the annual probability of fire occurrence and the most likely intensity at a very fine scale.

Both the Landscape Risk Assessment (PNRA) and computer simulation (FSim) efforts used input data representing landscape fuel conditions as of 2015, and weather data from Remote Automated Weather Stations (RAWS) in and around Kittitas County. Additional details about the two projects are described in a comparison report mutually produced by Headwaters Economics and PNRS (Headwaters Economics 2014).



Simulations from FSim that cover the entire county were completed in 2018. This effort in FSim modeling was undertaken by the USFS Pacific Northwest Research Station (PNRS) as part of a wildfire risk assessment for the larger, Pacific Northwest Region (Oregon and Washington boundaries).

4.2.3 *Combining Landscape Risk and Model Simulation*

The combined utility of working at multiple scales of analysis is greater than that of either tool used alone. The outputs from both modeling efforts are integrated and summarized here to provide an overview picture of spatial variation in wildfire risk components in Kittitas County. The raw outputs from modeling are raster, or pixel-based, datasets that divide the landscape into evenly-sized square cells. For the FlamMap modeling, these cells were 30 meters (97 feet) on a side. The increased complexity of FSim modeling required larger cells, each 180 meters (583 feet) on a side.

Summarizing results at a slightly coarser scale makes them more easily interpretable, and allows for broad-scale patterns to emerge that may not be immediately visible in the pixel datasets. Therefore, outputs of wildfire likelihood and intensity are summarized below using fine-scale watershed polygons, referred to as catchments. There are 2,751 catchment polygons that intersect Kittitas County, ranging in size from about 40 to 9,900 acres (average of 697 acres). We calculated the average likelihood and intensity values for each catchment, as well as the integrated wildfire hazard, which combines likelihood and intensity into a single index.



4.2.3.1 Likelihood

The model output which best represents wildfire likelihood in Kittitas County is the burn probability output from the FSim modeling done for the Pacific Northwest Region (Oregon and Washington boundaries) risk assessment. It represents a true annual burn probability that considers all possible weather scenarios. This provides a long-term perspective on the relative likelihood of fire for any location in the county in any given year.

To produce a map of relative likelihood for the county, the average burn probability for each catchment was calculated, and those averages were classified into four classes of low, moderate, high, and very high. The classes are relative to the distribution of catchment averages only within Kittitas County and are based on quartiles. Therefore, the high and very high classes represent all catchments with an average burn probability value above the county median. The average burn probabilities for watersheds range from 0 to 0.025, with a mean of 0.01. This means, on average, any specific location (i.e., 180-meter pixel) has about a 1 in 100 chance of burning in any given year.

4.2.3.2 Susceptibility and Risk

Information about susceptibility (or vulnerability) of specific assets is more difficult to map. Neither the Pyrologix nor the PNRS work in Kittitas County provides enough information to adequately represent the susceptibility of communities to wildfire. While the Pyrologix analysis included some datasets that could address community-level susceptibility (e.g., distance to roads, fire stations, water sources, golf courses, etc.), their assessment did not integrate this information with likelihood and intensity data into standard, accepted metrics of risk. The PNRS analysis for the Pacific Northwest Region Quantitative Risk Assessment report did develop abstract estimates of susceptibility (known as response functions) for a variety of natural resources and built assets, but the focus of that assessment was on setting land management and wildfire management priorities on national forest lands. The response function for communities developed in that analysis estimated negative impacts to communities at all levels of fire intensity, but these impacts are vaguely defined and not specific for different types of structures. While information from both assessments provides some insights into wildfire risk, neither facilitates a thorough mapping of risk across the county.

Moving forward, susceptibility could be evaluated at multiple scales to facilitate calculation of wildfire risk metrics in and around developed areas in the county. At a community or neighborhood scale, factors similar to those used in the Pyrologix assessment could be used to develop community-level susceptibility ratings. The rating areas could be watersheds, like the catchments used here, but may be more meaningful if they represent specific community or neighborhood boundaries used for planning and fire response purposes. Within each rating area, factors such as ingress/egress, distance to nearest fire station (or average response time), local water supply (e.g., streams, lakes, cisterns), and structure density could inform integrated ratings of community susceptibility to wildfire of different intensities.

At the parcel level, assessments of individual structures that evaluate factors such as building materials, defensible space, and fuel loads on the property can inform susceptibility at a much finer scale. At the community scale, susceptibility ratings at the parcel scale should consider wildfire of different intensity levels.

Combined with susceptibility information at either of the scales described above, the likelihood and intensity data can be used to calculate relative wildfire risk to entire communities or individual parcels. With spatial data for all three sides of the wildfire risk triangle, a metric called Net Value Change can be calculated that accounts for the risk posed by wildfire at different intensities for any location on the landscape. At the community or landscape scale, the Net Value Change metric, and the component information used to calculate it, can support the prioritization and planning of specific community-level mitigation through vegetation management and local land use planning and policy. At the parcel scale, the same information can support landowners in making the right decisions to make their property fire safe.

4.2.4 Improve Risk Assessment Information

The importance of high quality, current risk assessment information is critical to the success of this planning effort. Data used in the risk assessment must have adequate quality and resolution to facilitate accurate modeling of the risks. Recent trends in the region include localized, rapid declines in forest health due to pests and disease, as well as the introduction of new vegetation species that have different fuel characteristics. Assessment of wildfire risk also requires detailed, accurate information on development patterns in the WUI, changes in fire suppression resources and methods, and the effects of recent fires. The following steps should be taken in order to improve risk assessment analysis and information.

1. Update the Kittitas County risk assessment and include a WUI identification map. Resulting landscape changes from the 2017 and upcoming 2018 wildfire season should be incorporated into an updated wildfire risk assessment. This will require extensive field work and data analysis.
2. Compile parcel-level assessment data to inform and complete risk assessment, increase first responder information, encourage public engagement. Parcel-level assessment data will not only provide the susceptibility information required for a complete risk assessment, but will also provide valuable information for fire districts and residents to guide private property mitigation efforts.
3. Integrate agricultural practices and infrastructure as part of an updated assessment to better reflect the economy and livelihood of this area. Kittitas County's agricultural economy relies heavily on Kittitas Reclamation District and other Irrigation Districts' infrastructure and landscape to continue to have viable agricultural outcomes in the Kittitas Valley.

4.2.5 Risk Assessment Summary

The 2015 wildfire season was one of the worst fire seasons in Washington history, while Kittitas County remained fairly fortunate and did not experience a major wildfire that season, it is a matter of when that will occur. In August 2017, the Jolly Mountain Wildfire was ignited by a lightning strike and could not be contained at initial attack due to firefighter safety. The 2009 wildfire risk assessments currently available to the county will require updating to reflect the changed landscape. This will require field data collection, fuels mapping, and an updated analysis of the risk based on this new information. Once this initiative is undertaken, it will take several months to complete. In order to continue the forward momentum of this CWPP update, the plan will be completed ahead of the new risk assessment and mapping. The analysis from PNRS will be included in this CWPP, and the locally updated risk assessment will be added later which will include specific information to Kittitas County.

5 Taking the Cohesive Strategy Approach

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 from all partners as well as local and regional knowledge about wildfire risks and fire behavior. The goals of the planning process include integration with the National Fire Plan, HFRA, Disaster Mitigation Act, and Cohesive Strategy, all of which promote local collaborative processes. Goals for restoring resilient landscapes, improving wildland fire response, and creating fire adapted communities must work within the bounds of local budgets, personnel, and equipment. The efforts and success of the Kittitas County CWPP hinge on the funding and expertise of the local fire management districts and agencies as well as the cooperative efforts of landowners to empower local communities and citizens to pursue and implement projects that protect people, property, and infrastructure from wildland fire without diminishing the private property rights of land/asset owners within Kittitas County.

5.1 Vision Statement

Our combined focus on preparedness through education by engagement, training, planning, and implementation will provide for the protection of people, structures, infrastructure, livestock, fish and wildlife priority species and habitats, and unique ecosystems that contribute to our way of life and the growth and sustainability of the local



and regional economy. It is critical that this process supports the continuation and development of strong partnerships; empowers each person to take responsibility for their role in their community to prepare before, during, and after wildfire; and encourages new approaches to living with fire that protect community values and reduce identified threats and costs.

The guiding principle: to engage Kittitas County residents, communities, businesses, non-profits, and local, tribal, state, and federal governments to empower each other to prepare for wildfire through:

- Community engagement and development awareness of community roles in preparing for wildfire

- Effective administration of wildfire hazard mitigation grant programs that leverage additional resources for implementation
- Hazard risk assessments
- Strategic, efficient, and effective fuels treatments

5.2 Goals

1. Engage citizens in the unique challenges of wildfire preparedness in Kittitas County using the tools and guiding principles set forth by the Washington Fire Adapted Communities Learning Network (WAFAC) and Fire Learning Network.
2. Seek out, encourage, and empower local community leaders in the wildfire preparedness roles of business, fire response, homeowners, land managers, and local government at multiple scales across Kittitas County.
3. Determine areas at risk to wildfire and establish/prioritize mitigation projects, without regard to ownership, and recommend both conventional and alternative treatment methods to protect people, homes, infrastructure, state and federal listed species, and natural resources throughout Kittitas County.
4. Improve the ability of the fire departments to provide emergency fire response for the residents of Kittitas County through improved resources, training, and equipment.
5. Through strategic planning, develop and implement policies or protection measures that deter further unmitigated development in high fire risk areas.
6. Implement vegetation management and other types of projects that promote the natural fire regime appropriate to the location for the benefit of the ecosystem and to lessen the risk of uncharacteristic wildland fire occurrences.
7. Collaborate with all participants in the KFACC in order to integrate the visions and goals of each entity involved with fire protection and/or management for greater good of Kittitas County.
8. Recognize the existing CWPPs in order to inform the Kittitas County CWPP, empower local leadership, and help leverage resources and opportunities to achieve shared goals without reducing the autonomy of the individual community or its purpose.
9. Provide direction through specific wildland fire prevention or protection action items to all members of the community to encourage individual responsibility including residents and homeowners, fire and emergency responders, forest and land managers, civic and community leaders, and designers and developers.

Elements of the Cohesive Strategy are already visible in Washington State and in Kittitas County. In May 2017, the KCCD organized a local workshop received promote the Fire Adapted Communities framework, highlight the Cohesive Strategy, and spark collaboration amongst entities in diverse roles surrounding wildfire issues. The workshop motivated stakeholders to revise their CWPPs and implement fire adapted community actions. One regional strategy under the Fire Adapted

Communities umbrella was to expand the Fire Adapted Community learning networks through funding of workshops and peer learning opportunities. The Chumstick Wildfire Stewardship Coalition is a pilot under this program in Leavenworth through the WAFAC. Hidden Valley-Swauk Fire Adapted Community and KCCD secured funding facilitated by WAFAC from federal funding sources like the Fire Learning Network and BLM to help promote Fire Adapted Communities in the Kittitas County area. Through the KFACC group, partners and members continue to meet regularly and move projects forward promoting fire adapted efforts locally including this CWPP update.

5.3 Restoring and Maintaining Resilient Landscapes in Kittitas County

Through fire suppression and human development, the changing climate, the terrestrial ecosystem, and the role of wildland fire have been significantly altered over time. Restoring landscapes to a resilient state and promoting fire's natural role in ecosystems where appropriate must be an integral part of increasing the county's resilience to wildfire and becoming fire adapted. To achieve this, an ecosystem-based approach to fire management that incorporates prescribed fire, mechanical thinning, and other vegetation management practices in overall land management planning objectives is important in achieving desired fire effects and mitigating undesirable fire effects on the ecosystem and the built environment. Finally, post wildfire recovery is an important component in resiliency to ensure that any negative fire effects that impact the ecosystem and the community can be addressed to minimize their impact. With the diverse ownership of land, restorative land management will require a collaborative effort among multiple stakeholders.

5.3.1 Ecology/Ecosystem-Based Fire Management

Restoration and maintenance strategies should align with the Cohesive Strategy, as outlined below, and integrate the following goals:

- Where allowed and feasible, manage wildfire for resource objectives and ecological purposes to restore and maintain fire-adapted ecosystems and achieve fire-resilient landscapes, including the importance of the high-intensity fire regime component.
- Restore forest processes that are currently under-represented in the landscape, compared to historical conditions, including low- and mixed-severity fire regimes.
- Maintain and promote the growth of specific large tree species, which are also under-represented, across the landscape.
- Control and eradicate invasive and noxious weeds.

5.4 Tapash Sustainable Forest Collaborative

The Manastash-Taneum Resilient Landscapes Project document (Haugo et al. 2016) provides the following background information on the Tapash Sustainable Forest Collaborative:

The eastern Cascades of Washington State is an incredibly diverse and complex ecoregion that supports abundant fish and wildlife, a wide range of forest communities, and provides an array of critical ecosystem services including water, wood products, forage for grazing, and recreational opportunities. Ranging from the crest of the Cascades down to the shrub-steppe of the Columbia Basin, the variability in the forests and rangelands of the east Cascades are driven by the interplay of topography, precipitation, soils, and disturbances such as fire, insects, flooding, and wind (Hessburg et al. 1999; Stine et al. 2014). Similar to forests across western North America, a history of wildfire suppression, intensive timber harvesting, and grazing throughout the 20th century has caused widespread degradation of forest, rangeland, and stream habitats and increased the risks of uncharacteristically severe wildfire (Hessburg et al. 2000; Bunting et al. 2002; Lehmkuhl et al. 2013; Hessburg et al. 2015). The resulting shifts in tree species composition and increases in forest density have resulted in decreased resilience of forests to drought and fire for many of the region's forests, and this occurs at a time when climate change is projected to increase drought stress and wildfire risks (Hessburg et al. 2000; Haugo et al. 2015; Littell et al. 2010). Twentieth century forest management also led to the building of extensive forest road networks which have dramatically altered watershed hydrology, increased sediment delivery into streams, reduced floodplain functioning, and fragmented aquatic habitats (Bisson et al. 2003; Rieman et al. 2010). These aquatic habitat stressors have and will continue to be further exacerbated by the increases in stream temperatures and decreases in snowpack as a result of climate change (Mote 2003; Mantua et al. 2009; Isaak et al. 2010, 2012). Across western North America and within the eastern Cascades, the challenges currently facing our forested ecosystems from past management and future climate change have prompted a wide scale shift in land management to focus on "ecological restoration" (Rieman et al. 2010; Gaines et al. 2012; USFS 2013; Hessburg et al. 2015). Ecological restoration is defined as "the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed" (SER 2004). However, efforts to conserve and restore the ecosystems of the eastern Cascades are further complicated by a diverse patchwork of private, state, tribal, and federal land ownership, each with different forest management emphases and objectives. In response to these challenges the

Tapash Sustainable Forest Collaborative² was officially formed in 2007 through a Memorandum of Understanding between major landowners in the eastern Cascades of south-central Washington State, including the USFS, Yakama Nation, DNR, WDFW, and TNC. The Tapash collaborative provides a framework for cooperation and coordination between Tapash partners to restore ecosystems' resistance and resilience to climate change across 3 million acres in the eastern Cascades of south-central Washington State. In the fall of 2014, the Tapash Collaborative launched the Manastash-Taneum Resilient Landscape Restoration Project as a flagship effort to demonstrate cross-ownership, integrated terrestrial and aquatic landscape scale ecosystem restoration. The USFS, WDFW, DNR, and TNC all have significant ownership within the Manastash-Taneum project area, comprising nearly 80,000 acres. These subwatersheds were selected by the Tapash Collaborative because they contain a variety of significant aquatic and terrestrial resources and conservation values in addition to the diverse land ownership. These conservation values include, but are not limited to, habitat for federally listed steelhead (*Oncorhynchus mykiss*; NMFS 2008; YBFWRB 2009), bull trout (*Salvelinus confluentus*; USFWS 2015), and northern spotted owl (*Strix occidentalis caurina*; USFWS 2011). Additionally, in recent years these subwatersheds have received substantial conservation investments to protect former industrial timberlands, restore stream flows for fish passage, and replenish in-stream large wood to enhance aquatic habitat quality and floodplain functioning. Manastash-Taneum objectives were adapted from the Tapash Sustainable Forests Collaborative mission statement, the Okanogan-Wenatchee Forest Restoration Strategy (USFS 2012), Hessburg et al. (2015) *Restoring fire-prone Inland Pacific landscapes: seven core principles*, and Yeager (2015) *Summary of Aquatic Resource Objectives and Recommended Design and Implementation Elements for the Mid and Upper Columbia Anadromous and Bull Trout Producing Watersheds of Eastern Washington*.

² <http://www.tapash.org>

5.5 Past and Current Public Land Accomplishments

5.5.1 *Past Private Land Accomplishments and Challenges*

Since 2009, collaborators and partners have recognized the growing frequency of wildfires in the state and county and have taken action to mitigate wildfire risk through educational resources, financial incentives, and fuels reduction programs for private landowners. Private lands fuels reduction has been steadily increased due to frequency of wildfire and residential development. The result of past treatments has been fairly minimal when compared to the scale and pace of treatments that need to occur on the landscape to effectively minimize risk to private property. Looking to the future, advancing private land treatments that offer more effective benefits to communities by reducing risk to residential, economic, and recreational areas will be prioritized in the landscape.

5.5.2 *Kittitas County Conservation District*

KCCD has engaged private landowners in Lower and Upper Kittitas County since the early 2000s. In 2009, the KCCD was asked by the Kittitas County Board of Commissioners to facilitate the initial CWPP. After the adoption of the CWPP in April 2009, KCCD continued to work with private landowners participating in fuels reduction programs with funding from DNR, FEMA and other public sources. During that time, the KCCD has served as the first point of contact for almost all Firewise Communities, and worked with many landowners on a voluntary basis. Since 2015, KCCD has worked with over 26 Firewise Communities (see Section 6.2) and helped facilitate recognition status of approximately ten new communities and with 350 landowners who participated in the Roving Chipper program resulting in treatment of 81 acres in 2016 to 2017 alone. From 2016 to 2017, using \$199,750 of state capital funds thru Interagency Agreements with DNR, KCCD worked with private landowners to treat 156 acres and use a local Fire District Chipping Crew to work with 247 voluntary private landowners. The local Fire District Chipping Crew worked in many communities, providing Ready, Set, Go! (see Section 6.5) and Firewise literature and sharing information regarding local resources for fuels reduction cost-share, site visits from the KCCD, local fire districts, DNR, and other partners depending on each landowner's interests and concerns.

5.5.3 *Washington Department of Natural Resources*

DNR Landowner Assistance Program (DNR LOA) has provided technical and financial assistance to many private landowners throughout Kittitas County since the early 2000s. KCCD and DNR LOA have also developed a partnership and adapted the private lands Fuels Reduction programs and delegated different tasks to one another, finding better ways to leverage money and increase the program efficiency, pace, and scale of private land fuels reduction.

**Table 3
Fuels Reduction Projects**

Program Name	Acres	Status	Year
DNR/KCCD Joint Chiefs Fuels Reduction	100	Planned	2018
DNR Fuels Reduction Cost-Share	109	Planned	2018
DNR Fuels Reduction Cost-Share	232	Complete	2011
DNR Fuels Reduction Cost-Share	35	Complete	2012
DNR Fuels Reduction Cost-Share	82	Complete	2014
DNR Fuels Reduction Cost-Share	205	Complete	2015
DNR Fuels Reduction Cost-Share	34	Complete	2016
DNR Fuels Reduction Cost-Share	13	Complete	2017
KCCD Fuels Reduction Cost-Share	52	Complete	2017
KCCD Fire District Chip Crew	27	Complete	2017
KCCD Fuels Reduction Cost-Share	43	Complete	2016
KCCD Fire District Chip Crew	40	Complete	2016
KCCD Fuels Reduction Cost-Share	20	Complete	2015
KCCD Fire District Chip Crew	41	Complete	2015
Completed Private Lands Fuels Reduction	824		
Planned Private Lands Fuels Reduction	209		



5.5.4 *Natural Resources Conservation Service*

The NRCS Environmental Quality Incentives Program provides financial and technical assistance to agricultural producers and non-industrial private forest landowners in order to address natural resource concerns and deliver environmental benefits such as improved water, forest health and air quality, conserved ground and surface water, reduced soil erosion and sedimentation, or improved or created wildlife habitat. From 2015 to 2018 NRCS completed 100 acres of pre-commercial thinning treatments by non-industrial private landowners.

5.5.5 *Manastash Taneum Resilient Land Restoration Project*

DNR, WDFW, and TNC have been coordinating activities on the Manastash Taneum Resilient Land – Restoration Project (MTRL-RP) since 2015. Other projects, including Pre-Commercial Thinning Treatments and reforestation efforts, have benefited this landscape. TNC completed Pre-Commercial Thinning in early 2017 in the Morgan Creek area, benefiting the communities below it and having a positive impact on the landscape during the Jolly Mountain wildfire event. Other efforts from DNR and WDFW have been occurring, including DNR’s Pre-Commercial Thinning in the Naneum State Forest.

Table 4
State and The Nature Conservancy Fuels Reduction Projects

Project Name	Project Type	Acres	Status	Year	Location	Owner
Big Creek Reforestation	Pine Planting	148	Complete	2016	Tapash–MTRL-RP	TNC
Cle Elum Ridge–Morgan	Commercial Thinning	245	Complete	2016	Tapash–Cle Elum Ridge	TNC
South Cle Elum Ridge Replanting	Replant 40k Ponderosa Pine in South Cle Elum Ridge Fire Burned area	900	Complete	2016		TNC
Colockabou 02 U1	Precommercial Thinning	40	Complete	2016	Tapash	DNR
Brushy	Precommercial Thinning	56	Complete	2016	Tapash	DNR
New Double High	Precommercial Thinning	175	Complete	2016	Tapash	DNR
Clockum Pocket U2	Precommercial Thinning	13	Complete	2016	Tapash	DNR
Clockum Pocket U3	Precommercial Thinning	85	Complete	2016	Tapash	DNR
Bacon Ridge U2A	Precommercial Thinning	15	Complete	2016	Tapash	DNR
Wheelbarrow	Precommercial Thinning	76	Complete	2016	Tapash	DNR
Cle Elum Ridge (Shaft)	Commercial Thinning	66	Planned	TBD	Tapash–Cle Elum Ridge	TNC
Robinson Units	Prescribed Burn	728	Planned	TBD	Tapash–MTRL-RP	WDFW
Hutchins Units	Prescribed Burn	793	Planned	TBD	Tapash–MTRL-RP	WDFW
Taneum, Wild Plum Cedar Creek and Plumbback	Forest Enhancement	2,810	Planned	TBD	Tapash–MTRL-RP	DNR
Taneum	Forest Enhancement	507	Planned	TBD	Tapash–MTRL-RP	WDFW
Robinson	Commercial Thinning	1,099	Planned	TBD	Tapash–MTRL-RP	WDFW
Planned:		6,003				
Completed:		1,753				

5.5.6 U.S. Forest Service

While there are many challenges for the USFS to actively manage the landscape, advancements have been made in the NEPA process to increase scale and pace of treatments. By using cross boundary treatments, state and TNC planning, and coordinating treatments in the MTRL-RP, USFS can use the NEPA process to have a larger impact on landscape. The timeframe of the NEPA in this area is expected to be complete in June 2019. While the NEPA is continuing, several smaller treatments on USFS lands have been completed.



Washington State Department of Natural Resources

**Table 5
Federal (USFS) Projects**

Unit Name	Acres	Legal Location	Tons	Burn- Y/N	Unit Name	Acres	Legal Location	Tons	Burn- Y/N
Handpiles									
Blue Hurley 30	8	T21, R18, S18	20	Y	Last Chance 22	10	T19N R15E S16	20	
Blue Hurley 33	16	T21 R18 S7,8	32	Y	Last Chance 17	12	T19N R15E S18	40	
Blue Hurley 5	8	T21N R17E S10/15	16		Last Chance 18	14	T19N R15E S18	55	
Blue Hurley 63	13	T21N R17E S29/30	26		Last Chance 3	7	T19N R15E S18	21	
Boundary 14	5	T19N R15E S16	15		Last Chance 8	4	T19N R15E S18	16	
Caveman 1	102	T19N R13E S1	220		Last Chance 9	3	T19N R15E S18	12	
Caveman 4	43	T19N R13E S1	99		Liberty 228	48	T21N R17E S36	161	
Drop Kick 8	9	T21N R18E S35-36	18		Liberty 230	5	T20N R17E S2	2	
Fawn Thin 6	12	T20N R17E S13	24		Liberty 235	7	T21N R17E S35	14	
Grand Goose 4	2	T19N R15E S25	5		Liberty 258	2	T20N R17E S1	10	
Grand Lion 11	3	T21N R18E S19	6		Liberty 269	2	T20N R17E S1	10	
Grand Lion 9	6	T21N R18E S19	12		Liberty 271	7	T20N R17E S1	23	
Granite 1	138	T19N R14E S10	414		Liberty 272	1	T20N R17E S1	2	
Granite 3	147/52 left	T19N R14E S4	384		Liberty 284	16	T20N R17E S12	54	
Granite 7	154	T20N R14E S31,32	493		Liberty 290	2	T20N R17E S11	7	
Green Top 3	4	T20N R17E S25	10		Liberty 295	10	T20N R17E S12	34	
Green Top 7	1	T20N R17E S25	2		Liberty Fls Stwd. 217	5	T21N R17E S25	10	
Last Chance 2	4	T19N R15E S16	10		Liberty Fls Stwd. 14	21	T20 R18 S6, T20, R17 S1	42	
Last Chance 20	7	T19N R15E S16	15		Liberty Fls Stwd. 242	1	T21N R17E S36	2	
Last Chance 21	3	T19N R15E S16	12		Liberty Fls Stwd. 254	10	T21N R17E S36	20	
Martin 10	13	T21, R12, S36	28		Liberty Fls Stwd. 254A	2	T21N R17 S36	4	
Moonbeam 10	15	T21N R16E S12	45		Liberty Fuels 13	45/7 left	T20N R18E S6	75	

Unit Name	Acres	Legal Location	Tons	Burn-Y/N	Unit Name	Acres	Legal Location	Tons	Burn-Y/N
Moonbeam 16	19	T21/22 R16E S36/1	60		Liberty Fuels 14	13	T20 R18 S6, T20, R17 S1	26	
Moonbeam 17	39	T21N R16E S1	117		Liberty Fuels 249	6	T21N R18E S31	12	
Moonbeam 18	9	T21N R16E S12	27		Liberty Fuels 255	3	T21, R17, S36	6	
Moonbeam 19	2	T21/22 R16E S36/1	6		Liberty Fuels 265	12	T20N R17E S1	24	
Moonbeam 6	7	T21N R16E S1/12	21		Liberty Fuels 272	1	T20N R17E S1	2	
Osborn Pt. 13	6	T19N R15E S24	18		Liberty Fuels 278	6	T20, R18, S6	15	
Osborn Pt 23	17	T19N R16E S28	60		Liberty Fuels 9	9	T20N R17E S12	18	
Osborn Pt 25	12	T19N R16E S28	30		Tamarack 26	9	T19N R15E S36	24	
Reecer WUI 7	45	T20N R18E S30	135		Tamarack 27	16	T19N R15E S36	43	
Roaring Thin 201N	6	T21N R11E S2	24		Upper Granite 3	7	T19N R14E S10	19	
Roaring Thin 202	2	T21N R11E S12	6		West Iron 5	30	T21, R17, S10	65	
Roaring Thin 209	2		50		WF Naneum 146	8	T21, R18, S22	20	
Roaring Thin 210	1		50		WF Naneum 150	4	T21N R18E S22	8	
Snow Boulder 33	1	T20N R17E S1	2		Willie 12	16	T20N R18E S27	32	
Snow Boulder 36	3	T20N R17E S1	6		Willie 17	24	T20, R18, S32	80	
Snow Boulder 4	4	T20N R17E S12	8		Wilson Ridge 16	3	T20, R18, S14&15	12	
Snow Boulder 6	13	T20,R17,S12 & T20,R18,S7	26		Wilson Ridge 21	3	T20, R18, S14	9	
Swauk Discovery Trail	3	T21, R18, S9	6		Wilson Ridge 7	4	T20, R18 S23	16	
Swauk Meadows 7	15	T21, R18, S9&16	34		South Cle Elum Ridge 11	43	T19N R15E S16	94	
Swauk Pass 19	31	T21, R17, S2	50		South Cle Elum Ridge 2	25	T19N R15E S20	68	
Swauk Pass 7	6	T21N R18E S5	12		South Cle Elum Ridge 3	16	T19N R15E S20	43	
Tamarack 22	7	T19N R15E S36	19		South Cle Elum Ridge 4	44/8 left	T19N R15E S16	96	
					South Cle Elum Ridge 5	11	T19N R15E S16	30	
					South Cle Elum Ridge 9	29	T19N R15E S13-14	78	

Unit Name	Acres	Legal Location	Tons	Burn-Y/N	Unit Name	Acres	Legal Location	Tons	Burn-Y/N
Machine Piles									
Liberty 8	7	T20N R17E S12	17						
Teaway 7	185	T22, R16, S30	555	a					
Teaway 9	25	T22, R 16, S18	75	b					
Total	1,510	Acres	4,147						

Notes:

- a. Teaway 7 has accomplished 8 acres.
- b. Teaway 9 has accomplished 12 acres.

6 Promoting a Fire Adapted Kittitas County



Promoting fire adapted communities focuses on preventing, preparing for, and protecting lives and properties during wildfire events and ensuring a full recovery. A fire adapted community considers all aspects of its built environment, including homes, businesses, infrastructure, main streets, critical facilities, cultural sites, hospitals, and more.

There are many paths to becoming fire adapted, such as through education, mitigation, policies, and regulations. Fire adapted communities may implement established national programs, such as Firewise Communities/USA (Section 6.2) and Ready, Set, Go! (Section 6.5), develop a CWPP, enhance local capacity, conduct fuel reduction and forest

management activities, and use codes and ordinances to regulate development in fire-prone areas. The more actions a community takes, the more fire adapted it becomes. However, because communities have limited resources, strategic identification of actions is necessary to best leverage fire adaptation at the local level. Promoting a fire adapted Kittitas County also requires alignment with activities for restoring resilient landscapes and improving wildfire response.

6.1 Fire Adapted Communities in Kittitas County

The Hidden Valley – Swauk neighborhood was heavily impacted by the Taylor Bridge wildfire in 2012. After that experience, many residents convened and took action on their own properties and area. Since that time, the Hidden Valley – Swauk Fire Adapted Community has completed \$6,000 in fire adapted work. In 2016 through 2017, the Hidden Valley – Swauk Fire Adapted Community has participated in cost-share funding for 20 acres of fuels reduction treatment, residents removed 60 yards of vegetation and six residents used the Roving Chipper Program for chipping. Hidden Valley-Swauk residents spent 239 hours of labor in the following perimeters: 0- to 5-foot Home Ignition Zone (HIZ), 5- to 30-foot



HIZ, and 30- to 100-foot HIZ equaling \$6,867.83 of in-kind contributions. Additional efforts included a newsletter to Kittitas County residents regarding living in the Kittitas County WUI and development support for an educational video regarding the Jolly Mountain Fire, and wildfire community meetings and local workshops to help engage people and residents to be prepared for emergencies and evacuation. Using Hidden Valley – Swauk as a framework, efforts have been taken to educate and connect other neighborhoods and provide educational resources for individuals and homeowner association (HOA) communities. Through education, Fire Adapted Communities realize that living with wildfire is an ongoing process, not an event, and continually work in their areas to manage vegetation, improve response for first responders, and be ready to evacuate at any time.

6.2 Firewise USA Recognized Communities



The Firewise Communities USA program is a national recognition program which highlights communities that have chosen to complete and maintain defensible space; ensure adequate access, water, and signage; promote ongoing fire prevention education; and build or retro-fit structures with non-combustible building materials such as siding, decks, and roofing. Adequate water

availability and access are also required. **Firewise USA Recognized Communities is used as a tool to raise the level of landowner awareness in their neighborhood.** Firewise Communities USA now recognizes 25 communities in the Kittitas County CWPP area (Table 6).

The Firewise Communities program recognizes communities who have demonstrated their commitment to wildfire preparedness. Through these steps, the Firewise Communities in the Kittitas County have fostered collaboration between neighbors and increased awareness and their communities' ability to respond to wildfire.

Table 6
Firewise USA Recognized Communities in Kittitas County

Name	Area	Year Created	2017 Investments
Banti Creek	Cle Elum	2015	\$48.28
Buffalo Springs	Cle Elum	2013	\$3,992.00
Goat Peak Ranch HOA	Cle Elum	2016	\$13,608.00
Green Canyon	Ellensburg	2015	\$1,931.20
Hidden Valley Terrace	Cle Elum	2014	\$6,035.00
Hidden Valley Vistas–Hidden Valley Meadows	Cle Elum	2012	\$6,867.83
Hyak	Snoqualmie Pass	2016	\$3,526.96
Kachess Ridge	Easton	2013	\$20,316.90
Kachess Village	Easton	2013	\$8,376.58

Name	Area	Year Created	2017 Investments
Lauderdale Ridge HOA	Cle Elum	2016	\$1,427.64
Morgan Creek	Ronald	2015	\$20,253.46
Pine Loch Sun	Ronald	2013	\$6,947.82
Ski Tur Valley	Snoqualmie Pass	2014	\$2,790.56
Sky Meadows Ranch	Cle Elum	2009	\$24,308.98
Sun Country	Cle Elum	2012	\$4,000.00
Suncadia	Cle Elum	2012	\$250,000.00
Sunlight Waters	Cle Elum	2012	\$1,086.30
Swauk Pines	Cle Elum	2013	\$2,703.68
Teaway Terrace	Cle Elum	2013	\$4,369.64
Vistas at Cle Elum	Cle Elum	2013	\$1,448.40
Wagon Wheel	Teaway	2010	\$1,520.82
Wildwood	Roslyn	2016	\$2,157.04
Tillman Creek	Cle Elum	2017	\$1,448.40
Upper Manastash Canyon	Ellensburg	2017	\$193.12
Liberty Mountain Development	Liberty	2017	\$5,000.00
Total 2017 Investments			\$394,358.61
Average \$ Investment per Firewise Community			\$15,774.34

6.3 Increasing Wildfire Response throughout Kittitas County

The multiple agencies responsible for fire suppression have developed an excellent network of interagency support and cooperation. Generally, suppression resources have been able to respond to wildland fire occurrences with adequate resources using this system. However, some concern is expressed over the ability of this system to sustain itself in the face of climate change and the current trend of decreasing volunteer capacity, aging firefighters, and decreasing budgets.

In addition to fire suppression resources available within the fire protection districts, seasonal wildland firefighters are available through USFS, DNR, and BLM. These resources are trained and equipped to fight wildland fire only; unlike the fire protection district resources, they are not trained or equipped to fight a structure fire. The USFS, DNR, and BLM also offer access to national incident and area command teams and resources, when required.

6.4 Emergency Preparedness/Evacuation

Emergency evacuation procedures are the responsibility of the Kittitas County Sheriff's Office. During a wildfire, the Incident Commander (in coordination and with the approval of the agencies having jurisdiction) will recommend evacuation. Routes and locations of shelters/centers depend on fire location and numbers of affected individuals, and so must be made on a case-by-case basis at the time of the incident. Kittitas County has an Evacuation Plan.

The Closest Forces Concept

When an unwanted wildland fire (wildfire) is discovered in Kittitas County, a fire response crew from a local fire response jurisdiction, a USFS ranger district, BLM and/or DNR fire unit may respond, depending on its location. Local Dispatch KITTCOM and the Northwest Interagency Coordination Center use the "closest forces" concept in wildland fire dispatch.

This allows for the closest suppression resource to be sent, regardless of boundaries or jurisdictional responsibilities. This arrangement is particularly helpful at either end of the federally recognized fire season (typically mid-June through mid-September). When wildfires start early, as they did in 2000 (the first wildfire occurred on March 15), federal fire crews are not yet employed so it is the community-based firefighter who is often first on scene.

Through pre-established mutual aid agreements, fire suppression resources in Kittitas County are authorized to leave their jurisdictional boundaries to aid a requesting agency partner. In addition, Washington statute allows these resources to assist throughout the state when needed/possible.

Mutual aid agreements are also used between most Kittitas County agencies sharing boundaries. These agreements are triggered by verbal request, typically at the time of first dispatch.



6.5 Ready, Set, Go! Program

The Ready, Set, Go! Program seeks to develop and improve the dialogue between fire departments and the residents they serve. The program helps the fire service teach individuals who live in high risk wildland fire areas—and the WUI—how to best prepare themselves and their properties against wildland fire threats.



The poster features the title 'Ready, Set, Go!' in large, colorful, cursive font. Below it, the text reads 'Wildland fire preparedness in partnership with your local fire department'. On the right, there are logos for the IAFIC and a local fire department, with the text 'Powered by the IAFIC'. The background is dark blue with a grid pattern.

Ready – Be ready.

Talk to **local fire department personnel** about preparing your home for wildland fire threat. Work to prepare your property by creating **defensible** space.

- ☑ Clean up or relocate combustible material from around your home
- ☑ Keep grass mowed short
- ☑ Trim trees and bushes, to allowing ample space between your home and landscape vegetation

Set – Be alert.

Prepare: a **'go kit'** and include items such as

- ☑ Prescription medication
- ☑ Emergency supplies
- ☑ Important documents

Create your own **action plan**

- ☑ Plan and practice multiple exit routes from your home and neighborhood
- ☑ Assign a meeting place in case you are separated
- ☑ Make sure you're familiar with your local emergency notification and evacuation systems

Go! – Act early!

- ☑ **Remain alert** and keep yourself informed of the situation.
- ☑ Get your **'go kit'** and leave well before the impending threat reaches your community or neighborhood following a planned, accessible route.
- ☑ Cooperate with local authorities during evacuation and re-entry processes.

The program's tenets help residents be Ready with preparedness understanding, be Set with situational awareness when fire threatens, and to Go early when necessary. The Ready, Set, Go! Program works in complementary and collaborative fashion with the Fire Adapted Communities Coalition and existing wildland fire public education efforts (e.g., Firewise) and amplifies their message to individuals about emergency preparedness and evacuation. Ready, Set, Go! provides educational and outreach materials to limited English speakers, standardizing the message and ensuring that information is accurate across languages. Washington State Emergency Management Division provides additional resources for educational outreach to limited English speakers.

6.6 Limited English Speaker Communication Plan



Non-English speakers have been underserved in this area, and the goal is to identify the best communication method to share emergency messages with at-risk groups before and during a disaster. The Kittitas County Sherriff's department translates evacuation and communication messages into Spanish on Facebook, but more proactive messages can be done through KFACC. In an emergency, messages must inform, educate, and mobilize people to follow public health directives. Messages can be delivered through television, radio, newspaper, bill inserts, flyers, word-of mouth, social and community networks, and other channels. As outreach continues, KFACC plans to develop help facilitate messages for emergency preparedness plan to non-English speakers that would benefit their preferred messaging platform.

6.7 Pre-Suppression Plans – Preparing Communities Before the Incident

A Pre-Suppression Plan is an intelligence packet that assists incident commanders, operations section chiefs, structural protection specialists, division supervisors, group supervisors, taskforce leaders, and strike team leaders in formulating a plan based on current conditions, forecasted weather conditions, and available resources. The main objectives of the plans, is to have a well thought out strategy based on the conditions and deployment of resources before the fire occurs, because a wildfire will start, regardless of the level of planning preparation. It should not be thought of as a cookbook of what *must be done*, but what *could be done*. Wildland firefighting and structural protection/defense requires judgment based on many years of actual firefighting experience, and must be responsive to actual, on the ground conditions. No amount of classroom training or simulations can prepare an individual for the leadership required during large, fast-moving fires, but preparing the available information in ways that can facilitate that leadership is key to effective wildfire response.

Pre-suppression plans include maps of resource placements, but these placements should not be thought of as static, as resources must remain mobile and available to go where needed. Resources may be deployed to prepare structures, construct hand lines, or conduct a burn out operation. Once the flaming front engages the edge of the city or structure fires begin to occur and firefighters are actively engaged in firefighting, additional resources will likely need to be pulled from other areas to assist.

6.8 Post Fire Impacts and Response

A number of post-fire impacts can result from either wildfire or prescribed fire occurrence. Prescribed fire planning goals and objectives are typically driven by desired ecosystem, or hazard reduction outcomes. These goals and objectives should be clearly stated in the prescribed fire plan and a monitoring program should be in place to measure the post-fire effects.

Wildfire events can result in significant post-fire impacts—both positive and negative. Risk assessments can provide guidance in anticipating post-wildfire impacts mitigating these impacts before a fire occurs and increasing recovery efficiency. The development of a post-wildfire recovery plan, based on the anticipated impacts, can help the communities affected become more resilient to wildfire.



6.9 Long Term Recovery

Integrating post-fire response and long-term recovery strategies before wildfire occurs is imperative to limiting the scope of damage across the landscape whether it is ecological, social, or infrastructure. While it is not feasible to be able to

The Jolly Mountain Fire

In August 2017, Jolly Mountain wildfire started by a lightning strike. The wildfire burned over more than 36,000 acres was transferred to a Type 4 command and the Central Washington Burned Area Emergency Response team was deployed to conduct analysis on the values at risk (assets and resources).

While the burned area occurred on mostly state and federal land, the identified values at risk, especially threats to property and human life and safety, were not confined to within the burned perimeter and extended to the Hidden Valley priority areas. Risk of private property spanning the North Cle Elum ridge to the Middle Fork Teanaway River have been identified as Major- High Possible risk. Increased flows, ash, sediment, and debris from burned slopes upslope of recreation residences may cause damage to drinking water and its delivery system and pose a risk of water contamination.

Accordingly, these critical values have been identified as Moderate, Very High Very Likely.

Jolly Mountain is an example of a significant wildfire that did not burn structures, yet the community still faced extreme risk. Wildfires know no bounds, and as partners we must provide incentives to improve participation and implement more aggressive approaches in order to decrease risks before a fire and impacts after a fire.



respond and put every wildfire out at Initial Attack, limiting the impact of the post-fire impact will benefit the economy, residents, and landscape alike. Lessons learned from previous wildfires continue to be difficult obstacles to overcome since there has not been a permanent solution and changes will need to be made at the statewide policy level. Continual engagement and discussion of long-term recovery is integral to change policy and effectively put in place recommended strategies and actions to mitigate the impacts of long-term recovery, since post-fire impacts range from a multitude of natural resource risks and concerns, including post-fire to flood and debris flow scenarios.

Wildfire Burn Scars are a Flood Risk

Before Fire
 Litter
 Subsurface Soil

During Fire
 Burning vegetation and Litter
 Soil particles coated with water-repellent compounds
 Subsurface Soil

After Fire
 Ash & Burnt Top Soil
 Water Repellent Soil
 Subsurface Soil

During Heavy Rain
 Top layer becomes saturated, ash layer slides downhill
 Ash
 Water Repellent Soil
 Subsurface Soil

Water cannot penetrate water repellent soil layer, so it runs off like pavement which causes dangerous:

**Flash Flooding
 Mud & Debris Flows
 Mudslides**

Litter: organic material such as needles, leaves, grass, brush, bark.
Water Repellent Soils: formed when organic material such as trees, scrubs, plants and litter burn at high intensity, water repellent compounds are vaporized, and condense on cooler soil layers below, which prevents soil from absorbing water.

7 Putting the Community Wildfire Protection Plan into Action

The effective implementation of this plan is based on three key elements: stakeholder engagement, strategic management, and monitoring and evaluation.

7.1 Stakeholder Engagement

Each stakeholder in the CWPP shares a role, whether it be agency-, landowner-, or nongovernmental organization-affiliated. The success of this CWPP requires the participation of all stakeholders to engage in understanding of their role and taking appropriate actions.

7.1.1 *Residents and Homeowners*

Kittitas County Fire Districts cannot always protect everyone from wildfire, especially if homeowners haven't taken responsibility for ensuring firefighters can safely work in the area. By creating a defensible space around individual homes and communities, reducing hazardous fuels in the surrounding area, and ensuring that access routes will support fire apparatus, homeowners can greatly increase the likelihood that their property will survive a wildland fire event. It is imperative that homeowners work with their neighbors and communities to increase safety and reduce risk for the greater protection of all.

7.1.2 *Fire and Emergency Responders*

There are a number of resource and capability enhancements identified by the fire and emergency responders in Kittitas County that are related to response and treatment of defensible space, egress/ingress, capacity, equipment, and planning efforts. Implementation of response action items will rely on either the isolated efforts of the rural fire districts or a



Taylor Bridge Wildfire, 2012, Washington State Department of Natural Resources Flickr

concerted effort by Kittitas County or KFAAC to achieve equitable enhancements across all districts. Given historic trends, individual departments competing against neighboring departments for grant monies and equipment will not achieve countywide equity.

7.1.3 *Civic and Community Leaders*

Wildfire mitigation efforts must be supported by a set of policies and regulations, where appropriate, as well as guidelines at the county and community levels that maintain a solid foundation for safety and consistency. They must also be supported by the public infrastructure, economy, and value

system. Critical infrastructure refers to the communications, transportation, power lines, and water supply that service a region or a surrounding area. All of these components are important to central Washington and to Kittitas County specifically. These networks are, by definition, a part of the WUI in the protection of people, structures, infrastructure, and unique ecosystems. Without supporting infrastructure, a community's structures may be protected, but the economy and way of life lost.

7.1.4 *Forest and Land Managers*

There are many land management issues associated with wildfire that can have lasting effects on natural resources as well as communities and local economy. In addition to the immediate responsibility of wildfire suppression, land managers at all levels; local, state, Tribal, and Federal, must also be aware of and plan for the long-term impacts and implications of wildland fire on the landscape. Undeveloped private and public lands serve many purposes and are highly valued for their ability to provide habitat for animals, recreational and hunting opportunities, timber resources, etc. Wildfire affects each of these values in different ways some of which are very direct such as the loss of timber assets, but some are subtle and take place over long periods of time such as the loss of native seed sources due to repeated burning. Increasing cohesiveness of land management across boundary jurisdictions will reduce risk and increase efficiency.

Table 7 shares roles that community members at local, state, and federal levels play in Kittitas County's wildfire resilience and risk reduction.



Table 7
Kittitas County Wildfire Resilience and Risk Reduction Roles

Stakeholder Group	Overview of Roles
City, County, and Local Partners	
Elected Officials	<ul style="list-style-type: none"> • Board of County Commissioners has jurisdiction and power to represent the county and has care of the county property, management, and business concerns. • Kittitas County Sheriff is an elected position that has responsibility of the enforcement of state and county laws and statutes. • The Ellensburg, Cle Elum, and Roslyn city councils and mayors are elected to represent citizens of those areas.
Kittitas County Community and Planning Services	<ul style="list-style-type: none"> • Responsible for developing and administering plans and regulations, including zoning and subdivision, growth policy, regional plans, and land use code enforcement • Responsible for fire life safety in Kittitas County administered through the Kittitas County Fire Marshal's office
Fire Departments and Fire Districts	<ul style="list-style-type: none"> • Responsible for community response and protection services for areas across Kittitas County
Kittitas County Fire Chiefs Association	<ul style="list-style-type: none"> • Nonprofit association with members from city, county, rural, state, and federal agencies including fire departments and districts, Kittitas County Emergency Management, DNR, USFS, and other Fire District organizations • Coordinates fire prevention and response activities
Kittitas County Emergency Management	<ul style="list-style-type: none"> • Coordinates emergency response components in the geographical area of Kittitas County
Kittitas County Health Department	<ul style="list-style-type: none"> • Responsible for air quality monitoring
Kittitas County residents, landowners, and community councils	<ul style="list-style-type: none"> • Responsible for personal property and engaging in community projects • Community councils participate in planning process by facilitating communication between communities and local government. • Includes private landowners such as citizens and entities with large landholdings (e.g., TNC)
Nongovernmental Stakeholders	<ul style="list-style-type: none"> • Includes stakeholders from Central Washington Homebuilders Association, realtors, and other industry professionals • Volunteer organizations, KCCD, local chapters of Chamber of Commerce, utilities, university partners, and other businesses
Kittitas County Fire Adapted Communities Coalition	<ul style="list-style-type: none"> • Includes federal, state, and local ownership committed to improving landscape and community resiliency for all who live, work, and play in Kittitas County

Stakeholder Group	Overview of Roles
State Partners	
DNR	<ul style="list-style-type: none"> • State agency providing fire resources and information, including burn permits, air quality updates, current fire restrictions, and historical fire information • Co-land manager of the Teanaway Community Forest, a high recreational use area in Kittitas County that is culturally and ecologically sensitive
WDFW	<ul style="list-style-type: none"> • State agency that is a landowner/land manager in Kittitas County • Co-manager of the Teanaway Community Forest, a high recreational use area in Kittitas County that is culturally and ecologically sensitive
Washington Department of Ecology	<ul style="list-style-type: none"> • State agency that monitors and reports air quality conditions and establishes burn ban regulations and burn permits
WAFAC	<ul style="list-style-type: none"> • Network of practitioners that provides communities with resources to develop innovative solutions, work with local partners, engage with other member communities, and increase local capacity to work and live better with wildfire
Washington Resource Conservation and Development Council	<ul style="list-style-type: none"> • Non-profit organization that provides resources for facilitation, planning, coordination, and implementation of natural resource conservation and community development initiatives such as the WAFAC, Yakima Basin Clean Water Partnership, and Yakima Tributary Habitat & Access Program • Fiscal sponsor for the Washington Prescribed Fire Council, Chumstick Wildfire Stewardship Coalition, KFACC, Tapash Sustainable Forest Collaborative, and the South Central Washington Coordinated Weed Management Area
The Nature Conservancy	<ul style="list-style-type: none"> • Forest manager of the Central Cascades Forest • Member of the Tapash Sustainable Forest Collaborative and Manastash – Taneum Resilient Landscapes – Restoration Project among many other local and statewide landscape and community resiliency projects
Tapash Sustainable Forest Collaborative	<ul style="list-style-type: none"> • Federal, state, and local agencies and non-profit organizations working in partnership to improve ecosystem health and natural functions of the eastern Cascades landscape through the use of best available science, community input, and adaptive management
Federal and Tribe Partners	
USFS	<ul style="list-style-type: none"> • Manages Okanogan Wenatchee National Forest and Mount Baker Snoqualmie National Forest • Local support and resources also include Cle Elum Ranger District
Yakama Nation	<ul style="list-style-type: none"> • Maintains a culturally sensitive site inventory for lands on and off the reservation and in Kittitas County has a significant role in fish habitat restoration and cultural value
BLM	<ul style="list-style-type: none"> • Manages public lands out of the Wenatchee Field Office

Stakeholder Group	Overview of Roles
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"> • Administers environmental stewardship programs and services to guide conservation, development and management of fish and wildlife resources • Issues permits under various wildlife laws and treaties
U.S. Army Yakima Training Center	<ul style="list-style-type: none"> • Manages Yakima Training Center that stretches between the most southern and eastern portion of Kittitas County

7.2 Strategic Action Plan

There are three main categories of the strategic action plan identified by members of the KFACC CWPP committee. These categories correspond to the three emphasis areas of the Cohesive Strategy. Categories include 1) fire adapted communities; 2) fire resilient landscapes; and 3) response. Natural vegetation and habitat restoration activities are incorporated into fuels reduction projects. As part of the Cohesive Strategy and intent of the CWPP, two additional categories were added 4) Risk Assessment; and 5) Post-Fire Risk Reduction.

Recommendations are organized into categories and listed in order of priority. Projects that address human safety issues will be of a higher priority than projects that benefit homes. No home is worth a life.

Creation of a proactive knowledgeable community through education and outreach was identified as one of the most important tools to be included in the plan. The objective of this portion of the plan is to provide information to landowners and visitors to increase knowledge and understanding of fire related issues.

The creation and maintenance of landscapes both around homes and across the landscape was the second priority of the landowner committee. Implementing defensible space around homes was identified as the first priority for fuels reduction, and the second priority was the general landscape.

The following Strategic Action Plan (Table 8) captures actions listed throughout this CWPP. Each action has a proposed lead(s) responsible for advancing the action, a priority level for implementation, a desired timeframe for completion, and any additional notes relevant to support the action. Many actions may relate to one another.

**Table 8
Strategic Action Plan**

Strategic Action Plan	Lead(s)	Priority	Timeframe	Notes
Risk Assessment				
1. Update the Kittitas County Risk Assessment and include a WUI identification map.	USFS, County, KFACC	High	2019	
2. Compile parcel-level assessment data to inform and complete risk assessment, increase first-responder information and encourage public engagement.	Fire Districts, County	High	2019/Ongoing	
3. Continue the KFACC.	Washington Resource Conservation & Development Council, KCCD, TNC	High	Ongoing	
Resilient Landscapes				
4. Review and identify priority landscapes and potential treatment options.	KFACC	High	Fall 2018/Spring 2019	
5. Advance Prescribed Fire Activities.	KFACC	Medium	Fall 2018/Ongoing	
6. Implement post-fire recovery activities.	KFACC	Medium to High	Ongoing	
Fire Adapted Communities				
7. Update County Growth Policy and land use map and local area plans, as needed and appropriate, using wildfire hazard area information to steer growth away from more hazardous areas.	Kittitas County Community Development Services	High	2019	
8. Implement land use map updates using zoning to guide growth to more appropriate areas and away from more hazardous areas.	Kittitas County Community Development Services	Medium	2019	
9. Use land conservation tools such as open space to buffer developed areas from wildfire.	Kittitas County Community Development Services	High	Ongoing	
10. Enforce WUI code and development regulations that require best possible hazard mitigation to protect communities, neighborhoods, fire professionals, and properties/structures in the event of wildfire. Propose development regulations that incorporate best practices, including changes to building code, zoning code, and subdivision regulations.	Kittitas County Community Development Services	High	Ongoing	

Strategic Action Plan	Lead(s)	Priority	Timeframe	Notes
11. Engage with industry professionals on mitigation programs, activities, and opportunities to improve public education and outreach across neighborhoods and communities.	KFACC		Ongoing	
12. Update county and other websites with wildfire education, resources, and materials.	Kittitas County Community Development Services, KFACC	High	2019	
13. Promote neighborhood and community development activities and evacuation plans through programs such as Firewise Community USA, Ready Set Go!	KFACC	High	Ongoing	
Improved Response				
14. Promote and support fire departments to increase capacity, funding opportunities, and volunteer firefighter recruitment and retention.	Kittitas County Fire Chief's Association, Kittitas County Fire Marshal	High	Ongoing	
15. Establish wildland fire response agreements between the county, local fire districts, and state and federal agencies.	Kittitas County Emergency Management, Local Fire Districts, DNR	Medium		

7.2.1 *Ready Action Plan*

Critical to implementation of this CWPP are the identification and implementation of ready project action items targeted at achieving a reduction in the number of unplanned human caused ignitions and fires, as well as the negative impacts of wildland fires in Kittitas County. This section of the plan identifies and prioritizes mitigation actions, including treatments that can be implemented in the county to pursue its fire management goals.

As there are many land management agencies and thousands of private landowners in Kittitas County, it is reasonable to expect that differing schedules of adoption will be made and varying degrees of implementation will be accomplished across various ownership. The primary land management agencies in Kittitas County, USFS, the State of Washington, and TNC are participants in this planning process and have contributed to its development. Where available, their schedules of land treatments have been considered in this planning process to better facilitate a correlation between their identified planning efforts and the efforts of Kittitas County. Kittitas County encourages the building of disaster resistance in normal day-to-day operations. By implementing plan activities through existing programs and resources, the cost of mitigation is often a small portion of the overall cost of a project's implementation. All risk assessments and subsequent recommendation were made based on 2017 conditions.

In addition, the CWPP subcommittee does not intend restrict funding to projects identified as high priority. A project that may be a high priority for a specific community may not be a high priority at the county level. Regardless, the project may be just what the community needs to mitigate a disastrous outcome. The flexibility to fund a variety of diverse projects based on applicable criteria is a necessity for a functional mitigation program at the county and community level.



Jolly Mountain Wildfire, 2017; Inciweb

**Table 9
Ready Action Plan**

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Risk Assessment						
Annual Risk Assessment Update	Every winter, hold a KFACC stakeholder group that reviews new data and development of the WUI and past wildfire season and updates new priorities of risk in Kittitas County.	Fire Districts, County, KFACC	High	Coordination, Capacity	Annual Meeting	Requiring an annual risk assessment review requires the CWPP be reviewed and amended to reflect a living document nature. Providing an annual scheduling is required to ensure that this occurs.
Individual Risk Assessment Database	Encourage public engagement by providing assessment data to individuals and compile assessment data done by KFACC partners into a single accessible location to first responders and fire adapted practitioners.	Fire Districts, County, KFACC	Medium	Coordination, Capacity, Funding	Database, Updated Information Distributed to Stakeholders	Currently being done in Chelan County as part of the Community Planning Assistance for Wildfire grant process. Once this process is completed and finalized for Chelan County, Kittitas County will use the format and replicate.
Resilient Landscapes						
USFS NEPA Review – Manastash-Taneum	Based on NEPA review of the Manastash-Taneum (expected completion Fall 2019), coordinate and reevaluate private lands activity and management of best management practices.	USFS, KFACC	High	Coordination	TBD	Assessment of NEPA recommendations and reevaluation of priorities and treatments will be needed to identify and ensure private lands treatment recommendations are consistent

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Joint Chief's Phase II	Continue the momentum of current Joint Chief's Private Lands Grant to create contiguous and effective treatments across North Cle Elum and South Cle Elum Ridge.	KFACC	High	Funding	# Acres Treated, # of Landowners Participating, # of Residents Benefited (1 to 2-mile radius)	Joint Chief's Private Lands Treatment Phase I is currently being implemented and incentivizes private landowners to work with neighbors to increase pace, scale, and size of treatments.
Shaded Fuel Break Corridors	Implement (200 feet from road edge or use topography) shaded fuel breaks from private to public property to establish effective fuel breaks	KFACC	High	Funding	# Acres Treated, # of Landowners Participating, # of Residents Benefited (1 to 2-mile radius)	Priority areas: South and North Cle Elum Ridges, Teanaway, and Liberty Areas
Strategic Fuel Breaks for Community Risk Reduction	Implement effective fuel breaks around communities to minimize impact of high intensity wildfire adjacent to communities.	KFACC	High	Funding	# acres Treated, # of Landowners Participating, # of Residents Benefited (1 to 2-mile radius)	Priority areas: WUI Communities (South Cle Elum, Cle Elum, Roslyn, Ronald, Liberty, Easton, and Vantage)
20 Year Eastern Washington Strategic Forest Health Plan	Align priority watersheds with the guiding forest health document and coordinate timeframes.	DNR SE Region, TNC, KCCD, KFACC	High	Funding, Coordination, Capacity	# of Acres Treated in Priority Watersheds	2018: Manastash-Taneum 2020: Teanaway Watershed

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Transportation Corridor Vehicle Fire Risk Reduction	Contain vehicle fires from spreading along Interstates and State Highways in Kittitas County.	DNR SE Region, Fire Districts and Departments, BLM, YTC, Private Landowners, KCCD and Washington State Department of Transportation	High	Funding, Coordination Capacity	# of vehicle fires, # of acres treated, # of fatalities caused by wildfire smoke	In 2017, a wildfire smoke fatality occurred on I-90. It is imperative for public life and safety that measures be taken to protect users and private property owners along major transportation systems.
Fuels Reduction Treatments	Continue and encourage participation in cost-Share Fuels Reduction Programs for private landowners.	DNR SE Region, KCCD, TNC	Medium to High	Coordination	# Acres Treated, # of Landowners Participating, # of Residents Benefited (1 to 2-mile radius)	Use current grant funding sources. KCCD is pending grant award for fuels reduction cost-share from FEMA
Prescribed Fire Educational Outreach and Prescribed Fire Coalitions	Coordinate public education and outreach through Washington Prescribed Fire Council to encourage public to learn more about prescribed fire. Help private landowners with resources to coordinate prescribed fire operations	Washington State Prescribed Fire Council, DNR, USFS, KFACC, Landowners	Medium	Capacity, Liability	# of Educational Workshops, # of Field Tours, # of Flyers Distributed, # of Social Media "Likes"	

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
#GOODFIRE	Implement and advance prescribed fire activities on the landscape.	Washington State Prescribed Fire Council, DNR, USFS, KFACC, Landowners	Medium	Capacity, Liability	# Acres Treated, # of Stakeholders Involved, # of Participants	Local landscape level applications are currently happening on a small scale; Fall 2017: private landowner participated Prescribed Fire Learning Exchange (TRES) learning exchange and 14 acres were burned using prescribed fire. Fall 2018: Prescribed Fire Training Exchange (TRES) will be based in upper Kittitas County, coordinated by Washington Prescribed Fire Council/TNC working closely with Cle Elum Ranger District (USFS) and KFACC members.
Fire Adapted Communities						
#FIREENVIRONMENT Video Series	Develop two additional educational videos highlighting emergency preparedness and technical how-to approach to Firewise principles and fuels reduction.	KFACC	High	Funding	# of Videos Created and Released, # of Social Media Likes on KFACC Members Distribution	One video has been produced and distributed on Social Media and YouTube describing the events of Jolly Mountain, Kittitas County as a fire environment and raising landowner awareness to wildfire.
Roving Chipper Program	Encourage Firewise USA Communities to continue mitigation activities on their own by providing a Fire District Crew and equipment to chip materials on site,	KFACC	High	Funding	# of Participating Landowners and Communities, # of Flyers Distributed to Residents	Landowners have expressed this program has been integral part of their mitigation activities.

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Rangeland and Agriculture in a Fire Landscape	Encourage agricultural practices that benefit the forest and range, discourage development of open space land, and identify agricultural infrastructure for protection and proactive treatments.	KFACC, Washington State Farm Bureau, Kittitas Reclamation District, Bureau of Reclamation, Washington Cattleman's Association, Local Fire Districts	High	Policy, Capacity, Coordination, Funding	# of Participating Farmers and Ranchers	Improve relationships and partnerships between agricultural community, infrastructure, and fire response. Identify and protect values at risk that have impact agricultural economies and rangeland quality from wildfire and wildfire response.
Farmers Market Public Education & Outreach	Continue providing information about KFACC partners and mission at Ellensburg and Roslyn farmers markets.	KFACC, Washington Farm Forestry Association Volunteers	Medium	Capacity	# of Markets Attended, # of Educational Material Distributed	For the 2018 farmer's market season, KFACC will be at each farmers market the first weekend of the month. The effectiveness will be evaluated at the end of 2018.
Neighborhood Education, Outreach & Engagement	Continue providing neighborhood assessments, action plans, and education to HOAs and communities in the Kittitas County area.	KFACC	Medium	Funding	# of HOA meetings, # of Educational Workshops, # of Educational Material Distributed, # of Assessments Updated/ Created, # of Action Plans Updated/ Created	Operating at a minimal level through the KCCD, uses local assessment funds to provide this service. DNR SE region does provide assistance when available.

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Communities Helping Communities	Develop a learning exchange program that engages communities from across the state that empowers community members to take action in their own community and share lessons learned.	WAFAC, KFACC	Medium	Funding, Capacity	# of Learning Exchange Events, # of Local Sparkplugs, # of Podio Participants	Use Podio Workspace and cultivate local sparkplugs.
Youth Education & Outreach	Coordinate with existing educational programs to integrate fire adapted concepts.	KFACC	Medium	Funding, Staffing, Capacity, Expertise	# of Field Trips, # of Artwork Participation, # of Artwork Displayed	In spring 2018, coordinated with Kittitas Environmental Education Network for 4th grade field trip integrating fire ecology concepts. Community Wildfire Preparedness Day artwork project in partnership with Gallery One, and local schools in Ellensburg increasing awareness in grade schools about wildfire.
Fuels Reduction Contractors	Encourage and cultivate fuels reduction contractors who are familiar with Firewise principles, wildlife friendly fuels reduction, and forest health best management practices.	KFACC	Medium	Complexity, Capacity	# of Participating Contractors in Kittitas County Area	
Small Wood Markets	Encourage the economic infrastructure to develop small diameter woody debris markets.	TNC, KFACC	Medium	Complexity, Capacity	TBD	

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Improved Response						
Pre Suppression Action Plan	Improve response by planning wildfire suppression tactics, first responder and community safety and preparedness.	KFACC Kittitas County Fire District No. 7 Kittitas County Fire Marshall, DNR	High	Funding, Staffing, Capacity	# of Pre-Suppression Plans Created, # of Pre-Suppression Plans Given to IMT	Engage motivated Firewise or Fire Adapted Communities to take the next step in their Fire Adapted efforts. Develop a neighborhood level wildfire pre-suppression plans for Incident Command teams and local Fire Response
Neighborhood Emergency Preparedness Planning	Develop neighborhood plans that integrate county level planning efforts such as Natural Hazards, CWPP, and CEMP and implement tactics and strategies to build economic, ecological, and social resiliency.	Kittitas County Emergency Management, KFACC, Local Response, Neighborhoods, Communities	High	Funding, Staffing, Capacity	# of Plans Created	Neighborhood Emergency Preparedness plans are to be used as a living document to resources for pre, during, and after wildfires as well as other natural resource concerns that would impact residents and their resources.
Road Access	Improve response by widening and/or resurfacing roads or adding second egress to communities that have only one egress/ingress.	Communities, KFACC, Local Response	High	Funding, Capacity, Landowners	# of Roads Improved, # of Roads Identified, # of Secondary Accesses Improved, Created, and/or Maintained	Identify communities' egress/ingress on a case by case basis and recommend actions to improve road access and provide safer response.
Emergency Address & Signage	Improve response by implementing addressing and evacuation signage at a neighborhood level.	Communities, KFACC, Local Response, Kittitas County Public Works	High	Coordination	# of Address Plates Requested, # of Evacuation Signage Installed in Communities	

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Local WUI Response	Improve response by standardizing equipment and wildland/WUI training across local fire districts. Cultivate volunteer recruitment and retention for strategic local response.	Local Fire Districts, DNR, USFS, Washington Prescribed Fire Council	High	Policy, Coordination, Capacity, Funding	# of Wildland Volunteers, # of Trainings Offered to All Fire Districts and # of Training Participants, # of Standardized Equipment	Firefighter training includes values of risk that have not been traditionally recognized i.e., ecological values (sage grouse and other critical habitat) and cultural values and economic values (fencing, livestock, public works, and energy infrastructure)
Improved Data Collection and Data Sharing	Improve response by providing centralized geodatabases and data collection of county wildland urban interface	Local Fire Districts and Departments, DNR, Communities, KFACC, KCCD	High	Coordination, Capacity, Funding	Data Collection and Unified Multi-Jurisdictional Sharing Platform	Some Fire Departments do not have the capacity or funding to collect data. Reduce redundancies in data collection across first responders and use a central coordination data collection and sharing platform.
Post-Fire Response, Stabilization, and Long-Term Rehabilitation						
Rapid Response– Burned Area Emergency Response Strike Team	Coordinate local Burned Area Emergency Response Strike Team assessments on state and private land to assess needs for restoration and long-term community recovery.	Washington State Conservation Commission, DNR, KFACC	High	Policy, Funding, Capacity, Coordination	# of Team Members, # of Team Deployments, # of Assessments	Local communities need coordinated response that models Incident Command System structure to use long term recovery and restoration efforts on all land ownership and form long term partnerships to obtain restoration and recovery project funding.

Project Name	Project Goal	Lead(s)	Priority	Obstacles	Measurement	Notes
Post Fire Coordinated Education & Outreach	Use incident meetings during response to provide post-fire education and recovery information to landowners, residents, business owners, and farmers/ranchers.	KFACC	High	Coordination, Capacity, Funding	# of Incident Management Team Meetings Attended, # of Flyers Distributed About Post-Fire Risk, # of Educational Workshops for Post-Fire Before Wildfires Occur	Most incident meetings are well attended. While people are at those meetings, educate the public on post-fire risk since education and outreach after the incident has less attendance.
Water Quality and Watershed Protection	Use Burned Area Emergency Response Strike Teams to assess conditions after wildfire and coordinate water quality and watershed protection by using the all hands all lands approach.	KFACC	High	Policy, Funding, Capacity, Coordination	# of Best Management Practices Installed on Watersheds	Coordinating rapid response to water quality issues using restoration will better improve wildlife habitat and potable water sources and limit impact on quality of life and ecological system functions.

7.3 Monitoring and Evaluation of CWPP

The KFACC, working through the CWPP Subcommittee will ensure the continued maintenance of the CWPP. The steering committee recommends that the Kittitas County CWPP be reviewed at least annually at special meetings of the KFACC, open to the public and involving all municipalities /jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. The components of risk and the preparedness of the county’s resources are not static. It will be necessary to regularly adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors. Amendments and updates to the plan should be documented and attached to the CWPP. Re-evaluation of this plan should be made on the 5th anniversary of its acceptance, and every 5-year period following, in keeping with the Disaster Mitigation Act of 2000. Annual Review of the Kittitas County CWPP is located on the Project Ready Action Table (Table 9) and the scheduled review of the CWPP will be in Winter 2018/2019.



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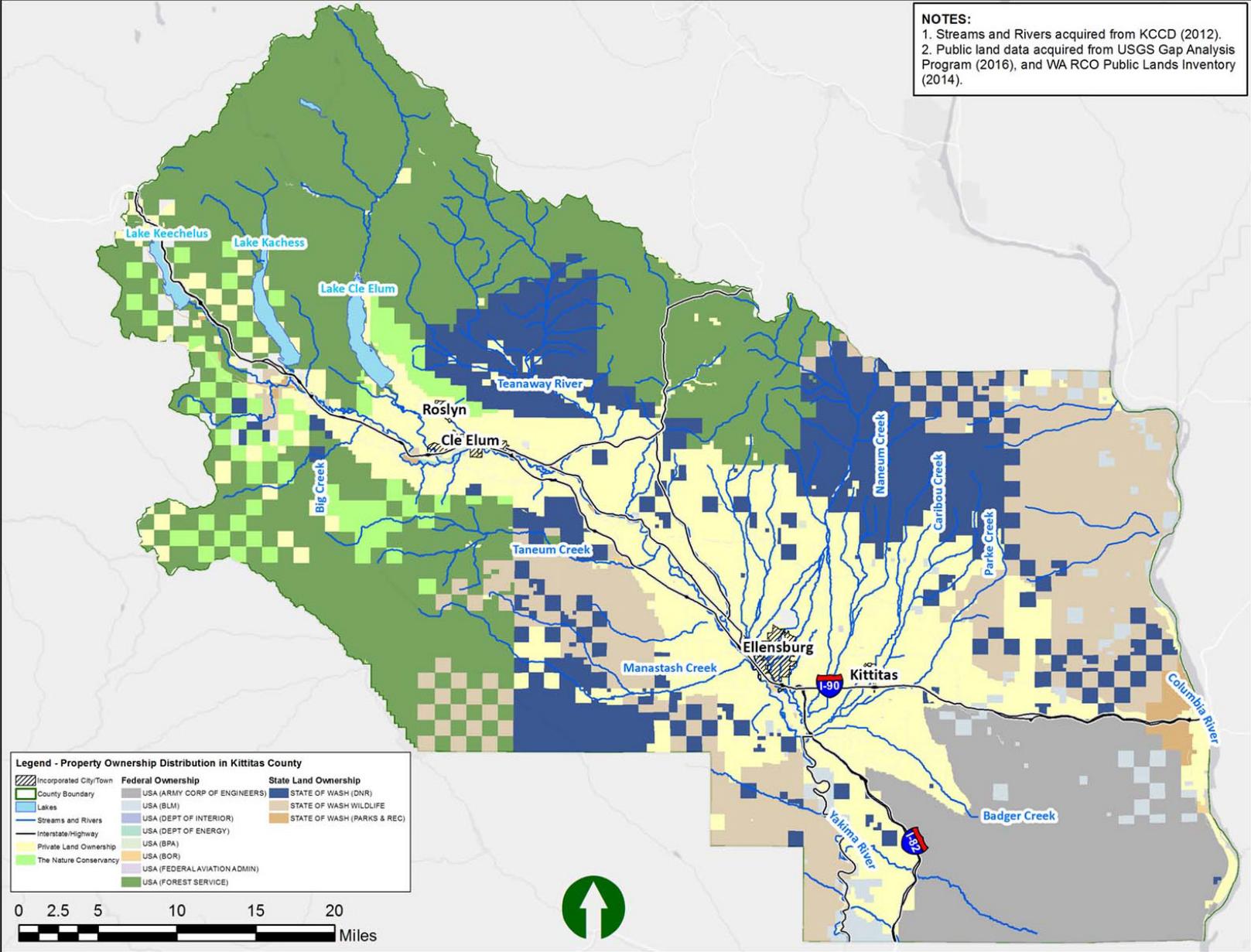
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Appendix A

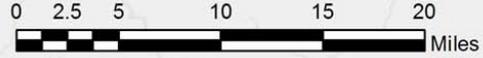
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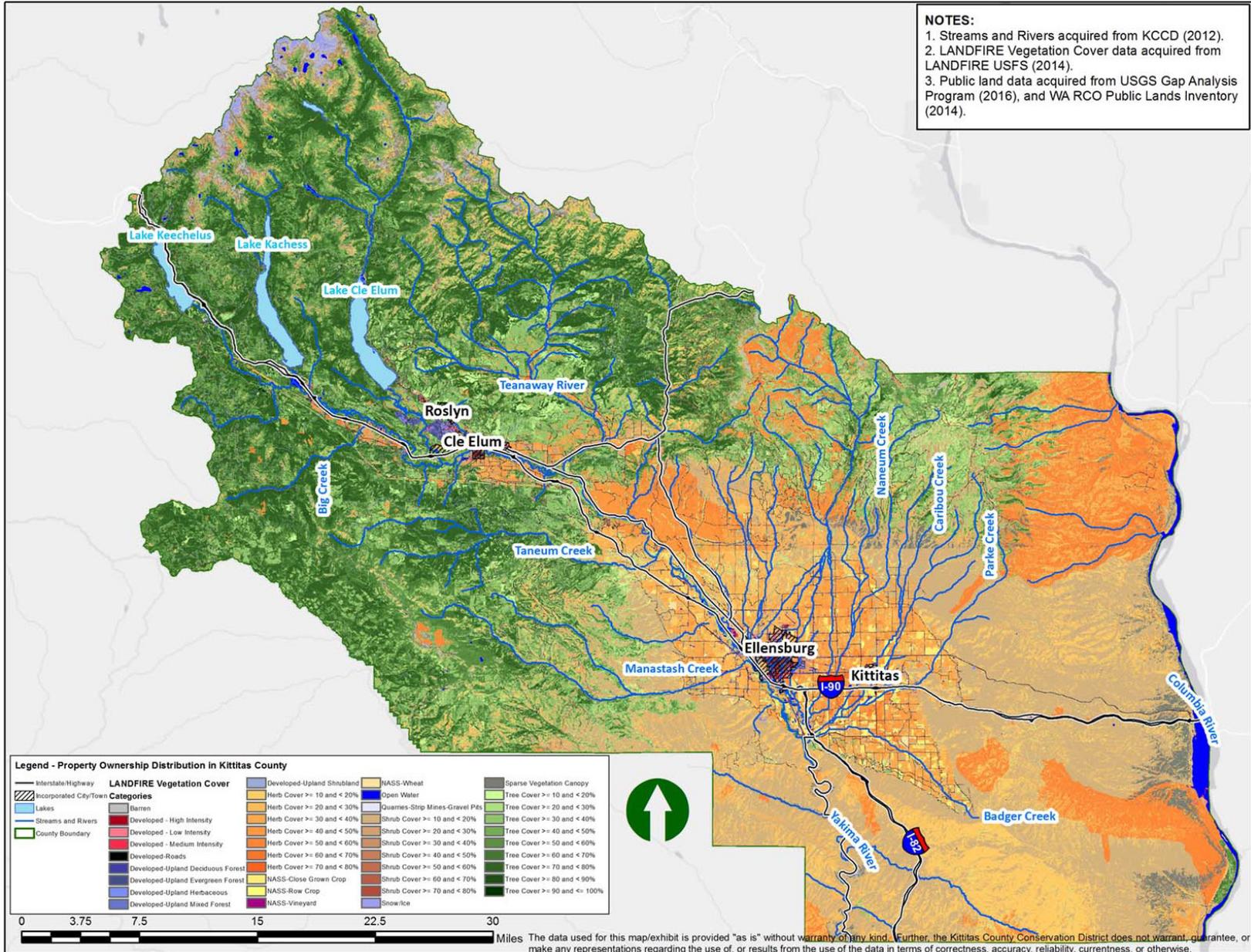
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 2. Public land data acquired from USGS Gap Analysis Program (2016), and WA RCO Public Lands Inventory (2014).



Legend - Property Ownership Distribution in Kittitas County

	Incorporated City/Town		Federal Ownership		State Land Ownership
	County Boundary		USA (ARMY CORP OF ENGINEERS)		STATE OF WASH (DNR)
	Lakes		USA (BLM)		STATE OF WASH WILDLIFE
	Streams and Rivers		USA (DEPT OF INTERIOR)		STATE OF WASH (PARKS & REC)
	Interstate/Highway		USA (DEPT OF ENERGY)		
	Private Land Ownership		USA (BPA)		
	The Nature Conservancy		USA (BOR)		
			USA (FEDERAL AVIATION ADMIN)		
			USA (FOREST SERVICE)		

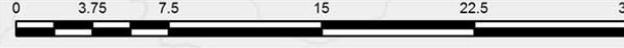




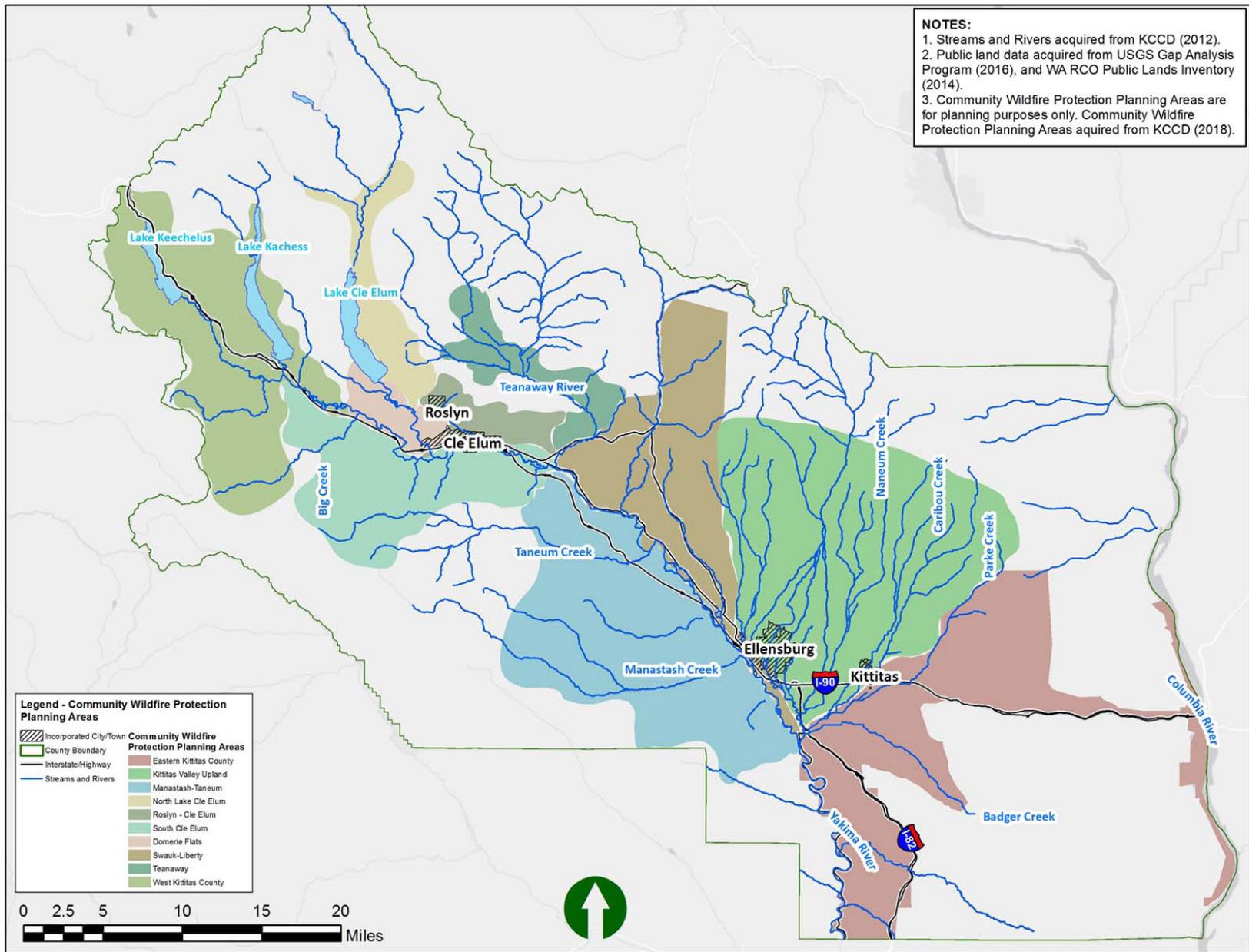
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 2. LANDFIRE Vegetation Cover data acquired from LANDFIRE USFS (2014).
 3. Public land data acquired from USGS Gap Analysis Program (2016), and WA RCO Public Lands Inventory (2014).

Legend - Property Ownership Distribution in Kittitas County

<ul style="list-style-type: none"> — Interstate/Highway ▨ Incorporated City/Town ▭ Lakes — Streams and Rivers ▭ County Boundary 	<p>LANDFIRE Vegetation Cover Categories</p> <ul style="list-style-type: none"> ▭ Barren ▭ Developed - High Intensity ▭ Developed - Low Intensity ▭ Developed - Medium Intensity ▭ Developed-Roads ▭ Developed-Upland Deciduous Forest ▭ Developed-Upland Evergreen Forest ▭ Developed-Upland Herbaceous ▭ Developed-Upland Mixed Forest 	<ul style="list-style-type: none"> ▭ Developed-Upland Shrubland ▭ Herb Cover ≥ 10 and $< 20\%$ ▭ Herb Cover ≥ 20 and $< 30\%$ ▭ Herb Cover ≥ 30 and $< 40\%$ ▭ Herb Cover ≥ 40 and $< 50\%$ ▭ Herb Cover ≥ 50 and $< 60\%$ ▭ Herb Cover ≥ 60 and $< 70\%$ ▭ Herb Cover ≥ 70 and $< 80\%$ ▭ NASS-Close Grown Crop ▭ NASS-Row Crop ▭ NASS-Vineyard ▭ NASS-Wheat ▭ Open Water ▭ Quames-Strip Mines-Gravel Pits ▭ Shrub Cover ≥ 10 and $< 20\%$ ▭ Shrub Cover ≥ 20 and $< 30\%$ ▭ Shrub Cover ≥ 30 and $< 40\%$ ▭ Shrub Cover ≥ 40 and $< 50\%$ ▭ Shrub Cover ≥ 50 and $< 60\%$ ▭ Shrub Cover ≥ 60 and $< 70\%$ ▭ Shrub Cover ≥ 70 and $< 80\%$ ▭ Snow/Ice ▭ Sparse Vegetation Canopy ▭ Tree Cover ≥ 10 and $< 20\%$ ▭ Tree Cover ≥ 20 and $< 30\%$ ▭ Tree Cover ≥ 30 and $< 40\%$ ▭ Tree Cover ≥ 40 and $< 50\%$ ▭ Tree Cover ≥ 50 and $< 60\%$ ▭ Tree Cover ≥ 60 and $< 70\%$ ▭ Tree Cover ≥ 70 and $< 80\%$ ▭ Tree Cover ≥ 80 and $< 90\%$ ▭ Tree Cover ≥ 90 and $< 100\%$
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Miles The data used for this map/exhibit is provided "as is" without warranty of any kind. Further, the Kittitas County Conservation District does not warrant, guarantee, or make any representations regarding the use of, or results from the use of the data in terms of correctness, accuracy, reliability, currentness, or otherwise.



Median Historic Regime Fire Interval

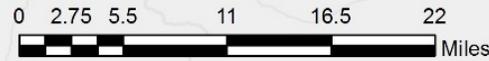
Data Notes:
 1. Streams and Rivers acquired from KCCD (2012).
 2. Public land data acquired from USGS Gap Analysis Program (2016), and WA RCO Public Lands Inventory (2014).
 3. MRFI data acquired from USFS LANDFIRE (2014).

Legend - Wildfire Risk Timber & Assets

- County Boundary
- Kibitz County Roads
- Interstate/Highway
- Streams and Rivers

Median Regime Fire Interval LABEL

- 6-10 Years
- 10-20 Years
- 21-25 Years
- 26-30 Years
- 31-35 Years
- 36-40 Years
- 41-50 Years
- 51-60 Years
- 61-70 Years
- 71-80 Years
- 81-100 Years
- 101-125 Years
- 126-150 Years
- 151-200 Years
- 201-300 Years
- 301-500 Years
- 501-1000 Years
- >1000 Years
- Water
- Snow / Ice
- Barren
- Sparsely Vegetated
- Indeterminate Fire Regime Characteristics



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Appendix B

Fire District and Department CWPP Survey

The Purpose of a Community Wildfire Protection Plan (CWPP)

A CWPP provides value to a community by identifying and implementing mitigation and response strategies that reduce the wildland fire risk and enable a community to withstand a wildfire event without loss of life or preventable resource or property damage. Kittitas County is in the process of updating the 2009 CWPP.

In collaboration with stakeholder groups and the public Kittitas County Conservation District (KCCD) has been contracted to assist and develop the updated county wide, community based CWPP, which will identify various forms of risk assessment, modeling and strategic action planning. At the conclusion of this process, the goal will be to develop a uniquely suited and feasible document that achieves the goals of our responders, planners, land owners and the public while preparing the response environment for safe and effective suppression activities.

Please take a few moments to complete the questionnaire below so that we can accurately capture information from your Fire District Organization or Agency, which will be included in the newest update of the Kittitas County CWPP.

CWPP KEY COMPONENTS-

- Developing community based priorities and partnerships, while fostering and maintaining community resilience.
- Preparing for and safely coexisting with wildland fire
- Supports healthy forests and rangelands

DESIRED OUTCOME –

- Reduced Occurrence of Catastrophic Wildfires
- Reduction in Loss of Life, Property and Resources.
- Overall Resilience to the Effects of Wildland Fires to Communities.

2018 KITTITAS CWPP UPDATE - QUESTIONNAIRE

FIRE DISTRICT #: 1 FIRE CHIEF: Brandon Schmielt
 AGENCY or ORGINAZATION: Kittitas County Fire district #1
 CONTACT INFORMATION: Phone 509 964-2435 email Kctfd1@fairpoint.net

VALUES AT RISK-

Residential Areas – Structures; (Example- 40 Homes on Johnson Road. 3 Businesses, 4 commercial.)

▫ Estimated number of residential homes in your district - ? 600-700, approx 2500 residents

▫ Estimated number of commercial buildings, businesses- 12

no more gate on ranches Rd Ellensburg 2

Locations of areas of most concern – explain (see example above)

Sunlight waters / Elk heights - fuel load, poor access, one way in one way out, previous active fire behavior.

W. Taneum Rd, - fuel load, access, in a canyon, previous active fire behavior.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Community Safety Area –Potential Evacuation Sites; (Example- Old Circleville Flat, School Field etc.)

Estimated number of safety areas within district- Thorpe Schools

Estimated Size and Locations- Downtown Thorpe

Have locations been Mapped? (GIS –Coordinates, legal description?) Yes No

Community Water System; (Example- Crawford Creek provides water to 40 Homes on Johnson Road)

Is there sufficient water storage capacity to meet domestic and fire suppression needs? Are hydrants, stand pipes or storage tanks located adequately to support suppression operations?

Yes No

Explain; Many locations outside of Thorpe proper lack hydrants. Cascade view estates has a hydrant system that lacks enough water or pressure. Sunlight waters has a good standpipe system but not at hydrant status.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No - Some

Historic Sites -Sensitive or Unique Areas; (Example- Circleville Cemetery, Johnson Road Grange)

Land features, historical, cultural, habitat, conservation or reserve areas? Yes No

Number of sites; Description of sites and locations; Thorpe Mill - N Thorpe Hwy

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Others –

Infrastructure (Utilities, Communication, Power, Water). Grazing, Ag, Timber, Recreation? Yes No

Description of sites and locations; Wind farm, - Hayward Hill Rd,
Wind farm - Swan Valley, Ranch / SR10 -

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

EMERGENCY ACCESS / EGRESS ROUTES

Safe access to properties by first responders as well as egress by residents is a high priority.

Is there sufficient width on the majority of roads (primary –county or state) within your protection boundary that are able to support two way traffic in an emergency, for safe evacuation of the population served?

Yes No

Explain; _____

Estimate -what percentage of secondary roads or driveways in your district that are not accessible to emergency responders and apparatus, for safe access and egress? (Poor condition, locked gates, uncooperative owners)

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Description of sites and locations; _____

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Are roadside fuel breaks adequate or maintained? Yes No

Comments; _____

In your jurisdiction, are roads well marked and current road signage in good condition? Yes No

Comments; _____

Are street address and home / business numbers posted and visible from the main access routes? If so, please estimate what percentage are.

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Comments: Most are posted well, isolated residences w/ obscured or missing placards.

HIGH RISK AREAS –

Fire risk is defined as the fuel types and loading in an area combined with factors (i.e. ignition sources, slope, aspect and elevation) Fire history can also be used to establish potential risk.

Current Mitigation Strategies / Measures?

Education Manual Fuels Reduction Projects Prescribed burn Grazing Harvest

Defensible Space Fire Adapted Community Building Codes Home Assessments

Explain: Info given out through local HOA on firewise, past roaming chipper, etc.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Have Fireworks starts been a reoccurring problem / concern in your jurisdiction? Yes No

Comments: Have had some, but not many.

Has there been concerns or issues regarding other types of human caused starts / fires within your jurisdiction?

Debris Burning Children Railroad Equipment Logging Recreation Smoking Arson/Incendiary

Explain: With a good burn permit process, we don't see many escaped debris burns. Construction equipment failures and other reasons seem to lead our fire causes.

Do you have any Fire Wise or Fire Adapted Communities within your jurisdiction? Yes Number ___ No

Has there been or are there plans for any fuel reduction work in your community, utilizing DNR, Conservation

Districts, hired contractors etc.? Yes Number ___ No

Explain; New Chief just took over, would like to but haven't got to that yet.

Describe what you consider to be your highest values at risk in your jurisdiction / ownership for catastrophic wildfire.

Explain; People - Always highest priority / biggest risk. SLW Elk heights, W Taneum, SwanK valley ranch, Ranches Rd areas are prone to fast moving fires.

RESPONSE CAPABILITIES-

Is your current staffing capability adequate in meeting your district responses needs? Yes No

Explain; Since 2009, the district went as low as 13 volunteers, dsffdsfed Now back up to 21.

Are your current equipment capabilities adequate in meeting your district responses needs? Challenges?

Yes No

Explain; In 2009, we had 1 old brush truck. We now have 2 newer type 5 brush trucks and 2 newer type 6 brush trucks.

B111-2002 Ford F-350, 4x4, 500 gal / B112-2000 F350, 4x4, 300 gal
B121-2007 GMC 5500, 4x4, 600 gal / CH11-2018 GMC 3500, 4x4, 250 gal

Are your current PPE and training needs being met? Challenges? Yes No

Explain; Thanks to DNR grants and other factors we have ~~pretty~~ decent PPE all up to spec. Training up to FF2, higher as time allows for volunteers.

Response drills, community evacuation and preparedness planning, disaster response and recovery planning?

Yes No

Explain; We do some response drills/scenarios, discuss evacs and some recovery.

Are collaborative relationships and cooperative agreements being maintained / enhanced? Yes No

(I.e. local response agreements, mutual aid, cooperative etc.)

Explain; we have a great mutual aid agreement in this county.
We give and receive help multiple times a year.

What is it that is most important to you, that you would like to see included as a priority in the 2018 Kittitas County CWPP Update? What is your opinion of the wildland fire threat in your community?

Explain;

Wildfire in this county will happen yearly. The threat is
always there in summer months. Our District has several
areas of concern & have had previous large fires.

W. Tameum Rd - Elephant head fire, 2003, 1000+ acres

Sunlight Waters - 2002 - present, several fires including Taylor Bridge

Eburg Ranches Rd - 2012 Taylor Bridge, 2016 threatened by a fire
started near the windfarm.

ADDITIONAL COMMENTS / CONCERNS?

Explain;

I, the new chief at KCFDI, started in Wildland fire
in 2002 with the US forest service, did 4 summers with
them doing both engines & hand crew. I then ran a DNR
engine for 2 summers. I have been a volunteer for 17
years in this county as well. Fires have been getting
more intense and harder to fight. There is also a lot more
WUI now. People and infrastructure are involved in almost
every wildfire now.

PLEASE RETURN COMPLETED QUESTIONNAIRE TO; Rose Shriner, Kittitas County Conservation District
rose-shriner@conservewa.net (509)925-3352 ext 202 **OR;** WADNR - Attention: Alan Lawson (509) 859-
2641 alan.lawson@dnr.wa.gov WADNR SE Region Office 713 Bowers Road Ellensburg WA. 98926



Rose Shriner <rose-shriner@conserveva.net>

cwpp

1 message

Kittitas County Fire District 1 <kcfd1@elltel.net>
To: rose-shriner@conserveva.net

Mon, Apr 16, 2018 at 3:40 PM

Good afternoon. I have filled out the questionnaire and added a couple of updates on apparatus and personnel incase it's needed. Let me know if you need anything else.

- | | |
|--------------------------------|---|
| E111- 750 gallons, 1250 gpm | Ch11 (Chief's vehicle) 250 gal, 120gpm, 4x4 |
| E112- 1000 gallons, 1000 gpm | R111- Rescue, 4x4 |
| E121- 500 gallons, 1000 gpm | A111- BLS Aid unit, 4x4 |
| B111- 500 gallons, 130gpm, 4x4 | T111- 2615 gallons, 800gpm |
| B112- 300 gallons, 120gpm, 4x4 | T121- 3000 gallons, 750gpm |
| B121- 600 gallons, 120gpm, 4x4 | S111- Support/Command vehicle, 4X4 |

21 volunteers

Brandon Schmidt
Chief
Kittitas County Fire District 1
509 964 2435
509 679 8328 cell

 **CWPP 2018.pdf**
2079K

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2018 KITTITAS CWPP UPDATE - QUESTIONNAIRE

FIRE DISTRICT #: 7 FIRE CHIEF: Jay Wiseman
 AGENCY or ORGINAZATION: Kittitas County Fire District #7
 CONTACT INFORMATION: Phone 425-761-0781 (cell) email jaywiseman@7equalfirepays
timerecure.org

VALUES AT RISK-

Residential Areas – Structures; (Example- 40 Homes on Johnson Road. 3 Businesses, 4 commercial.)

▫ Estimated number of residential homes in your district - 2000

▫ Estimated number of commercial buildings, businesses- 15

Locations of areas of most concern – explain (see example above)

SKY Meadows - poor access, switchbacks vegetation
Westside Road - Area of dense understory
WASCO wheel Transman - narrow roads, dense understory
Liberty & Liberty Mountain - dense forest
Turnble Creek - NOT All Areas Finalized
Morgan Creek VICINITY

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No Partial

Community Safety Area –Potential Evacuation Sites; (Example- Old Circleville Flat, School Field etc.)

Estimated number of safety areas within district- 10

Estimated Size and Locations- Transman Meadows 10-20 Acres, SKY Meadows
has field near entry 5 acres, Liberty Helipad 2 acres,
Turnble Creek Golf Course 20 acres golf course,

Have locations been Mapped? (GIS –Coordinates, legal description?) Yes No

Community Water System; (Example- Crawford Creek provides water to 40 Homes on Johnson Road)

Is there sufficient water storage capacity to meet domestic and fire suppression needs? Are hydrants, stand pipes or storage tanks located adequately to support suppression operations?

Yes No

Explain: Areas with hydrants: Sun Country, SKY Meadows 2 hydr
Fall Meadows, Junecadia, Turnble Creek, Hidden Valley
All have hydrants - majority of District has water sources
for Drafting and Tender Support

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Historic Sites -Sensitive or Unique Areas; (Example- Circleville Cemetery, Johnson Road Grange)

Land features, historical, cultural, habitat, conservation or reserve areas? Yes No

Number of sites;

Description of sites and locations; Toanaway Community Forest, YAKAMA
Indians Fish Hatchery, Estuary Humbley Property Exit 78

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Others -

Infrastructure (Utilities, Communication, Power, Water). Grazing, Ag, Timber, Recreation? Yes No

Description of sites and locations; There are multiple grazing areas
Upper Peck Point - Teanaway Valley, 521 10,
Timber throughout 50% of District
Power sub stations 52970

Have locations been mapped? (GIS -Coordinates, legal description?) Yes No

EMERGENCY ACCESS / EGRESS ROUTES

Safe access to properties by first responders as well as egress by residents is a high priority.

Is there sufficient width on the majority of roads (primary -county or state) within your protection boundary that are able to support two way traffic in an emergency, for safe evacuation of the population served?

Yes No

Explain; Only those areas listed previously
Have narrow Access roads

Estimate -what percentage of secondary roads or driveways in your district that are not accessible to emergency responders and apparatus, for safe access and egress? (Poor condition, locked gates, uncooperative owners)

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Description of sites and locations; sky meadows, Red Lake, ...

Have locations been mapped? (GIS -Coordinates, legal description?) Yes No

Are roadside fuel breaks adequate or maintained? Yes No

Comments; NOT IN ALL AREAS

In your jurisdiction, are roads well marked and current road signage in good condition? Yes No

Comments; _____

Are street address and home / business numbers posted and visible from the main access routes? If so, please estimate what percentage are.

5 % 10% 15% 20% 25% 30% 35% 45% 50% + Good Signage

Comments; _____

HIGH RISK AREAS –

Fire risk is defined as the fuel types and loading in an area combined with factors (i.e. ignition sources, slope, aspect and elevation) Fire history can also be used to establish potential risk.

Current Mitigation Strategies / Measures?

Education Manual Fuels Reduction Projects Prescribed burn Grazing Harvest
Defensible Space Fire Adapted Community Building Codes Home Assessments

Explain; District 7 very active in promoting Firewise and Adaptive Communities

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No NOT ALL

Have Fireworks starts been a reoccurring problem / concern in your jurisdiction? Yes No

Comments; _____

Has there been concerns or issues regarding other types of human caused starts / fires within your jurisdiction?

Debris Burning Children Railroad Equipment Logging Recreation Smoking Arson/Incendiary

Explain; occasionally a property owner has excessive pile and burns when wind exceeds permissible levels resulting in spread

Do you have any Fire Wise or Fire Adapted Communities within your jurisdiction? Yes Number 5 No

Has there been or are there plans for any fuel reduction work in your community, utilizing DNR, Conservation

Districts, hired contractors etc.? Yes Number ___ No

Explain; Unknown number of Property owners
Scheduling Fire wise through contractors

Describe what you consider to be your highest values at risk in your jurisdiction / ownership for catastrophic wildfire.

Explain; Somcadia Resort Turnble Creek

RESPONSE CAPABILITIES-

Is your current staffing capability adequate in meeting your district responses needs? Yes No

Explain; Paro Personnel can provide rapid attack
ON incipient fire starts. However,
Weather, Topography and Fuels contribute to
Rapid growth and spread,

Are your current equipment capabilities adequate in meeting your district responses needs? Challenges?

Yes No

Explain; Lack Reserve engine at current
Time

Are your current PPE and training needs being met? Challenges? Yes No

Explain; Training - Yes PPE Influx of
Members Finding shirt on gear,
Gear is near End of Life cycle

Response drills, community evacuation and preparedness planning, disaster response and recovery planning?

Yes No

Explain; KITTITAS County Emergency Plan

Are collaborative relationships and cooperative agreements being maintained / enhanced? Yes No
(I.e. local response agreements, mutual aid, cooperative etc.)

Explain; _____

What is it that is most important to you, that you would like to see included as a priority in the 2018 Kittitas County CWPP Update? What is your opinion of the wildland fire threat in your community?

Explain; *Clearly identify High Risk Areas and work with communities to mitigate fuel loads.*
We have areas at extreme risk

ADDITIONAL COMMENTS / CONCERNS?

Explain; _____

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2641 alan.lawson@dnr.wa.gov WADNR SE Region Office 713 Bowers Road Ellensburg WA. 98926

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2018 KITTITAS CWPP UPDATE - QUESTIONNAIRE

FIRE DISTRICT #: Snoqualmie Pass FIRE CHIEF: Jay Wiseman
 AGENCY or ORGANIZATION: Snoqualmie Pass Fire & Rescue
 CONTACT INFORMATION: Phone 425-761-0781 email jwiseman@snoqualmiepassfireandrescue.org

VALUES AT RISK-

Residential Areas – Structures; (Example- 40 Homes on Johnson Road. 3 Businesses, 4 commercial.)

Estimated number of residential homes in your district - 800

Estimated number of commercial buildings, businesses- 15

} Includes King Co
 Portion of Fire District
 (Snoqualmie Summit &
 Alpentel)

Locations of areas of most concern – explain (see example above)

- Gold Creek Valley or Skitow Valley, Limited water supply, Dense forest, one way in
- Stampede Pass / Cabin Creek - Limited water supply, dense forest, poor access in some cases

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No I don't know

Community Safety Area –Potential Evacuation Sites; (Example- Old Circleville Flat, School Field etc.)

Estimated number of safety areas within district- 2

Estimated Size and Locations- Large parking area at Stampede pass & Summit Central parking lot

Have locations been Mapped? (GIS –Coordinates, legal description?) Yes No

Community Water System; (Example- Crawford Creek provides water to 40 Homes on Johnson Road)

Is there sufficient water storage capacity to meet domestic and fire suppression needs? Are hydrants, stand pipes or storage tanks located adequately to support suppression operations?

Yes No

Explain; Snoqualmie pass & Kachas Village on water system

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Historic Sites -Sensitive or Unique Areas; (Example- Circleville Cemetery, Johnson Road Grange)

Land features, historical, cultural, habitat, conservation or reserve areas? Yes No

Number of sites; 1 unknown

Description of sites and locations;

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Others –

Infrastructure (Utilities, Communication, Power, Water). Grazing, Ag, Timber, Recreation? Yes No

Description of sites and locations; USFS Timber Lands, Power Lines, railroad, Interstate 90, Ski Resort

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

EMERGENCY ACCESS / EGRESS ROUTES

Safe access to properties by first responders as well as egress by residents is a high priority.

Is there sufficient width on the majority of roads (primary –county or state) within your protection boundary that are able to support two way traffic in an emergency, for safe evacuation of the population served?

Yes No

Explain; yes For Snoqualmie Pass Some areas in former Fire district 8 have access concerns (Narrow unimproved Bridges & old logging roads)

Estimate -what percentage of secondary roads or driveways in your district that are not accessible to emergency responders and apparatus, for safe access and egress? (Poor condition, locked gates, uncooperative owners)

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Description of sites and locations; _____

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Are roadside fuel breaks adequate or maintained? Yes No

Comments; _____

In your jurisdiction, are roads well marked and current road signage in good condition? Yes No

Comments; _____

Are street address and home / business numbers posted and visible from the main access routes? If so, please estimate what percentage are.

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Comments; _____

HIGH RISK AREAS –

Fire risk is defined as the fuel types and loading in an area combined with factors (i.e. ignition sources, slope, aspect and elevation) Fire history can also be used to establish potential risk.

Current Mitigation Strategies / Measures?

Education Manual Fuels Reduction Projects Prescribed burn Grazing Harvest
 Defensible Space Fire Adapted Community Building Codes Home Assessments

Explain; _____

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Have Fireworks starts been a reoccurring problem / concern in your jurisdiction? Yes No

Comments; However this has been an issue during drought years

Has there been concerns or issues regarding other types of human caused starts / fires within your jurisdiction?

Debris Burning Children Railroad Equipment Logging Recreation Smoking Arson/Incendiary

Explain; _____

Do you have any Fire Wise or Fire Adapted Communities within your jurisdiction? Yes Number 3 No

Has there been or are there plans for any fuel reduction work in your community, utilizing DNR, Conservation

Districts, hired contractors etc.? Yes Number ___ No

Explain; _____

Describe what you consider to be your highest values at risk in your jurisdiction / ownership for catastrophic wildfire.

Explain; Ski Area, local recreation groups (cades), T-90, railway, Power lines

RESPONSE CAPABILITIES-

Is your current staffing capability adequate in meeting your district responses needs? Yes No

Explain; _____
_____ dsffdsfed _____

Are your current equipment capabilities adequate in meeting your district responses needs? Challenges?

Yes No

Explain; _____

Are your current PPE and training needs being met? Challenges? Yes No

Explain; _____

Response drills, community evacuation and preparedness planning, disaster response and recovery planning?

Yes No

Explain; _____

Are collaborative relationships and cooperative agreements being maintained / enhanced? Yes No

(I.e. local response agreements, mutual aid, cooperative etc.)

Explain; Mutual & Automatic Aid agreements in place with King & Kittitas County Fire Districts and USFS & DNR

What is it that is most important to you, that you would like to see included as a priority in the 2018 Kittitas County CWPP Update? What is your opinion of the wildland fire threat in your community?

Explain;

- Fuels reduction
- Evacuation planning
- Pre incident response planning

ADDITIONAL COMMENTS / CONCERNS?

Explain;

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2641 alan.lawson@dnr.wa.gov WADNR SE Region Office 713 Bowers Road Ellensburg WA. 98926

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2018 KITTITAS CWPP UPDATE - QUESTIONNAIRE

FIRE DISTRICT #: 2 - KVFR **FIRE CHIEF:** Sinclair
AGENCY or ORGINAZATION: KVFR
CONTACT INFORMATION: Phone 509-933-7233 email elliotttr@kvfr.org

VALUES AT RISK-

Residential Areas – Structures; (Example- 40 Homes on Johnson Road. 3 Businesses, 4 commercial.)

▣ Estimated number of residential homes in your district - 8300

▣ Estimated number of commercial buildings, businesses- 350 / 950

▫Locations of areas of most concern – explain (see example above) Manastash Canyon, Yakima Canyon, Secret Canyon, Coleman Canyon, Green Canyon, Cooke Canyon

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Community Safety Area –Potential Evacuation Sites; (Example- Old Circleville Flat, School Field etc.)

▫Estimated number of safety areas within district- 200 – throughout district – agricultural areas and urban areas.

Have locations been Mapped? (GIS –Coordinates, legal description?) Yes No

Community Water System; (Example- Crawford Creek provides water to 40 Homes on Johnson Road)

▫Is there sufficient water storage capacity to meet domestic and fire suppression needs? Are hydrants, stand pipes or storage tanks located adequately to support suppression operations?

Yes No

Explain; We have a tender fleet that can maintain fire flow for most wildland incidents. Other than the City of Ellensburg, we generally do not rely on water sources other than tender shuttle.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Historic Sites -Sensitive or Unique Areas; (Example- Circleville Cemetery, Johnson Road Grange)

▫ Land features, historical, cultural, habitat, conservation or reserve areas? Yes No

Number of sites; state park, historical buildings, critical areas

Description of sites and

locations; multiple

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

Others –

▫Infrastructure (Utilities, Communication, Power, Water). Grazing, Ag, Timber, Recreation? Yes No

Description of sites and locations; gas and electrical distribution / generation. Majority of district is agricultural

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

EMERGENCY ACCESS / EGRESS ROUTES

Safe access to properties by first responders as well as egress by residents is a high priority.

▫Is there sufficient width on the majority of roads (primary –county or state) within your protection boundary that are able to support two way traffic in an emergency, for safe evacuation of the population served?

Yes No

Explain; No – road waivers have been granted and development has occurred in areas at risk for wildfire with only 1 ingress/egress road. Road grades have been exceeded and significant number of unposted bridges are in the county

▫ Estimate -what percentage of secondary roads or driveways in your district that are not accessible to emergency responders and apparatus, for safe access and egress? (Poor condition, locked gates, uncooperative owners)

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Description of sites and locations; All over – primarily in fringe areas

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No - **Some**

▫ Are roadside fuel breaks adequate or maintained? Yes No

Comments; mostly non-existent

▫ In your jurisdiction, are roads well marked and current road signage in good condition? Yes No

Comments; _____

▫ Are street address and home / business numbers posted and visible from the main access routes? If so, please estimate what percentage are.

5 % 10% 15% 20% 25% 30% 35% 45% 50 % + almost all are

HIGH RISK AREAS –

Fire risk is defined as the fuel types and loading in an area combined with factors (i.e. ignition sources, slope, aspect and elevation) Fire history can also be used to establish potential risk.

▫ Current Mitigation Strategies / Measures?

Education Manual Fuels Reduction Projects Prescribed burn Grazing Harvest

Defensible Space Fire Adapted Community Building Codes Home Assessments

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

▫ Have Fireworks starts been a reoccurring problem / concern in your jurisdiction? Yes No

Comments; mostly no – banned in city and county has been limited issue.

▫ Has there been concerns or issues regarding other types of human caused starts / fires within your jurisdiction?

Debris Burning Children Railroad Equipment Logging Recreation Smoking Arson/Incendiary

Explain; Most of the human caused starts relate to outdoor burning that gets beyond control parameters.

▫ Do you have any Fire Wise or Fire Adapted Communities within your jurisdiction? Yes Number ___ No

▫ Has there been or are there plans for any fuel reduction work in your community, utilizing DNR, Conservation

Districts, hired contractors etc.? Yes Number ___ unknown_ No

Describe what you consider to be your highest values at risk in your jurisdiction / ownership for catastrophic wildfire.

Explain; Manastash Canyon - largest number of homes and recreators with inadequate egress and no safety zones

RESPONSE CAPABILITIES-

Is your current staffing capability adequate in meeting your district responses needs? Yes No

Explain; Most of the time – yes – occasionally no. For wildfire – we rely on integrated response with other jurisdictions

Are your current equipment capabilities adequate in meeting your district responses needs? Challenges?

Yes No

Are your current PPE and training needs being met? Challenges? Yes No

Response drills, community evacuation and preparedness planning, disaster response and recovery planning?

Yes No

Explain; related to wildfire – no.

Are collaborative relationships and cooperative agreements being maintained / enhanced? Yes No

(I.e. local response agreements, mutual aid, cooperative etc.)

What is it that is most important to you, that you would like to see included as a priority in the 2018 Kittitas County CWPP Update? What is your opinion of the wildland fire threat in your community?

Explain; I would like to see the code application process become more consistent, fire chiefs be involved in all variance decisions and code enforcement / inspection occur on a regular schedule.

PLEASE RETURN COMPLETED QUESTIONNAIRE TO; Rose Shriner, Kittitas County Conservation District rose-shriner@conserveva.net (509)925-3352 ext 202 **OR;** WADNR - Attention: Alan Lawson (509) 859-2641 alan.lawson@dnr.wa.gov WADNR SE Region Office 713 Bowers Road Ellensburg WA. 98926

The Purpose of a Community Wildfire Protection Plan (CWPP)

A CWPP provides value to a community by identifying and implementing mitigation and response strategies that reduce the wildland fire risk and enable a community to withstand a wildfire event without loss of life or preventable resource or property damage. Kittitas County is in the process of updating the 2009 CWPP.

In collaboration with stakeholder groups and the public Kittitas County Conservation District (KCCD) has been contracted to assist and develop the updated county wide, community based CWPP, which will identify various forms of risk assessment, modeling and strategic action planning. At the conclusion of this process, the goal will be to develop a uniquely suited and feasible document that achieves the goals of our responders, planners, land owners and the public while preparing the response environment for safe and effective suppression activities.

Please take a few moments to complete the questionnaire below so that we can accurately capture information from your Fire District Organization or Agency, which will be included in the newest update of the Kittitas County CWPP.

CWPP KEY COMPONENTS-

- Developing community based priorities and partnerships, while fostering and maintaining community resilience.
- Preparing for and safely coexisting with wildland fire
- Supports healthy forests and rangelands

DESIRED OUTCOME –

- Reduced Occurrence of Catastrophic Wildfires
- Reduction in Loss of Life, Property and Resources.
- Overall Resilience to the Effects of Wildland Fires to Communities.

2018 KITTITAS CWPP UPDATE - QUESTIONNAIRE

FIRE DISTRICT #: City of Roslyn Fire Department

FIRE CHIEF: Skye Osiadacz

AGENCY: City of Roslyn

CONTACT INFORMATION: Skye: Phone 509-674-6274 email roslyntowing@icloud.com

Or

Chris Martin, Emergency Management Coordinator, 509-699-1163 chm.martin@gmail.com

VALUES AT RISK-

Residential Areas – Structures; (Example- 40 Homes on Johnson Road. 3 Businesses, 4 commercial.)

- Estimated number of residential homes in your district – 580
- Estimated number of commercial buildings, businesses- 52
- Locations of areas of most concern – explain (see example above) :

The downtown commercial core including the City center of City Hall/Library and the Fire Department are areas of greatest concern. The entire City of Roslyn is a National Historic District so we would like proactive measures to reduce fire risk to the City as a whole.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No **XX**

Community Safety Area –Potential Evacuation Sites; (Example- Old Circleville Flat, School Field etc.)

▫Estimated number of safety areas within district- None. The City of Roslyn would rely on county designated safety areas.

Have locations been Mapped? (GIS –Coordinates, legal description?) Unknown

Community Water System; (Example- Crawford Creek provides water to 40 Homes on Johnson Road)

▫Is there sufficient water storage capacity to meet domestic and fire suppression needs? Are hydrants, stand pipes or storage tanks located adequately to support suppression operations?

Yes **XX** No

Explain: The City of Roslyn water system stores over 1,300,000 gallons. We have the ability to set up a raw water fill station 1.2 mile from town within 4 hours.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No **Unknown**

Historic Sites -Sensitive or Unique Areas; (Example- Circleville Cemetery, Johnson Road Grange)

▫ Land features, historical, cultural, habitat, conservation or reserve areas? Yes **XX** No

The entire City of Roslyn is a National Historic District

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No **Unknown**

Others –

▫Infrastructure (Utilities, Communication, Power, Water). Grazing, Ag, Timber, Recreation? Yes **X** No
Description of sites and locations

The City of Roslyn's watershed in Domerie Creek and related infrastructure. We are concerned about fire in the watershed and silting.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No **Unknown**

EMERGENCY ACCESS / EGRESS ROUTES

Safe access to properties by first responders as well as egress by residents is a high priority.

▫Is there sufficient width on the majority of roads (primary –county or state) within your protection boundary that are able to support two way traffic in an emergency, for safe evacuation of the population served?

Yes **XX** No

Explain; SR 903 is able to accommodate evacuation traffic – traffic control may be needed at key intersections.

▫Estimate -what percentage of secondary roads or driveways in your district that are not accessible to emergency responders and apparatus, for safe access and egress? (Poor condition, locked gates, uncooperative owners)

5 % **X** 10% 15% 20% 25% 30% 35% 45% 50 % + _____

Description of sites and locations: We have a few alleys that are a challenge but are accessible by small engines.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No **X**

▫Are roadside fuel breaks adequate or maintained? Yes No **X**

Comments: The City and State DOT could do a better job of clearing brush on road sholders.

▫In your jurisdiction, are roads well marked and current road signage in good condition? Yes **X** No

Comments; _____

▫Are street address and home / business numbers posted and visible from the main access routes? If so, please estimate what percentage are.

5 % 10% 15% 20% 25% 30% 35% 45% **X** 50 %

Almost all homes have city provided address numbers.

HIGH RISK AREAS –

Fire risk is defined as the fuel types and loading in an area combined with factors (i.e. ignition sources, slope, aspect and elevation) Fire history can also be used to establish potential risk.

▫Current Mitigation Strategies / Measures?

Education **X** Manual Fuels Reduction Projects **X** Prescribed burn Grazing Harvest

Defensible Space Fire Adapted Community Building Codes Home Assessments

Roslyn is in the process of thinning our Urban Forest and clearing brush from right of ways. We are also working to educate residents on how to firewise their homes.

Have locations been mapped? (GIS –Coordinates, legal description?) Yes No

▫Have Fireworks starts been a reoccurring problem / concern in your jurisdiction? Yes No

Fireworks are illegal in Roslyn except on New Year's Eve and Winter Solstice. We had one wildfire start last year as a result of kids playing with fireworks.

▫Has there been concerns or issues regarding other types of human caused starts / fires within your jurisdiction?

Debris Burning Children Railroad Equipment Logging Recreation Smoking Arson/Incendiary

No.

▫Do you have any Fire Wise or Fire Adapted Communities within your jurisdiction? Yes Number ___ No

▫Has there been or are there plans for any fuel reduction work in your community, utilizing DNR, Conservation

Districts, hired contractors etc.? Yes Number ___ No

Explain DNR has conducted firewise activity around town.

▫Describe what you consider to be your highest values at risk in your jurisdiction / ownership for catastrophic wildfire.

Historic Downtown Core including City Center.

RESPONSE CAPABILITIES-

▫Is your current staffing capability adequate in meeting your district responses needs? Yes No

Roslyn Fire is generally able to provide initial attack. We have mutual aid agreements with neighboring districts for additional man power.

▫Are your current equipment capabilities adequate in meeting your district responses needs? Challenges?

Yes No

Roslyn Fire has a structural engine that needs replacement. Ideally would like a WUI Engine.

▫Are your current PPE and training needs being met? Challenges? Yes No

We need additional wildland PPE, SCBA gear for structural protection during ember showers, and training for work in the WUI.

▫Response drills, community evacuation and preparedness planning, disaster response and recovery planning?

Yes No

We are hoping KFAC will assist on this front.

▫Are collaborative relationships and cooperative agreements being maintained / enhanced? Yes No

We have Mutual Aid in place with all neighboring districts.

What is it that is most important to you, that you would like to see included as a priority in the 2018 Kittitas County CWPP Update? What is your opinion of the wildland fire threat in your community?

We would like a 2 mile radius around Roslyn thinned and prescribed burned on a regular schedule.

ADDITIONAL COMMENTS / CONCERNS?

Thanks for the hard work!

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Appendix C

Community Planning Area Risk Ratings (Based on Redmond CWPP)

What is the likelihood of a fire occurring?

Eastern Kittitas County

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	Moderate

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	5
Total points:	68
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	High

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Eastern Kittitas County

Fire response		
Organized structural response < 10 minutes	0 points	8
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		10
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Moderate

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	2
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		25
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		Moderate

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Kittitas Valley Upland

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	10
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	30
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	High

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	72
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Kittitas Valley Upland

Fire response		
Organized structural response < 10 minutes	0 points	8
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		10
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Moderate

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	30
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		50
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Manastash - Taneum

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	Moderate

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	72
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Manastash - Taneum

Fire response		
Organized structural response < 10 minutes	0 points	8
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		10
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Moderate

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	15
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		35
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Swauk-Liberty

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	20
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	0
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	30
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	High

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	73
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Swauk - Liberty

Fire response Organized structural response < 10 minutes 0 points Inside fire district, response > 10 minutes 8 points No structural protection, only wildland response 15 points No structural or wildland protection 36 points	8
Community Preparedness Organized stakeholder group, community fire plan, phone tree, or mitigation efforts 0 points Primarily agency efforts (mailings, Firewise USA, etc. 2 points No efforts 4 points	0
Total points:	8
Protection Capability Category Rating: 0 – 9 points = Low 10 – 16 points = Moderate 17 – 40 points = High	
Rating:	Low

4. Values Protected: Human and economic

Homes (density per 10 acres) 0.1 – 0.9 (rural) 2 points 1 – 5 (suburban) 15 points 5.1 + (urban) 30 points	2
Community Infrastructure None 0 points One present 10 points More than one present 20 points	20
Total points:	22
Values Protected Category Rating: 0 – 15 points = Low 16 – 30 points = Moderate 31 – 50 points = High	
Rating:	Moderate

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Teanaway

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	20
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	0
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	30
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	High

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	73
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.

HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.

HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Teanaway

Fire response		
Organized structural response < 10 minutes	0 points	8
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		10
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Moderate

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	2
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		22
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		Moderate

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Roslyn – Cle Elum

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	10
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	30
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	High

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	73
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Roslyn – Cle Elum

Fire response Organized structural response < 10 minutes 0 points Inside fire district, response > 10 minutes 8 points No structural protection, only wildland response 15 points No structural or wildland protection 36 points	8
Community Preparedness Organized stakeholder group, community fire plan, phone tree, or mitigation efforts 0 points Primarily agency efforts (mailings, Firewise USA, etc. 2 points No efforts 4 points	0
Total points:	8
Protection Capability Category Rating: 0 – 9 points = Low 10 – 16 points = Moderate 17 – 40 points = High	
Rating:	Low

4. Values Protected: Human and economic

Homes (density per 10 acres) 0.1 – 0.9 (rural) 2 points 1 – 5 (suburban) 15 points 5.1 + (urban) 30 points	30
Community Infrastructure None 0 points One present 10 points More than one present 20 points	20
Total points:	50
Values Protected Category Rating: 0 – 15 points = Low 16 – 30 points = Moderate 31 – 50 points = High	
Rating:	High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Suncadia – Domerie Flats

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	Moderate

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	5
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	3
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	71
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Suncadia – Domerie Flats

Fire response		
Organized structural response < 10 minutes	0 points	8
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	0
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		8
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		Low

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	30
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		50
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

South Cle Elum

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	Moderate

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	5
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	3
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	2
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	70
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

South Cle Elum

Fire response		
Organized structural response < 10 minutes	0 points	23
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		25
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		High

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	15
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		35
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		High

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

Northern Lake Cle Elum

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points	10
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	25
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	Moderate

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	30 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	3
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	8
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	3
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	74
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	Extreme

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

Northern Lake Cle Elum

Fire response		
Organized structural response < 10 minutes	0 points	23
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		25
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		High

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	2
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		22
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		Moderate

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

What is the likelihood of a fire occurring?

West Kittitas County

Fire occurrence (per 1000 acres per 10 years) 0 – 0.1 (low) 5 points 0.1 – 1.1 (moderate) 10 points 1.1+ (high) 20 points 2.24	5
Ignition Risk – Home Density (homes per 10 acres) 0 - 0.9 (rural) 0 points 0.0 1 – 5 (suburban) 5 points 5.1+ (urban) 10 points	5
Ignition Risk – Other Factors Present < 1/3 present 0 points 1/3 – 2/3 present 5 points > 2/3 present 10 points	10
Total points:	30
Risk category rating: 0 – 13 points = Low 13 – 27 points = Moderate 27 – 40 points = High	
Rating:	High

Other factors: power lines or stations, logging, construction, debris burning, mining, dispersed or developed camping, off-road vehicle use, flammables, fireworks, dry grass mowing, woodcutting, equipment use, target shooting, military training, arson, cultural activities, railroad, highways, county or public access road, camps/resorts/stables, schools, business, ranch or farm, lightning prone, dumping.

1. Hazards

Weather Zone 3	20 points
Topography - Slope 0 – 25% 0 points 26 – 40% 3 points 41% + 5 points	2
Topography - Aspect N, NW, NE 0 points W, E 3 points S, SW, SE 5 points	5
Topography - Elevation 5001 feet + 0 points 3501 – 5000 feet 1 point 0 – 3500 feet 2 points	3
Vegetation (SB 360 definition) Non-forest 0 points HV 1 5 points HV 2 15 points HV 3 20 points	20
Crown Fire Potential Passive - Low 0 points Active – Moderate 5 points Independent – High 10 points	10
Total points:	58
Risk category rating: 0 – 9 points = Low 10 – 40 points = Moderate 41 – 60 points = High 61 – 80 points = Extreme	
Rating:	High

HV 1 – produces flame lengths up to 5 feet with very little spotting, torching or crowning.
HV 2 – produces flame lengths 5-8 feet high with sporadic spotting, torching or crowning.
HV 3 – produces flame lengths over 8 feet with frequent spotting, torching and crowning.

3. Protection Capabilities

West Kittitas County

Fire response		
Organized structural response < 10 minutes	0 points	15
Inside fire district, response > 10 minutes	8 points	
No structural protection, only wildland response	15 points	
No structural or wildland protection	36 points	
Community Preparedness		
Organized stakeholder group, community fire plan, phone tree, or mitigation efforts	0 points	2
Primarily agency efforts (mailings, Firewise USA, etc.)	2 points	
No efforts	4 points	
Total points:		17
Protection Capability Category Rating:		
0 – 9 points = Low		
10 – 16 points = Moderate		
17 – 40 points = High		
Rating:		High

4. Values Protected: Human and economic

Homes (density per 10 acres)		
0.1 – 0.9 (rural)	2 points	0.0
1 – 5 (suburban)	15 points	
5.1 + (urban)	30 points	
Community Infrastructure		
None	0 points	20
One present	10 points	
More than one present	20 points	
Total points:		22
Values Protected Category Rating:		
0 – 15 points = Low		
16 – 30 points = Moderate		
31 – 50 points = High		
Rating:		Moderate

Community infrastructure – Power substations and corridors, transportation corridors, municipal watersheds, water storage and distribution, fuel storage, health care facilities, landfills and waste treatment, schools, churches, community centers, and stores.

Appendix D

CWPP Local Planning Integration

Local Planning Integration

During development of this CWPP, several planning and management documents were reviewed in order to avoid conflicting goals and objectives. Existing programs and policies were reviewed in order to identify those that may weaken or enhance the mitigation objectives outlined in this document. The following sections identify and briefly describe some of the existing Kittitas County planning documents and ordinances considered during development of this CWPP.

[Kittitas County Multi-Jurisdictional Hazards Mitigation Plan](#)

As a requirement to receive certain types of federal non-emergency disaster assistance, including funding for hazard mitigation projects, Kittitas County and the cities and towns of Ellensburg, Cle Elum, Roslyn, and South Cle Elum are required to develop and maintain an up-to-date local hazard mitigation plan. The jointly developed Kittitas County Multi-Jurisdictional Hazards Mitigation Plan was approved by FEMA in 2011 and contains multiple short and long-term action items that directly or indirectly support the goals and guiding principles of the CWPP.

[Kittitas County Comprehensive Emergency Management Plan \(CEMP\)](#)

The Kittitas County Comprehensive Emergency Management Plan (CEMP) provides a framework from which mitigation efforts occur in response to large scale incidents or a combination of incidents in Kittitas County. The CEMP describes functions and activities necessary to implement the four phases of Emergency Management: mitigation, preparedness, response, and recovery. The plan uses Emergency Support Functions, which identify primary and support agencies responsibilities and activities that County and local jurisdictions may need in order to implement all-hazard mitigation. It provides policies, information, recommendations, and guidance to assist responsible officials making operational decisions. Emergency Support Functions are Transportation; Emergency Communications; Public Works & Engineering; Fire Protection; Information Analysis & Planning; Mass Care; Resource Management; Health & Medical Services; Search & Rescue; Hazardous Materials; Food & Water; Energy & Utilities; Military Support; Recovery & Restoration; Law Enforcement; and Damage Assessment. CEMP updates will include support of initiatives and action items outlined in the Kittitas County CWPP.

[2009 Kittitas County Community Wildfire Protection Plan](#)

The 2009 version of the Kittitas County CWPP was used as the basis for the 2018 CWPP Update. Much of the background information, risk evaluation, and action items were integrated into the Update. However, the updated CWPP incorporates new data, mapping, and analysis tools and uses a more refined framework for the presentation of material. Furthermore, the 2018 CWPP includes a larger cross-section of stakeholders and public input due to the recent efforts of the KFACC.

[Kittitas County Zoning Ordinance](#)

This ordinance does not identify hazard areas in great detail although there are a few zoning districts that prohibit new residences within the floodplain.

[Critical Areas Ordinance](#)

This ordinance identifies protected and hazardous areas. Protected areas are fish and wildlife habitat conservation areas, aquifer recharge areas, and wetlands. Hazardous areas are frequently flooded areas, geologically hazardous areas, erosion hazard areas, landslide hazard areas, mine hazard areas, seismic hazard areas, and volcanic hazard areas.

[Designated Forestland and Open Space](#)

The Designated Forestland and Open Space/Open Space Plans could be affected by some fuel reduction practices. The effects are more beneficial than hazardous if handled appropriately. Designated Forestland requires the sustenance of healthy commercial-grade timber. Fuels reduction has been shown to increase timber health. Open Space/Open Space requires the sustenance of priority resources other than timber. Landowners must ensure that fire-safety practices do not damage priority resources that keep them in a program where they receive a property tax reduction.

[Kittitas County Shoreline Management](#)

Shoreline Management outlines allowed/prohibited uses within specific shoreline zoning designations. Non-forestry related mitigation actions would be looked at individually, anticipating that these actions will either be allowed or allowed by permit. Most identified action items would have no effect on the shoreline areas such as road signs, evacuation plan, public education, fire-safe building materials, etc. The shoreline ordinance is currently being revised and will conform to all existing regulations and plans. Upon approval of the Kittitas County All Hazard Mitigation and CWPPs, the revised shoreline plan will acknowledge and support their adoption.

Appendix E
Communities at Risk

Communities at Risk

HFI and HFRA define a “community at risk” from wildland fire by the following parameters:

- Is a group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) in or adjacent to federal land
- Has conditions conducive to large-scale wildland fire
- Faces a significant threat to human life or property as a result of a wildland fire

As noted, the KFACC CWPP subcommittee approved the existing boundaries of the Communities at Risk to identify these ten Community Planning Area Boundaries at Risk.

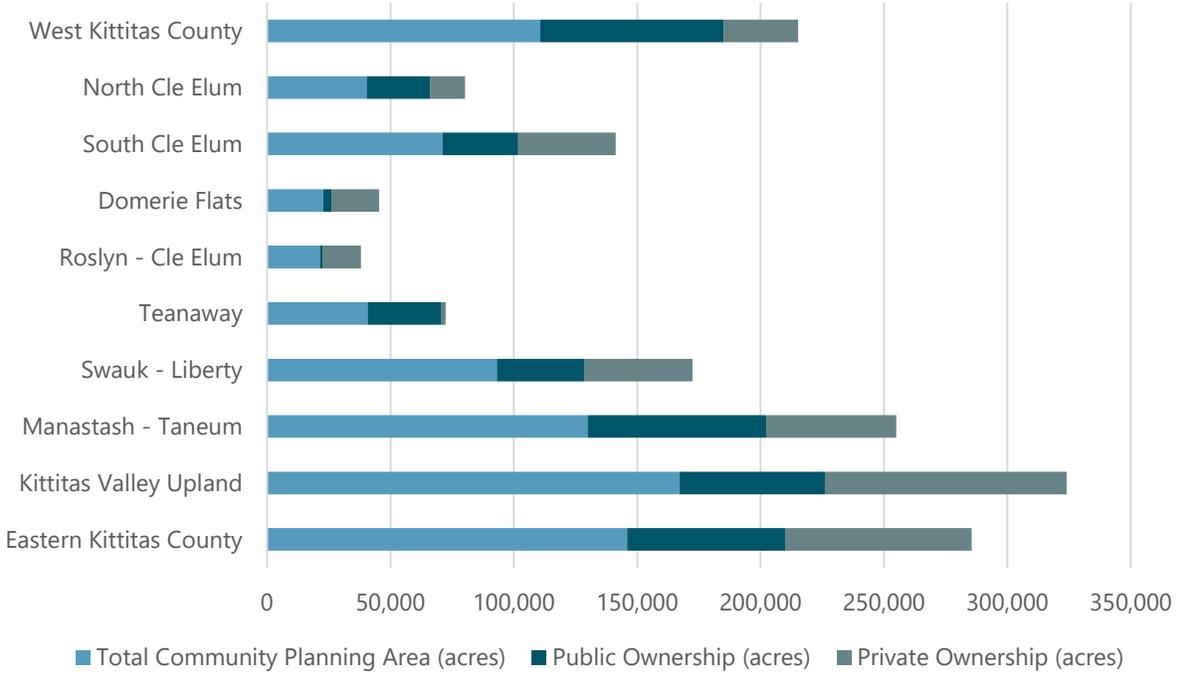


**Table E-1
Community Planning Area Boundaries at Risk**

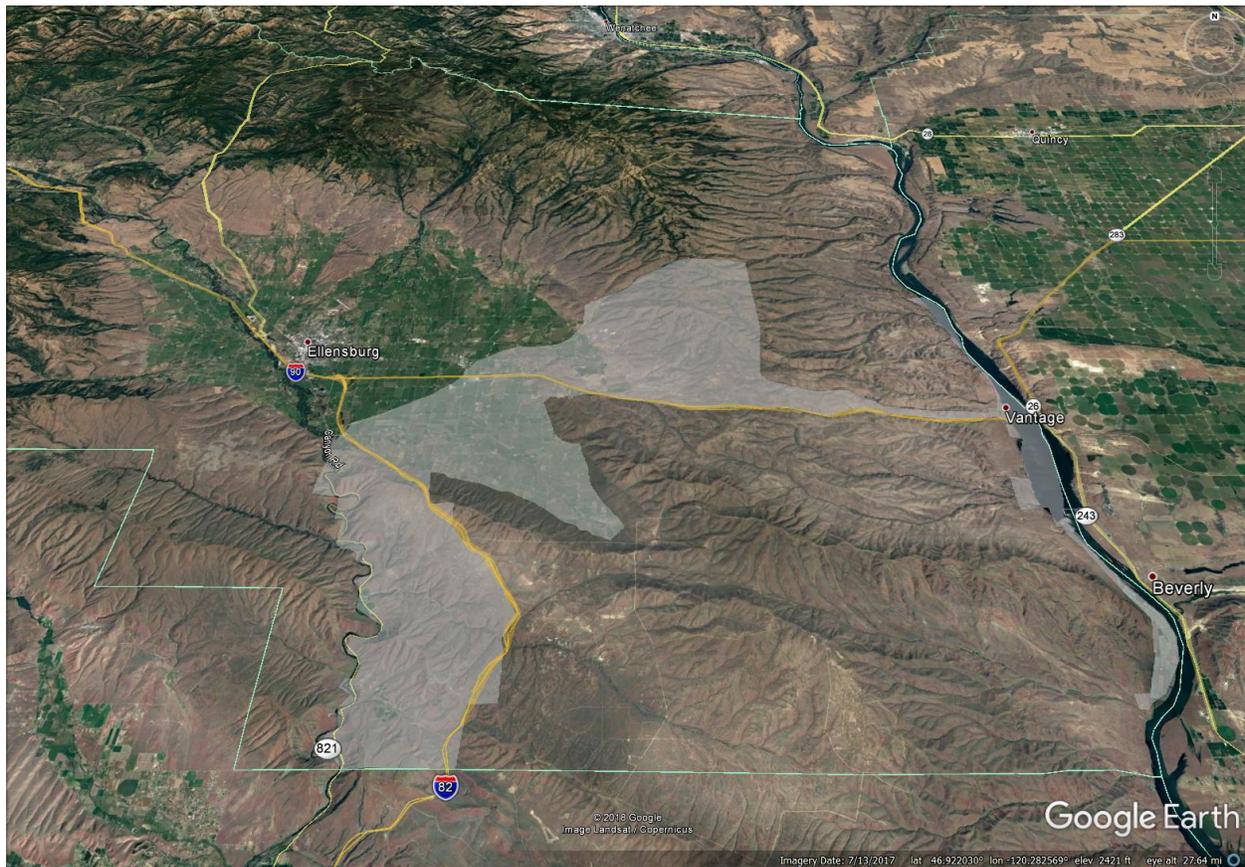
Community at Risk	Total Acreage	Residential Acreage	Residential Structures	Estimated Population
Eastern Kittitas County	145,839	3,336	513	1,295
Kittitas Valley Upland	167,157	11,691	6,767	16,918
Manastash – Taneum	129,867	5,314	1,279	3,197
Swauk – Liberty	93,091	6,605	872	2,180
Teaway	40,764	1,717	293	740
Roslyn – Cle Elum	21,371	1,160	1,479	3,698
Domerie Flats	22,734	3,569	1,077	2,692
South Cle Elum	71,133	7,035	2,147	5,367
North Lake Cle Elum	40,320	1,319	1,243	3,107
West Kittitas County	110,629	1,749	1,252	3,130
Total	842,905	43,495	16,922	42,324

Note: The estimated population of each area is based on Kittitas County’s estimate formulated as 2.5 x the number of homes.

Community Planning Areas Public and Private Ownership (Acres)

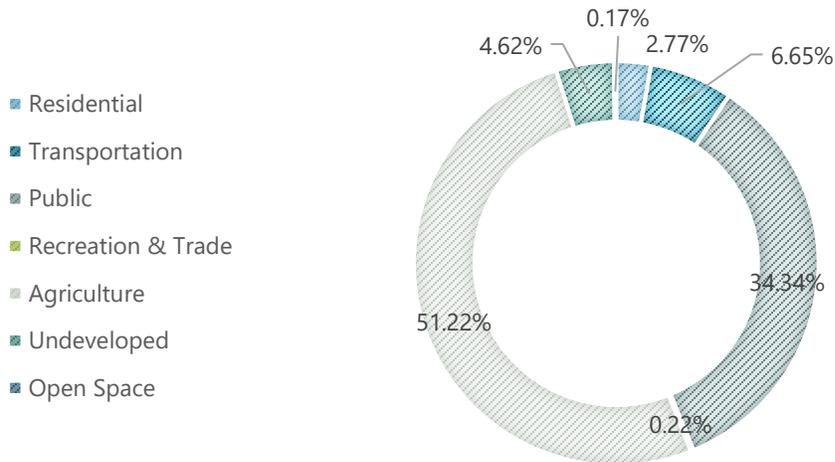


Eastern Kittitas County

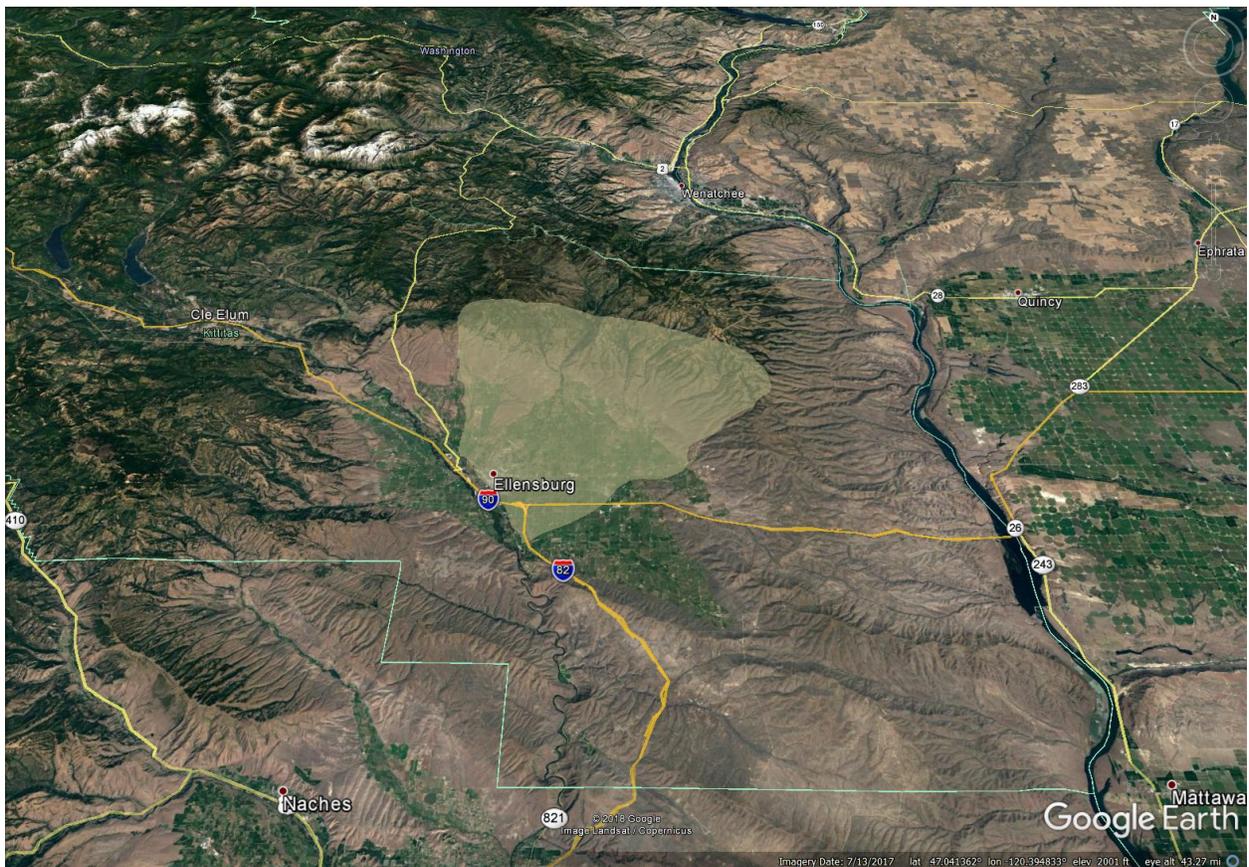


Eastern Kittitas County Community Planning Area follows the Lower Parke Creek, Lower Wilson-Cherry, Umtanum Creek-Yakima River, and Alkali-Squilchuck watersheds. The boundary delineates areas where there is a presence of private land. There are two fire districts in this boundary, Kittitas Valley Fire and Rescue (Kittitas County Fire District No. 2) and Kittitas County Fire District No. 4 (Vantage). Due to multiple public land ownership (State Parks and Recreation, WDFW, DNR, BLM, and U.S. Army Corps of Engineers), fire protection in unincorporated areas of fire districts are present. Significant areas of concern of this area include critical fish and wildlife habitat, biological corridors, cultural resources, transportation (Interstate 82/90 and State Route highways), recreation (John Wayne Trail), rangeland and agriculture (irrigation infrastructure and grazing lands for sheep and cattle), historical structures and utilities.

Eastern Kittitas County Land Distribution

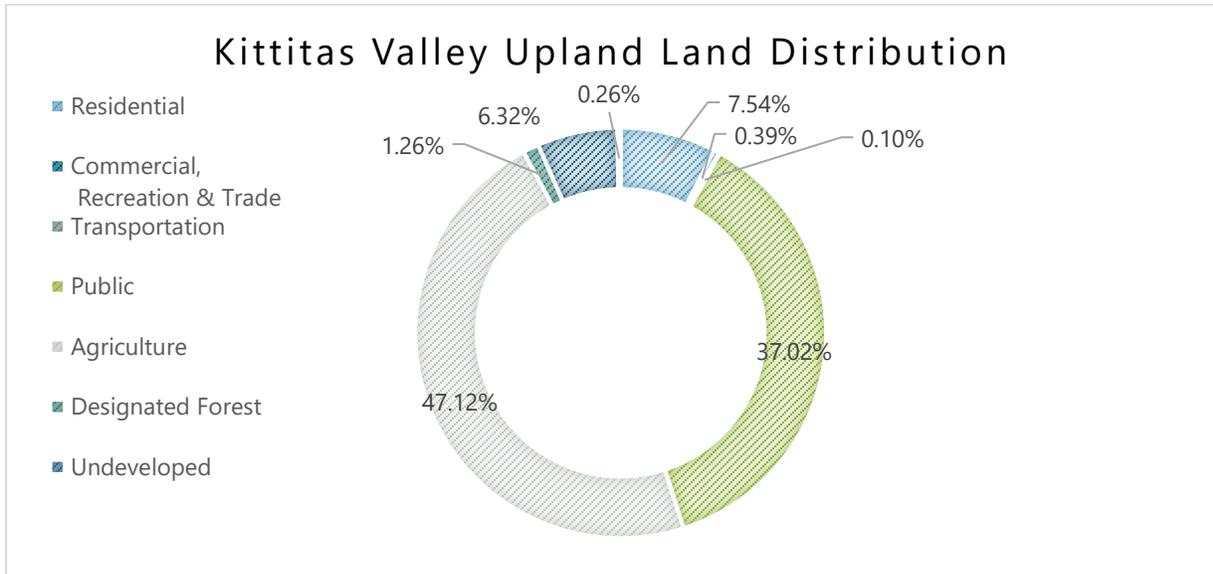


Kittitas Valley Upland

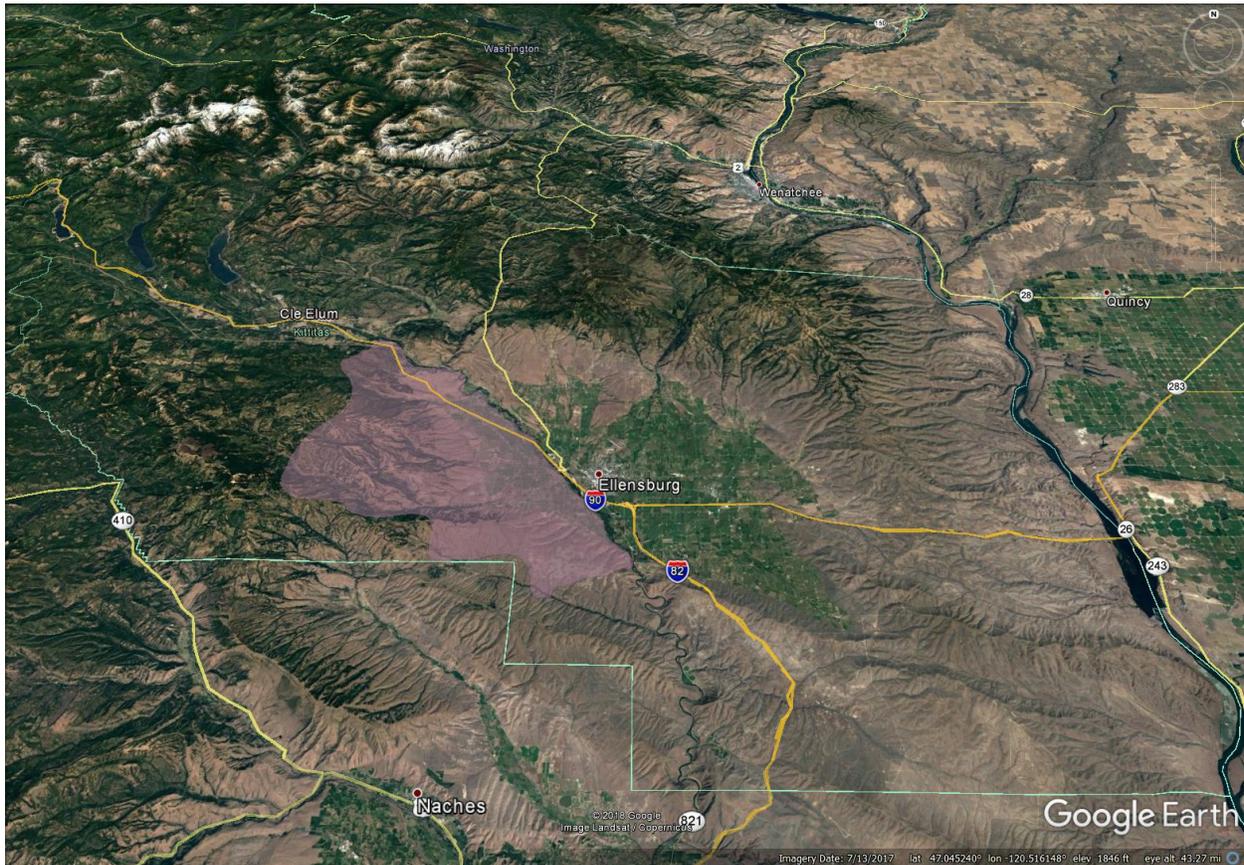


Kittitas Valley Community Planning Area follows Reecer Creek to the northern Wilson-Cherry portion subwatersheds. The boundary delineates areas of private lands, but does contain areas of the

Naneum State Forest (DNR). This area is within one fire district: Kittitas Valley Fire and Rescue (Kittitas County Fire District No. 2). Significant areas of concern include critical fish and wildlife habitat and biological corridors, egress/ingress, recreational users, agriculture (irrigation infrastructure and grazing lands), utilities, and lack of safety zones for firefighters, residents, historical structures, and recreational users. This area is heavily irrigated below the highline canal benefiting rural and urban areas near Ellensburg. Irrigation may be shut off due to water shortages (e.g., during the 2015 drought) and agricultural lands may be more at risk than normal.

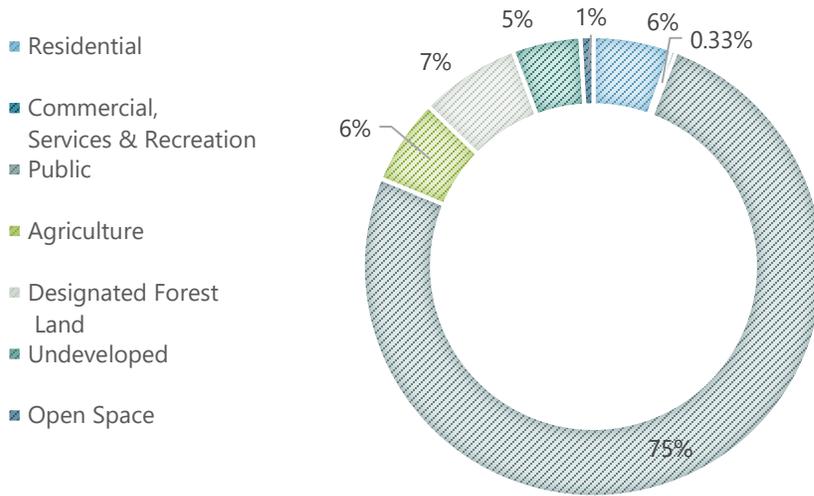


Manastash – Taneum

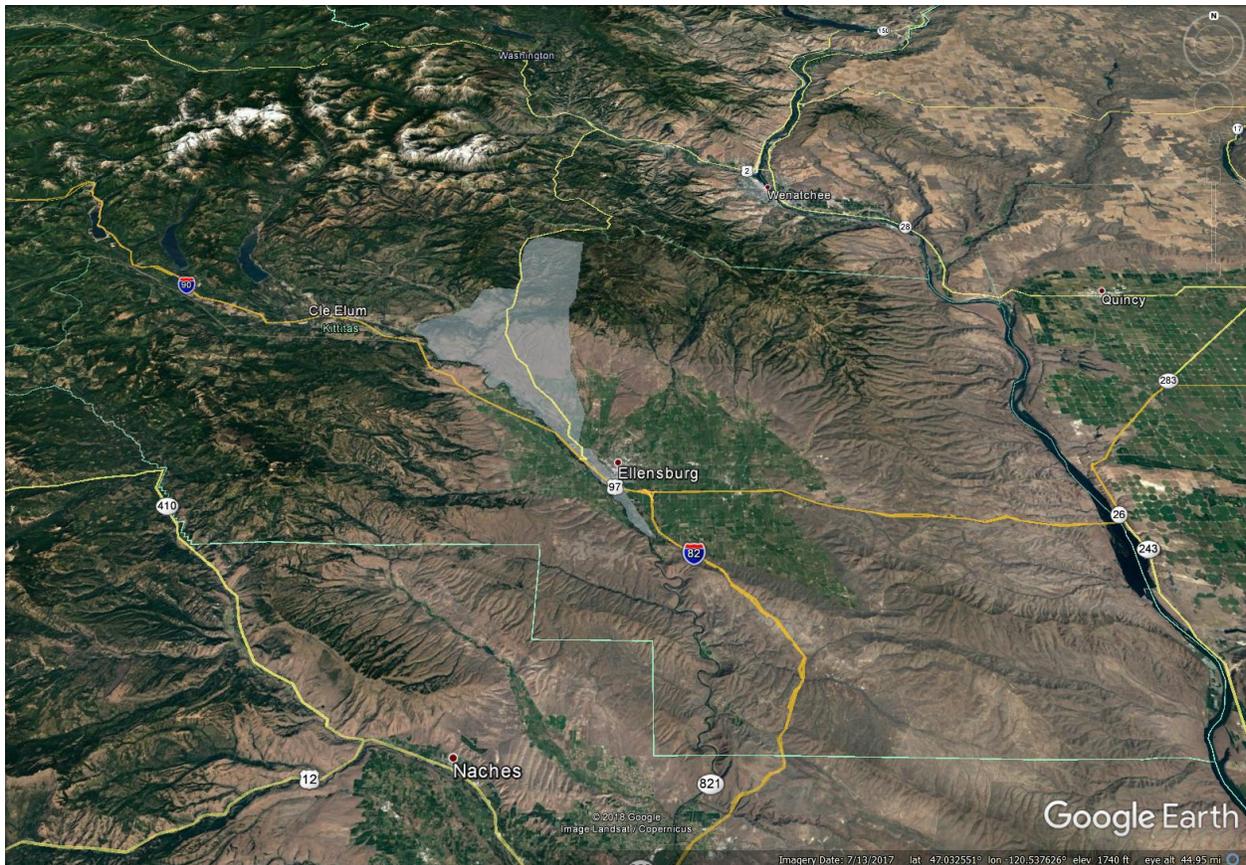


Manastash – Taneum Community Planning Area follows the Manastash-Taneum subwatershed. The boundary delineates areas of private lands, but does contain significant amount of public land due to the presence of private holdings within the forest boundary. TNC, DNR, WDFW, and private landowners all hold ownership in this community planning area. This area is within two fire districts: Kittitas Valley Fire and Rescue (Kittitas County Fire District No. 2) and Kittitas County Fire District No. 1. Significant areas of concern include critical fish and wildlife habitat, biological corridors, cultural resources, egress/ingress, recreational users, agriculture (irrigation infrastructure and grazing lands), utilities, and lack of safety zones for firefighters, residents, and recreational users.

Manastash – Taneum Land Distribution

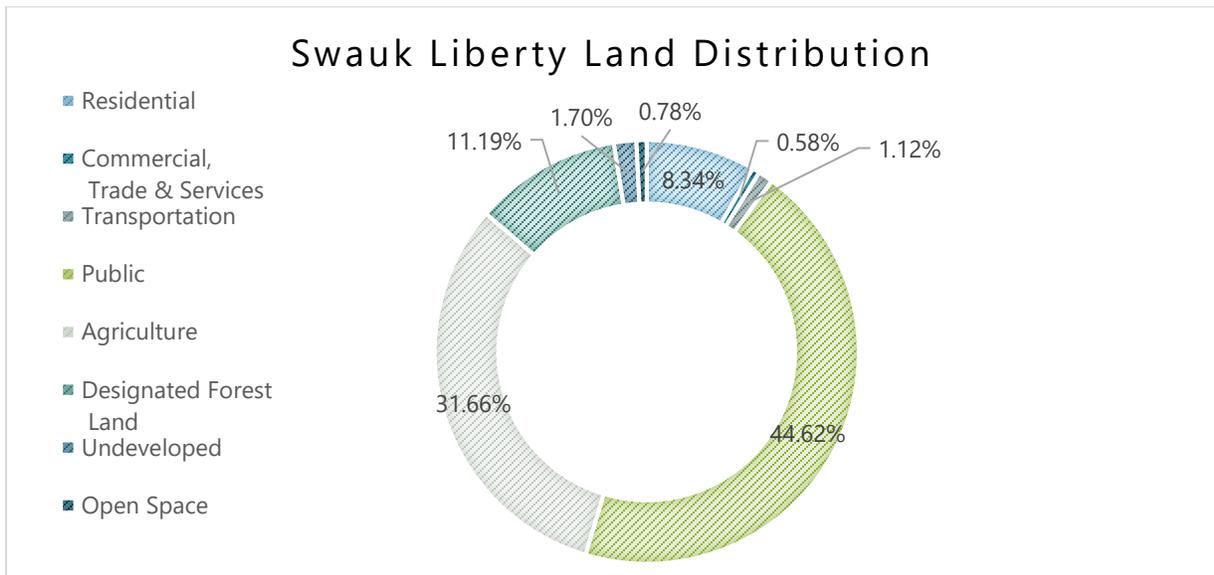


Swauk Liberty

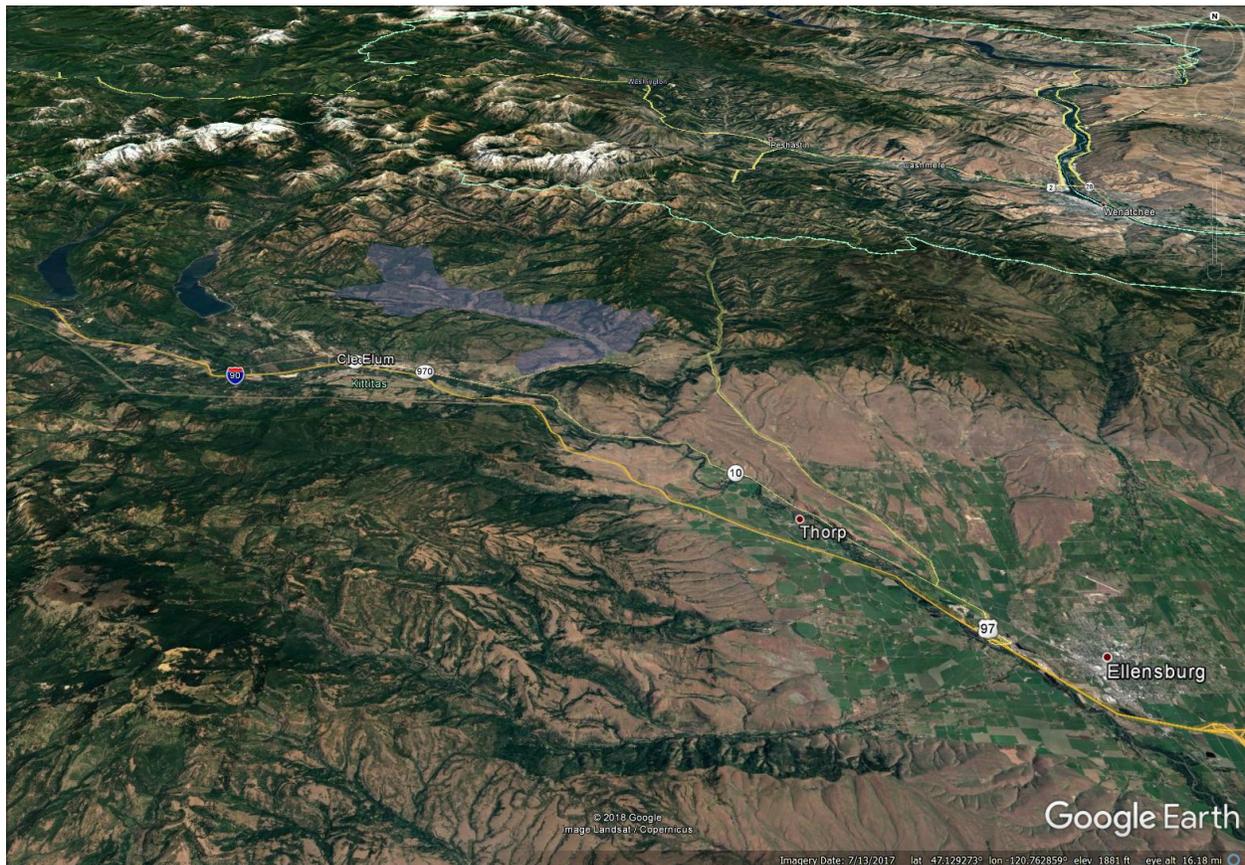


Swauk Liberty Community Planning Area follows the Swauk Creek subwatershed to the Reecer Creek watershed and includes parts of the Yakima River. This area is inclusive of Elk Heights, Thorp, Liberty, Lookout Mountain, Lauderdale Junction, and Highway 10 and Highway 970 Junction. This area

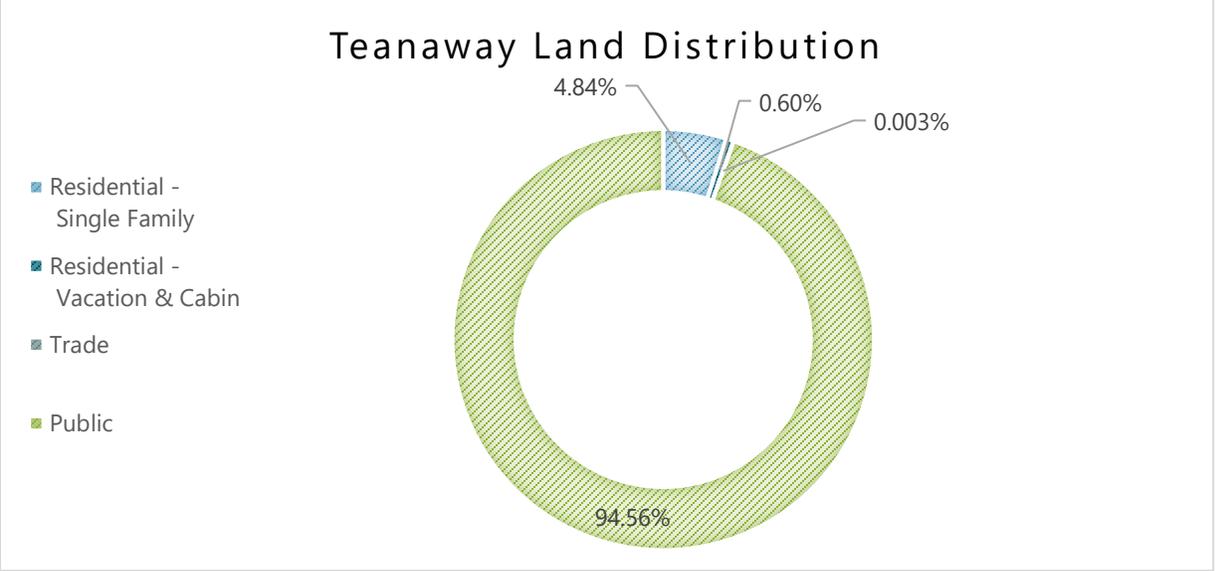
contains three Fire Districts, Kittitas County Fire & Rescue No. 7, Kittitas County Fire District No.1, and Kittitas Valley Fire and Rescue (Kittitas County Fire District No. 2). With landownership including WDFW, DNR, and USFS Okanogan Wenatchee National Forest, there are many areas that are under fire district protection. Significant areas of concern include critical fish and wildlife habitat, biological corridors, cultural resources, transportation (major state highway routes), egress/ingress, recreational users, agriculture (irrigation infrastructure and grazing lands), utilities, lack of safety zones for firefighters, residents and recreational users, historical structures, and narrow canyons. Many wildfires have occurred in this area (Peavine Canyon, Table Mountain, Snag Canyon, Taylor Bridge, among others) resulting in structure loss, property threatened, and evacuations.



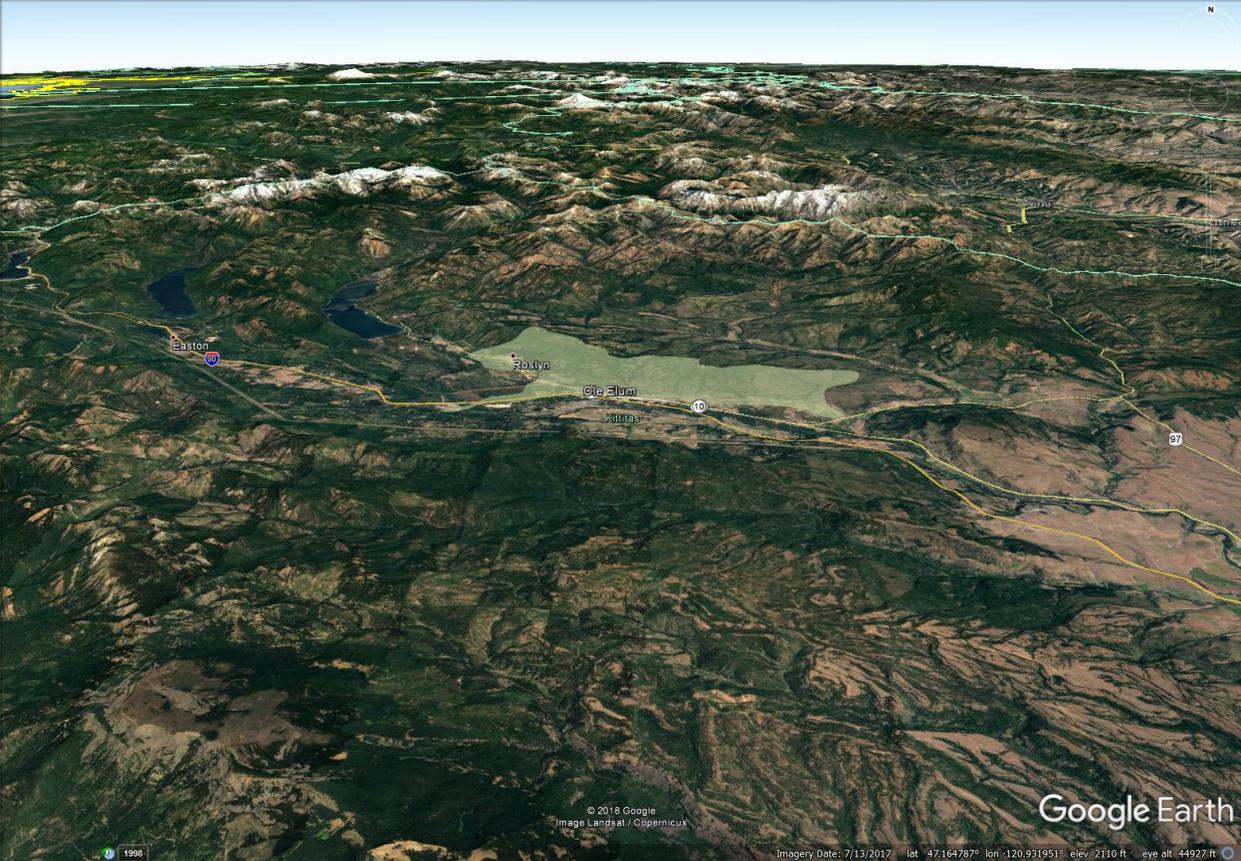
Teanaway



Teanaway Community Planning Area follows the Teanaway subwatersheds and follows the mainstem Teanaway River. This area is inclusive the Teanaway Valley and Teanaway River's upper forks. This area contains one Fire District: Kittitas County Fire & Rescue No. 7. With landownership including WDFW, DNR, and USFS Okanogan Wenatchee National Forest, there are many areas that are under fire district protection. Significant areas of concern include critical fish and wildlife habitat, cultural resources, biological corridors; transportation (borders major state highway routes); egress/ingress; recreational users; agriculture (irrigation infrastructure and leased grazing lands); utilities; lack of safety zones for firefighters, residents, and recreational users; and narrow canyons. Previous mitigation activity from past active land management of this area helped reduce some wildfire risk; however, vegetation conditions and weather are major contributing factors driving risk in this area.

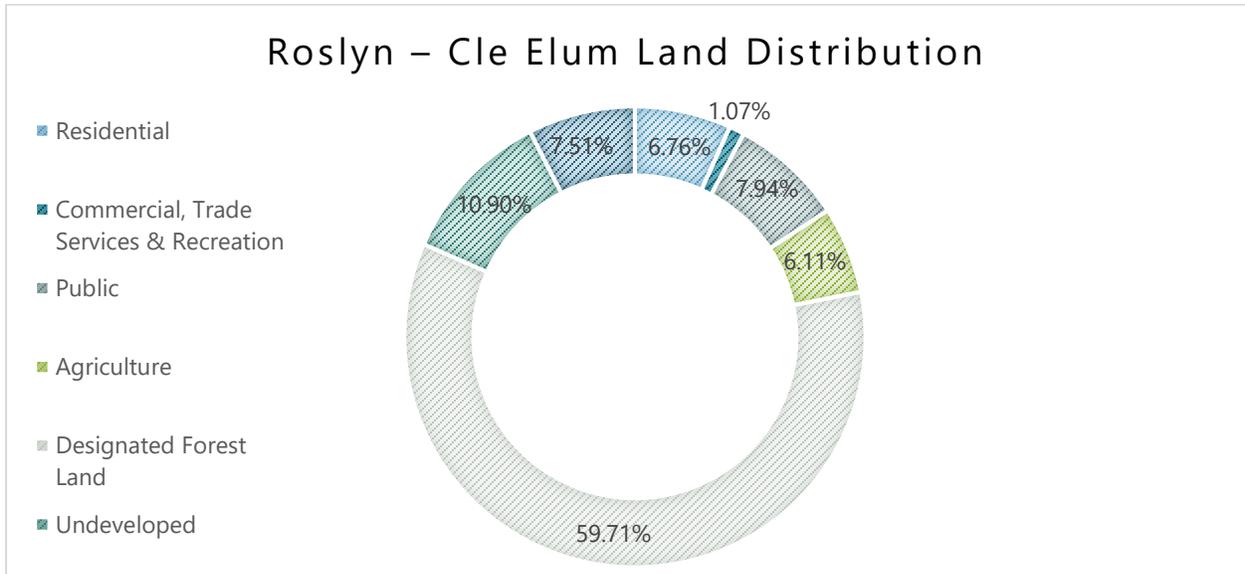


Roslyn – Cle Elum

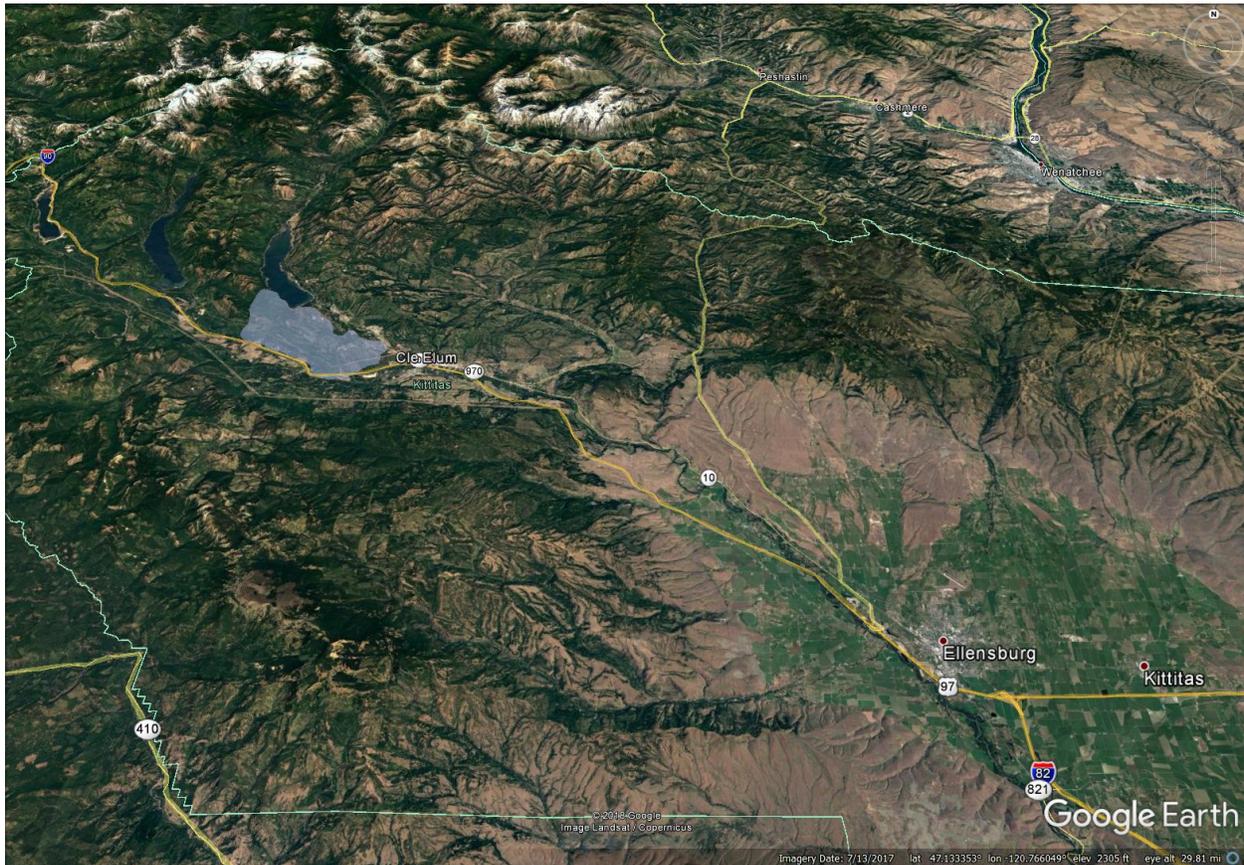


Roslyn-Cle Elum Community Planning Area follows the North Cle Elum ridge and private parcels including and surrounding the towns of Roslyn-Cle Elum. This area contains several fire districts:

Kittitas County Fire & Rescue No. 7 and Kittitas County Fire District No. 6 in unincorporated Kittitas County and City of Roslyn and City of Cle Elum Fire Departments, respectively in their municipality boundaries. Land ownership is mainly private. Significant areas of concern include critical fish and wildlife habitat, cultural resources, biological corridors, transportation (borders interstates and major state highway routes), egress/ingress, recreational users, economy (businesses that rely on tourist economies among some resource industries), Burlington – Northern Santa Fe railroad corridor, utilities, lack of safety zones for firefighters, historical structures, residents, and recreational users.

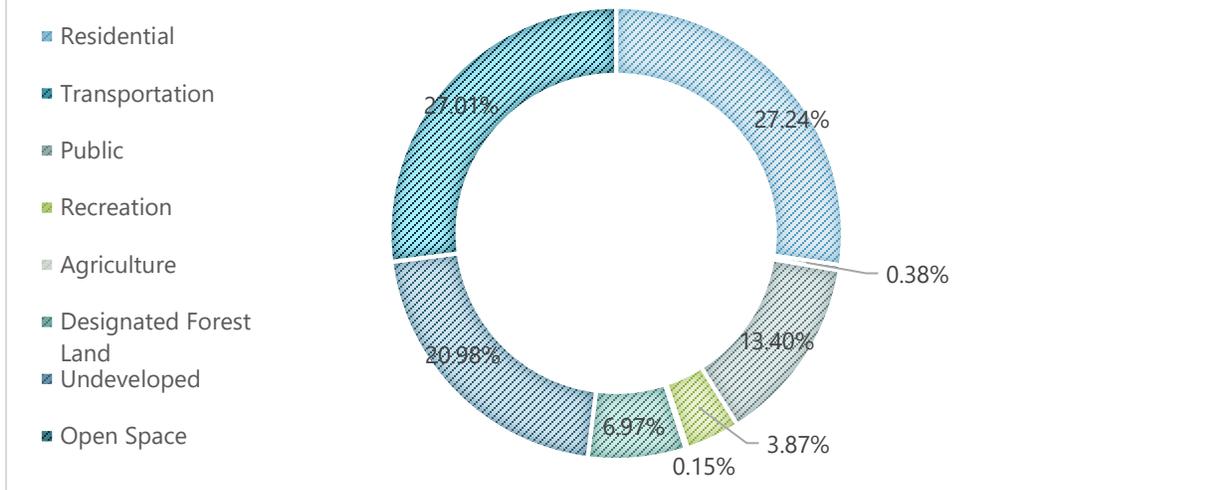


Domerie Flats

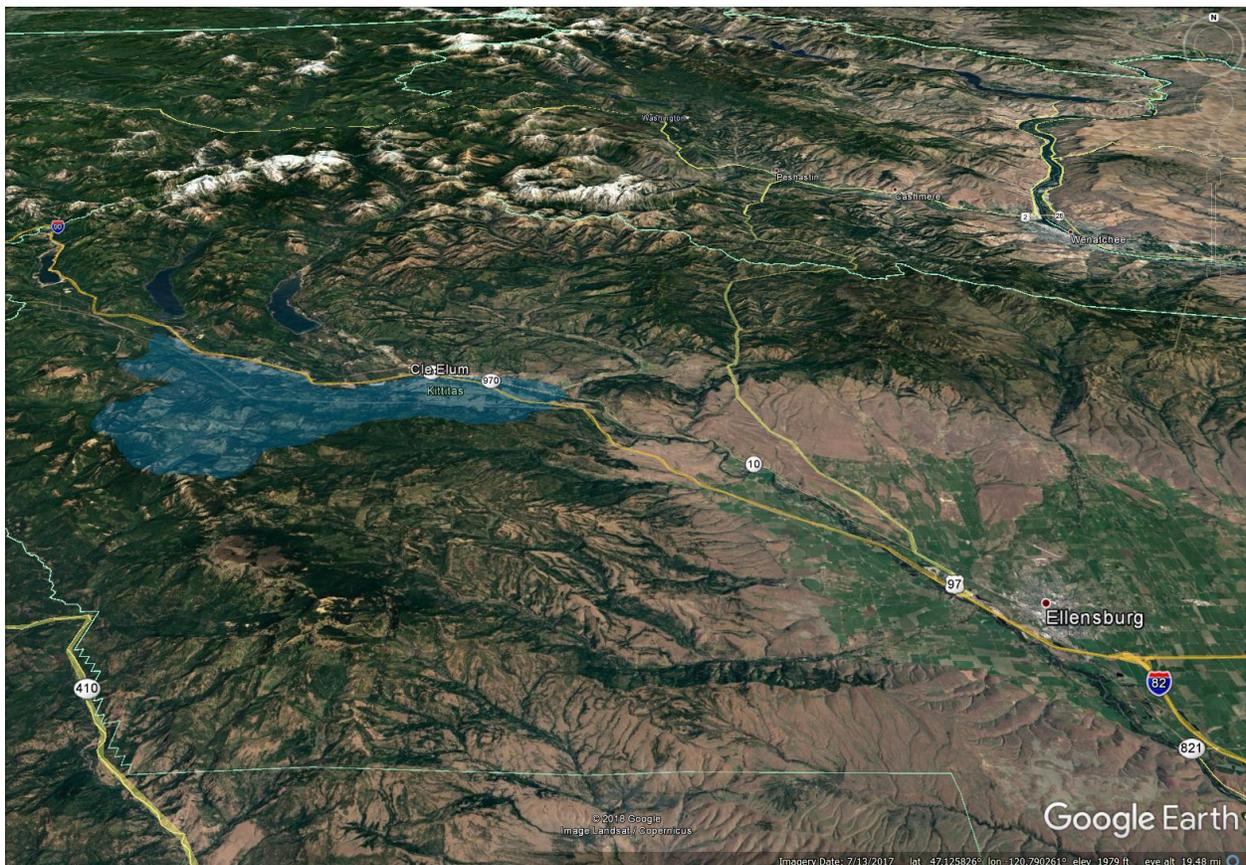


Domerie Flats Community Planning Area follows the Domerie Flats area between Lake Kachess and Lake Cle Elum between Roslyn and Cle Elum city boundaries. This community planning area includes mostly private parcels and some USFS ownership. The private parcels are inclusive of recreational and seasonal use closely tied to the Suncadia and Tumble Creek master planned resorts with golf courses, trail systems, eating and drinking, and lodging surrounding this area. Domerie Flats is within Kittitas County Fire & Rescue No. 7 boundaries. Significant areas of concern include critical fish and wildlife habitat, cultural resources, and biological corridors, transportation (borders interstates and major state highway routes), egress/ingress, recreational users, economy (businesses that rely on tourist economies among some resource industries), utilities, historical structures, residents, recreational users, and the Roslyn Watershed – Drinking Water boundary.

Domerie Flats Land Distribution

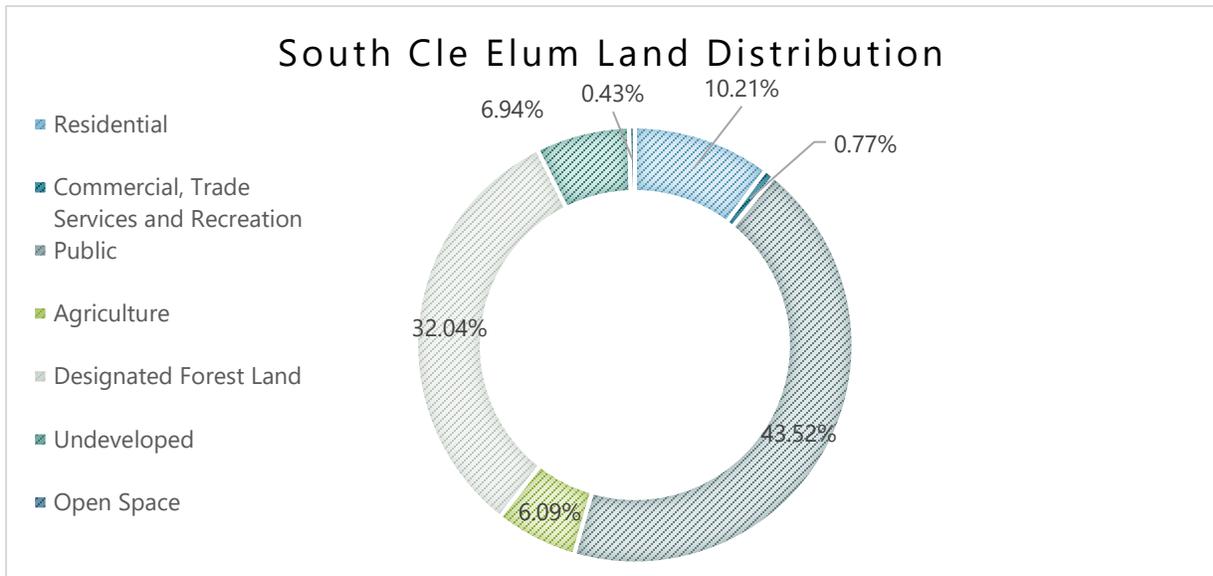


South Cle Elum

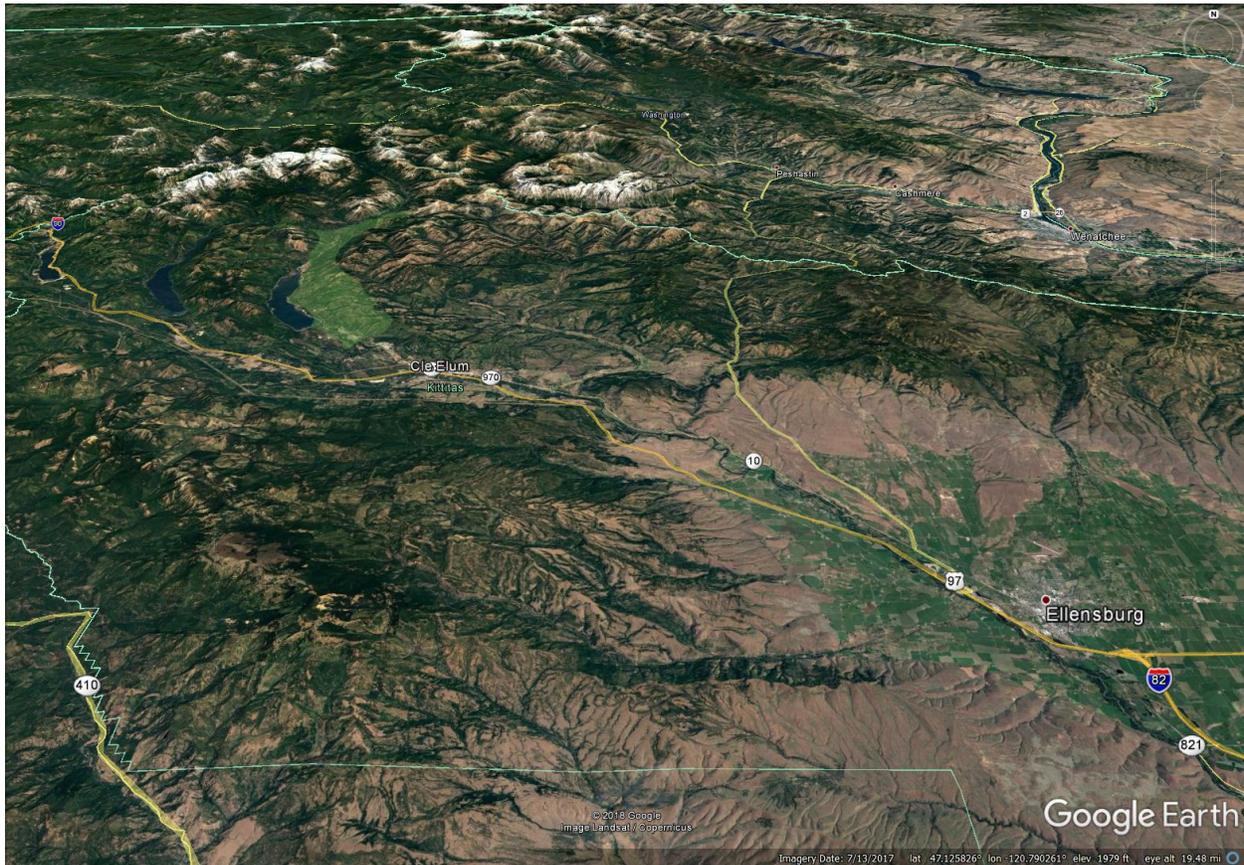


South Cle Elum Community Planning area extends from the South Cle Elum Ridge from Easton to the southern portion of Elk Heights Interstate 90 exit. This area contains many new residential

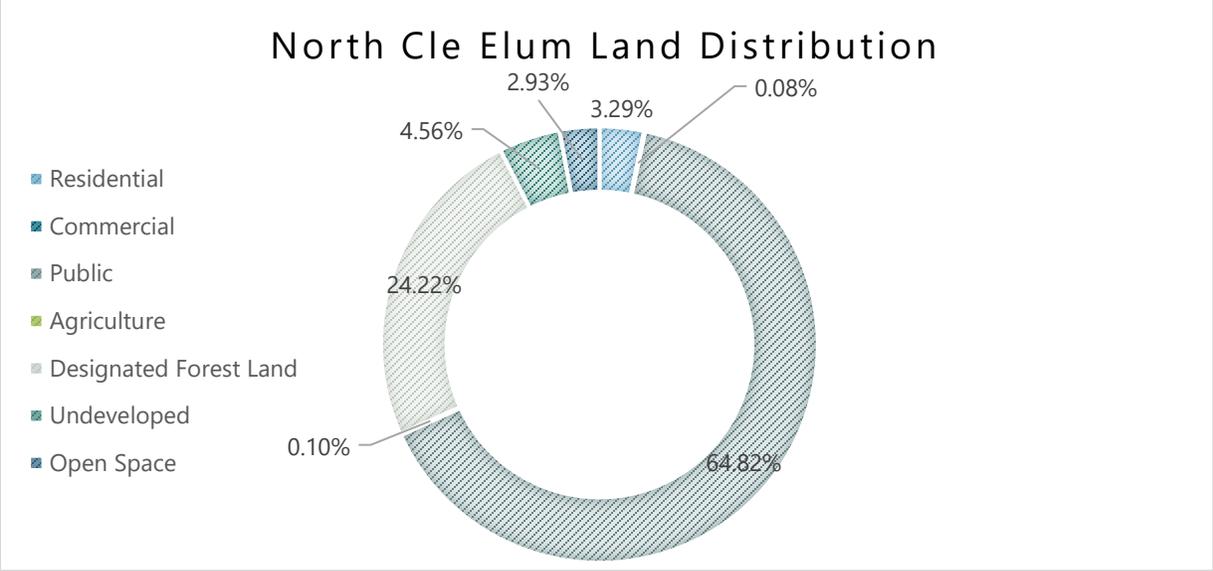
developments since 2009 and is expanding rapidly. Most development in this area consists of secondary/vacation homeowners. There are two fire districts present in this area: Kittitas County Fire & Rescue No. 7 and Kittitas County Fire District No. 3 (Easton). Significant areas of concern include critical fish and wildlife habitat, cultural resources, biological corridors, transportation (borders interstates), egress/ingress, recreational users, utilities, communication infrastructure, railroad corridors, residents and recreational users, irrigation infrastructure, and tourism and recreational economy.



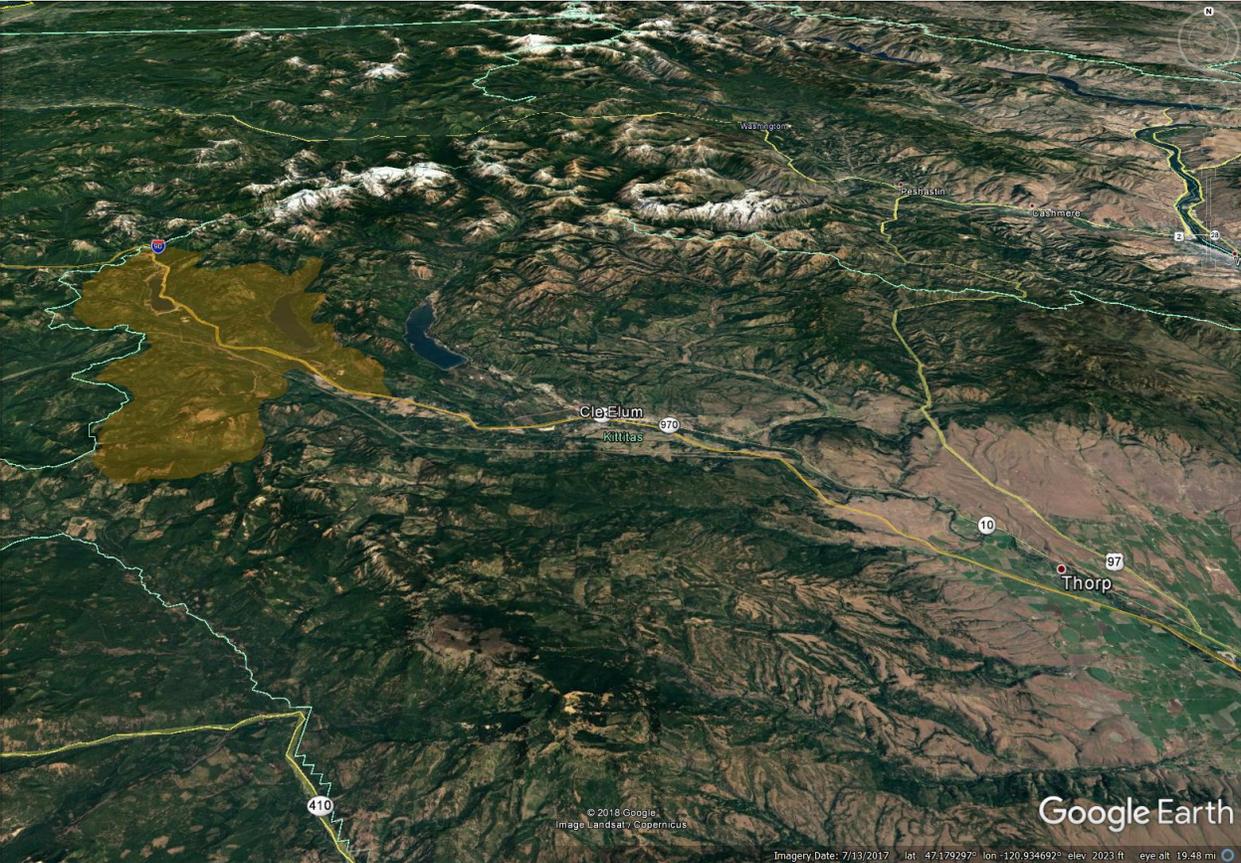
North Lake Cle Elum



North Lake Cle Elum extends from the Northern portion of Cooper and Fish Lakes, since there is significant recreational cabin use along the Cle Elum River, along Lake Cle Elum to the Ronald Area. This area contains many new residential developments since 2009 and is expanding rapidly, but also includes areas that have been developed since the late 1960s. Most roads in this area do not meet adequate egress/ingress or current public road standards. Most development in this area consists of secondary/vacation homeowners. There are two fire districts present in this area: Kittitas Fire & Rescue No. 7 and Kittitas County Fire District No. 6 (Ronald). Significant areas of concern include critical fish and wildlife habitat, cultural resources, biological corridors, egress/ingress, communication infrastructure, residents and recreational users, tourism, and recreational economy. The Northern part of Lake Cle Elum was exposed to wildfire in 2017; however, the communities were fortunate enough that no structures were lost to the Jolly Mountain Wildfire. The Jolly Mountain wildfire exposed a lot of risk that had not been visualized by many stakeholders and landowners. Previous mitigation activity from private landowners and prior mechanical thinning on TNC property helped improve the outcome of this wildfire by mitigating fuels and active land management.



West Kittitas County



West Kittitas County extends from the western-most border of Kittitas County to approximately Easton, including Hyak, Lake Kachess, and some of Easton. This area contains many new residential

developments since 2009 and is expanding rapidly. Most development in this area consists of secondary/vacation homeowners and condominiums for ski areas near Snoqualmie Pass. There are two fire districts present in this area: Snoqualmie Pass Fire and Rescue (No. 51) and Kittitas County Fire District No. 3 (Easton). Significant areas of concern include critical fish and wildlife habitat, cultural resources, biological corridors, transportation (borders interstates), egress/ingress, recreational users, utilities, communication infrastructure, railroad corridors, residents and recreational users, and tourism and recreational economy. If this area experiences wildfire, it is most likely that major transportation corridors will be disrupted, resulting in significant economic loss and posing a threat to safety since wildfire smoke would heavily impede traffic.

