

# Community Wildfire Protection Plan

## Lincoln County, WA

2025

*Prepared By*



*Prepared For*



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# Acknowledgements

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



USDI Bureau of Land Management



USDI National Park Service



Town of Almira  
 Town of Creston  
 Town of Harrington  
 Town of Odessa  
 Town of Reardan  
 Town of Wilbur  
 City of Davenport  
 City of Sprague



**FEMA**

Federal Emergency Management Agency

Unincorporated Communities &

Local Businesses and Citizens of Lincoln County



Lincoln County Fire District #1  
 Lincoln County Fire District #3  
 Lincoln County Fire District #4  
 Lincoln County Fire District #6  
 Lincoln County Fire District #7  
 Lincoln County Fire District #8  
 Lincoln County Fire District #9



## Foreword

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The process of developing a Community Wildfire Protection Plan (CWPP) can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface on both public and private land. It also can lead community members through valuable discussions regarding management options and implications for the surrounding land base. Local fire service organizations help define issues that may place the county, communities and/or individual homes at risk. Through the collaboration process, the CWPP steering committee discusses potential solutions, funding opportunities, and regulatory concerns and documents their resulting recommendations in the CWPP. The CWPP planning process also incorporates an element for public outreach. Public involvement in the development of the document not only facilitates public input and recommendations but also provides an educational opportunity through interaction of local wildfire specialists and an interested public.

The idea for community-based wildland fire planning and prioritization is neither novel or new. However, the incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003. This landmark legislation includes the first meaningful statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to consider the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. In order for a community to take full advantage of this opportunity, it must first prepare a Community Wildfire Protection Plan (CWPP). A countywide steering committee generally makes project recommendations based on the issue causing the wildfire risk, rather than focusing on individual landowners or organizations. Thus, projects are mapped and evaluated without regard for property boundaries, ownership, or current management. Once the CWPP is approved by the Lincoln County Commissioner's and the State Forester, the steering committee will begin further refining proposed project boundaries, feasibility, and public outreach as well as seeking funding opportunities.

# Signatures

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## Adoption by the Lincoln County Commissioners

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**Scott M Hutsell**  
Lincoln County Commissioner  
Vice Chair, District 1

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Date

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**Rob Coffman**  
Lincoln County Commissioner  
Member, District 2

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Date

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**Jo M Gilchrist**  
Lincoln County Commissioner  
Chair, District 3

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Date

## Approval by the Washington State Department of Natural Resources

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**George Geissler**  
Washington State Forester

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Date

## Adoption by the Fire Chiefs

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**Terry Harding**

Lincoln County Fire District #1

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Date

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**Brian Schorzman**

Lincoln County Fire District #3

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Date

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**Jim Adams**

Lincoln County Fire District #4

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Date

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**Craig Sweet**

Lincoln County Fire District #5

---

Date

---

**Brandon Larmer**

Lincoln County Fire District #6

---

Date

---

**Mike McQuade**

Lincoln County Fire District #7

---

Date

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**Denny Pinar**

Lincoln County Fire District #8

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Date

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**Richard Coffland**

Lincoln County Fire District #9

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Date

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# Chapter 1 Overview of this Plan and Its Development

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In 2025, the Lincoln County Conservation District (LCCD) contracted with Northwest Management Inc. to conduct an in-depth risk assessment for the hazards of wildland fire. Wildfire events occur annually in Lincoln County; thus, programs and projects that mitigate the impacts of this hazard plan are a benefit to the residents, property, infrastructure, and the economy.

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

<b>Lincoln County Cities</b>	<b>Lincoln County Sherriff's Department</b>
<b>Washington Department of Natural Resources</b>	<b>Lincoln County Fire Districts</b>
<b>Lincoln County Residents</b>	<b>Lincoln County Conservation District</b>
<b>Bureau of Land Management</b>	<b>National Park Service</b>

## Goals and Guiding Principles

### Planning Philosophy and Goals

The goals of the planning process include integration with the National Fire Plan, the Healthy Forests Restoration Act, and the Disaster Mitigation Act. The plan utilizes the best and most appropriate science from all partners as well as local and regional knowledge about wildfire risks and fire behavior while meeting the needs of local citizens and recognizing the significance wildfire can have to the regional economy.

#### Vision Statement

Promote awareness of the countywide wildland fire hazard and propose workable solutions to reduce the wildfire potential.

#### Mission Statement

To make Lincoln County residents, businesses, and resources less vulnerable to the negative effects of wildland fires.

#### Goals

1. Identify and map Wildland Urban Interface (WUI) boundaries.

2. Identify and evaluate hazardous fuel conditions, prioritize areas for hazardous fuel reduction treatments, and recommend the types and methods of treatment necessary to protect communities.
3. Prioritize the protection of people, structures, infrastructure, natural resources, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy.
4. Develop regulatory measures such as building codes and road standards specifically targeted to reduce the wildland fire potential and reduce the potential for loss of life and property.
5. Educate communities about the unique challenges of wildfire in the wildland-urban interface.
6. Provide a plan that balances private property rights of landowners in Lincoln County with personal safety and responsibility.
7. Improve fire service organizations' awareness of wildland fire threats, vulnerabilities, and mitigation opportunities or options.
8. Address structural ignitability and recommend measures that homeowners and communities can take to reduce the ignitability of structures.
9. Recommend additional strategies for private, state, and federal lands to reduce hazardous fuel conditions and lessen the life safety and property damage risks from wildfires.
10. Improve county and local fire agency eligibility for funding assistance (National Fire Plan, Healthy Forest Restoration Act, FEMA, and other sources) to reduce wildfire hazards, prepare residents for wildfire situations, and enhance fire agency response capabilities.
11. Provide opportunities for meaningful discussions among community members and local, state, and federal government representatives regarding their priorities for local fire protection and forest management.
12. Meet or exceed the requirements of the National Fire Plan and FEMA for a county level Community Wildfire Protection Plan.
13. Identify areas of inadequate fire protection, such as gaps in district coverage, and develop solutions.

## State and Federal CWPP Guidelines

This Community Wildfire Protection Plan includes requirements adhering to the guidelines proposed in the Healthy Forests Restoration Act (2003) and the National Cohesive Wildland Fire Management Strategy and the Federal Emergency Management Agency's Region 10 guidelines.

**The Healthy Forests Restoration Act of 2003 (HFRA)** encourages the development of wildfire mitigation projects to reduce overall ignitability of a landscape and prioritizing areas of concern through a collaborative process involving all stakeholders.<sup>1</sup> HFRA requires the following elements in a CWPP:

- **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- **Prioritized: Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at risk communities and essential infrastructure.
- **Treatment: of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

**The National Cohesive Wildland Fire Management Strategy** is the encouragement for stakeholders to work collaboratively using the best available assessments to make meaningful progress towards three goals:

- Resilient Landscapes
- Fire Adapted Communities
- Safe and Effective Wildfire Response

The objective of combining these complementary guidelines is to facilitate an integrated wildland fire risk assessment, identify pre-hazard mitigation activities, and prioritize activities and efforts

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<sup>1</sup> <https://www.forestsandrangelands.gov/documents/resources/communities/cwpphandbook.pdf>

to achieve the protection of people, structures, the environment, and significant infrastructure in Lincoln County while facilitating new opportunities for pre-disaster mitigation funding and cooperation.

## **Integration with other Local Planning Documents**

During the development of this Community Wildfire Protection Plan, 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 Lincoln County planning documents and ordinances considered during development of this plan.

### **Lincoln County Comprehensive Emergency Management Plan (2025)**

The purpose of the Comprehensive Emergency Management Plan (CEMP) is to guide the Lincoln County Department of Emergency Management in its responsibility to preserve lives, protect property and the environment, and to ensure public health in times of natural or technological disasters. The organization also provides for the coordination of recovery efforts following disasters and will provide actions to mitigate the effects of such disasters, to the extent possible.

The CEMP is an all-hazard approach to emergency and disaster situations likely to occur in the county, as described in the Lincoln County Hazard Identification/Vulnerability Analysis (HIVA), and provides the foundation for:

- The establishment of an organization and guidelines for efficient and effective use of government, private sector and volunteer resources.
- An outline of local government responsibilities in emergency management activities as described under RCW 38.52 and other applicable laws.
- An outline of other participants' responsibilities in emergency management activities as agreed upon by the participating agencies and organizations.

### **Lincoln County Comprehensive Plan (2018)**

The Comprehensive Plan is a legal document for guiding the future development of Lincoln County and was updated as of 2018. The Plan is based upon the stated long-term goals and objectives of the county residents. The 1983 document covers land use, recreation, transportation, and economic elements.

### **Lake Roosevelt National Recreation Area Fire Management Plan (2014)**

The preparation of a Wildland Fire Management Plan is required by the National Park Service (NPS) Wildland Fire Management Guidelines (DO-18), which states: "All parks with vegetation that can sustain fire must have a fire management plan. The resource management objectives of the

park may determine whether a prescribed fire component is needed". Vegetation at Lake Roosevelt National Recreation (LRNRA) Area includes at least three fire prone ecosystems, these being steppe (semi-arid grassland), shrub/steppe, and ponderosa pine forests.

The NPS at LRNRA needs this plan to guide management decisions in response to wildland fire incidents occurring within LRNRA and adjacent to the area's boundary. Presently and in the future all wildland fires will be suppressed. The size and configuration of LRNRA's land base eliminates the option of using wildland fire to obtain other resource objectives that may be possible in a park with a large aggregate acreage. In contrast, the preferred alternative proposes adding a prescribed fire component that would enhance the NPS's ability to manage and improve the park's ecosystem components and processes while providing for firefighters and public safety.

### **Swanson Lakes Wildlife Area Management Plan**

Management goals for the Washington State Department of Fish and Wildlife (WADFWS) Swanson Lakes Wildlife Area are to preserve habitat and species diversity for wildlife resources, maintain healthy populations of game and non-game species, protect and restore native plant communities, and provide diverse opportunities for the public to encounter, utilize, and appreciate wildlife and wild areas.

One of the agency's goals, as outlined in the Wildlife Area Management Plan, is to provide fire management on agency lands, which they do by maintaining fire protection contracts with the local fire districts.

## Chapter 2 Documenting the Planning Process

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This section includes a description of the planning process used to update the plan, including public outreach methods, how the document was prepared, and who was involved throughout the process.

### Description of the Planning Process

The Lincoln County Community Wildfire Protection Plan was developed through a collaborative process involving all the organizations and agencies mentioned in Chapter 1 of this document. The planning process included the following steps:

- **Collection of Data** about the extent and periodicity of the wildfire hazard in and around Lincoln County.
- **Meeting** with the planning team monthly to get information and concerns about the risk in Lincoln County.
- **Mapping** of data relevant to pre-wildfire mitigation and treatments, structures, resource values, infrastructure, risk assessments, and related data.
- **Facilitation of Public Involvement** from the formation of the steering committee to news releases, public meetings, public review of draft documents, and acknowledgement of the final plan by the signatory representatives.
- **Analysis and Drafting of the Report** to integrate the results of the planning process, provide ample review and integration of committee and public input, and signing of the final document.

### The Planning Team

Consultants from Northwest Management facilitated the Community Wildfire Protection Plan meetings alongside representatives from the Lincoln County Conservation District (LCCD). Stakeholders involved in the meetings included representatives from local communities, Lincoln County Conservation District, Fire Protection Districts, federal and state agencies, and local organizations with an interest in the county's fire safety.

The planning philosophy employed in this project included the open and free sharing of information with interested parties. Information from federal, state, and local agencies was integrated into the database of knowledge used in this project. Meetings with the committee were held throughout the planning process to facilitate the sharing of information between participants. When the public meetings were held, many of the committee members were in attendance and shared their support and experiences and their interpretations of the results.

## Steering Committee Meetings

The following people participated in steering committee meetings, volunteered time, or contributed to elements of the Lincoln County Community Wildfire Protection Plan’s preparation.

Table 1: Table of Stakeholders is still under development.

<b>Name</b>	<b>Organization</b>
<b>Patrick Larsen</b>	Inland Power
<b>Rod Price</b>	Tenaska Power
<b>Robert Boles</b>	Washington DNR
<b>Rob Lionberger</b>	Washington Department Fish and Wildlife
<b>Jesse Allen</b>	Lincoln County Undersheriff
<b>Tonya Nieder</b>	Lake Roosevelt National Recreation Area
<b>Denise Liebing</b>	Chief Civil Deputy Lincoln County Sherrif’s Office
<b>Steven Harris</b>	Washington DNR NE Region
<b>Matthew Rosman</b>	Wildfire Preparedness Technician LCCD
<b>Mike McQuade</b>	Lincoln County Fire District 7
<b>Matt Ugladea</b>	Avista Corp
<b>Gabe Gants</b>	Lincoln County Sherrif’s Office
<b>Guy Gifford</b>	Washington DNR
<b>Richard Cofflan</b>	US Bureau of Reclamation
<b>Elsa Bowen</b>	Lincoln County Conservation District
<b>Jon Edwards</b>	National Park Service
<b>Ashley Blazina</b>	Washington DNR
<b>Jessica Watson</b>	Washington DNR
<b>Mary Ellen Reyna</b>	Washington DNR
<b>Jamie Rohrbach</b>	Washington DNR
<b>Brett Beagley</b>	Avista Corp
<b>Mathew Eberlin</b>	Department of Fish and Wildlife
<b>Dennis Pinar</b>	Lincoln County Fire District 8
<b>Suzanne Henderson</b>	Us Bureau of Reclamation
<b>Gary Hughes</b>	Spokane Tribe
<b>David Harper</b>	US Bureau of Reclamation
<b>Brian Schorzman</b>	Lincoln County Fire District 3
<b>Daryl Schie</b>	Washington DNR
<b>Sam Halvorsen</b>	Washington DNR

Committee meetings were scheduled and held from February 2025 through March 2026. These meetings served to facilitate the sharing of information and to lay the groundwork for the Lincoln County CWPP. Northwest Management, Inc. as well as other planning committee leadership attended the meetings to provide the group with regular updates on the progress of the document and gather any additional information needed to complete the Plan.

## Public Involvement

Under the auspices of the steering committee, periodic press releases were submitted to the various print and online news outlets that serve Lincoln County. Informative flyers were also distributed around town and to local offices within the communities by the committee members.

Figure 1: Kickoff Meeting Press Release for Lincoln County, WA CWPP update

**Media Release**

**From Lincoln County Conservation District**

**RE: Lincoln County Community Wildfire Protection Plan Update**

**Lincoln County Stakeholders Initiate Process to Update Wildfire Mitigation Plan**

The Lincoln County Conservation District and Local Stakeholders began the process of updating the 2016 Lincoln County Community Wildfire Protection Plan (CWPP). The CWPP takes a focused view of wildfire risk and vulnerability and develops mitigation strategies to reduce the impacts of wildfire. With the local conservation district taking the lead, the update process began with a “kickoff” meeting in Davenport on Tuesday, February 18<sup>th</sup> of 2025 to assemble the planning team and develop a work plan for the process ahead.

The planning team includes stakeholders at the local, state, and federal levels inclusive of general residents of Lincoln County. Northwest Management Inc. has been retained by the Lincoln County Conservation District as a consultant to provide risk assessments, hazard mapping, research, and to ensure the updated plan meets state and federal requirements.

Community input will also play a key role throughout the planning process and will include public meetings, reviews of the plan, and a public comment period. The public outreach opportunities will include various workshops with Firewise USA guidelines as well as local events in each incorporated community where stakeholders of the planning team can spread the word of this CWPP update process. The current version of the Lincoln County Community Wildfire Protection can be found at:

[https://dnr.wa.gov/sites/default/files/2025-03/rp\\_burn\\_cwpp\\_lincoln\\_county\\_2016.pdf](https://dnr.wa.gov/sites/default/files/2025-03/rp_burn_cwpp_lincoln_county_2016.pdf)

The updated plan is expected to be done towards the end of 2025.

For more information about the CWPP update contact Matthew Rosman  
[mrosman@lincolncd.com](mailto:mrosman@lincolncd.com)

## Public Outreach

In the process of updating the Lincoln County CWPP, there were opportunities to involve the public. There were multiple workshops in the northern part of Lincoln County where members of

the planning team presented a handout including the process of a CWPP as well as a tentative WUI map. Other topics covered were the Firewise USA home hardening steps procedures from Inland Power in the case of high fire danger. In the month of May there were two workshops held in the communities of Lincoln and Seven Bays led by Mike McQuade with Fire District 7, the LCCD, and the Lincoln County Farm Bureau. The presentations covered various methods of home hardening and a handout from Inland Power showing different procedures to be taken in the case of a power shutdown during extreme wildfire conditions. Following, there was another meeting with the Fire District Chiefs where Mike Piper with Fire District 5 and the LCCD was able to present materials showing the process and standing of this CWPP update. There were also opportunities to reach out to the public through Pioneer Days in July, and the Lincoln County Fair in September. Both events were held in Davenport, WA.

Figure 2: Handout for Firewise USA workshops in Lincoln County, WA

LINCOLN COUNTY COMMUNITY WILDFIRE PROTECTION PLAN UPDATE ¶

WHAT'S IN A COMMUNITY WILDFIRE PROTECTION PLAN? ¶

- → Collaboration ¶
  - → The Planning Team includes many stakeholders, local, state, and federal agencies, plus community members ¶
- → Priority areas identified for mitigation projects ¶
  - → Where should projects be implemented? High risk areas and/or high value areas ¶
- → Recommendations for homeowners and landowners to reduce ignitability ¶
  - → A list of potential wildfire mitigation action items are included and maintained ¶

WHY HAVE A COMMUNITY WILDFIRE PROTECTION PLAN? ¶

- → Recognize the Risk ¶
  - → Ask the question: "How do wildfires affect us and where are we most vulnerable?" ¶
- → Developing a Strategy ¶
  - → Improve the ability to recover from wildfires to help reduce the impacts ¶
- → Provide Public Awareness ¶
  - → Use public outreach events to educate the public ¶
- → Gain funding through detailed fuels reduction and mitigation project descriptions ¶

MITIGATION PROJECT TYPES ¶

- → Mitigation — on the ground treatments, hazardous fuels reduction, post-fire rehab, etc. ¶
- → Education and Outreach — communicating wildfire vulnerability and informing the public of programs and activities to increase wildfire awareness and resiliency. ¶
- → Planning & Policy — what plans, policies, codes, and ordinances need developed to reduce wildfire impacts. ¶
- → Capacity Building — obtain funding for resources, training, PPE, updated equipment, and recruitment for increased wildfire management capacity. ¶

WILDLAND URBAN INTERFACE (WUI) ¶

- → The Wildland Urban Interface refers to areas where wildland vegetation meets human activity and development. The WUI boundary encompasses not only areas immediately adjacent to development, but also the surrounding vegetation and topography. Some things that influence the WUI map include wildland fuels, wildfire history, expected wildfire activity, values at risk to wildfire, and wildfire suppression capabilities. ¶

## **Public Comment Period**

A public comment period was conducted from May 20 to June 17, 2026, to allow members of the public an opportunity to view the full draft plan and submit comments and any other input to the committee for consideration. A news release announced this comment period, along with instructions for where to find the document and how to submit feedback. Comments were collected, retained for the official record, and integrated into the plan where appropriate.

## Chapter 3 Lincoln County Description

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### Lincoln County Characteristics

Prior to the 1800's, Lincoln County was inhabited by several groups of Native Americans. Permanent settlers arrived in the mid-1800's and settled in the bottomlands close to the Columbia and Spokane Rivers. More people settled in Lincoln County with the construction of the Northern Pacific Rail Lines. The new arrivals discovered that the best agricultural land was on the deep soils of the rolling hills. Lincoln County was officially established in 1883.<sup>2</sup>

There are multiple outdoor recreational opportunities scattered along the norther border of Lincoln County along the Colombia River and Lake Roosevelt. These activities include boating along the confluence of the Colombia River/Lake Roosevelt, the Big Bend Historical Museum, and various biking and hiking trails throughout the scablands.

### Geography and Climate

Known as “Big Bend” country, Lincoln County lies along the scablands 1,500 to 2,500 feet above sea level with an extensive system of channels, eroded into bedrock by glacial rivers and streams flowing from northeastern Washington. This rough topography is called the Channeled Scablands and includes features such as plateaus, buttes, and channels. Channels are made up of outwash terraces, bars, loess islands and basins. The plateaus contain mounds of loess surrounded by cobble-size fragments of basalt. Soil consists of silt loams with varying amounts of rock or gravel, and basaltic rock outcroppings. Generally, the soils along on the northern-most end of the county are derived from the local parent material, which includes granite and basalt, covered by and mixed with imported material, which includes glacial, fluvial, and wind-deposited material. The top-soil layers are generally very thin and vulnerable to erosion.

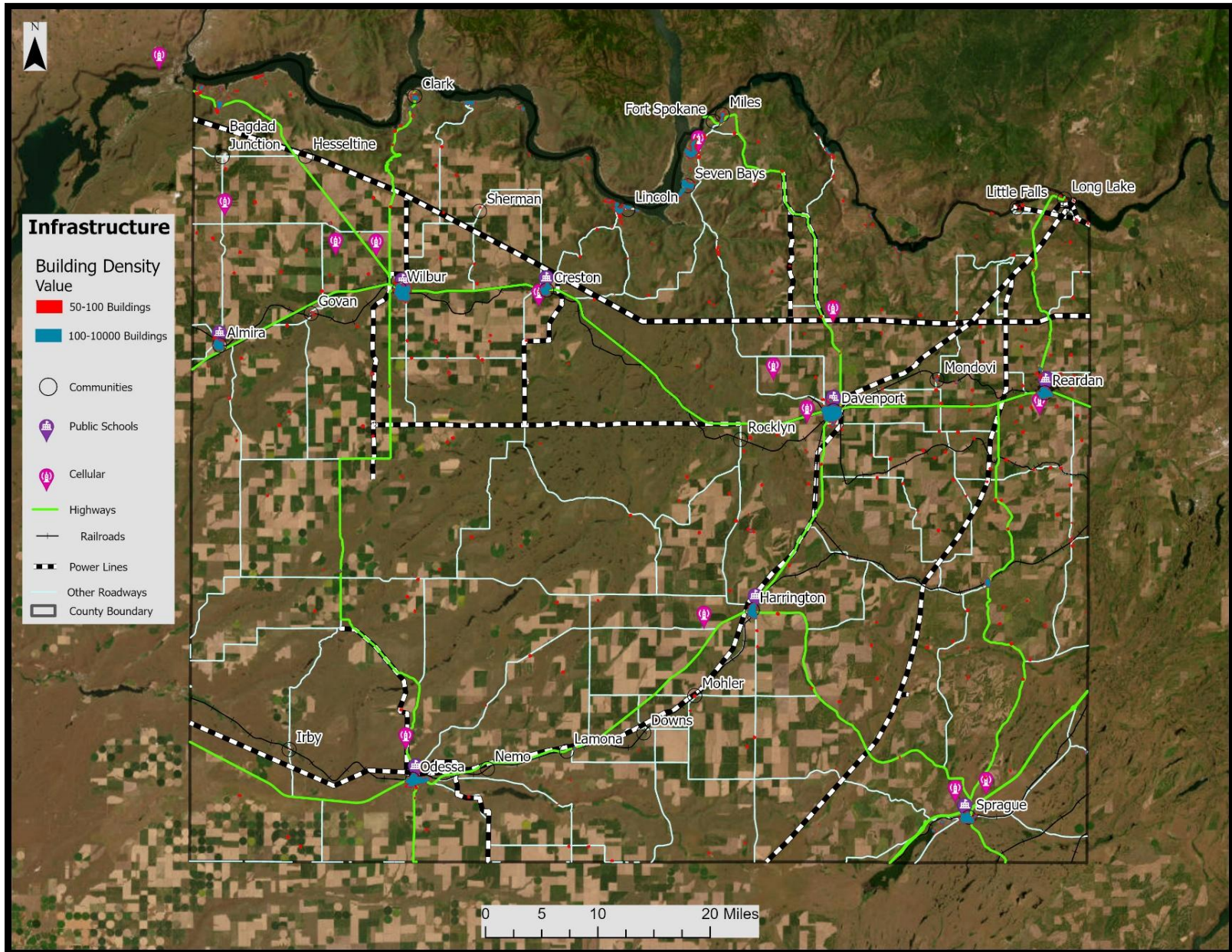
Lincoln County has a mild climate year-round. The summers are usually warm with temperatures reaching into the mid- to upper 80s during the day. Winters are mild but reach below freezing temperatures. Precipitation is moderate throughout the year with an average of 38 inches per year combining rain and snowfall.<sup>3</sup>

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<sup>2</sup> <https://www.co.lincoln.wa.us/history>

<sup>3</sup> <https://www.bestplaces.net/climate/county/washington/lincoln>

Figure 3: Lincoln County Infrastructure



## Population and Demographics

According to the 2022 American Community Survey (ACS) Census, the estimated population of Lincoln County is 11,036, which shows a 4.4% increase since 2010.

The Census also found that there are 4,532 households within Lincoln County. The majority of households in Lincoln County speak English while 1.3% speak Spanish, less than 1% speak Indo-European, and 1% speak Asian/Pacific Islander languages. The median income for a household in Lincoln County is \$68,175, which is a 44.4% increase since 2010.

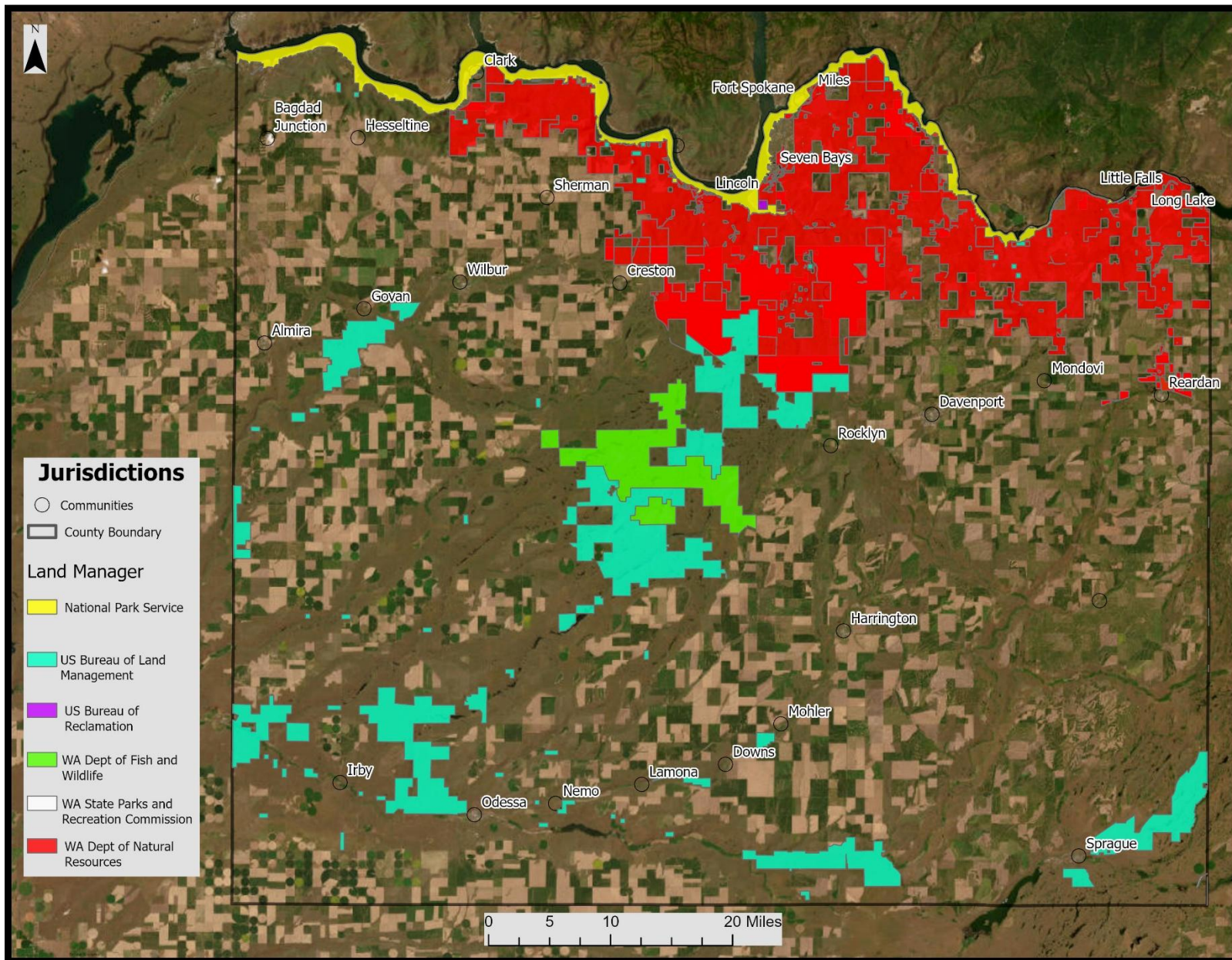
## Land Management

The vast majority of Lincoln County is privately owned/managed and is used for ranching and farming purposes. One notable trend related to population distribution is the increasing number of residents that are moving to rural areas along the shorelines of Lake Roosevelt and the Columbia River. The following table represents the different land ownership across Lincoln County.

Table 2: Landownership in Lincoln County, WA

Land Management	Percent
Private	89%
Bureau of Land Management	5%
National Park Service	<1%
Washington DNR	3%
Washington Department of Fish & Wildlife	1%
Bureau of Reclamation	<1%
Washington State Parks	<1%

Figure 4: Land Management in Lincoln County, WA



## **Development Trends**

Lincoln County's diverse landscape has become a desirable destination for different land use and recreational purposes. Two incorporated cities and six towns make up the urban growth areas accounting for half the population of Lincoln County. Outside the urban areas there are widespread tracts of land comprising the natural resource base of Lincoln County's economy and the remainder of the population. In recent years there has been an influx of growth and development along the shorelines of Lake Roosevelt and Columbia River. These areas are highly vulnerable to wildfires due to rapid growth into the wildland urban interface and the lack of ingress/egress routes.

### **Urban and Suburban Growth**

One challenge Lincoln County currently faces is the large number of houses located in and being built within the wildland urban interface. This challenge has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design or capability. Currently the Lincoln County Conservation District has worked with various communities and agencies to aid in the implementation of NFPA USA Firewise standards in creating defensible space around structures and properties to reduce wildfire fire risk.

An area of importance as recognized by the planning committee is the development along the Columbia River and The Lake Roosevelt National Recreation Area. These are located on the northern boundary of Lincoln County where residential developments pose a high risk to wildfire.

The Bureau of Reclamation, the Confederated Tribes of the Colville Reservation, and the Spokane Tribe of Indians own the land along Lake Roosevelt. In 1990 the landowners, the Bureau of Indian Affairs, and the NPS updated and signed a cooperative management agreement commonly referred to as the 5 Party Agreement. The National Park Service in cooperation with the other agencies manages a significant amount of the shoreline along Lake Roosevelt as part of the Lake Roosevelt National Recreation Area. Several areas along the lake have been developed for recreational purposes including boat docks and camping facilities. Additionally, there are numerous areas along the lake that are frequented by recreationists but are not developed or maintained for that purpose.

### **Ingress/Egress Routes**

Fire chiefs throughout the County have identified home accessibility issues as a primary concern in some parts of Lincoln County. Many existing housing developments and private driveways have been constructed without regard to access requirements of large emergency vehicles. Additionally, many of these roads are several miles long and have a dead end with no warning or plans for future connections to other access roads.

## **Agriculture**

In Lincoln County the dominant land use is agriculture in the form of dryland/irrigated grain crops (including some in the Conservation Reserve Program) and livestock grazing. Approximately 27,154 acres in the northern portion of the county, near Lake Roosevelt, are dedicated to irrigated agriculture. The remaining agricultural area in the county is largely dedicated to dryland agricultural practices. The 2012 Agriculture Census ranked Lincoln County as one of the top fifteen counties in Washington in terms of volume of agriculture sales which totaled more than \$208 million.

According to the 2022 Census of Agriculture Profile for Lincoln County<sup>4</sup>, there are 719 farms within the county that occupy a total area of 1,109,276 acres which is an average size of 1,543 acres per farm.

## **Community Profiles**

Lincoln County is comprised of eight Incorporated and six Unincorporated Communities. These communities are primarily located in the upper and lower portions of the County, and they are situated within major transportation corridors.

### **Incorporated Communities**

#### **Almira**

Almira, incorporated in 1904, is in the westernmost part of Lincoln County on the border. Spanning a half mile, the population consists of 363 individuals with a median household income of \$72,188. There is also a total of 141 housing units, of which 72% are owned and occupied. In the surrounding area there are vast areas of agriculture and the JZ Almira Airfield.

#### **Wilbur**

Wilbur was incorporated in 1890 and has a population of 802 people with an average of 2 people per square mile. Located at the junctions of Highway 2 and 21 there are a total of 788 housing units of which 71% are owned and occupied. The median household income is \$53,472. Some of the critical infrastructure within the community borders are the Wilbur airport and the Wilbur-Creston Cooperative High School.

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<sup>4</sup> [https://www.nass.usda.gov/Publications/AgCensus/2022/Online\\_Resources/County\\_Profiles/Washington/](https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Washington/)

## Creston

The City of Creston is located off Highway 2 and was incorporated in 1903. With a population of 213 and 143 housing units the median household income is \$54,792. Critical infrastructure consists of the Wilbur Creston Junior High School.

## Davenport

Following its incorporation in 1890, Davenport was deemed the county seat in 1896. With a population of 1,850 people and 788 housing units the median household income is \$71,486. Davenport is located off Highway 2 at the junctions of Highway 25 and Highway 28. Infrastructure in the city consists of the Lincoln Hospital, Davenport High School/Grade School, the Davenport Municipal Airport, Lincoln County Public Works Shop, and the WSU Wilke Research and Extension.

## Reardan

Rearden was incorporated in in 1903 and has a population of 611 people with 301 housing units that are 65% owned and occupied. The median household income is \$48,636. Infrastructure in Rearden consists of Reardan-Edwall Grade School, Rearden Pre-School, and the post office.

## Sprague

Sprague was incorporated in 1883 and has a population of 632 with 288 housing units and a median household income of \$66,250. Infrastructure in Sprague consists of the City Hall, Elementary school, High school, one of the Lincoln County Public Works Shops, and Lincoln County Fire District 1.

## Harrington

Located at the junction of Highway 28 and 23, Harrington was incorporated in 1902 and has a population of 450 people with 238 housing units owned by 68%. The median household income in Harrington is \$37,279. Critical Infrastructure in Harrington consists of an elementary school.

## Odessa

Odessa was incorporated in 1902. Current population as of 2020 US Census was 896. Located at the intersection of HWY 21 and HWY 28. The median income is \$50,986. Critical infrastructure consists of Lincoln County Public Works, Odessa Schools, Odessa Memorial Hospital, Airport, Ag Supply dealerships, and an Industrial Park.

## Unincorporated Communities

### Clark

Clark, also known as Keller Ferry, is located along the Colombia River. Most of the infrastructure is grouped around the Keller Ferry Campground at the south side of the crossing. Some of the businesses in the small community consist of an auto repair shop and a convenience store.

### Edwall

Located 35 miles from Spokane, Edwall sits in the eastern part of Lincoln County. Edwall is part of the Rearden-Edwall school district and has a Christian school and a Volunteer Fire/emergency Medical Crew as well as a library.

### Irby

Irby is in the southern region of Lincoln County, west of Odessa, and Norther of state route 28 on Irby Road. This community is a stop on the Burlington Northern and Santa Fe Railway.

### Lamona

Lamona sits between Odessa and Harrington on State Route 28.

### Miles

Miles is a small community located next to Fort Spokane where the Spokane River meets Colombia.

### Mohler

Mohler is located 6.5 miles southwest of Harrington and has one of Lincoln County's Post Offices.<sup>5</sup>

### Lincoln

The community of Lincoln is situated in the north central region of the county along the shores of Lake Roosevelt.

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<sup>5</sup> <https://censusreporter.org/>

## Seven Bays

Seven Bays is located on the eastern shore of Lake Roosevelt and includes a marina that can hold docking up to 150 boats.

## Deer Meadows

Deer Meadows is in Fire District 5 of Lincoln County just south of Seven Bays.

# Natural Resources

Lincoln County is a diverse ecosystem with a complex array of vegetation, wildlife, and fisheries that have adapted to fire as a natural disturbance process. Nearly a century of wildland fire suppression coupled with land-use practices (primarily timber harvesting and agriculture) has altered plant community succession and has resulted in dramatic shifts in the fire regimes and species composition. As a result, some forests and rangelands in Lincoln County have become more susceptible to large-scale, higher-intensity fires posing a threat to life, property, and natural resources. High intensity, stand-replacing fires have the potential to seriously damage soil and native vegetation.

## Vegetation

Much of the terrain in Lincoln County is dominated by shrub-steppe communities, with some grassland interspersed with rock outcrops. The dominant grass and shrub-steppe communities are primarily composed of Bluebunch wheatgrass, Idaho fescue, Wyoming big sage, and rigid sage. Common shrub species are snowberry, rose, serviceberry, and wax current. Although riparian areas are few and far between, they offer important vertical structure in the vast extent of open grassland. These stands of trees and/or shrubs provide hiding, escape and thermal cover, shade, foraging and nesting sites, perches, and water sources. Overstory trees in riparian zones include quaking aspen, black cottonwood, and water birch, while the understory vegetation is composed of hydrophytic shrub species such as mock orange, alder, Rocky Mountain maple, black hawthorn, and willow. Located in a semi-arid transition zone, plant communities along the Lake Roosevelt National Recreation Area change from shrub-steppe communities to ponderosa pine forest. This is the transition zone between grassland and forest environment. Large block definitions can be difficult due to effects of varying aspect and soil types. The three predominant plant communities include bunchgrass grasslands (steppe); shrub-steppe; and transition ponderosa pine forest. Other communities of note include wetland/riparian, lithosolic (rocky soil), rocky outcrops, and mixed-conifer forests.

Table 3: Vegetation Types in Lincoln County

Vegetation Type	Percent
Agriculture	50%
Shrub Land	16%
Grassland	14%
Exotic Vegetation	7%
Conifer	5%
Developed	4%
Riparian	3%
Water	1%
Sparse Vegetation	<1%

## Hydrology

The Washington Department of Ecology & Water Resources Program is charged with the development of the Washington State Water Plan. Included in the State Water Plan are the statewide water policy plan and component basin and water body plans, which cover specific geographic areas of the state (WDOE 2005). The Washington Department of Ecology has prepared general lithologies of the major ground water flow systems in Washington.

The state may assign or designate beneficial uses for Washington water bodies to support. These beneficial uses are identified in section WAC 173-201A-200 of the Washington Surface Water Quality Standards (WQS). These uses include:

- **Aquatic Life Uses:** char; salmonid and trout spawning, rearing, and migration; nonanadromous interior redband trout, and indigenous warm water species.
- **Recreational Uses:** primary (swimming) and secondary (boating) contact recreation.
- **Water Supply Uses:** domestic, agricultural, and industrial; and stock watering.

While there may be competing beneficial uses in streams, federal law requires protection of the most sensitive of these beneficial uses. A correlation to mass waste due to the removal of vegetation caused by high intensity wildland fire has been documented. Burned vegetation can result in changes in soil moisture and loss of rooting strength that can result in slope instability, especially on slopes greater than 30%. The greatest watershed impacts from increased sediment will be in the lower gradient; depositional stream reaches.

Of critical importance to Lincoln County will be the maintenance of the domestic watershed supplies in the Lower Spokane Watershed (WRIA 54), Lower Lake Roosevelt Watershed (WRIA 53), and Upper Crab-Wilson Watershed (WRIA 43).

## Air Quality

The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides.

The Clean Air Act, passed in 1963 and amended in 1977, is the primary legal authority governing air resource management. The Clean Air Act provides the principal framework for national, state, Lincoln County Community Wildfire Protection Plan 2016 Update 40 and local efforts to protect air quality. Under the Clean Air Act, OAQPS (Office for Air Quality Planning and Standards) is responsible for setting standards, also known as national ambient air quality standards (NAAQS), for pollutants which are considered harmful to people and the environment. OAQPS is also responsible for ensuring these air quality standards are met, or attained (in cooperation with state,

Tribal, and local governments) through national standards and strategies to control pollutant emissions from automobiles, factories, and other sources.

Smoke emissions from fires potentially affect an area and the airsheds that surround it. Climatic conditions affecting air quality in northeast Washington are governed by a combination of factors. Large-scale influences include latitude, altitude, prevailing hemispheric wind patterns, and mountain barriers. At a smaller scale, topography and vegetation cover also affect air movement patterns. Air quality in the area is generally moderate to good. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions which trap smoke and affect dispersion, causing local air quality problems. This occurs most often during the summer and fall months and would potentially affect all communities in Lincoln County. Wintertime inversions are less frequent, but are more apt to trap smoke from heating, winter silvicultural burning, and pollution from other sources.

# Chapter 4 Risk Assessment

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## Wildland Fire Characteristics

Wildland fire behavior defines how fires burn; the way fuels ignite, how flames develop and how fire spreads across the landscape. The three major physical components that determine fire behavior are the fuels, the topography, and the climate during a wildfire event. At the landscape level, both topography and weather are out of our control. However, by altering fuel loading and fuel continuity across the landscape, we have the best opportunity to manipulate how fires burn.

### Weather

Fire behavior is influenced by environmental conditions and weather. Wind speed, temperature, and relative humidity are all environmental factors that determine the rate at which fuels dry, and, in turn, how susceptible they are to ignition. These environmental parameters can be analyzed to determine current fuel conditions and generate estimates of how likely or easily fuels will ignite and the potential rate at which fire will spread. Once a wildfire has started, its behavior is further determined by atmospheric stability and local and regional weather. As temperature, wind speed, wind direction, and precipitation all influence fire behavior, weather is the most difficult component predict and interpret.

### Topography

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

### Fuels

Fuels are defined as any organic material, dead or alive, found in the fire environment. Grass, brush, branches, down woody material, forest floor litter, conifer needles, and buildings are all examples. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content, and continuity and arrangement all influence fire behavior. The smaller and finer the fuels, the faster the potential rate of fire spreads. As fuel size increases, the rate of spread tends to decrease due to a decrease in the surface to volume ratio. Fires in large fuels

generally burn at a slower rate but release much more energy and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control.

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

In the context of wildfire, fuels describe any organic material, dead or alive, found in the fire environment. Grass, brush, branches, logs, logging slash, forest-floor litter, and conifer needles are all examples of fuel types found in the fire environment. The physical properties and characteristics of fuels govern how fires burn. Fuel loading, size and shape, moisture content, and continuity and arrangement all influence fire behavior. Small fuels such as grass, needle litter, and other fuels less than a quarter inch in diameter are most responsible for fire spread and are associated with higher rates of spread. Fine fuels, those with high surface to volume ratios, are considered the primary carriers of surface fire. As fuel size increases, the rate of spread tends to decrease due to a reduction in surface to volume ratio. Fires in large fuels generally burn at a slower rate but release much more energy and burn with much greater intensity. This increased energy release, or intensity, makes these fires more difficult to control.

Fuels are classified by diameter as that has important implications for fuel moisture retention. Moisture content of smaller fuels changes much more quickly than that of larger fuels. In terms of fire potential on the landscape and fire suppression, the amount of time that is required for a fuel type to become volatile is critical which is why fuels are referred to as either one-hour, ten-hour, 100-hour, or 1,000-hour fuels. This method of classifying fuels describes the amount of time required for two-thirds of the volume of a dead fuel to regulate to atmospheric conditions.

## **Wildfire Hazards**

The severity of a fire season can usually be determined in the spring by how much precipitation is received, which in turn determines how much fine fuel growth there is and how long it takes this growth to dry. These factors, combined with annual wind events, can drastically increase the chance a fire start will grow and resist suppression activities. Furthermore, recreational activities typically occur throughout the months of July, August, and September. Occasionally, these types of human activities cause an ignition that could spread into populated areas and wildlands.

## Fire History

Fire was once an integral function within most ecosystems in Washington. The seasonal cycle of fire across most landscapes was as regular as the summer lightning storms plying across Washington. Depending on the vegetation characteristics, wildfire resulted from

Table 4: Number of Wildfire Ignitions and Causes from 2017-2024

Ignition Causes	Number of Ignitions	Percent Cause
Human	83	55%
Natural	28	19%
Unknown	40	26%
Totals	151	

ignitions with varying intensities and extent across the landscape. Shorter return intervals between fire events often resulted in less dramatic changes in plant composition. These fires burned from 1 to 47 years apart, with most at 5- to 20-year intervals. With infrequent return intervals, plant communities tended to burn more severely and be replaced by vegetation different in composition, structure, and age. Native plant communities in this region developed under the influence of fire, and adaptations to fire are evident at the species, community, and ecosystem levels.

From 2017-2024 Lincoln County had a total of 151 ignitions. Approximately 55% of ignitions were caused by human activity, 19% originated from natural causes (i.e. lightning strikes), and 26% originated from unknown causes.

Figure 5: Wildfire Ignition points by cause from 2017-2024

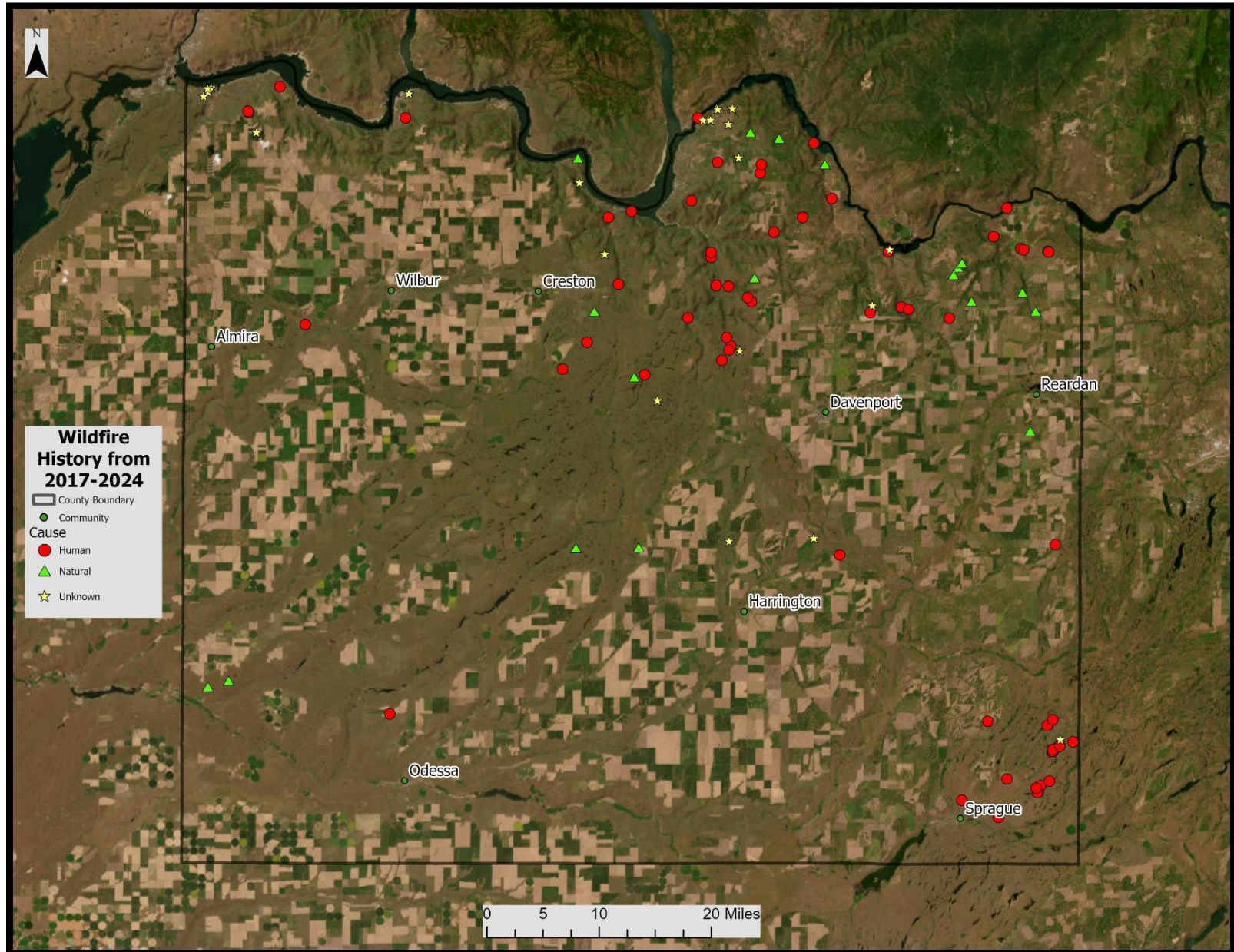


Figure 6: Wildfire Perimeter map. This map includes wildfires that occurred from 2003-2025 and were at least 200+ acres in size (refer to table 2 below for fire ID code)

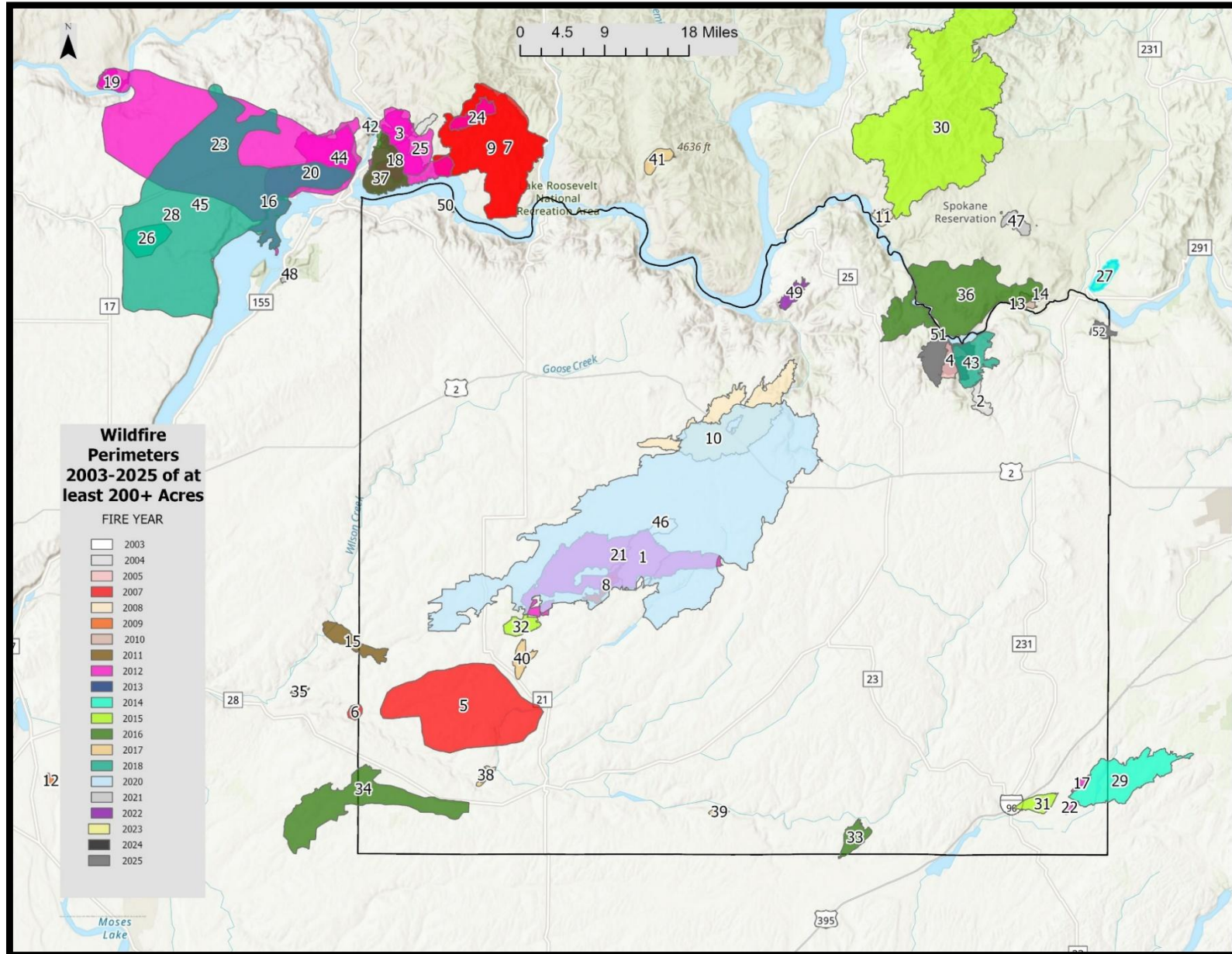


Table 5: Fire Codes for Wildfire Perimeter Map (Figure 2)

Fire #	Name	Year	Acres
1	Hatten Rd	2003	1,295
2	Mill Canyon	2004	1,090
3	Elmer City	2004	950
4	Harker Canyon	2005	1,557
5	Black Rock	2007	31,486
6	Manilla Creek	2007	25,790
7	Stehr Rd	2007	497
8	Swanson Lake	2008	18,057
9	Maggie Shoups	2008	754
10	B.5	2009	282
11	Line	2010	693
12	Road 29	2011	2,951
13	Cache Butte	2012	465
14	Miller Homestead	2012	351
15	Buffalo Lake Road	2012	9,327
16	Tims Brothers	2012	1,358
17	Barker Canyon	2012	10,320
18	Apache Pass	2012	15,378
19	Williams Lake	2012	221
20	Manilla Creek 1	2012	1,975
21	R Road	2014	3,319
22	Lake Spokane	2014	1,015
23	Watermelon Hill	2014	10,348
24	Carpenter Road	2015	63,737
25	I-90 Sprague	2015	426
26	Eagle Springs	2015	1,717
27	Rocky Ford	2016	1,952
28	Black Rock Road	2016	16,005
29	Wilson Creek	2016	247
30	Hart	2016	23,176
31	Elmer City	2016	5,500
32	Crab Creek	2017	591
33	Lamona Kramer	2017	303
34	Diefe Road	2017	1,400
35	Redford Canyon	2017	1,349
36	Washington Flats	2018	385
37	Angel Springs	2018	4,714
38	Pendall Road	2018	221
39	Grass Valley	2018	76,817
40	Whitney	2020	127,430
41	Sherwood	2021	1,257
42	Northrup	2021	248
43	Seven Bays	2022	1,000
44	Plum Point	2023	222
45	Western Pines	2025	5,781
46	Crescent Road	2025	881
47	Rattlesnake	2025	21,852

# Wildfire Hazard Assessment

## Overall Fuels Assessment

The terrain that dominates Lincoln County facilitates extensive farming and ranching operations. Agricultural fields occasionally fuel a fire after curing. Fires in grass and rangeland fuel types tend to burn at low intensities with moderate flame lengths and only short-range spotting. Common suppression techniques and resources are generally quite effective in this fuel type. Homes and other improvements can be easily protected from direct flame contact and radiant heat through adoption of precautionary measures around structures. Rangelands with a significant shrub component will have much higher fuel loads with greater spotting potential than grass and agricultural fuels. Although fires in agricultural and rangeland fuels may not present the same control problems as those associated with large, high intensity fires in timber, they can cause significant damage if precautionary measures have not been taken prior to a fire event.

Wind driven fires in these fuel types spread rapidly and can be difficult to control. During extreme drought and when pushed by high winds, fires in agricultural and rangeland fuels can exhibit extreme rates of spread, which complicates suppression efforts.

Forest and woodland fuels are mostly present in the canyons and rivers break on sloping terrain less favorable to clearing for agricultural development. A patchwork of ponderosa pine and Douglas-fir stands occupy sheltered areas on favorable soil where moisture is not a limiting factor. Wooded areas tend to be on steep terrain intermingled with grass and shrubland providing an abundance of ladder fuels which lead 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. Such fires present significant control problems for suppression resources and often result in large wildland fires.

Development is rapidly occurring along the Spokane and Columbia River breaks on the north side of the county. Many people have purchased small tracts of land in this location and built dwellings amongst the trees and shrubs. Scenic vistas and rolling topography with proximity to Lake Roosevelt National Recreation Area make this area desirable. However, the risk of catastrophic loss from wildfires in this area is significant. Fires igniting along the bottom of the canyon have the potential to grow at a greater rate of speed on the steeper slopes and rapidly advance to higher elevations. Within the forest and woodland areas, large fires may easily produce spot fires up to 2 miles away from the main fire, compounding the problem and creating fires on many fronts. Fire suppression efforts that minimize loss of life and structures in this area are largely dependent upon access, availability and timing of equipment, prior fuels mitigation activities, and public awareness.

## Historic Fire Regime

Historical variability in fire regime is a conservative indicator of ecosystem sustainability, and thus, understanding the natural role of fire in ecosystems is necessary for proper fire management. Fire is one of the dominant processes in terrestrial systems that constrain vegetation patterns, habitats, and ultimately, species composition. Land managers need to understand historical fire regimes, the fire return interval (frequency) and fire severity prior to settlement by Euro-Americans, to be able to define ecologically appropriate goals and objectives for an area. Moreover, managers need spatially explicit knowledge of how historical fire regimes vary across the landscape.

A primary goal in restoration is often to return an ecosystem to a previously existing condition that no longer is present at the site, under the assumption that the site’s current condition is somehow degraded or less desirable than the previous condition and needs improvement.

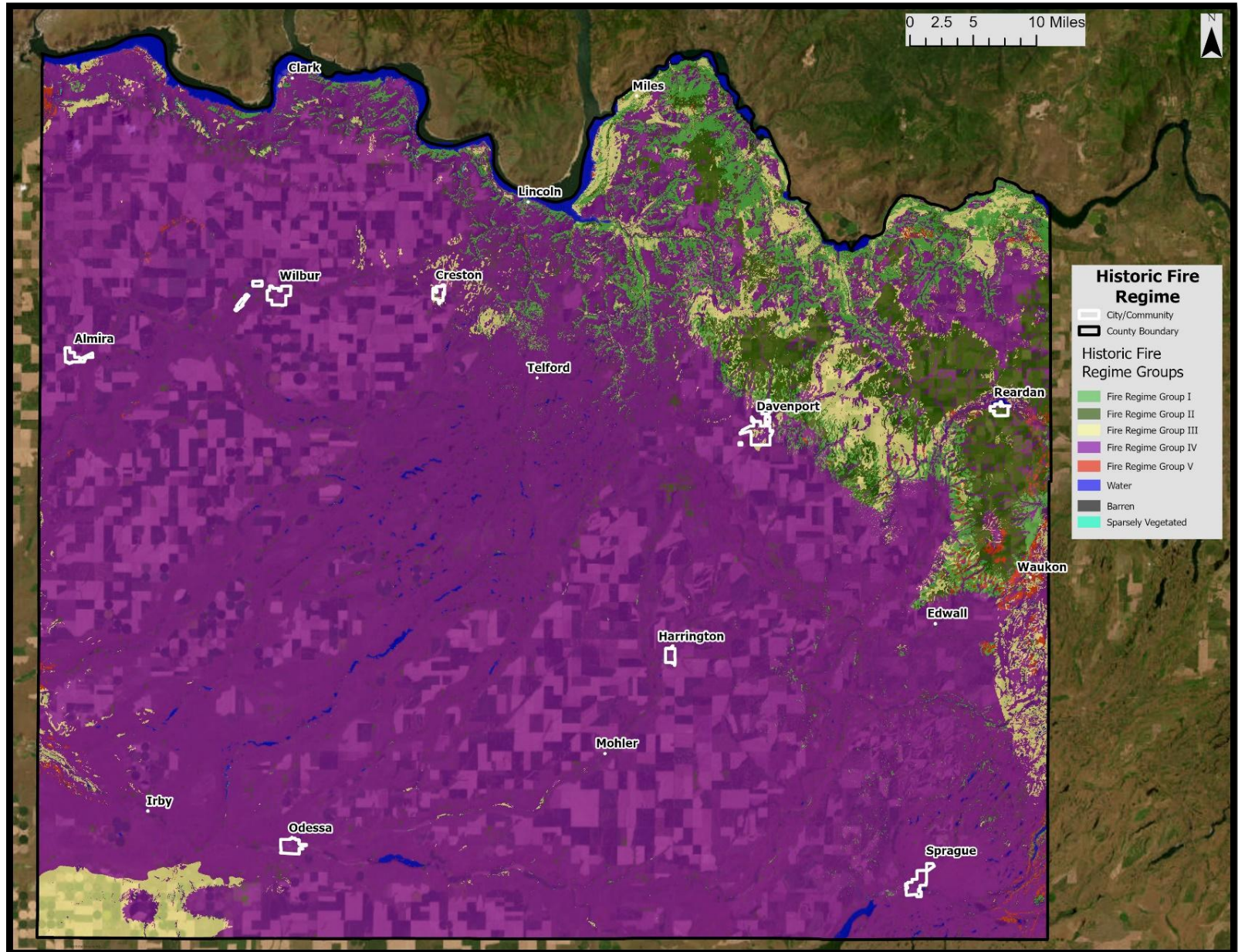
Many ecological assessments are enhanced by the characterization of the historical range of variability which helps managers understand: (1) how the driving ecosystem processes vary from site to site; (2) how these processes affected ecosystems in the past; and (3) how these processes might affect the ecosystems of today and the future. Historical fire regimes are a critical component for characterizing the historical range of variability in fire-adapted ecosystems. Furthermore, understanding ecosystem departures provides the necessary context for managing sustainable ecosystems. Land managers need to understand how ecosystem processes and functions have changed prior to developing strategies to maintain or restore sustainable systems. In addition, the concept of departure is a key factor for assessing risks to ecosystem components.

**Table 6: Historic Fire Regime Groups of Lincoln County, WA**

<b>Fire Regime Groups</b>	<b>Description</b>	<b>Percentage</b>
<b>Fire Regime Group I</b>	<= 35 Year Fire Return Interval, Low, and Mixed Severity	<b>5%</b>
<b>Fire Regime Group II</b>	<= 35 Year Fire Return Interval, Replacement Severity	<b>6%</b>
<b>Fire Regime Group III</b>	35-200 Year Fire Return Interval, Low and Mixed Severity	<b>5%</b>
<b>Fire Regime Group IV</b>	35-200 Year Fire Return Interval, Replacement Severity	<b>83%</b>
<b>Fire Regime Group V</b>	35-200 Year Fire Return Interval, Any Severity	<b>&gt;1%</b>
<b>Water</b>		<b>&gt;1%</b>
<b>Barren</b>		<b>&lt;1%</b>
<b>Sparsely Vegetated</b>		<b>&lt;1%</b>

Most of the county (83%) is classified as FRG IV. These areas would have burned every 35 to 200 years at replacement levels of severity. Burning less often, higher fuel loads would have sustained fire intensities that resulted in the loss of all vegetative cover.

Figure 7: Historic Fire Regime of Lincoln County



## Vegetation Condition Class

A vegetation condition class (VCC) is a classification of the amount of departure from the historic regime. The three classes are based on low (VCC 1), moderate (VCC 2), and high (VCC 3) departure from the central tendency of the natural (historical) regime. The central tendency is a composite estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity, and pattern; and other associated natural disturbances. Low departure is within the natural (historical) range of variability, while moderate and high departures are outside.

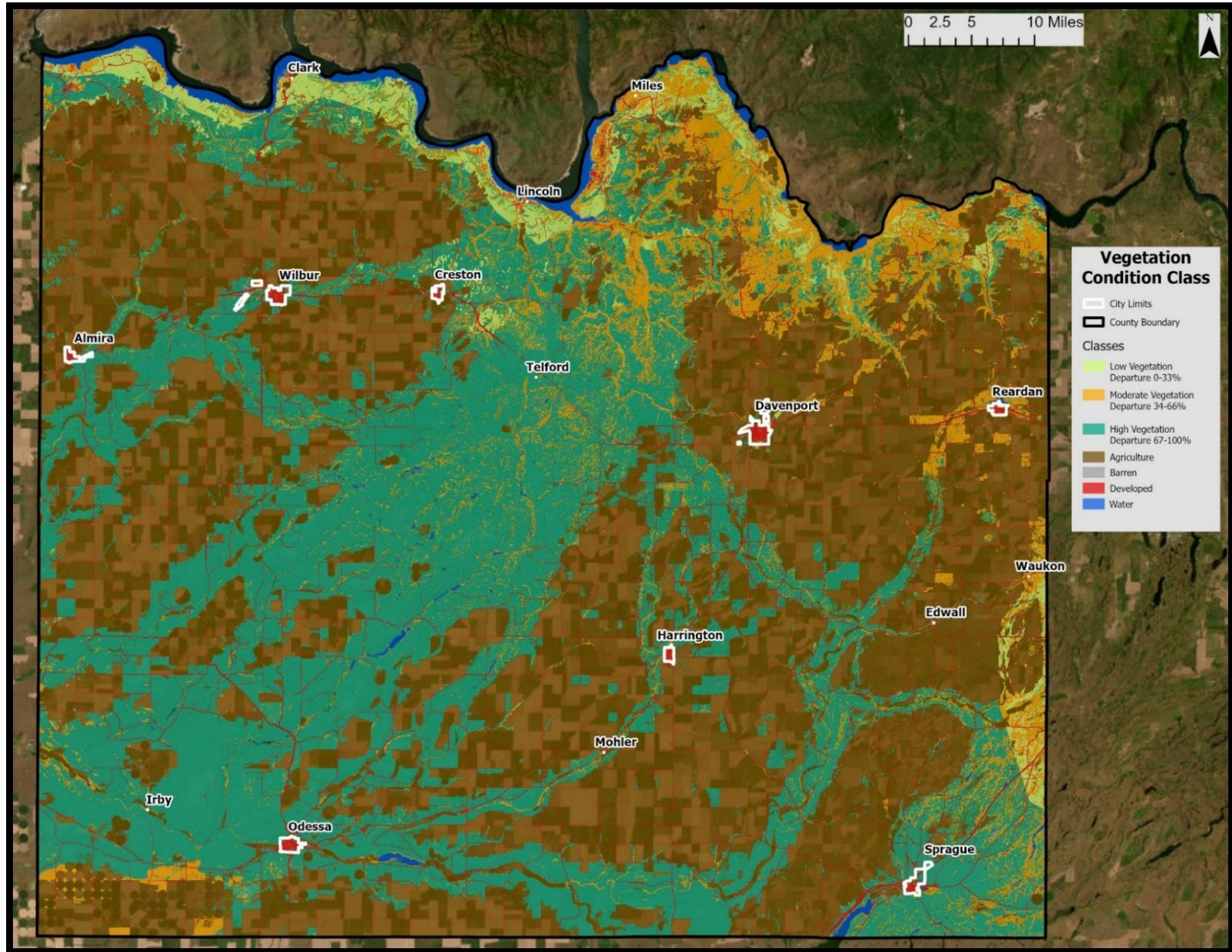
An analysis of Vegetation Condition Classes in Lincoln County shows that 45% of the total area is departed from the historic fire regime. Approximately 34% of land falls within **Vegetation Condition Class III** (High Departure) while 9% is in **Vegetation Condition Class II** (Moderate Vegetation Departure) and 2% is categorized as **Vegetation Condition Class I** (Low Vegetation Departure). The remaining area is designated either Water, Developed, Barren, and or Agriculture.

Table 7: Lincoln County's Vegetation Condition Classes of Lincoln County, WA

Vegetation Condition Class	Description	Percentage
<b>Vegetation Condition Class I</b>	Low Vegetation Departure 0-33%	<b>2%</b>
<b>Vegetation Condition Class II</b>	Moderate Vegetation Departure 34-66%	<b>9%</b>
<b>Vegetation Condition Class III</b>	High Vegetation Departure 67-100%	<b>34%</b>
<b>Water</b>		<b>&gt;1%</b>
<b>Developed</b>		<b>3%</b>
<b>Barren</b>		<b>&lt;1%</b>
<b>Agriculture</b>		<b>50%</b>

Most of the county is dominated by various shrub species with a grass understory consisting of bluebunch wheatgrass, Idaho fescue, and other grass species. Departure from historic conditions would likely include changes in the distribution of vegetation, the horizontal and vertical structure of vegetation communities, and the introduction of invasive species. These changes are expected to be more profound in areas where levels of departure are reported to be higher.

Figure 8: Vegetation Condition Class of Lincoln County, WA



## **Non- Native or High Fire Risk Vegetation**

Fuel type, or vegetation, plays an important role in determining wildland fire danger. All fuel types can and will burn under the right conditions; however, some fuel types pose more danger than others due to the intensity at which they burn, the horizontal and vertical continuity of burnable material, and firefighters' ability to modify the fuel complex in front of an approaching wildfire. While rangeland or grass fires often spread rapidly, they burn quickly and at a lower intensity than forest fires. Additionally, local farmers and firefighters can often construct fuel breaks with dozers and other equipment relatively quickly. These tactics are not as effective in forested areas or in steep terrain.

## **The Wildland Urban Interface**

In Designating a Wildland Urban Interface (WUI), the purpose is to strategically prioritize and implement pre/post wildfire mitigation projects and gain access to funding.

The Core Wildland Urban Interface refers to areas where wildland vegetation meets critical infrastructure and areas of ecological significance. Reducing the hazard in the WUI requires the efforts of federal, state, and local agencies and private individuals. The role of the federal agencies in Lincoln County is limited. Property owners share a responsibility to protect their residences and businesses and minimize danger by creating defensible areas around them and taking other measures to minimize the risks to their structures. Fuels treatments in the WUI can provide firefighters with a defensible area from which to suppress wildland fires or defend communities against other hazard risks. In addition, a WUI area that is properly treated will be less likely to sustain a crown fire that enters or originates within by reducing hazardous fuel loads, ladder fuels, and tree densities. Projects in the WUI also create new and reinforce existing defensible spaces, fuel breaks, and other features that assist fire response efforts. Landowners can protect their property and neighboring properties by:

- Minimizing the potential of high-severity fires entering or leaving the area.
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that flying sparks and embers from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior.
- Improving defensible space in areas of direct exposure to wildfire.

## **Lincoln County Wildland Urban Interface Criteria**

In identifying the WUI, the steering committee considered several factors that impact the wildland fire environment in Lincoln County. Expected fire behavior, current and future hazardous fuel conditions, winds and weather patterns, terrain and slope, wildland fuels in proximity to transportation routes and high traffic recreation areas, wildfire suppression challenges, residential

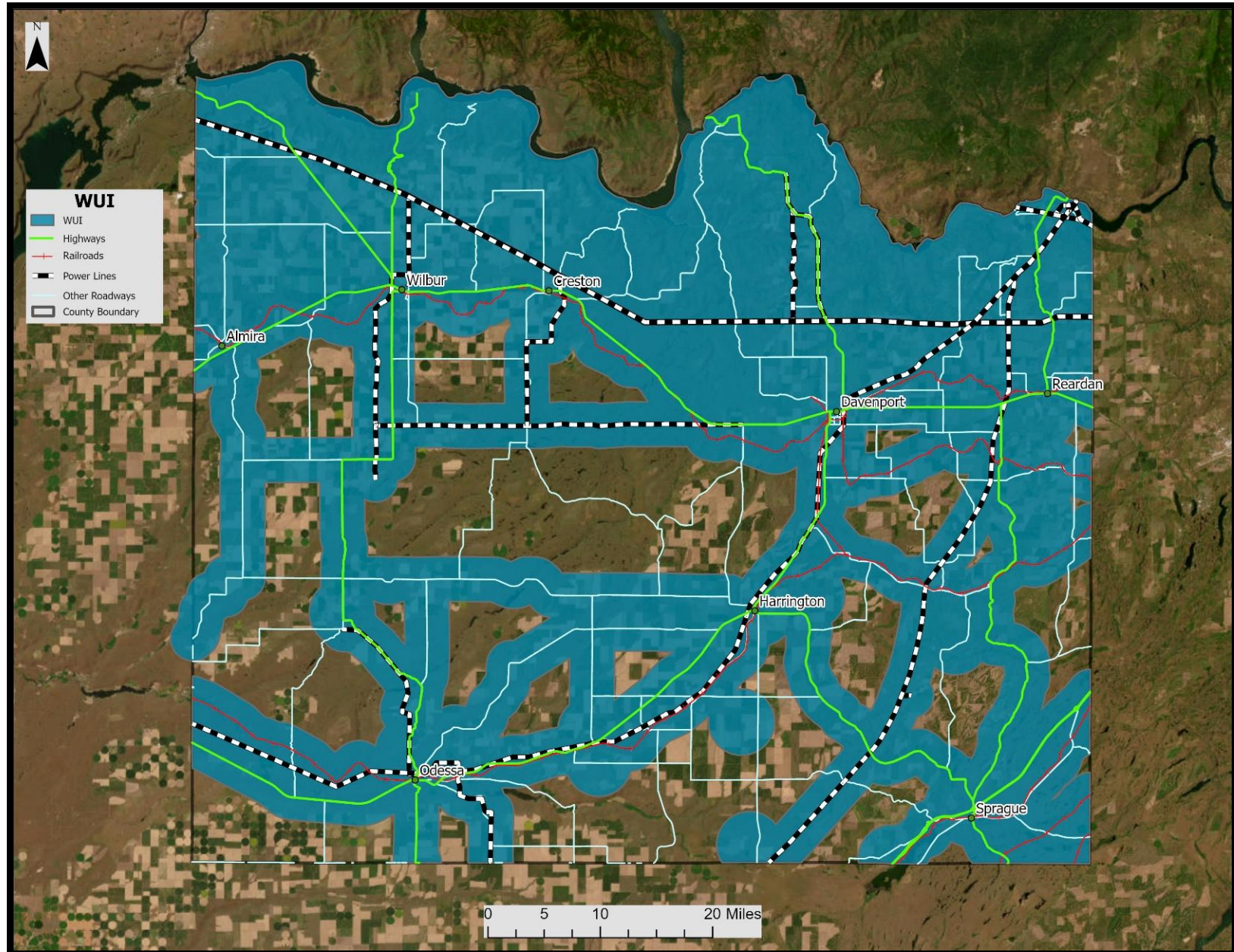
development, patterns of historical ignition causes, and historic large fire occurrences, all played a role in developing the WUI. The Core WUI is buffered around critical infrastructure, existing and new residential developments, and areas lacking ingress/egress routes. Examples of key infrastructure include:

- Critical infrastructure associated with communities (schools, hospitals, EMS stations, etc.)
- Communication Towers
- Highways
- Limited access residential areas
- Railroads
- Transmission Lines
- New developments in high-use recreation areas, especially along the Columbia River

The WUI, as defined here, is consistent and grounded in historical trends, data, and local firefighter knowledge. It addresses areas of significant risk potential and highly valued assets discussed with the planning team, as well as areas of high risk and high wildfire potential as identified by various hazard models. It can be determined again in the future, using the same criteria, to show how the WUI has changed in response to increasing population densities. It uses a repeatable and reliable analysis process that is unbiased.

The Healthy Forests Restoration Act makes a clear designation that the location of the WUI is at the determination of the county or reservation when a formal and adopted Community Wildfire Protection Plan is in place. It further states that the federal agencies are obligated to use this WUI designation for all Healthy Forests Restoration Act purposes. The Lincoln County Community Wildfire Protection Plan steering committee evaluated a variety of different approaches to determining the WUI for the county and selected this approach and has adopted it for these purposes. In addition to a formal WUI map for use with the federal agencies, it is hoped that it will serve as a planning tool for the county, state and federal agencies, and Local Fire Protection Districts.

Figure 9: Wildland Urban Interface for Lincoln County, WA



## Potential WUI Treatments

The definition and mapping of the WUI is the creation of a planning tool to identify the interface between structures and wildfire vegetation. This analysis tool does not include a component of fuels risk. Through mapping and analyzing results, the relationship between population growth and fuels often occurs independent from changes in fire risk, fuel loading, and infrastructure development. Thus, making the definition of the dependent on all of them would eliminate populated places with a perceived low level of fire risk today, which may in a year become an area at high risk due to forest health issues or other concerns.

By examining these two tools separately, the planner is able to evaluate these layers of information to see where the combination of population density overlays areas of high current relative fire risk and then take mitigation actions to reduce the fuels, improve readiness, directly address factors of structural ignitability, improve initial attack success, mitigate resistance to control factors, or (more often) a combination of many approaches.

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

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

## Wildfire Risk Models

Several USFS-sponsored risk modeling tools were used to estimate and describe wildfire risk to communities and identify hazard areas within Lincoln County.<sup>6</sup> Included in this analysis are the outputs for the Risk to Homes (Risk to Potential Structures), Wildfire Likelihood (Burn Probability), Risk Reduction Zones, and Wildfire Hazard Potential.

### Wildfire Likelihood (Burn Probability)

Wildfire Likelihood is the probability of a fire occurring based on simulations of possible fire seasons. In each simulation, factors contributing to the probability of a fire occurring including weather, topography, and ignitions are varied based on patterns derived from observations in recent decades. Compared to counties across the nation, Lincoln County is in the 92<sup>nd</sup> percentile for wildfire likelihood and a greater likelihood than 93% of counties in the state of Washington.

Table 8: Burn Probability Parameters

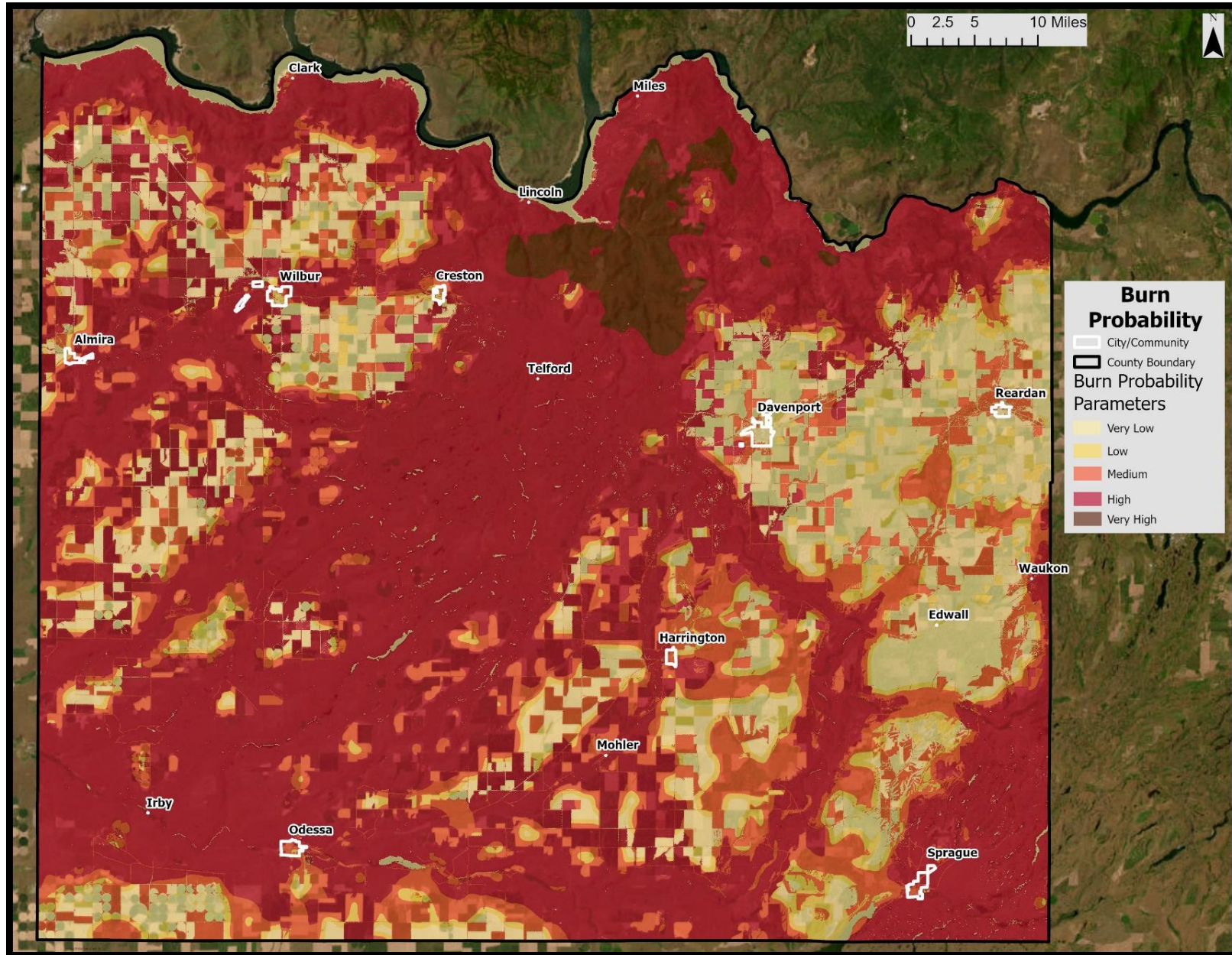
Burn Probability	Values
Very Low	0-.021%
Low	.021%-.10%
Medium	.10%-.465%
High	.465%-2.17%
Very High	2.17%-10%

The Wildfire Likelihood tool uses the Burn Probability dataset. Burn Probability is the annual probability of wildfire burning in a specific location. For the purposes of this CWPP update, and to better visualize the contrast between the probabilities across the landscape, the dataset was divided into six classes that range from a 0% probability to a 10% probability. The category of “Very High” probability does appear to occur within the county. Developed and agricultural areas tend to fall within the “No” to “Medium” range of probability.

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<sup>6</sup> Wildfire Risk to Communities. USDA, USFS. Accessed online at <https://wildfirerisk.org/explore/overview/41/41045/>

Figure 10: Wildfire Likelihood (Burn Probability) for Lincoln County, WA

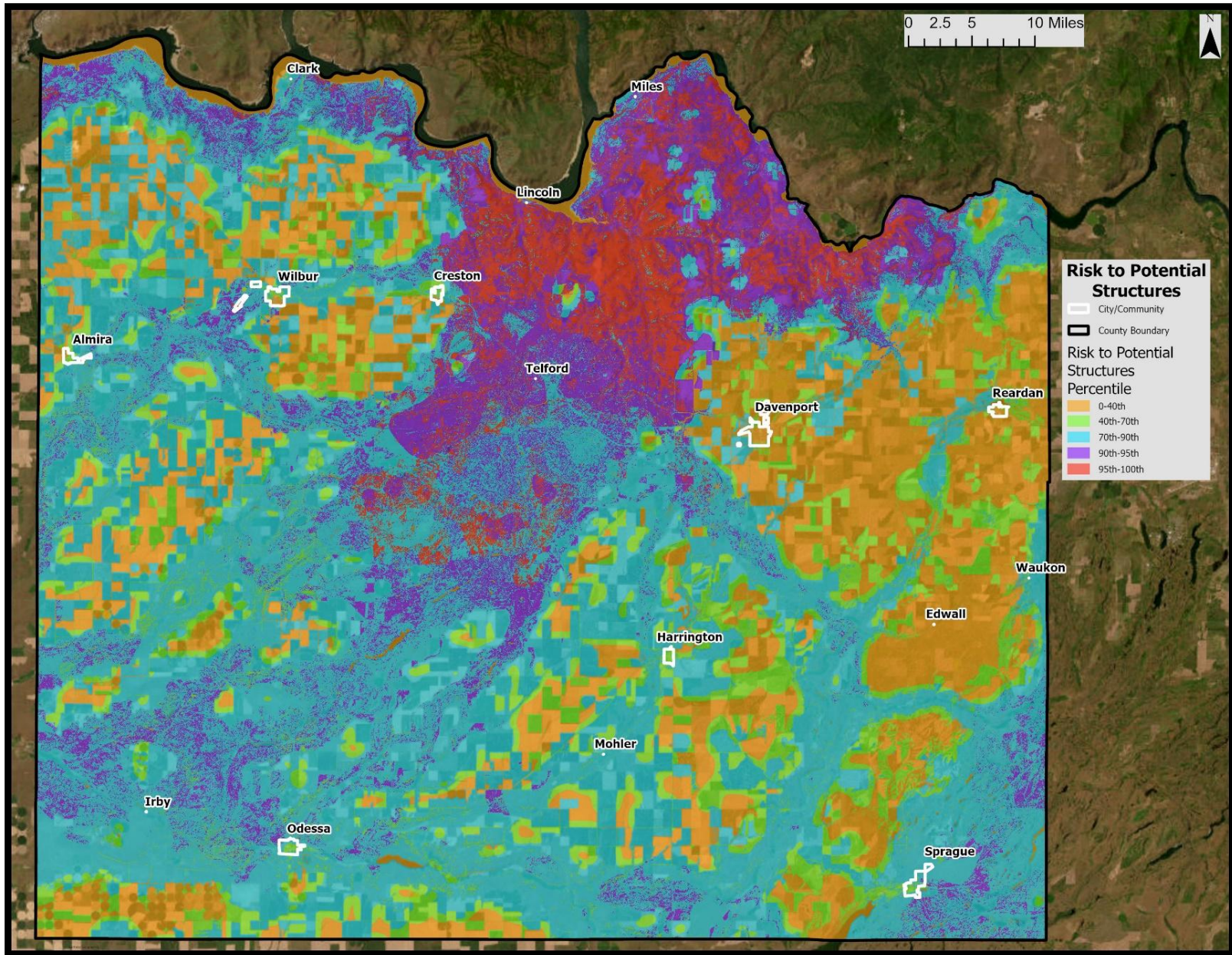


## **Wildfire Risk to Homes**

The Risk to Potential Structures dataset is used to calculate Risk to Homes and integrates wildfire likelihood and intensity with generalized consequences to a home on every pixel. This model analyzes data across a landscape whether a building is present or not to account for any current or future development leading to the question “What would be the relative risk to a building if one existed here?”

According to the model, Lincoln County is in the 92<sup>nd</sup> percentile nationwide, and 74<sup>th</sup> in Washington state.

Figure 11: Risk to Potential Structures for Lincoln County, WA



## Risk Reduction Zones

Risk Reduction Zones are the areas where mitigation activities will be most effective at protecting homes and other buildings from wildfires. Risk Reduction Zones are based on the interplay between wildfire likelihood, flammable vegetation, and populated areas. Wildfires can start in any zone and pose a risk to homes and communities. Effective wildfire risk-reduction activities will vary depending on the zone.

### Minimal Exposure

- Homes are unlikely to be subjected to wildfire.
- 16% of structures in Lincoln County.
- Mostly located in Davenport and Reardan.

### Indirect Exposure

- Homes may be ignited by embers or home-to-home ignition.
- 27% of structures in Lincoln County.
- Spread throughout the county, often located adjacent to Direct Exposure zones.

### Direct Exposure

- Homes may be ignited by adjacent vegetation, flying embers, or nearby structures.
- 57% of structures in Lincoln County.
- Spread throughout the county; often located on the outer edges of population centers, including cities.
- More highly concentrated where structures are densely located within areas of high WHP and RPS, north of Highway 2.

Table 9: Risk Reduction Zone Values Countywide

Exposed buildings by zone	Percent of Buildings Exposed
Minimal Exposure	16%
Indirect Exposure	27%
Direct Exposure	57%

### Ignition Resistant Homes

The majority of homes lost to wildfire are first ignited by embers and small flames. By reducing the susceptibility of the home and the area immediately around the home (also called the “home ignition zone”), the chance of a home surviving a wildfire are greatly increased.

Priority should be given to the area 100-200 feet from the home, including the home’s design and materials, nearby vegetation, and other structures or attachments like decks, furniture, fences, and outbuildings. Building codes and land development standards can help ensure homes are ignition resistant.

The success of ignition resistant homes depends on actions taken in three zones around the home. The non-combustible zone includes a 5-foot perimeter around the home, the Intermediate zone ranges from 5-30 feet from the home, the Extended Zone ranges from 30-100 feet minimum around the structure.

### Fire-Resistant Construction Materials

Due to the multitude of highly publicized wildland-urban interface fires occurring in the western states, there has been an increased level of research, development, and marketing of more fire-resistant construction materials. Information on high-risk materials as well as fire-resistant alternatives can be readily found online or through local fire departments.

### Building and Zoning

County zoning restrictions, in some instances, allow structures to be built within thirty feet of a property line. Therefore, it may be difficult for a homeowner to adhere to the defensible space requirements that are typically advised by organizations such as NFPA’s Firewise USA.

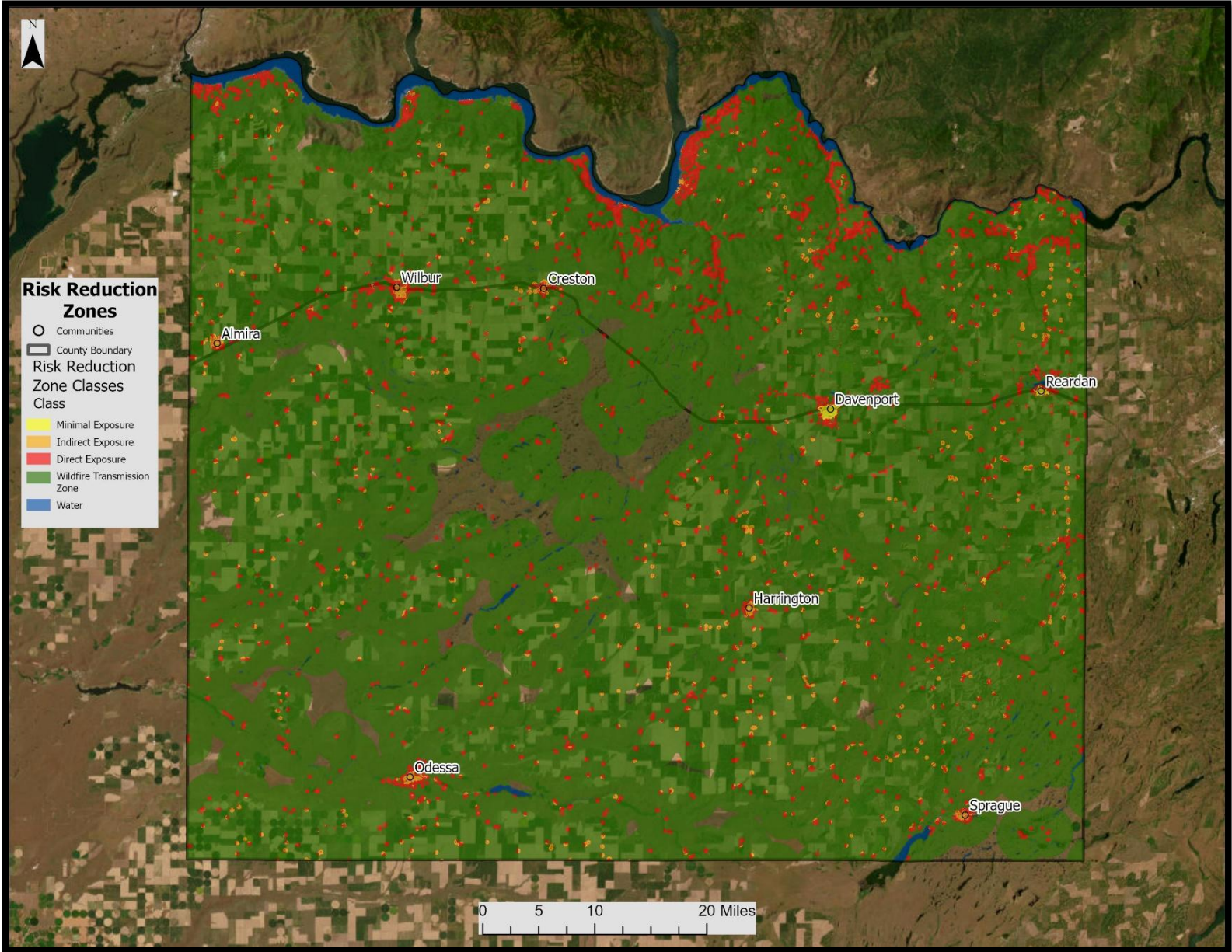
### Vulnerable Populations

According to the USDA’s Wildfire Risk to Communities these groups include “families in poverty, the elderly, people with mobility challenges, and those living in mobile homes.” These social and economic conditions can increase the challenges of preparing for, responding to, and recovering from wildfires among vulnerable populations.<sup>7</sup>

Figure 10: Vulnerable Population data in Lincoln County, WA

Vulnerable Populations	Percent
Families In Poverty	7%
People With Disabilities	21%
Difficulty With English	<1%
Households With No Car	3%
Mobile Homes	17%

Figure 12: Risk Reduction Zones for Lincoln County, WA



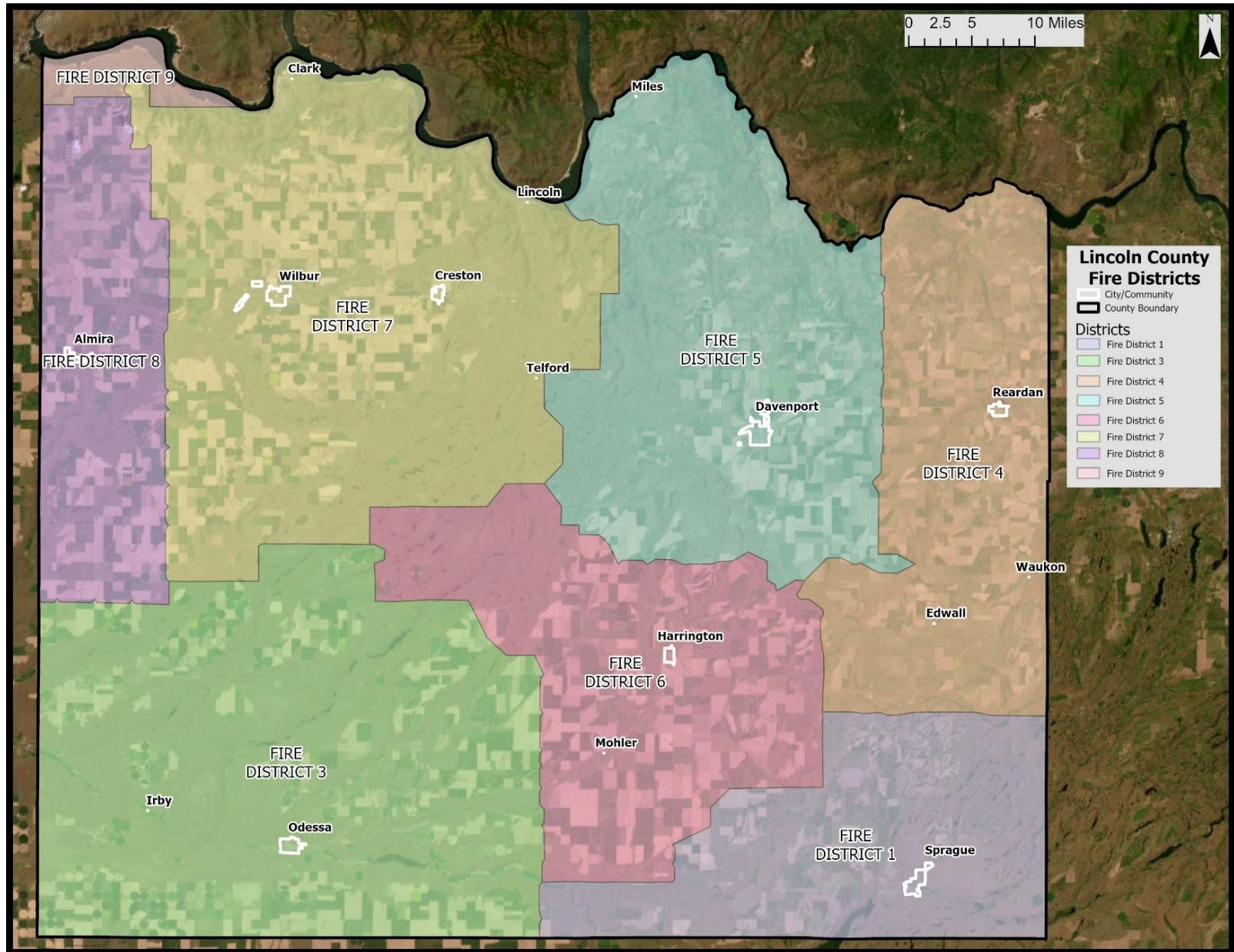
## **Overview of the Fire Protection System**

The DOI, United States Forest Service, state, tribe's counties, and local governments maintain operational wildland fire organizations. These are supplemented by volunteer organizations such as volunteer fire departments and rangeland protection associations. In DOI, the operational fire organizations reside in Bureau of Land Management, National Park Service U.S. Fish and Wildlife Service, and Bureau of Indian Affairs. Several chartered interagency groups exist to provide coordination and consistency among wildland fire organizations to ensure policy and operational consistency and interoperability.

### **Suppression Capabilities**

Fire protection in each district in Lincoln County is essentially the responsibility of the local fire district. The County has eight active Fire Protection Districts with resources available for fire suppression. However, each district is limited to the resources at hand until help from other districts or state or federal agencies can arrive.

Figure 13: Fire Protection Districts in Lincoln County



## Wilbur Fire Department

**Department Summary:** The town of Wilbur is located in west central Lincoln County. It has a population of 900 and is 4 square miles. The town fire department has the same personnel as Lincoln County Fire District #7. The department shares the Wilbur fire station with District #7; however, the department does have its own fire equipment. The Wilbur Fire Department has 2 city pumper trucks and 2 Basic Life Support ambulances.

**Issues of Concern:** The town of Wilbur is surrounded by sagebrush, CRP, and wheat fields. It also has 2 petroleum storage plants and 2 large grain elevators. With these potentially high-risk components as well as many old buildings, the department's resources could easily be exhausted with any type of fire.

**District Needs:** The town of Wilbur needs many more fire hydrants for both structure fires and wildland fire defense. The department needs the new generation fire shelters to be able to stay in compliance with new regulations. Funding sources for the department are very scarce. With ever-changing federal policies, the Wilbur Department could be required to purchase additional equipment and personal protective equipment in future.

## Lincoln County Fire District #1

**District Summary:** Lincoln County Fire District #1 is a volunteer fire district that provides all fire and ambulance services for 400 square miles in the southeast corner of Lincoln County. The topography is typically agricultural, steppe plateau, and channeled scab lands. The district contains approximately 63 households consisting of a total of approximately 200 people. Also in the district's service area are the City of Sprague, 17 miles of Interstate 90, 17 miles of the Burlington Northern rail line, and 10 miles of Union Pacific rail line. Each day 32,000 automobiles pass through the district on Interstate 90 alone. Interstate is responsible for two out of every three emergency calls. Interstate 90 provides no tax revenues to the district and does not in any way contribute to staffing levels.

The district carries a roster of 22 volunteers regularly. Of these volunteers, many are only available on a limited basis. Between the railroad, Interstate, and local lake resorts there are many potential ignition sources during the summer months. In 2008, the district responded to 25 active fires. These fires ranged from small, confined fires to large fires consuming hundreds of acres. Most resulted from unintentional human ignition caused by vehicles on the Interstate or the 57 trains that travel through the district every 24 hours.

**Issues of Concern:** Lincoln County Fire District#1 has identified several issues that need to be addressed. Inadequate daytime staffing during summer months has been a very high concern. The district relies on a small community to provide the volunteer manpower to carry out operations that require many trained firefighters to safely and efficiently execute.

In addition to staffing, the district fire station has become inadequate to house the district's apparatus. The current station is leased in the City of Sprague and is too small to house all of the district's equipment and apparatus. There is inadequate room for regular meetings and volunteer training sessions, which are essential to firefighting operations. In December of 2008, the current station sustained damage from six feet of snowfall. Currently, the walls of the station are cracked through to the outside showing daylight through the damaged areas. The structural integrity of the building is significantly threatened by these cracks as well as the location of the building in a floodplain. Replacement of the current building is imperative to the safety and continued operations of Lincoln County Fire District #1.

Water supply has also been identified as a concern. At this time the district relies on one water tender with a 4200-gallon capacity. Once empty, the water tender must leave a fire scene to re-fill.

Training in the National Wildfire Coordination Group (NWCG) requirements has vastly improved at Lincoln County Fire District #1, but the task has been difficult. At this time, the district has half of its volunteers trained to Firefighter 2 standards. Necessary classes have been hard to come by during months when the primary agricultural-based community members are available. Currently, the district has no members qualified to teach these classes or refresh the firefighters on an annual basis as required by NWCG. The training is expensive and time-consuming.

**District Needs:** The district has been actively pursuing remedies for the above-mentioned issues of concern. Members are trying very hard to attend classes that will allow them to advance their wildland certification. The district desperately needs qualified individuals who are available to teach classes on flexible schedules. The most appropriate solution to this problem is to have people in the district who are carded and qualified to teach the classes.

The district also needs a second water tender with two large drop tanks that would allow shuttle operations on a fire scene. A grant has been applied for through the AFG grant program to achieve this goal. The district does not have the revenue to complete this project without grant funding.

The most feasible solution to the fire station and staffing concern is the construction of a new fire station and the creation of a residency program including the hiring of three firefighters for the summer months. The new fire station will replace a 60-year-old failing station that is inadequate for current operations. The district is actively pursuing funding for this project through US Senate appropriations due to a lack of funding elsewhere.

### **Lincoln County Fire District #3**

**District Summary:** Fire District #3 is a large district with 622 square miles and only 598 residents. It contains large areas of sage brush with very few natural fire breaks. The district has added water tanks around the district that are filled during the wildfire season to assist with suppression,

especially now with the increasing risk of power interruption due to extreme fire danger. The district has added two outlying stations to increase year-round response of apparatus.

**Issues of Concern:** New laws are passed without any funding to implement them. Every year it gets harder to find firefighters who are willing and able to respond to calls. Additional structures are being added to the wild land areas and new people are not building or preparing for a wildfire that can and will affect their property.

**District Needs:** Fire District #3 needs a new station, updated trucks, and more volunteers in rural areas.

## **Lincoln County Fire District #4**

**District Summary:** Lincoln County Fire District #4 protects 288 square miles consisting of farm ground, scablands, timber; and the Town of Reardan and the communities of Edwall, Long Lake, and Waukon. District staffing consists of 12 volunteers at Edwall, 20 volunteers at Reardan, and two volunteers at Long Lake. Paging is handled by the Lincoln County Sheriff. In 2015, the district responded to 150 calls with 80% calls for EMS.

District #4 is a participant in the Lincoln Countywide Mutual Aid Agreement and has agreements with Spokane County Fire Districts #3 and #5 and Stevens County Fire District #1. District #4 has an automatic response with Spokane County District #5 on structural fires and some EMS calls and has an automatic response when wildland dispatch is high. A DNR agreement is in place for areas north of Highway 2. There are currently 5 District #4 volunteers with Red Cards; the firefighters have department training in wildland firefighting, and the district has not committed to Statewide mobilization.

**Issues of Concern:** Communications for District #4 are provided through LComm (Lincoln County Communications) with several repeaters. The problem is that the areas north of Reardan, especially by the Spokane River, have very little reception. The repeater on Magnuson Butte has not always provided the coverage around Edwall it was supposed to provide and has led to crews from Reardan and Edwall not being able to communicate. The switch to narrow band has exacerbated coverage problems.

District #4 is always trying to keep current with new standards and replace vehicles in a timely manner; however, budget constraints continue to make this difficult.

Wildland/Urban interface areas are expanding north of Reardan and east of Edwall. Several of these developments have poor access roads and signage that make response to these areas difficult and often dangerous.

Water supply outside the limits of Reardan, Edwall and Long Lake are handled by a tender shuttle with some help from the local farm chemical companies. A good water source north of Reardan near the Spokane River would reduce turnaround times.

**District Needs:** The district is in need of wildland equipment including fire shelters, backpack pumps, hand tools, and the ability to upgrade/replace these items on a regular basis. Also, newer personal protection clothing to replace the banana suits currently in use and the ability to upgrade/replace on a regular basis are a necessity.

The district's vehicle needs include a Class A Pumper for Edwall and brush/attack engines to replace some of the 30+ year old vehicles currently in service. The addition of smaller wheelbase wildland Engines would help with response.

Communication needs include anything that would improve current coverage and will be able to adapt to future requirements.

District #4 needs to improve its available water resources. Specifically, the addition of two storage tanks north of Reardan in the Bald Ridge area and along Highway 231 or the installation of permanent wells would drastically improve the district's turnaround time. Highway 231 could have its needs filled by having the necessary equipment to hook into existing irrigation systems; however, this only works when the fields are actively being irrigated.

## **Lincoln County Fire District #5**

**District Summary:** Lincoln County Fire District #5 covers 395 square miles of north central Lincoln County with the Spokane and Columbia Rivers as the northern border and Bluestem as the southern border. The east boundary is midway between Reardan and Davenport while the west boundary is the Telford rest area.

The district has three stations: one in Davenport, one at Egypt, and one at Deer Meadows. There are approximately 45 volunteer firefighters in the district. The district does contract with the DNR for fire patrols in the timbered areas of the district.

The southern portion of the district is comprised of dryland farming (primarily wheat and barley), CRP, and rangeland. The northern portion of the district is mixed with heavy timber as well as a heavy concentration of urban interface along the edges of the two rivers. These structures are both recreational homes as well as permanent residences. There are estimated to be nearly 500 homes within the district's coverage area.

**Issues of Concern:** Being in an area with approximately 18 inches of annual rainfall, all of the vegetation becomes tinder dry throughout July, August, and September. These are typically the months when the district receives the greatest number of calls. Lincoln County also tends to get numerous lightning storms during this time. The Hawk Creek area north of Davenport has historically received a great number of lightning strikes in the timbered areas. The Hawk Creek area has also seen significant growth in the number of structures being built on the timbered hillsides. Ingress and egress are also an issue of concern for many of the housing developments throughout the district. They are typically one way in, one way out. Water access is limited in

many of the rural areas; thus, tanker trucks are required to shuttle water to supply the firefighting units.

As a 100% volunteer department, personnel are limited during the heavy fire season due to vacations, weekends with the family, or their regular employment.

**District Needs:** An urban interface truck is needed as the residential growth continues. Also, the federal government is mandating the use of narrow band for radio communication; thus, new, narrow band compatible communication equipment will be required, and additional repeater sites will be needed to provide adequate communication in the canyons and other remote areas. The district also needs to build a multi-agency fire/EMS station with bays for both fire trucks and ambulances with OSHA-approved exhaust removal systems, meeting rooms, offices, and residency quarters for both organizations.

### **Lincoln County Fire District #6**

**District Summary:** Lincoln County Fire District #6 currently has 22 volunteers serving a population of approximately 700 residents spread over 292 square miles. The fire station is located in the town of Harrington with 3 trucks stationed remotely during fire season. The primary land use in this area is dryland agriculture. The south, east, and western regions of the district have channeled scablands. The district also protects 24 sections of state and federal land.

**Issues of Concern:** The district has many square miles of land in its Emergency Medical Service coverage area that has limited accessibility. The lack of roads in the southern and west portions of the district makes those areas difficult to access and therefore provide adequate service. Hundreds of acres of CRP grass is scattered throughout the district with no fuels breaks to separate the unmanaged CRP from the productive agricultural ground. State and federal lands are not currently grazed as much as they were historically, which is adding to the fine fuel load within those areas (see also “Fire Protection Issues” section at the end of this chapter). A major railroad also runs through the district that carries thousands of oil tanker cars annually from Seattle enroute to Spokane, and beyond, often causing fire ignitions.

**District Needs:** The district would like to improve its fleet of trucks to better serve the outlying areas.

### **Lincoln County Fire District #7**

**District Summary:** Lincoln County Fire District #7 encompasses 520 square miles and serves a population of approximately 2,000. The district maintains stations in Wilbur, Creston, and Lincoln. There are 34 volunteer firefighters serving the Wilbur station, 18 serving the Creston station, and 12 serving the Lincoln station. Presently, all of the district’s communication equipment is capable of narrow banding.

**Issues of Concern:** Fire District #7 is also concerned with additional acres being bought by the federal government. Additional government property within the district reduces their tax base resulting in less money for the fire district. Additionally, the federally managed land is not being grazed as intensely as it was historically causing more fine fuel buildup and therefore, higher potential fire risk (see also “Fire Protection Issues” section at the end of this chapter).

**District Needs:** Fire District #7 is in need of additional wildland and structural turnout gear as well as updated fire shelters. The district also needs three fire trucks (one for each station). Creston Station needs an addition to house two fire engines that are currently being stored outside. Lincoln Station needs an addition for equipment storage.

## **Lincoln County Fire District #8**

**District Summary:** Lincoln County Fire District #8 is located in the northwest corner of Lincoln County, Washington. It consists of 168 square miles. The district is narrow, spanning seven miles at the widest point and nearly thirty miles in length with a centrally located station in Almira. The Almira station currently has one structural engine, one tender, one light rescue, and four type 3 brush engines and one type 6 brush engine. There are twenty-five volunteer firefighters, ten of which are red card certified and eight have EMS certification. Almira is the only town in the district. Fire District #8 has an approximate population of 750 residents and 300 residential structures. The rolling terrain varies in elevation from 2,818 feet at its highest to just below 1,600 feet. Most of the land is used for agriculture that is a variety of crop fallow rotation to yearly re-cropping. Over the last two decades an ever-growing amount of cropland has been removed from production and placed into native grasses under the CRP program. A smaller percentage of the land in District #8 is used for grazing or left unmanaged. It is very challenging to provide fire suppression services to these areas due to the lack of accessibility.

**Issues of Concern:** One issue in District #8 is that it has a large amount of land with little accessibility and no man-made or natural fuel breaks. In the southern end, there are two large conjoining canyons with a mixture of private and public lands. There are only a couple of vehicle access points. A related issue is the growing amount of CRP ground. Due to the lack of use on the roads in these areas, there is less need for maintenance, leaving fewer, smaller fuel breaks. Another concern is the lack of proper communication with the closing of the narrow band line for radios. District #8 will be left with more “dead” spots in their communication system.

**District Needs:** District #8 has similar needs to other districts throughout the county. Training is and should always be number one. There is nothing more important than making sure all of the district’s firefighters go home safely. Red card classes should be a must for every firefighter. This would help bridge the gap between how the district should fight fires and how the district wants to fight fires. With the transition to narrow band, many additional repeaters will be necessary for effective communication. Finally, the district will need state and federal help on prescribed burns to establish strategically, located fuel breaks.

## **Lincoln County Fire District #9**

**District Summary:** Located in the extreme northwest of the county, it is one of the smallest fire districts in the State encompassing approximately 12 square miles of lake front property. The district is mostly residential with only two commercial properties storage units, and a gravel pit, two community properties of a church, and cemetery and no emergency services. Currently, Fire District #9 contracts with the Grand Coulee Fire Department in neighboring Grant County for fire protection services of the approximately 280 homes in the area.

**Issues of Concern:** Residents in District #9 are concerned that fire apparatus dispatched out of Grand Coulee are more than 5 miles away and as a volunteer department the response time to the mid and eastern end of the district increases the risk of loss for residents. There are several rapidly developing residential areas along Lake Roosevelt that are intermingled with high-risk fuels and have poor road access (one way in/out) on unimproved/gravel roads. Commissioners for the district are exploring options between improving access to water resources and building a small station for the storage of mutual aid equipment.

**Needs:** Funding to secure land and construct a structure for forward placement of mutual aid equipment and trucks. Development of public water resources mid district in support of firefighting efforts and reduce turnaround time. Due to the small size of the district, funding for any improvements must be in the form of a grant.

Currently, Fire District #9 contracts with the Grand Coulee Fire Department in neighboring Grant County for fire protection services.

**Issues of Concern:** Residents in District #9 are concerned that fire apparatus dispatched out of Grand Coulee has a slow response time to the mid and eastern end of the district due to the longer distance. There are several rapidly developing residential areas along Lake Roosevelt that are intermingled with high-risk fuels and have poor access. Representatives from Fire District #9 are currently trying to gather support and funding for the construction of a station and the establishment of a functional fire department within the district.

## **Mutual Aid Agreements**

Currently the cities, towns, fire protection districts, and wildland fire agencies within Lincoln County have extensive mutual aid agreements that serve to increase the protection and effectiveness of all Lincoln County fire response jurisdictions. Municipal and county fire departments fully provide mutual aid for each other if possible. These agreements significantly improve the capabilities and effectiveness of all individual fire departments as well as aid the state and federal wildland fire teams. Not only does this improve the safety of Lincoln County residents, structures, infrastructure, and lands, but it also facilitates good interdepartmental working relationships.

## **Washington Department of Natural Resources**

**Unit Summary:** The Washington Department of Natural Resources (DNR) provides wildfire protection and suppression on private and state-owned forest lands in the State of Washington. The Arcadia Fire Unit of the DNR encompasses approximately 2.1 million acres of private and state land in the counties of Spokane, Stevens, Lincoln and Pend Oreille in northeast Washington. Agreements with 18 rural fire protection districts, the Colville National Forest, the Spokane Indian Agency, the Kalispel Indian Agency, US Fish and Wildlife Service, and the National Park Service provide for DNR assistance in fire protection in and adjacent to the Arcadia Unit. The Arcadia Unit includes all of Spokane County, the portion of Lincoln County north of US Highway 2, the portion of Stevens County south of Deer Lake and east of the Hunters Divide, and the portion of Pend Orielle County south of Tiger and Sullivan Lake. The Arcadia Fire Unit's primary workstation is in Deer Park, north of Spokane. The DNR utilizes partnerships with local fire departments and districts to park engines at fire stations within geographic portions of the unit. The Arcadia Fire Unit staffs twelve 4-person engines within the unit each season. Engine staffing is on a varied schedule that provides seven day per week coverage June through September but can respond to wildfire incidents if required during any time of the year. The Arcadia Unit has one Type 4 dozer and a heavy equipment operator ready to respond to emerging incidents. The Deer Park Airport is utilized by DNR for both fixed wing and helicopter suppression aircraft during high potential months of the year. The DNR also stages aircraft at Electric City during the summer months. All aircraft are managed by DNR's Wildland Fire Management Division. The DNR maintains a "call when needed" contracts for dozers and operators trained and equipped for fire suppression throughout the unit. The Arcadia Fire Unit is also home to the Airway Heights Camp Program, which staffs 6 10-person incarcerated hand crews year around. All are trained in wildland fire suppression. The Arcadia 20-person transition hand crew is also based out of a work center inside the city limits of Spokane. Primary protection responsibilities are on private and state forest land throughout Northeast Washington. The DNR also responds to fires off of DNR protection which threaten lands under DNR protection. The DNR and Avista Utilities contracts with Pano AI to provide wildfire detection services from multiple vantage points in and around Lincoln County. The locations include Teel Hill, Lilienthal Mountain, Devils Gap (Lincoln County) and Wrights Hill (Spokane County), Scoop Mountain (Stevens County) and Coulee City (Grant County).

**Cooperative Agreements in Lincoln County:** There are no formal agreements between the local fire districts of Lincoln County and the Washington DNR.

**\*\*NOTE:** Washington DNR does not respond to structure fires\*\*

## **Washington Department of Fish and Wildlife**

**Summary:** The Swanson Lakes Wildlife Areas is approximately 21,000 acres with about 1,280 of that leased from the Department of Natural Resources. Managed as one unit, Swanson Lakes is located in Lincoln County about 10 miles south of the town of Creston in the upper portion of the

Crab Creek Watershed. It has numerous pothole lakes, a handful of rim rock lakes, and an intermittent stream, Lake Creek, a tributary of Rock Creek. Within the channeled scablands of the Columbia Plateau, it also includes plateaus, buttes, and channels. Shrub-steppe and riparian/wetlands are the main habitats. Much of the area is rangeland with some old CRP fields and several hundred acres of restored grassland habitat. A small amount of leased cropland produces cereal grains and hay. Elevation ranges from about 1,640 feet in the southwest to about 2,490 feet in the northeast. Swanson Lakes was acquired mainly between 1993 and 1997 as a Bonneville Power Administration wildlife mitigation project, primarily for Columbian sharp-tailed grouse, a state threatened species. It also supports a mix of species including mule deer, upland game birds, raptors, songbirds, and several reptiles and amphibians.

The WDFW has agreements with the adjacent local fire districts and the DNR to provide fire protection in the Wildlife Area.

**Issues of Concern:** There are currently no safety zones around the Swanson Lakes Wildlife Area office. There are a few fire breaks planned near the Swanson Lakes area. These will be vital projects since large fires continue to threaten this area.

## **National Park Service**

**District Summary:** The National Park Service, Lake Roosevelt National Recreation Area contracts with the Washington DNR for fire suppression services; however, one type 6 engine is available with 3-6 firefighters in the Kettle Falls or Fort Spokane area on a limited basis from April 1 to November 15.

**Issues of Concern:** Defensible space around private homes adjacent to NRA lands is being addressed by fuel reduction crews on NRA lands but is still a concern since many areas have not received treatment that need it. A landowner that has a structure adjacent to NRA lands may ask the Recreation Area to assess and aid if needed, landowner education is still a priority.

## **Bureau of Land Management**

Spokane District Mission Statement: The mission of the Spokane District is to share our unique capability and interest in sustaining the full diversity of natural and cultural landscapes across Washington State and invite their discovery and use. This includes protecting the natural resources, such as water for fish and wildlife; preserving environmental and cultural values on the lands they manage; providing for multiple uses, that include some commercial activities; and enhancing opportunities for safe and enjoyable outdoor recreation. The Spokane District also assesses energy and mineral resources and works to ensure that their development is in the best interest of the public. Another major responsibility is to ensure consideration of Tribal interests and administration the Department of Interior's trust responsibilities for American Indian Reservation communities.

**District Summary:** Up through the 1970's, BLM's policy was to divest ownership of all federal public (BLM) lands in the state of Washington. But in 1980, at the height of the Sage Brush Rebellion (a social movement to give control over federal lands to the states and local authorities), Washington voted to have the public lands remain under federal ownership and management. In the 1980 general election, the state put a measure on the ballot asking voters if the state constitution should "be amended to provide that the state no longer disclaim all rights to unappropriated federal public lands. "Approximately 60% of the people and the majority in every county voted no, signaling to BLM that there was strong support for continued federal management of the public lands in the state.

In response to this vote, the Director of BLM approved a proposal by the district to begin a process of consolidating the scattered BLM lands around the state. Today the Spokane District BLM manages over 425,000 acres across eastern Washington for multiple uses, providing wildfire protection, suppression, support, and training for the BLM managed lands and other federal/state/county agencies.

The Spokane District Fire Management Program currently consists of two type six wildland engines (300 gallons) with two full time Engine Captains, four engine crew members, one ten-person hand crew, one Fuels Technician, Seasonal Dispatcher, Fire Operations Specialist (FOS), Assistant Fire Management Officer (AFMO), and a Fire Management Officer (FMO). The hand crew is stationed in Spokane at the District office, and the two Type 6 engines are in Wenatchee at the field office. There are approximately 16 other specialists (staff) from across the district that assist the Fire Management Program in wildland and/or prescribed fire efforts. With the District's scattered ownership pattern, the engines are usually on scene after the initial attack forces have arrived. Our engines and personnel are available for off District and out of state fire assignments that aid in support, training, and experience.

**Cooperative Agreements:** The Spokane District BLM has Coop agreements with the Colville National Forest, US Fish and Wildlife Service, WA DNR, Spokane County FDs #3, 4, 9, 10, Spokane Valley FD, Benton County FD #1, Chelan County FDs #1, 6, Lincoln FDs #2, 4, 5, 15, Franklin County FD #5, Grant County FD #5, Lincoln County FDs #1, 7, and Yakima County FDs #4, 5.

## **Fire Protection Issues**

The following sections provide a brief overview of the many difficult issues currently challenging Lincoln County in providing wildland fire safety to citizens. These issues were discussed at length both during the committee process and at several public meetings. In most cases, the committee has developed action items (Chapter 6) that are intended to begin the process of effectively mitigating these issues.

## Rural Fire Protection

People moving from mainland urban areas to the more rural parts of Lincoln County frequently have high expectations for structural fire protection services. Often, new residents do not realize that the services provided are not the same as in an urban area. The diversity and amount of equipment and the number of personnel can be substantially limited in rural areas. Fire protection may rely more on the landowner's personal initiative to take measures to protect his or her property. Furthermore, subdivisions on steep slopes and the greater number of homes exceeding 3,000 square feet are also factors challenging fire service organizations. In the future, public education and awareness may play a greater role in rural or interface areas. Great improvements in fire protection techniques are being made to adapt to large, rapidly spreading fires that threaten large numbers of homes in interface areas.

In most western states, state and federal agencies that have wildland fire protection responsibilities have launched a campaign to reiterate to the public that they do not provide structural fire protection. Much of the increasing costs of wildland fires can be directly related to the increasing number of structures in the wildland urban interface. State and federal agencies are trying to make it clear to the public that land and homeowners are responsible for reducing the fire risk on their property and that the agencies are not responsible for or required to provide structural protection.

## Local and Transient Demographic Challenges

### *New Developments*

The wildfire risk is high within the National Recreation Area due to its intense public use as well as the potential ignition sources associated with recreational activities such as campfires, BBQ pits, fireworks (which are not allowed by federal statute year-round within Lake Roosevelt NRA), and the use of motorized equipment. Many of the residents in Lincoln County have noted that the fuel in these areas need to be better maintained by the National Park Service to lessen the probability of an accidental ignition. Furthermore, additional signing and better enforcement of seasonal fire bans would also lessen the wildland fire risk.

### *Fireworks*

Due to Lincoln County's close proximity to both the Spokane and Colville Reservations, fireworks are increasingly available to the public in Lincoln County. Even with the existing fireworks ban during periods of high wildland fire risk, the use of fireworks, particularly in recreational areas (which are not allowed by federal statute year-round within Lake Roosevelt NRA), is high. Both the CWPP planning committee and local residents have noted fireworks as a high-risk factor for wildfire ignitions. So far, they have not resulted in large fires; however, there are several documented ignitions due to fireworks within Lincoln County.

### *Ingress/Egress Routes*

The lack of road connectivity and general accessibility in some areas restricts engagement by fire suppression resources. Continued enforcement of Lincoln County's current standards regarding road and driveway construction regulations for fire apparatus would prevent accessibility issues in new developments. Wildfire risk can be lessened, and firefighter safety can be improved by keeping vegetation including tall grass, brush, and trees a safe distance from the road right-of-way. This will not only improve accessibility but will also allow the road to serve as a control point for suppression activities. Additionally, the fire districts have identified several unimproved and unmaintained county roads that could serve as strategic access points for fire suppression activities if they were maintained periodically for this purpose. In some cases, these roads are partially maintained but are limited by inadequate or nonexistent bridge crossings.

### **Pre-Planning High Risk Areas**

Although conducting home, community, and road defensible space projects is a very effective way to reduce the fire risk to communities in Lincoln County, recommended projects cannot all occur immediately, and many will take several years to complete. Thus, developing pre-planning guidelines specifying which and how local fire agencies and departments will respond to specific areas is very beneficial. These response plans should include assessments of the structures, topography, fuels, available evacuation routes, available resources, response times, communications, water resource availability, and any other factors specific to an area. Community-based CWPPs often contain pre-planning information useful to fire managers. All of these plans should be available to the local fire departments as well as dispatch personnel.

### **Natural Resources**

Protection of native plant communities, especially those containing perennial native grasses and forbs essential to ecosystem integrity and diversity, is important to provide ecosystem services that sustain wildlife, such as the greater sage-grouse and native pollinators. One of the primary challenges to restoring the health of rangeland ecosystems is achieving effective long-term restoration and post-fire recovery. Arid Rangelands face many environmental and site conditions stresses exacerbated by drought, climate change, and spread of invasive species, leading to more frequent and catastrophic fires. While restoration can be successful at the small scale, achieving a landscape approach to effective and sustainable restoration of the sagebrush-steppe can be difficult. There is a need for natural resource advisors and fire managers, at all levels, to improve communication and continue to coordinate and work collaboratively to identify priority habitats before and throughout the wildfire season to improve fire response and protection of priority habitats. Where priority habitat exists, pre-positioning of firefighting assets to improve preparedness and suppression capability in the initial stages of a wildfire increases the chances of keeping fires small and limits loss of habitat.

## Re-Introduction of Grouse Species

The Washington Department of Fish and Wildlife (WDFW), in cooperation with the BLM and the Colville Confederated Tribes, are actively working on the reestablishment of both Columbian sharp-tailed grouse and greater sage-grouse in Lincoln County. Declining populations and distribution of the species in Washington have resulted in serious concerns for their long-term conservation status. The WDFW has begun translocating birds from viable populations in the region to release sites in the Swanson Lakes area.

The CWPP planning committee is concerned that some of the proposed fuels treatments recommended in this document may interrupt the successful establishment of both sage-grouse and sharp-tailed grouse populations in Lincoln County. The protection of these species must be balanced with the need to reduce the wildland fire hazards. The committee agreed that the implementation of fuels reduction projects in potential grouse habitat sites should consider methods that alleviate undue stress on the birds. The planning committee believes that the removal of small portions of grouse habitat in strategic areas may serve as a way to protect larger acreages of habitat from loss due to wildfire. However, every effort should be made to conserve important grouse habitat whenever possible.

## Water Resources

Nearly every fire district involved in this planning process indicated the need to develop additional water resources in several rural areas. Developing water supply resources such as cisterns, dry hydrants, drafting sites, and/or dipping locations ahead of an incident is considered a force multiplier and can be critical for successful suppression of fires. Pre-developed water resources can be strategically located to cut refilling turnaround times in half or more, which saves valuable time for both structural and wildland fire suppression efforts.

## Invasive Species

Cheatgrass (*Bromus tectorum*) contributes to the size and frequency of fires and directly threatens the habitat of the greater sage-grouse and other sagebrush-steppe dependent wildlife. Fire behavior and fire regimes have been altered due to the proliferation of cheatgrass and other invasive species. Cheatgrass invades disturbed open sites and can dominate an area. Cheatgrass ripens and cures much earlier in the season when compared with native species, thus extending the fire season.<sup>33</sup> According to some statistical analysis, cheatgrass dominated ranges are about 500 times more likely to burn than a native species dominated range.<sup>34</sup> Fire return intervals in steppe and shrub-steppe fuel types, pre-European settlement was typically between 32 and 70 years.<sup>35</sup> In certain Great Basin rangelands, the fire return interval is now less than 5 years on rangelands dominated by cheatgrass.<sup>36</sup>

Vegetation management at this scale is complex and requires aggressive and targeted application of both proven techniques and implementation of new practices to control cheatgrass and mitigate habitat impacts from unwanted rangeland fire. Land managers need tools to reduce cheatgrass

while simultaneously restoring resilient sagebrush-steppe ecosystems that can withstand fire and resist re-invasion of cheatgrass or other invasive species. Effective strategies developed for early detection and rapid response and implemented in collaboration with a wide range of stakeholders, can help check the rapid expansion of invasive non-native species.

### Conservation Reserve Program

Since the introduction of the CRP by the federal government, many former crop producing fields have been allowed to return to native grasses. CRP fields are creating a new fire concern all over the west. As thick grasses are allowed to grow naturally year after year, dense mats of dead plant material begin to build up. Due to the availability of continuous fuel bed, fires in CRP fields tend to burn very intensely with large flame lengths that often times jump roads or other barriers, particularly under the influence of wind. Many landowners and fire personnel are researching allowable management techniques to deal with this increasing problem.

### **Increasing Federal land Ownership**

Federal land ownership in Lincoln County has increased significantly over the last decade. In certain areas, ground that has been in agricultural production for nearly a century has been transferred to the management of the federal government, primarily BLM. There is a concern that the County tax base has been affected due to these lands being removed from private ownership. It is important to note that land that has been transferred to federal ownership falls under the Payment In Lieu Of Taxes (PILT) program, which are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries. In 2016, Lincoln County budgeted \$277,360 for PILT payments for land administered by the BLM and National Park Service (NPS). PILT payments are designed to help local governments carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations and it has been shown that the amount of money paid to a county through the PILT program is higher than when taxes were previously paid by private citizens. PILT payments are made directly to the county and the decision on how to distribute the funds is made by the County Commissioners.

### **Volunteer Firefighter Recruitment**

The rural fire departments in Lincoln County are predominantly dependent on volunteer firefighters. The trend for several years, in many volunteer fire departments, is that membership has continued to decrease. This can be attributed to several reasons including the need for two wage earners in a household to support their family, lack of desire from today's generation, and the tremendous amount of time spent in training to satisfy the ever-increasing regulations from state and federal agencies. Whether it be job and family commitments combined with hobbies or competition with other volunteer organizations, it comes down to the fact there is very little time left for being a volunteer firefighter. This is exacerbated by the added stress of emergencies and

inherent dangers of the job, not to mention that our society is generally less appreciative of the commitment and sacrifices made by volunteer firefighters.

Today's fire departments, career and volunteer, find themselves in a position where there is an increased demand for their services, but are confronted with increasing operational costs and overall, less revenue. In the rural area where revenue is limited and volunteers are limited; this can add up to a fire service that is stretched very thin. Many departments have difficulty maintaining volunteers available during regular workday hours (8am to 5pm).

Each district spends a considerable amount of time and resources training and equipping each volunteer, with the hope that they will continue to volunteer their services to the department for at least several years. One problem that all volunteer-based departments encounter is the diminishing number of new recruits. As populations continue to rise and more and more people build homes in high fire risk areas, the number of capable volunteers has gone down.

## Communication

There are several communication issues being addressed in Lincoln County. Many of the emergency responders have identified areas of poor reception for both radios and cell phones. The lack of communication between responders as well as with central dispatches significantly impairs responders' ability to effectively and efficiently do their job as well as lessens their safety. The conversion to a narrow band communication system is likely to exacerbate these issues unless numerous additional repeaters are installed.

On a smaller scale, many subdivisions or unincorporated population centers have identified the need to improve emergency communication between residents. In an emergency situation, there is no existing way of notifying each resident in an area of potential danger, the need for evacuation, etc. Many groups of homeowners have begun to establish phone trees and contact lists to communicate information at the individual scale; however, this is not being done in all of the high wildfire risk areas within the County.

## Public Wildfire Awareness

As the potential fire risk in the wildland-urban interface continues to increase, fire service organizations cannot be solely responsible for protection of lives, structures, infrastructure, ecosystems, and all of the intrinsic values that go along with living in rural areas. Public awareness of the wildland fire risks as well as homeowner accountability for the risk on their own property is paramount to protection of all the resources in the wildland-urban interface.



**FIREWISE USA**  
Residents Reducing Wildfire Risks

**Firewise USA Site Program** encourages local solutions for safety by involving homeowners in taking individual responsibility for preparing their homes from the risk of wildfire



**Fire Adapted Communities** incorporates people, buildings, business, infrastructure, cultural resources and natural areas into the effort to prepare for the effects of wildland fire.



**Wildfire Community Preparedness Day** is an excellent opportunity for neighborhoods and fire agencies to work together to make communities a safer place to live. Efforts raise wildfire awareness and help protect homes, neighborhoods, and entire communities, while increasing safety of wildland firefighter or could lessen current post-fire impacts.



The national **Ready Set Go! Program**, managed by the International Association of Fire Chiefs (IAFC), works to develop and improve dialogue about wildland fire awareness and action between local fire departments and the residents they serve. It is designed to be complimentary and collaborative with Firewise and other wildland fire public education efforts.



**NFPA Fire Prevention Week** offers information and tools to help public educators teach all audiences about important fire and life safety issues.



**FEMA's America's PrepareAthon!** Is an opportunity for individuals, organizations, and communities to prepare for specific hazards, including wildfire, through drills, group discussions, and exercises.

## Chapter 5 Landscape Risk Assessments

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To properly mitigate wildland fire, it's essential to recognize vulnerabilities at the landscape-level. The landscape approach to management emphasizes sustainability of ecosystems, collaboration, and addresses the present and possible future conditions of lands. Increasing frequency of rangeland fires in unison with the urbanization of ecosystems raise the threat to local communities.

Cover vegetation and wildland fuels exhibited across the county have been influenced by massive geologic events during the Pleistocene era that scoured and shifted the earth's surface leaving areas of deep rich soil interspersed with rocky canyons and deep valleys. In addition to the geological transformation of the land, wildland fuels vary within a localized area based on slope, aspect, elevation, management practices, and past disturbances. Geological events and other factors have created distinct landscapes that exhibit different fuel characteristics and wildfire concerns.

The use of risk-based landscape-scale assessments help prioritize treatment areas to reduce fire risk as well as set priorities to guide the allocation of resources for fire suppression. To facilitate a mutual understanding of wildfire risks specific to Lincoln County, the assessments in the following sections were performed in four predominant landscape types. The four landscapes identified for the assessments are: agricultural lands, channeled scablands, river breaks, and riparian areas.

The USFS Wildfire Hazard Potential Model quantifies the relative potential for high-intensity wildfire that may be difficult to manage, used as a measure to help prioritize where fuel treatments may be needed. The results of this model are calculated integrating wildfire likelihood data at a landscape scale but does not factor in the risk of wildfire to buildings/structures.

By utilizing the Wildfire Hazard Potential Model, we can evaluate the likelihood of a high-intensity wildfire occurring in various communities across Lincoln County. The results show that the highest overall risk of potential wildfire is along the breaks of the Spokane and Columbia Rivers. The rest of Lincoln County has a relatively moderate risk of wildfire with some areas periodically jumping into higher percentiles. The lowest percentiles are present in agricultural lands.<sup>8</sup>

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<sup>8</sup> <https://wildfirerisk.org/download/>

Figure 14: Wildfire Hazard Potential in Lincoln County

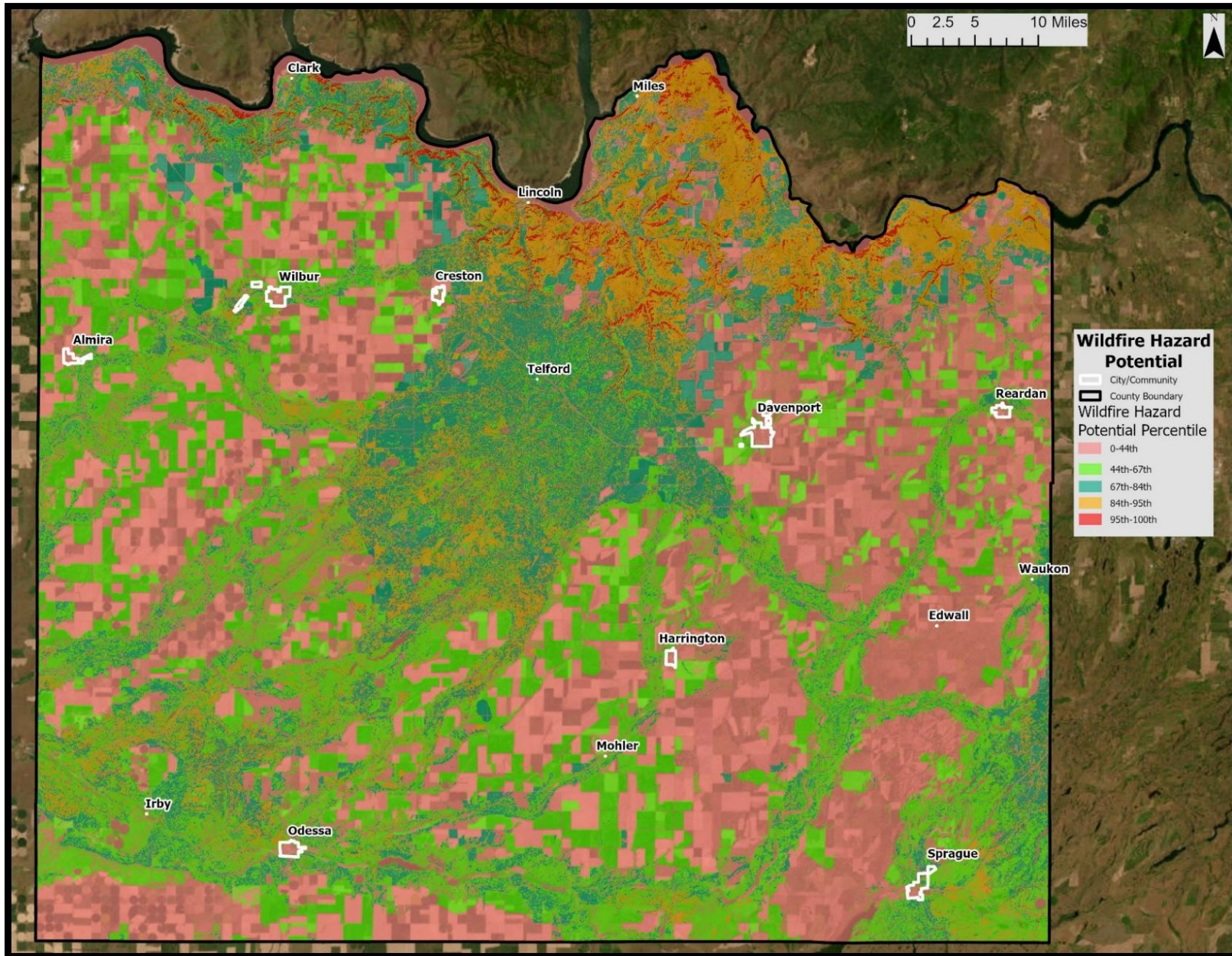


Table 11: Wildfire Hazard Potential in Lincoln County, WA by Landscape Type

Landscape Type	Wildfire Hazard Potential Risk Rating
Spokane/Columbia River Breaks	High
Channeled Scablands	Moderate
Riparian Areas	Low
Agricultural Landscapes	Very Low

## Agricultural Landscape Risk Assessment

The dominant landscape type in Lincoln County is agriculture. Vast areas of deep, rich soil deposits provide for extensive agriculture development. Lincoln County is the second highest wheat and barley produces county in the state. Other crops include grass seeds, oats, hay and potatoes as well as extensive areas of fallow land set aside in the CRP. Most of these crops are vulnerable to wildfire at certain times of the year.

### Wildfire Hazard Potential

The potential for wildfire is relatively moderate due to human caused ignitions from equipment. However, these fires generally are controlled in a timely manner. The real danger of agricultural fires is the potential for spreading into heavier fuels in other landscapes. Virtually all populated areas within the agricultural landscape face similar challenges related to wildfire control and mitigation efforts. Large expanses rangeland or pasture provide areas of continuous fuel that may threaten homes and farmsteads. Clearings and fuel breaks disrupt a slow-moving wildfire enabling suppression before a fire can ignite heavier fuels. High winds increase the rate of fire spread and intensity of crop and rangeland fires. It is imperative that homeowners implement fire mitigation measures to protect their structures and families prior to a wildfire event in these areas.

Wildfire risk in the agricultural landscape is at its highest during late summer and fall when crops are cured, and daily temperatures are at their highest. A wind-driven fire in agricultural fuels or dry native fuel complexes would produce a rapidly advancing, but variable intensity fire. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels resulting from the higher productivity of the vegetation. Fields enrolled in the CRP or set aside for wildlife habitat can burn intensely due to an increased amount of fuel build-up from previous years' growth. Fires in these types of fuels are harder to extinguish completely due to the dense duff layer, often leading to holdover fires that spread.

Many farmers use a production practice called summer fallow to allow soil moisture to increase by leaving fields fallow for a full crop year. This allows the wheat producers to rotate half their cropland each year: one year it's planted to wheat and then next year it lies fallow. The relative threat level in this agricultural area increases in July and August because of significant wildfire hazards. Relative humidity is usually lower during this time, afternoon winds tend to increase, and

the standing grain is cured to the point where it readily ignites. The ripened wheat, hot day time temperatures, and erratic winds can produce extreme fire behavior and long flame lengths which can easily spread to adjacent rangelands or CRP fields. These fires tend to burn very quickly and intensely. Summer fallow fields act as a natural barrier during these wildfires so if, and when the fire reaches these areas, it will burn itself out or the fire slows enough that it is easily controlled.

### Ingress-Egress

US Highway 2, and State Routes 23, and 28 are the primary emergency access routes traveling east to west through the county. State Routes 21, 25, 174, 231, and Harrington Tokio Road are the primary access routes running north and south. Interstate 90 passes through the southeast corner of the County. County roads as well as rural ranch access roads are well distributed, often following section lines or circumnavigating the multitude of draws and canyons. In remote rural areas, county roads often change from a paved or maintained gravel surface to unimproved primitive roads making access possible only during certain times of the year. Limited access within remote areas and a lack of maintenance on existing travel routes, increases fire suppression response time and has a direct effect on fire spread leading to increased fire size and destructive potential.

There are a few bridges in the agricultural landscape of Lincoln County. Bridge load rating signs are mostly in place for the existing bridges and do not impose a limitation to access for firefighting equipment.

Local public electrical and telephone utility lines travel both above and below ground along roads and highways with limited exposure to failure during a wildfire event. Cell phone service is well-established with only limited dead zones.

### Fire Protection

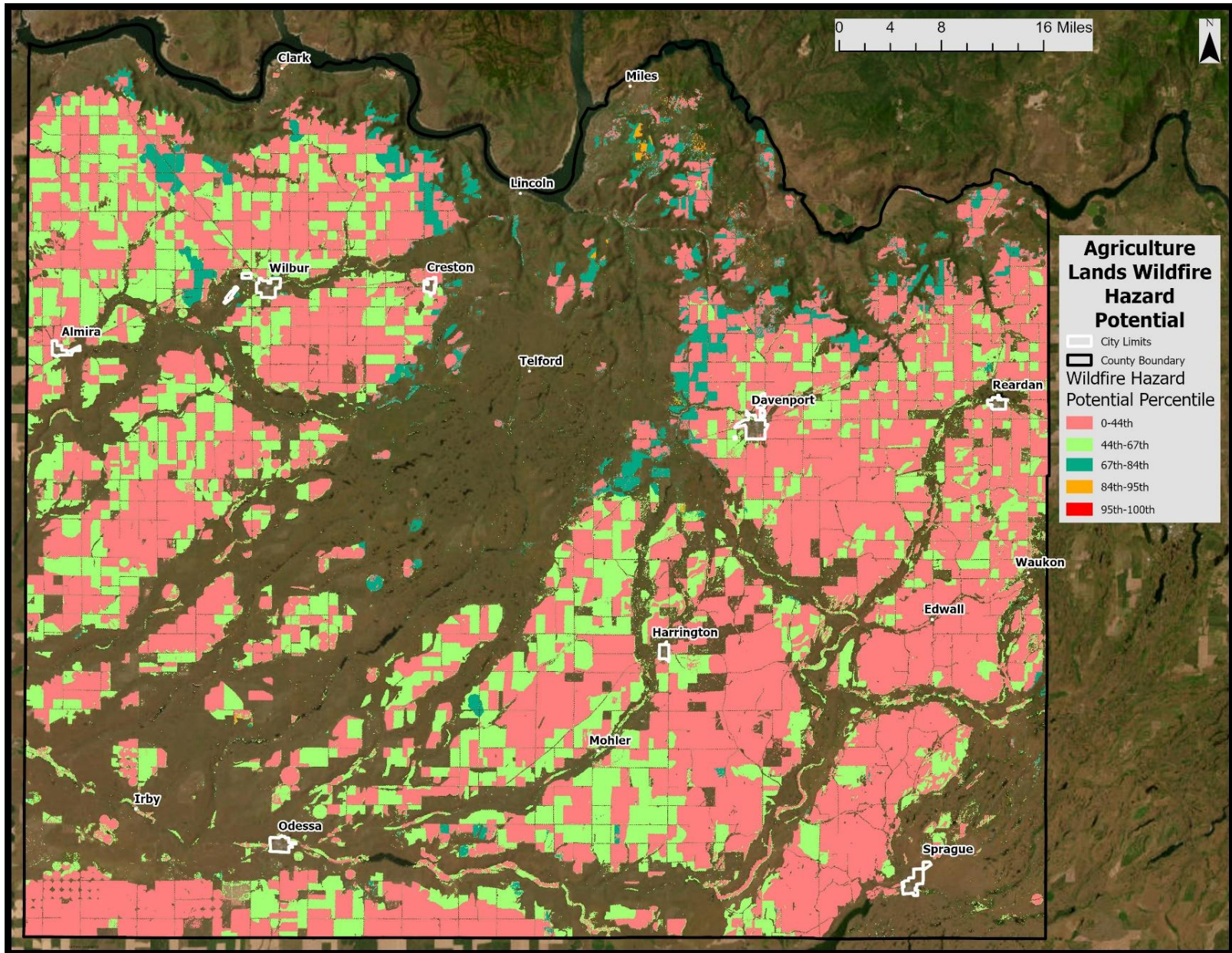
The agricultural landscape type is present in all the fire districts in Lincoln County except for Fire District 9. The fire districts provide structural and wildland fire protection. Mutual aid agreements between fire districts supplement wildland fire protection when needed. Additional fire protection is provided by the Washington DNR, which provides wildfire protection and suppression on privately owned forestland and state-owned forestland north of Highway 2 in Lincoln County. The DNR does not provide structural fire suppression but does provide wildfire protection on non-forested land that threatens DNR-protected lands. The BLM provides wildfire protection on their ownership within Lincoln County and has mutual aid agreements with the DNR for protection of forested land. BLM also does not provide structural fire suppression.

## Potential Mitigation Activities

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

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

Figure 15: Wildfire Hazard Potential for the Agricultural Landscape in Lincoln County, WA



## **Channeled Scablands Risk Assessment**

The channeled scablands follow the smaller creeks and bodies of water and make up a big portion of the central Lincoln County. This unique geological feature was created by ice age floods during the Pleistocene era. The massive erosion scoured the landscape down to the underlying basalt creating vast areas of rocky cliffs, river valleys, channel ways and pothole lakes. Typical vegetation found throughout this landscape is grass, mixed shrub and sagebrush with areas of wetlands, cultivated crops, and CRP fields. The channeled scablands are scattered throughout Lincoln County intermixed with other landscapes, but for the purpose of this document they will be recognized in the central, southern and southeastern portions of the county and along the major waterways of Crab Creek, Blue Stem Creek, Lake Creek. Landownership is predominantly private with large acreages owned by the State of Washington and the Bureau of Land Management. State ownership includes school sections 16 and 36, and the Swanson Lakes Wildlife Area managed by the Washington Department of Fish and Wildlife. BLM ownership includes large continuous holdings of rangeland with developed campgrounds, lakes, boat launches, and other recreation areas and interpretive sites. Private landownership includes cattle ranches and holdings of cultivated farmland and CRP fields. Major population centers within the channeled scabland landscape include Sprague, Odessa, and the Fish Trap Lake area.

### **Wildfire Hazard Potential**

The channeled scablands landscape has a moderate to high wildfire potential due to a characteristically high occurrence of shrubby fuels mixed with grass, sloping terrain and somewhat limited access. Large expanses of open rangeland or pasture provide a continuous fuel bed that could, if ignited, threaten structures and infrastructure under extreme weather conditions. Cattle grazing will often reduce fine, flashy fuels reducing a fire's rate of spread; however, high winds increase the rate of fire spread and intensity of rangeland fires. A wind-driven fire in dry, native fuel complexes on variable terrain produces a rapidly advancing, very intense fire with large flame lengths, which enables spotting ahead of the fire front.

Wildfire risk in the channeled scablands landscape is at its highest during summer and fall when daily temperatures are high and relative humidity is low. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. Fields enrolled in conservation programs or managed for wildlife habitat, can burn very intensely due to an increased amount of fuel build-up from previous years' growth. Fires in this fuel type are harder to extinguish completely due to the dense duff layer, which often leads to hold-over fires that may reemerge later causing additional fire starts.

### **Fire Protection**

The channeled scablands are present in all the fire districts in Lincoln County. The fire districts provide structural fire protection as well as wildland fire protection. Mutual aid agreements between fire districts supplement the wildland fire protection response when needed. Additional

fire protection is provided by the Washington DNR, which provides wildfire protection and suppression on privately-owned forestland and state-owned forestland north of Highway 2 in Lincoln County. The DNR does not provide structural fire suppression, but it does provide wildfire protection on non-forested land that threatens DNR-protected lands. BLM provides wildfire protection on their lands within Lincoln County and has mutual aid agreements with the DNR for protection of forested land. BLM also does not provide structural fire suppression.

### Potential Mitigation Activities

Mitigation measures needed in the channeled scabland landscape include maintaining a defensible space around structures and access routes that lie adjacent to wildland fuels. Around structures this includes mowing weeds and other fuels away from outbuildings, pruning and/or thinning larger trees, using fire resistant construction materials, and locating propane tanks and firewood away from structures. Roads and driveways accessing rural development need to be kept clear of encroaching fuels to allow escape and access by emergency equipment. Performing road inventories in high-risk areas and documenting and mapping their access limitations will improve firefighting response time and identify areas in need of improvement. Primitive or abandoned roads that provide key access to remote areas should be maintained to allow access for emergency equipment so that emergency response times are minimized. Designing a plan to help firefighters control fires in conservation lands and wildlife habitat areas will significantly lessen a fire's potential of escaping to other areas. Mitigation associated with this situation might include managed grazing in designated fuel somewhat limited access. Large expanses of open rangeland or pasture provide a continuous fuel bed that could, if ignited, threaten structures and infrastructure under extreme weather conditions. Cattle grazing will often reduce fine, flashy fuels reducing a fire's rate of spread; however, high winds increase the rate of fire spread and intensity of rangeland fires. A wind-driven fire in dry, native fuel complexes on variable terrain produces a rapidly advancing, very intense fire with large flame lengths, which enables spotting ahead of the fire front.

Wildfire risk in the channeled scablands landscape is at its highest during summer and fall when daily temperatures are high and relative humidity is low. Fires burning in some types of unharvested fields would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. Fields enrolled in conservation programs or managed for wildlife habitat, can burn very intensely due to an increased amount of fuel build-up from previous years' growth. Fires in this fuel type are harder to extinguish completely due to the dense duff layer, which often leads to hold-over fires that may reemerge at a later date causing additional fire starts.

### Ingress-Egress

U.S. Highway 2 and State Routes 28 and 23 are the primary emergency access routes traveling east to west through the county. State Routes 21, 25, 174, and 231 are the primary access routes running north and south. Interstate 90 passes through the southeast corner of the county. County roads as well as rural ranch access roads are well distributed throughout most of the channeled

scablands, often following section lines or traversing the multitude of draws and drainage ways. In remote rural areas, county roads often change from a paved or maintained gravel surface to unimproved primitive roads making access possible only during certain times of the year. Limited access within remote areas and a lack of maintenance on existing travel routes, increases fire suppression response time and has a direct effect on fire spread leading to increased fire size and destructive potential.

### Infrastructure

Residents living in the populated centers and most subdivisions surrounding the towns have access to municipal water supply systems with public fire hydrants. Outside these areas, development relies on individual, co-op, or multiple-home well systems. Creeks, ponds, and developed drafting areas provide water sources for emergency fire suppression in rural areas to a limited extent. Irrigation systems can provide additional water supply for suppression equipment on a limited basis. Additional water resources distributed and reduction areas, creating fuel breaks, and implementing a prescribed burning program during less risky times of the year.

Additional mitigation activities include installing more water storage sites, improving water access from irrigation facilities, and developing other water resources throughout the landscape. This will increase the effectiveness and efficiency of emergency response during wildfire.

Figure 16: Channeled Scablands in the Central Region of Lincoln County, WA

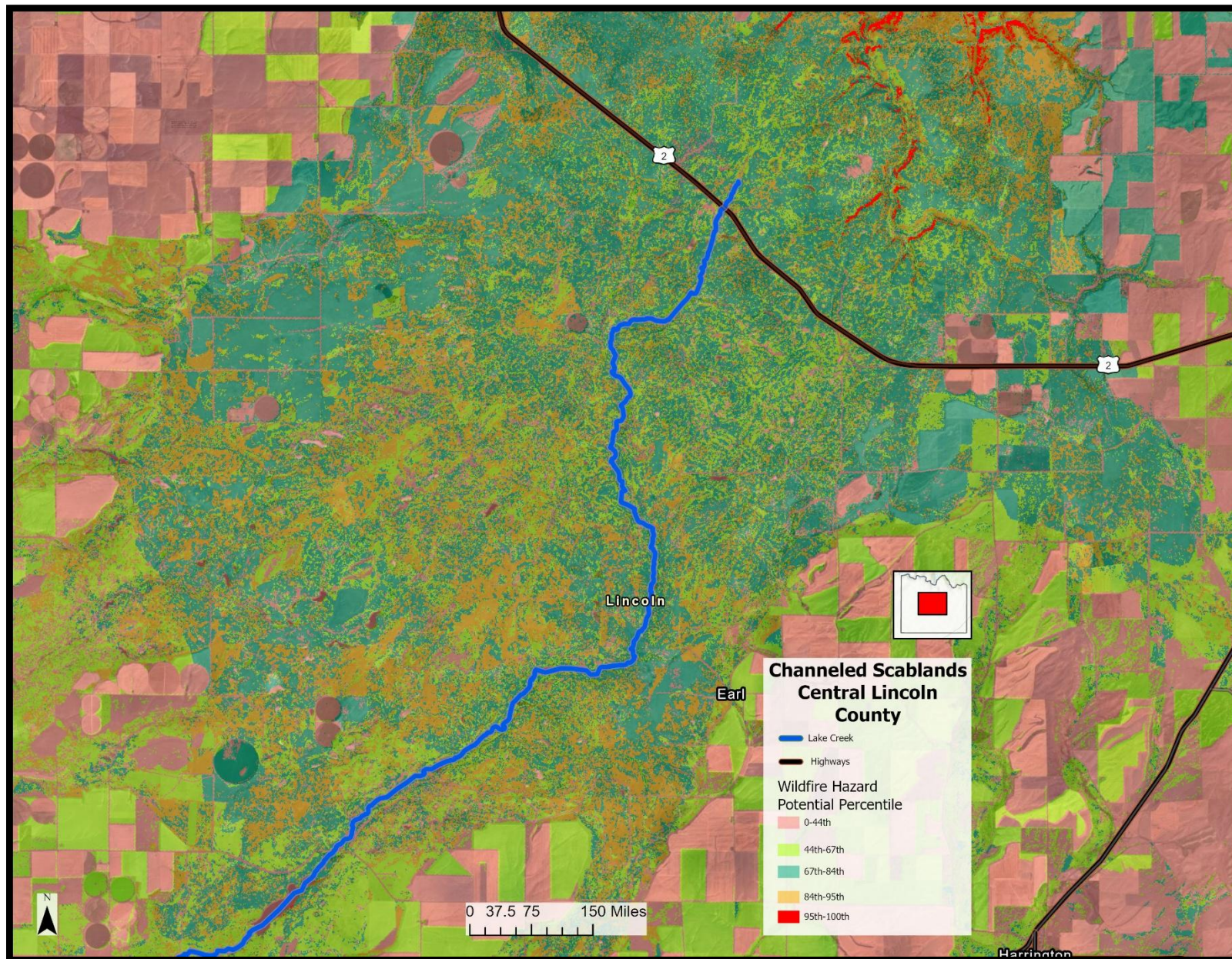


Figure 17: Channeled Scablands along Bluestem Creek in the Eastern Region Lincoln County, WA

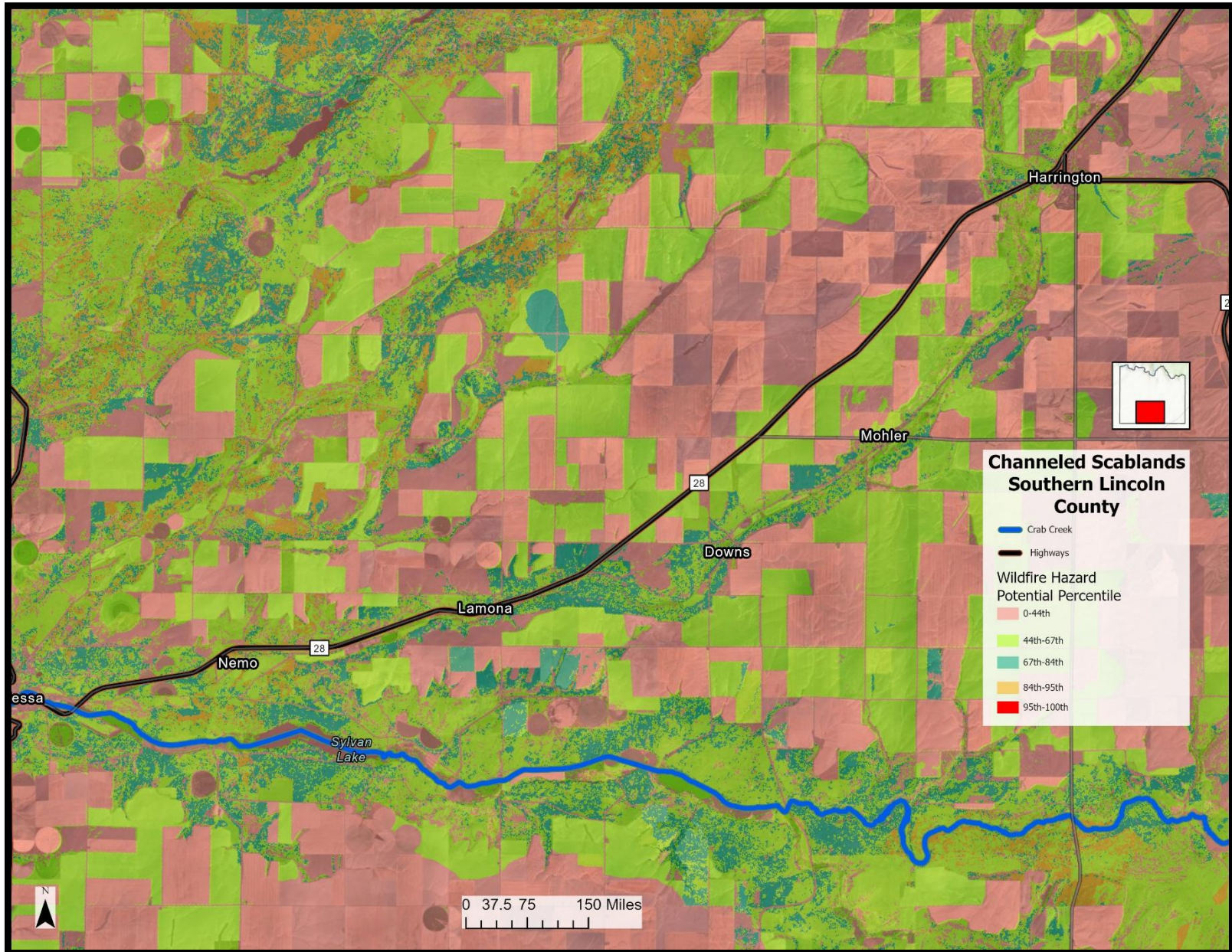
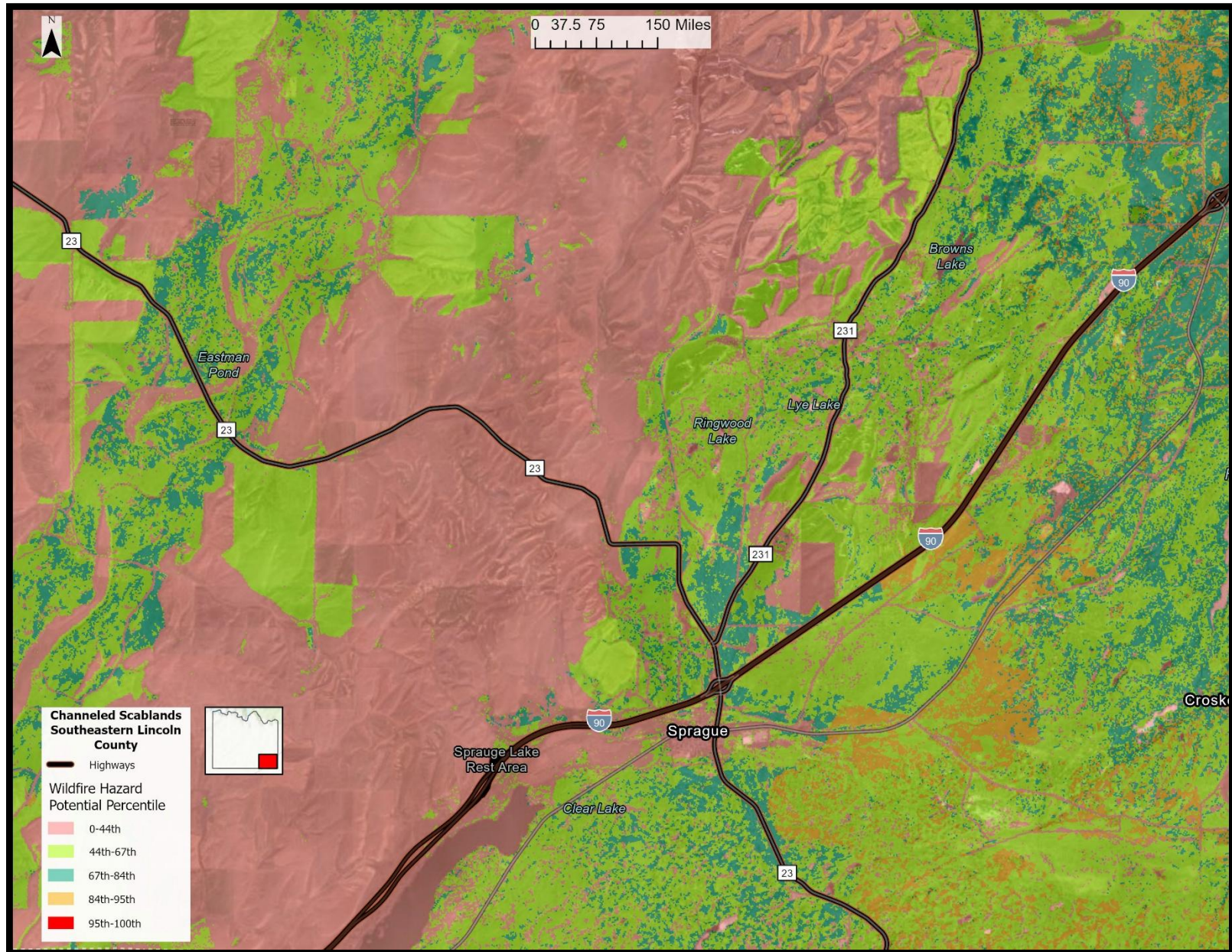


Figure 18: Channeled Scablands in the Southeastern Region on Lincoln County, WA



## River Breaks Landscape Risk Assessment

The landscape along the northern border of Lincoln County is comprised of shrub-steppe grassland on steep broken terrain and escarpments sloping into the shorelines of Lake Roosevelt, Spokane, and the Columbia River. The vegetation ranges from stands of Douglas Fir and Ponderosa Pine stands to a mixed plant community consisting of bunchgrasses, forbs, and a variety of shrubs including big sage brush, rabbit brush, and antelope brush. Landownership in this area is mostly privately held parcels with several large tracts owned by the Bureau of Reclamation, National Park Service, and The Nature Conservancy. Major population clusters include the subdivisions of Columbia Springs, Lake View Terrace Trailer Park, FDR Estates, Spring Canyon area, Keller Ferry area, The subdivision of land for recreational and home site development is widespread along the lakeshore. In nearly all developed areas, structures are near vegetation on steep slopes that become a significant fire risk at certain times of the year. The subdivision of land for recreational and home site development is widespread along the Lake Roosevelt National Recreation Area. Major population clusters include the subdivisions of Townsend Estates, Devils Gap, Spring Canyon, Moccasin Bay, Porcupine Bay, Seven Bays, Deer Meadows, Keller Ferry, and Hanson Harbor, which are all located near the shoreline. In nearly all developed areas, structures coexist with wildland fuels on steep slopes that become a significant fire risk at certain times of the year.

### Wildfire Hazard Potential

Wildfire potential along the river breaks landscape is high due to past fire exclusion, steep broken terrain and the introduction of invasive grasses. Prior to settlement, the historic fire regime consisted of small, relatively frequent fires that created a mosaic or patchwork of shrubs mixed with discontinuous areas of bunchgrass. Recent introduction of organized fire suppression along with cattle grazing and land development for agriculture have disrupted this fire regime, allowing widespread establishment of fire-intolerant sagebrush and invasive grasses. This heavy buildup of brush and tree regen indicates that future fires will be more frequent with higher intensities and cover larger areas than in the past. High intensity fires in large expanses of continuous fuels may threaten structures and infrastructure under extreme weather conditions. A wind-driven fire in dry native fuel complexes on variable terrain produces a rapidly advancing very intense fire with large flame lengths capable of widespread damage. High wildfire risk in the river breaks landscape typically lasts from late March to mid-October.

### Ingress-Egress

Primary access routes for the River Breaks include all roadways North of Highway 2 and are the only ingress/egress routes. In remote rural areas, unimproved primitive roads are often seasonal allowing access during the dry season only. Limited access within remote areas and lack of maintenance on existing travel routes increases fire suppression response time and has a direct effect on fire spread that could lead to increased fire size and risk potential.

Many private homes and subdivisions are accessed via unimproved, single-lane roads accessible only by small emergency vehicles. Often, access roads and driveways are steep and/or lined with wildland fuels that can limit or prohibit safe access during wildfire. Many of these roads have only one way in and one way out and lack adequate turnout and turn-around areas for emergency vehicles. The inability of emergency resources to safely access structures reduces or may even eliminate suppression response. Most of the roads in newer subdivisions have been designed to accommodate emergency vehicles with either loop roads or cul-de-sacs with wide turning radii and easily negotiable grades, which are better suited to all types of emergency response equipment.

### Infrastructure

A small subset of residences north of highway 2 have access to municipal water supply systems with fire hydrants. Outside these areas, development relies on individual, co-op, or ranch well systems. Creeks, ponds, and developed drafting areas and cisterns provide water sources for emergency fire suppression in the rural areas to a limited extent. Additional water resources distributed and documented throughout the western river breaks landscape are needed to provide a consistent source of water for fire suppression.

Local public electrical and telephone utility lines travel both above and below ground along roads and highways with limited exposure to failure during a wildfire event. Cell phone service is spotty inside the canyons.

### Fire Protection

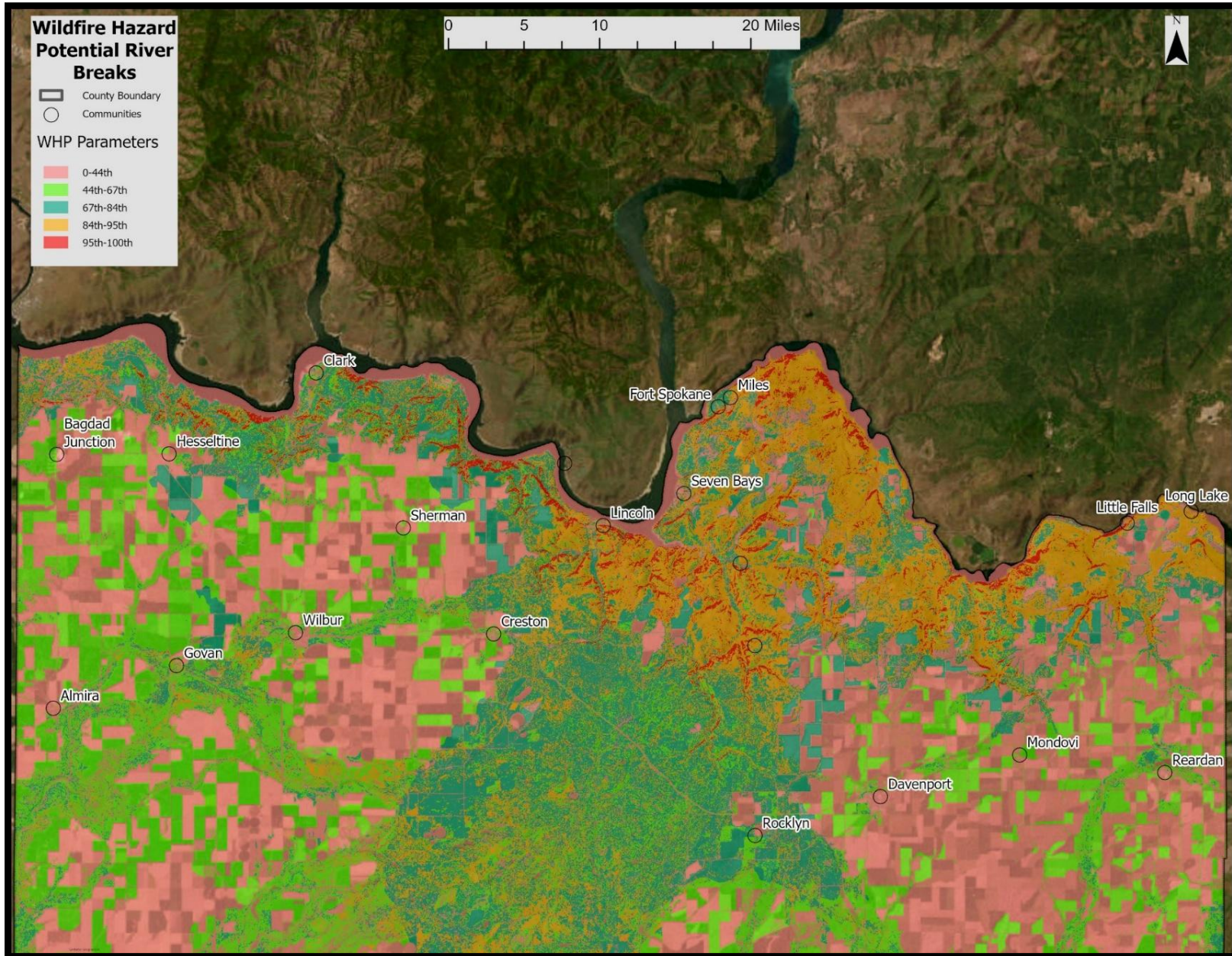
A total of 5 structural fire districts cover the River Breaks landscape. Fire District 9 covers the west side of the area from the Lincoln County line east to Kaufman Canyon. Fire District 7 (Wilbur) covers the remainder of the landscape from Kaufman Canyon east to Keller Ferry. Fire District 9 is a newly established fire district that receives fire protection through a contract with the Grand Coulee Fire Department in Lincoln County. Fire District 7 fire protection equipment is dispatched out of Wilbur. Fire District 7 (Wilbur) covers the west side of the area from the Keller Ferry to Hawk Creek. Fire District 5 (Davenport) covers from Hawk Creek to Mill Canyon, and Fire District 4 (Reardan) covers fire protection from Mill Canyon to the eastern county line. These fire districts provide structural fire protection as well as wildland fire protection. Additional protection is provided by the Washington DNR, which provides wildfire protection and suppression on privately owned forestland and state-owned forestland north of Highway 2 in Lincoln County. The DNR does not provide structural fire suppression but does provide wildfire protection on non-forested land that threatens DNR-protected lands. The BLM provides wildfire protection on their ownership within Lincoln County and has mutual aid agreements with the DNR for protection of forested land. BLM also does not provide structural fire suppression.

### Potential Mitigation Activities

The mixed fuels and steep, variable terrain present in this landscape are very conducive to rapidly spreading, highly destructive wildfires. During a wildfire event, families in threatened structures

would have little time to protect their homes and evacuate. Due to the location of fire suppression services, response time would be slow. Response may also be limited in many areas due to inadequate access and water supply. Therefore, it is important that a defensible space is maintained around structures prior to an ignition. Keeping a clean and green yard and using fire resistant construction materials on homes and other structures will help reduce the risk of loss to fire. Homeowners along Lake Roosevelt should be even more vigilant about maintaining a fuel break between fuels between their homes and property line, as fires caused by recreational use can start at any time with little warning or chance for suppression by the fire department. The use of campfires, fireworks, and other potential ignition sources should be regulated during the fire season especially in areas adjacent to structures and development.

Figure 20: Wildfire Hazard Potential in the River Breaks landscape of Lincoln County, WA



## **Riparian Areas Risk Assessment**

The Riparian landscape occurs in small to large drainages throughout the County. These areas produce high densities of shrubs and grass with scattered deciduous trees due to the relative abundance of water. Upslope from the waterway, vegetation generally resorts back to typical shrub-steppe fuel type that dominates much of the County. Landownership in this area is mostly privately held parcels with several sections owned by the National Park Service, Bureau of Land Management, State of Washington Department of Fish and Wildlife, and the State of Washington. These areas are generally low in population.

### **Wildfire Potential**

The riparian area landscape has a low to moderate wildfire potential due to a characteristically high fuel load occurrence, terrain that can exhibit a chimney effect, high recreation use, and somewhat limited access. The steep walls contribute to rapid rates of spread by funneling fire up canyon. The high amount of fuel loading, coupled with the chimney effect, could create very intense fires.

Wildfire risk in the riparian area landscape is at its highest during summer and fall when daily temperatures are high and relative humidity is low. Fires burning in some types of riparian vegetation would be expected to burn more intensely with larger flame lengths due to the greater availability of fuels. Some riparian areas occur within narrow walls that would increase the intensity of wildfire. These areas are not easily accessible, which would compound the difficulties during fire suppression efforts. Most firefighters learn early that these areas are dangerous to attempt fighting fires due to the unpredictability of fire within narrow canyons.

### **Ingress-Egress**

US Highway 2, and State Routes 23, and 28 are the primary emergency access routes traveling east to west through the county. State Routes 21, 25, 174, 231, and Harrington Tokio Road are the primary access routes running north and south. Interstate 90 passes through the southeast corner of the County. In addition, Neal Canyon Road, Kaufman Canyon Road, Hansen Harbor Road, Martin Canyon Road, Jump Canyon Road, Redwine Canyon Road, Miles-Creston Road, Porcupine Bay Road, Mill Canyon Road, and Little Falls Road all access the Lake Roosevelt NRA. Many of these roads accessing the reservoir have very limited ingress/egress. The steep topography of the riparian areas greatly limits access to the bottom or top of the slopes. Limited access within remote areas and a lack of maintenance on existing travel routes, increases fire suppression response time and has a direct effect on fire spread leading to increased fire size and destructive potential.

## Infrastructure

Unimproved campsites as well as interpretive signs are common in these areas providing recreational users with information and areas to camp. The interpretive signs can assist land managers with educating the public about the risk of wildfire and how to minimize the risk. Providing campers with fire rings keeps fires contained to specific sites and reduces the risk of an escape.

Creeks, ponds, and developed drafting areas provide water sources for emergency fire suppression in rural areas to a limited extent. Irrigation systems can provide additional water supply for suppression equipment on a limited basis. Additional water resources distributed and documented throughout the agricultural landscape are needed to provide water for fire suppression.

Public utility lines travel both above and below ground along roads and cross-country to remote facilities. Many irrigation systems and wells rely on above ground power lines for electricity. These power poles pass through areas of dense wildland fuels that could be destroyed or compromised in the event of a wildfire. Cell phone service is well established in most parts of the county with only limited dead zones.

## Fire Protection

The riparian area landscape type is present in all the Lincoln County Fire Protection Districts. The Fire Protection Districts provide structural fire protection as well as wildland fire protection. Mutual aid agreements between Fire Protection Districts supplement the wildland fire protection response when needed. The DNR does not provide structural fire suppression, but it does provide wildfire protection on non-forested land that threatens DNR-protected lands. BLM provides wildfire protection on their lands within Lincoln County and will assist neighboring Fire Protection Districts when available. BLM also does not provide structural fire suppression.

## Potential Mitigation Activities

The high fuel loading and the often-narrow canyons, these areas are very conducive to rapidly spreading surface fires. During a wildfire event, recreationists would have very little time to evacuate. Therefore, it is very important to educate the public on the dangers of wildfires. The use of campfires, fireworks, and other potential ignition sources should be highly regulated during the fire season, especially in areas adjacent to structures and development. Using escape-proof fire rings and BBQ pits at recreational areas, limiting off-road vehicle use to designated trails, and restricting fireworks will help reduce the potential for ignition.

Figure 21: Wildfire Hazard Potential in Riparian Zones in Lincoln County, WA

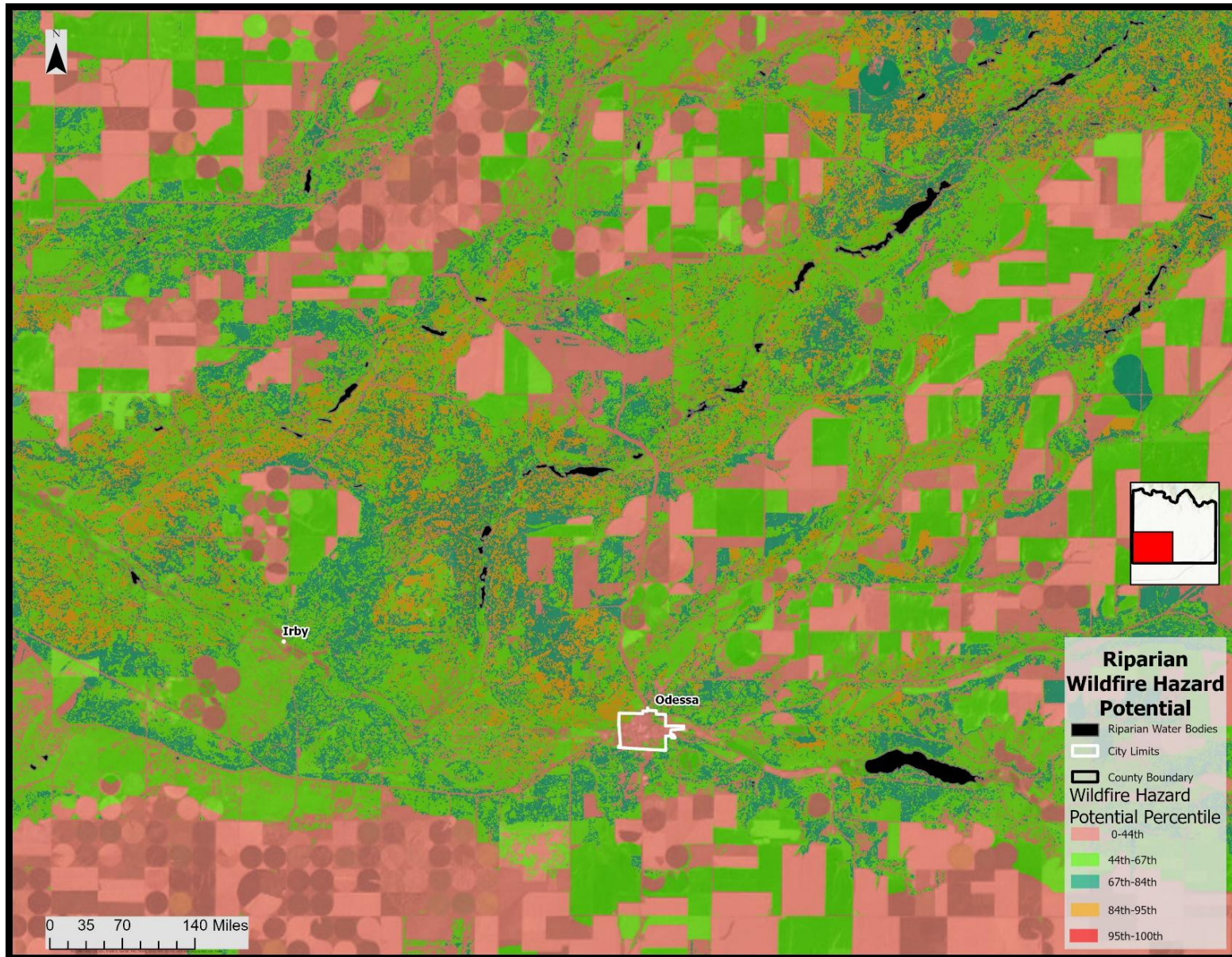
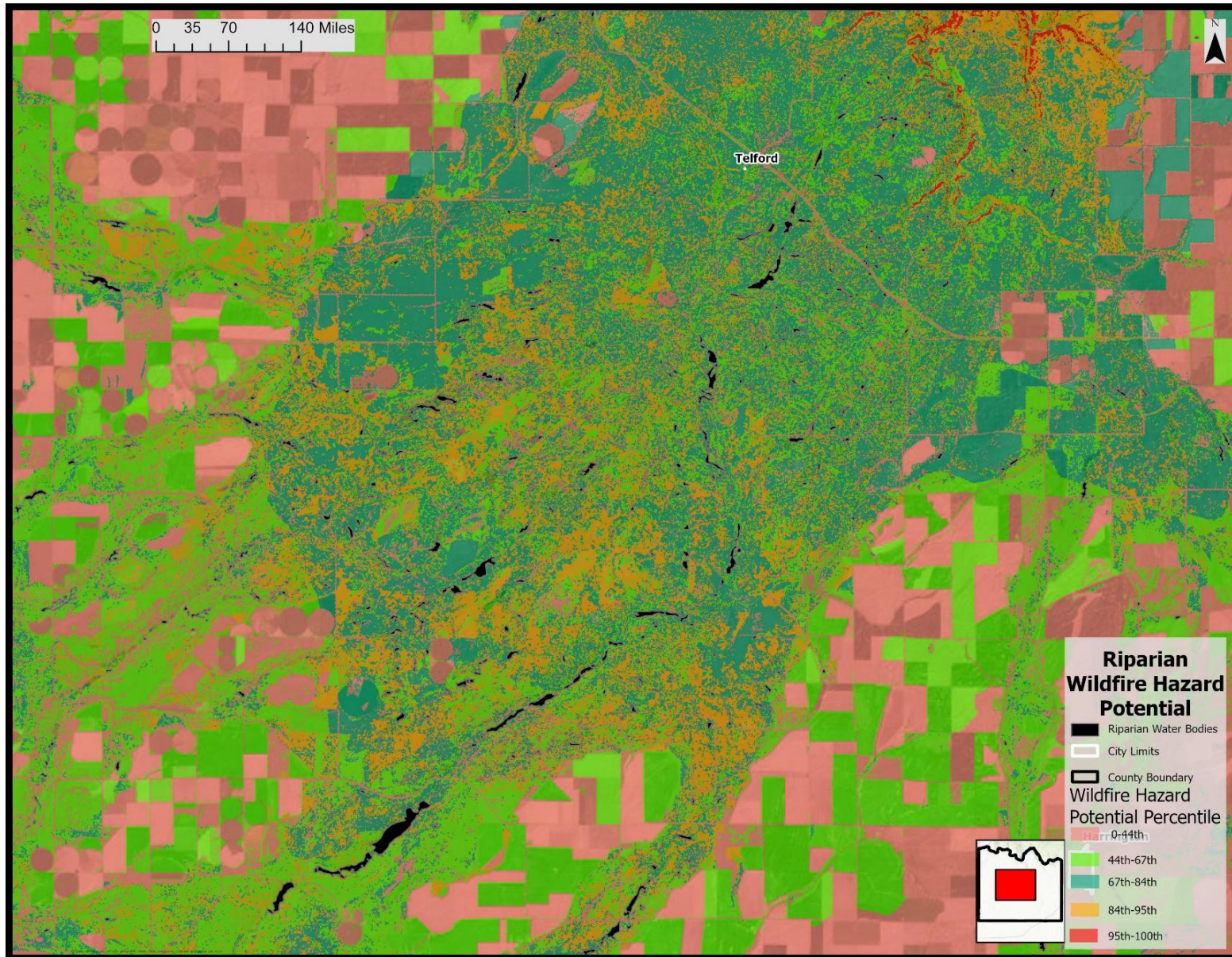


Figure 22: Wildfire Hazard Potential in Riparian Zones in Lincoln County, WA



## **Chapter 6 Mitigation Strategy**

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Critical to implementation of this Community Wildfire Protection Plan are the identification and implementation of an integrated schedule of action items targeted at achieving a reduction in the number of human caused fires and the impact of wildland fires in Lincoln County. This section of the plan identifies and prioritizes potential mitigation actions, including treatments that can be implemented in the county to pursue that goal. As there are many land management agencies and thousands of private landowners in Lincoln County, it is reasonable to expect that differing schedules of adoption will be made, and varying degrees of compliance will be observed across various ownerships.

The land management agencies in Lincoln County, including the Washington Department of Natural Resources and the BLM, are participants in the planning process and have contributed to this plan's development. Where available, their schedule of land treatments has been considered in the planning process to improve the correlation between their identified planning efforts and the efforts of Lincoln County.

Lincoln 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 were made based on the conditions existing during 2025. Therefore, the recommendations in this section have been made considering those conditions. However, the components of risk and the preparedness of the county's resources are not static. It will be necessary to fine-tune this plan's recommendations regularly to adjust for changes in the components of risk, population density changes, infrastructure modifications, and other factors.

### **Maintenance and Monitoring**

A commitment to monitoring changes in resource conditions to evaluate the effectiveness of different management strategies will improve learning and, through adaptive management, increase the success of wildfire mitigation activities. Monitoring to evaluate the effectiveness of management actions must occur to determine the success of fire prevention, suppression, and restoration actions. Lessons learned from self-evaluation can be shared and inform changes to correct for ineffective management prescriptions, respond to changes in resource conditions, guide new science and research needs and address changes in management policy and direction. Monitoring and evaluation is an essential part of adaptive management and depends upon timely information, analysis and learning. Strategic application of new management techniques, improved use of risk analysis to set management priorities, and the translation of science and research findings into tools for easy use on the ground to prioritize prevention, suppression, and restoration efforts can help improve the efficacy and efficiency of rangeland fire management.

Without careful monitoring and evaluation of management efforts we cannot be certain we are achieving desired outcomes.

## **Wildfire Mitigation Action Items (Projects)**

A key component of implementing this Community Wildfire Protection Plan is the development and execution of action items aimed at reducing the number of human-caused fires and minimizing the impact of wildfires in Lincoln County. This section outlines prioritized mitigation actions for their urgency and critical importance and implementation. The following categories describe each action items presented in this chapter.

### **Planning**

Wildfire mitigation efforts must be supported by a set of policies and regulations at the county level that maintain a solid foundation for safety and consistency. The recommendations enumerated here to serve that purpose. Because these items are regulatory in nature, they will not necessarily be accompanied by cost estimates. These recommendations are policy related and therefore are recommendations to the appropriate elected officials; debate and formulation of alternatives will serve to make these recommendations suitable and appropriate.

### **Mitigation**

Wildfire mitigation actions are on-the-ground treatments of wildland fuels that are implemented to reduce the threat of wildfire. These actions can take place before, during or after a wildfire has occurred and should consider other hazards (e.g. post-fire flooding / debris flows, smoke) and factors (e.g. invasive species) that may compound wildland fire threats.

### **Education**

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Education efforts most often concern the public and could be related to health hazards related to smoke, wildfire hazards in the wildland-urban interface, evacuation, etc.

### **Capacity Building**

Obtaining funding, resources, and training that enhance the ability of firefighters to protect themselves and the public from fire and related hazards.

<b>Project I.D.</b>	<b>Project Name</b>	<b>Type</b>	<b>Project Location</b>	<b>Project Description</b>	<b>Sources of Funding</b>	<b>Involved Organizations</b>	<b>Projected Completion Date</b>
<b>MIT 1</b>	Wynoff Canyon Fuels	Mitigation	Wynoff Canyon	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 7, NPS, Avista	Next 5 years
<b>MIT 2</b>	Hanson Harbor Fuels	Mitigation	Hanson Harbor	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista		Next 5 years
<b>MIT 3</b>	Sterling Point Fuels	Mitigation	Sterling Valley Road	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 7, NPS, Avista	Next 5 years
<b>MIT 4</b>	Lincoln Fuels	Mitigation	Lincoln, WA	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista		Next 5 years
<b>MIT 5</b>	Hawk Creek Fuels	Mitigation	Hawk Creek	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 5, NPS, Avista	Next 5 years

Project I.D.	Project Name	Type	Project Location	Project Description	Sources of Funding	Involved Organizations	Projected Completion Date
<b>MIT 6</b>	Seven Bays Fuels	Mitigation	Seven Bays	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 5, NPS, Avista	Next 5 years
<b>MIT 7</b>	Deer Meadows Fuels	Mitigation	Deer Meadows	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 5, NPS, Avista	Next 5 years
<b>MIT 8</b>	Miles Fuels	Mitigation	Miles	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 5, NPS, Avista	Next 5 years
<b>MIT 9</b>	Porcupine Bay Fuels	Mitigation	Porcupine Bay	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 5, NPS, Avista	Next 5 years
<b>MIT 10</b>	Cayuse Cove Fuels	Mitigation	Cayuse Cove Road Area	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Support: CD, FPD 5, NPS, Avista	Next 5 years
<b>MIT 11</b>	Spring Creek Fuels	Mitigation	Spring Creek, Tamarack Grade	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR	Next 5 years

Project I.D.	Project Name	Type	Project Location	Project Description	Sources of Funding	Involved Organizations	Projected Completion Date
						Support: CD, FPD 4, NPS, Avista	
<b>MIT 12</b>	Devils Gap Fuels	Mitigation	Devils Gap, Long Lake Dam	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 4, NPS, Avista	Next 5 years
<b>MIT 13</b>	Missile Site Fuels	Mitigation	Missile Site Road Area	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: CD, FPD 4, NPS, Avista	Next 5 years
<b>MIT 14</b>	Keller Ferry	Mitigation	Keller Ferry area	Target fuels reduction treatments to protect structures and infrastructure	State Funds, WSFM, NFP, Avista	Lead: WA DNR Support: NPS, FPD 7	Next 5 years
<b>ED1</b>	Firewise USA sites	Mitigation/education	County	Increase the number of Firewise USA sites in the county and continue support of existing sites	State Funds, Grants	Lead: WA DNR, CD Support: Fire Districts	Next 5 years
<b>ED2</b>	Wildfire Ready Home visits	Education	County	Encourage homeowners to request a Wildfire Ready Home Visits to learn how to protect their home from Wildfire	State/Grants/Local/Volunteers	Lead: CD/WA DNR Support: Fire Districts	Next 5 years
<b>ED3</b>	Forest Education	Education	Northern Lincoln County	Webinars/Workshops/Articles informing landowners on managing their property, for health, wildlife and wildfire	State/Grants/Local	Lead: CD/WA DNR/WSU Extension	Ongoing

Project I.D.	Project Name	Type	Project Location	Project Description	Sources of Funding	Involved Organizations	Projected Completion Date
						Support: Fire Districts	
<b>MIT 14</b>	HIZ – Zone 1 and 2	Mitigation	Same area as the fuels	Target treatments to protect structures and infrastructure in HIZ 1 and 2, which may include home hardening, and landscaping	State Funds, WSFM, NFP, Avista, Federal grants	Lead: CD/WA DNR Support: Fire Districts	Ongoing
<b>MIT 15</b>	Firewise USA Action Plans	Mitigation	County	Assist Firewise USA sites in implementing their action plans	State funds, Federal grants	Lead: CD/WA DNR Support: Fire Districts	Ongoing
<b>CB 1</b>	Live Fire Training	Capacity Building	Odessa	Plan in progress to have a live fire training environment to give Fire Fighters practice and training in controlled environment with fire and smoke. Will provide fire fighters with the tools necessary to combat structure fires. It will also meet the requirements for the survey and ratings bureau.	State/Local Funds	Lead: Odessa Fire (FD #3)	Next 5 years
<b>CB 2</b>	Online FEMA Classes	Capacity Building	Odessa	ICS 100, ICS 200, ICS 700, ICS 800. Have all fire fighters take the test for FEMA classes	State/Local Funds	Lead: Odessa Fire (FD #3)	Next 5 years
<b>CB 3</b>	Odessa Capital Improvements	Capacity Building	Odessa	1: 1-1/2 fire hose. This hose is the main fire attack hose for structure and vehicle fires in the town. We need an additional 400' of reserve hose Current price 1-1/2x50' \$130. 400' = \$1040 2: 2-1/2 fire hose. This hose is used for fire attack and supply. Each truck	State/Local Funds	Lead: Odessa Fire (FD #3)	Next 5 years

Project I.D.	Project Name	Type	Project Location	Project Description	Sources of Funding	Involved Organizations	Projected Completion Date
				<p>is required to have 1000 of supply hose. We currently have 600' of supply hose. We will need to add 800' of supply hose to meet the requirement for both trucks. Also would need to have 600' in reserve at the station. Current price 2-1/2x50' hose \$185. 1400' = \$5180</p> <p>3: 4" Storz Supply hose. Required to have 100'. Currently carry 700' on each truck. Need 600' to meet the requirement. Current price 4"x100' \$786. 600'=\$4716</p> <p>4: Storz hydrant adapters 4.5" NSH x 5"Storz with cap. Current price \$272. 20 Hydrants need adapters. 20=\$5440</p> <p>5: Structure Fire turnout gear Jacket and Coat. Jacket: \$1600. Pants: \$1300. For a Jacket and a Coat: \$3000 per set. 22 sets of gear \$66,000. Will be working on grant opportunities to fund the updating of gear.</p> <p>6: Structure Fire Engine Current engines are 1988 models. Vehicles over 30 years of age receive little credit from the survey and ratings bureau. A new engine with similar specs range from \$490,000-\$850,000. The lower priced engine is a freight liner or International 4 door chassis. The higher priced engine is</p>			

Project I.D.	Project Name	Type	Project Location	Project Description	Sources of Funding	Involved Organizations	Projected Completion Date
				<p>a cab over custom design similar to our current vehicles. In the used market similar trucks to ours range in price from \$50,000-\$150,000, depending on the age of the truck. Need to get into a timeframe of updating vehicles on a regular interval such as every 20 years.</p>			

## **Proposed Project Areas**

The following project areas were identified by the CWPP steering committee and from citizens' recommendations during the public meetings. Most of the sites were visited during the field assessment phase. The areas where these projects are located were noted as having multiple factors contributing to the potential wildfire risk to residents, homes, infrastructure, and the ecosystem. Treatments within the project areas will be site specific, but will likely include homeowner education, creation of a defensible space around structures, fuels reduction, and access corridor improvements. All work on private property will be performed with consent of, and in cooperation with the property owners. Specific site conditions may call for other types of fuels reduction and fire mitigation techniques as well. Defensible space projects may include but are not limited to commercial or pre-commercial thinning, pruning, brush removal, chipping, prescribed burning, installation of greenbelts or shaded fuel breaks, and general forest and range health improvements.

The steering committee does not want to restrict funding to only those projects that are high priority because what may be a high priority for a specific community may not be a high priority at the county or agency level. Regardless, the project may be just what the community needs to mitigate disaster. The flexibility to fund a variety of diverse projects based on varying criteria, landowner participation, and available dollars is a necessity for a functional mitigation program at the county and community level.

The Washington Department of Natural Resources, Bureau of Land Management, Conservation District, National Park Service and/or individual Fire Protection Agencies may take the lead on implementation of many of these projects; however, project boundaries were purposely drawn without regard to land ownership in order to capture the full breadth of the potential wildland fire risk.

Coordination and participation by numerous landowners will be required for the successful implementation of the identified projects. Maps of the Proposed Project Areas is included in Chapter 7 Appendices.

## **Regional Land Management Recommendations**

Wildfires will continue to ignite and burn depending on the weather conditions and other factors enumerated earlier. However, active land management that modifies fuels promotes healthy shrubland and grassland conditions and promotes the use of natural resources (consumptive and non-consumptive) will ensure that these lands have value to society and the local region. The Washington DNR, Washington Department of Fish and Wildlife Service, BLM, USFS, private forest landowners, and all other landowners in the region should be encouraged to actively manage their wildland-urban interface lands in a manner consistent with reducing fuels and wildfire risks.

## Control Invasive Weeds

Non-native or invasive plants have been spreading across the western United States since Euro-Americans began settling the region. With the aid of grazing livestock and human disturbance, some non-native species have spread over vast areas and can out-compete many native species. This change in vegetation regime often comes with secondary impacts such as an increase in fire frequency or fire intensity, as well as many other impacts.

There are many methods that can be utilized to control non-native species from spreading. The size of the outbreak and the species involved will determine the most effective method to control the outbreak. Small outbreaks of non-native plants can often be pulled by hand and disposed of before the plant goes to seed. Mowing, spraying, and even biological (insect) methods can be employed to control larger outbreaks. Regardless of the method, timing is often very important, and a quality plan will ensure the treatment is successful.

## Control Insects and Disease

Insects and diseases have been a common occurrence within forests and shrublands throughout the western U.S. for millennia. In the past, these impacts generally occurred in specific locations and would eventually ‘run their course, often benefiting the ecosystem by creating natural openings in the forest. Currently, our forests are unhealthy due to a variety of reasons and are subject to outbreaks of insect and/or disease over much larger areas than historically normal. These large outbreaks lead to severe impacts because they leave the forest susceptible to stand replacing wildland fires.

Having a healthy forest or shrubland is the first, and most effective, step in combating the effect of insect or disease outbreaks. Insecticide can be sprayed over affected areas to eradicate harmful insects. Pheromones can be used, on a smaller scale, to deter certain species of insects from attacking an individual tree.

## Thin Shrublands

Many of the shrublands throughout the western U.S. have become overstocked and stagnant. There are numerous reasons to explain why this is, but regardless of the reason, it is widely accepted that some management is required. Overstocking leads to numerous other health issues including susceptibility to insects, disease, and drought.

A suitable spacing for shrubs is selected to reduce the ability of fire to spread between shrubs. The shrubs are cut by hand or with a machine and mulched or piled for burning. The result is a stand of shrubs that is less dense which allows the remaining shrubs to have access to more resources (water, sunlight, and nutrients) than there was pre-thinning, creating a healthier ecosystem that is more resistant to insect and disease outbreaks.

## Reintroducing Fire to the Ecosystem

Fire has been removed from the system for several decades because it was once seen as destroyer of our nation's natural resources.<sup>37</sup> This exclusion has resulted in an unnatural build-up of fuel that, when fire does occur, has higher potential to be a stand replacing event.<sup>38</sup> The lack of wildland fires has also changed the species composition that historically occurred in many areas by allowing fire intolerant species to dominate or co-dominate the canopy.

Reintroducing wildland fire can be accomplished in multiple ways. The first and most obvious is to simply conduct prescribed burns. Another way is to manually collect downed woody debris and either remove it from the site or to pile it for burning. Chipping or mulching is yet another method that mimics the effects of fire by reducing large amounts of fuel into small chips that decompose more rapidly than a large diameter log would. These are just a few suggestions of how to reintroduce fire or mimic the effects of fire.

## Targeted Livestock Grazing

Livestock grazing, particularly cattle, has been a long-standing tradition in the rangelands of central Washington. Historically, ranchers were able to make agreements with state and federal land managers to expand their grazing operations on public ground for mutual benefit. In the last 30 years, this practice has been limited due to liability issues, environmental concerns, and litigation. Additionally, where federal grazing allotments are still available, the restrictions on timing are often inappropriate and/or too inflexible for the objectives of reducing fuel loads (i.e. wildfire risk), eradicating noxious and invasive species, and restoring native grass and sagebrush communities.

Most rangeland ecologists agree that in *site-specific* situations, livestock can be used as a tool to lower fire risk by reducing the amount, height, and distribution of fuel. Livestock can also be used to manage invasive weeds in some cases and even to improve wildlife habitat.

Targeted grazing can indeed reduce the amount, height, and distribution of fuel on a specific rangeland area, potentially decreasing the spread and size of wildfires under normal burning conditions. By definition, "Targeted grazing is the application of a specific kind of livestock at a determined season, duration, and intensity to accomplish defined vegetation or landscape goals."<sup>39</sup>

There are many factors to consider regarding the use of livestock for reducing the amount, height, and continuity of herbaceous cover (especially cheatgrass) in site-specific situations:

- During the spring, cheatgrass is palatable and high in nutritional value before the seed hardens.

Repeated intensive grazing (two or three times) at select locations during early growth can reduce the seed crop that year, as well as the standing biomass. In areas where desirable perennial species

are also present, the intensive grazing of cheatgrass must be balanced with the growth needs of desired plants that managers and producers want to increase.

- Late fall or winter grazing of cheatgrass-dominated areas, complemented with protein supplement for livestock, should also be considered. After the unpalatable seeds have all dropped, cheatgrass is a suitable source of energy, but low in protein. Strategic intensive grazing of key areas can reduce carry-over biomass that would provide fuel during the next fire season. Late fall grazing can also target any fall-germinating cheatgrass before winter dormancy, thus reducing the vigor of these plants the following spring. Fall/winter grazing when desirable perennial grasses are dormant and their seeds have already dropped, results in minimal impact to these species and therefore can be conducted with minimal adverse impact to rangeland health in many areas.
- The Bureau of Land Management (BLM) in some locations has an active “green strip” program designed to reduce fire size and spread in key areas. Obviously, livestock can be used to maintain such green strips to reduce the fine fuels (grasses) and control the spread of fire.
- The concept of “brown-strips” refers to areas where one or more treatments (prescribed fire, mechanical thinning, herbicide, and/or grazing) are used to reduce shrub cover, releasing the native perennial grasses. These grassy areas are preferred by cattle, which can then be grazed to reduce herbaceous fuels. This method leaves “brown-strips” when the stubble dries out in mid-summer, serving as fuel breaks to control the spread of wildfire. Where appropriate, protein-supplemented cows or sheep could be used to intensively graze and create brown-strips (e.g. along fences) to reduce the spread of fires during or after years of excess fuel build-up.
- Targeted grazing for the management of herbaceous fuels often requires a high level of livestock management, especially appropriate timing, as well as grazing intensity and frequency. In order to meet prescription specifications, operators often use herders, portable fencing, and/or dogs to ensure pastures are grazed to specification before the livestock are moved. Other expenses may include feed supplements, guardian dogs and/or night enclosures for protection from predators, water supply portability, mobile living quarters, and grazing animal transport. Targeted grazing is a business whose providers must earn a profit. Therefore, land management agencies need the option of contracting such jobs to willing producers and paying them for the ecosystem service rendered. This payment approach is already being implemented in some private and agency-managed areas to a limited extent, primarily for control of invasive perennial weeds. The use of and payment for prescription livestock grazing as a tool has

substantial potential in the immediate and foreseeable future for managing vegetation in site-specific situations.

- In general, and less intensively, livestock can be used strategically by controlling the timing and duration of grazing in prioritized pastures where reduction of desirable perennial grass cover is needed for fire reduction purposes. Strategic locations could be grazed annually to reduce fuel loads and continuity at specific locations. Rotation of locations across years prevents overgrazing of any one area but confers the benefits of fuel load reductions to much larger landscapes. Even moderate grazing and trampling can reduce fuels and slow fire spread.

Dormant season grazing of perennial grasses has also been reported to aid in seedling recruitment. Some seeds require scarification before they germinate. That can be accomplished by passage through the digestive tract or by hoof action on the seed. Hoof action can also press the seed into the ground and compress the soil around it, i.e. preparing a beneficial seed bed. These processes can also reasonably be expected to provide some benefit to the exotic annual grasses. These grasses; however, appear to succeed very well without that assistance. One can speculate that the perennial grasses would demonstrate a greater response to these effects and thus would gain some edge in the struggle for dominance with the exotic annuals. If those annuals were also grazed in the early spring before the perennials started or during fall germination events, or both, it is likely the annuals would have less vigor and produce less seed which would detract from their ability to out compete the perennials. While the exact details of how the perennials benefit from dormant season grazing are not fully understood, Agricultural Research Service research in Nevada has reported success in decreasing annual grass dominance.

“The role of grazing as a tool for fuel management is generally supported, but it should be cautiously evaluated on a case-by-case basis because fire potential is influenced by interactions among several ecosystem variables.”<sup>42</sup> Targeted grazing can reduce wildfire risk in specific areas. The targeted grazing strategies discussed above all require a very flexible adaptive management approach by both land management agencies and targeted grazing providers. Managers must determine objectives, then select and implement the appropriate livestock grazing prescription, monitor accomplishments, and adjust as needed.<sup>43</sup>

Livestock grazing is a more desirable tool for managing wildland fire risk on both private and public lands because it poses less risk than prescribed burning, is less expensive than chemical applications, can be managed effectively for the long-term, and it benefits a large sector of the local economy.

### Current Wildfire Mitigation Activities Public

**Fuels Reduction & Restoration:** Reducing fuels, particularly the rapid spread of invasive species such as cheatgrass, is a critical part of the strategy for reducing future rangeland fires and

protecting important habitat, it is important that vegetation management and habitat restoration (not simply building firebreaks or applying prescribed fire) be in an integral part of the solution. Recreational facilities such as campgrounds and boat launches should be kept clean and maintained. To mitigate the risk of an escaped campfire, escape proof fire rings and barbeque pits should be installed and maintained. Better management of rangeland vegetation and reversing the spread of invasive, non-native grasses, such as cheatgrass, is critical to breaking the invasive species-fire cycle that has contributed to the increased frequency and intensity of rangeland fires. By planning projects at the landscape scale to reduce and control invasive species and rapidly restore lands impacted by fire to native vegetation, progress in protecting and restoring Lincoln County's unique ecosystems for the benefit of all. Vegetation inventories, treatments, and preventative measures can be used to reduce the risk of rangeland fire such as the appropriate use of herbicides, biological controls, biocides; prescribed fire, green stripping, and fuel breaks; and the prioritization of efforts to restore fire-impacted landscapes.

**Other Activities:** Other specific mitigation activities are likely to include improvement of emergency water supplies, access routes, and management of vegetation along roads and power line rights-of-way. Zoning ordinances that address minimum setbacks of structures should be revised to increase space between structures and property lines to allow enough space for homeowners to complete sufficient defensible space around their home without having to rely on neighboring property owners to conduct fuel reduction work on their property. Furthermore, building codes should be revised to provide for more fire-conscious construction techniques such as using fire resistant siding, roofing, and decking in high-risk areas.

### Educational Programs

Many of the county's fire departments and agencies are actively working on public education and homeowner responsibility by visiting neighborhoods and schools to explain fire hazards to citizens. Often, they deliver informative brochures and encourage homeowners to have their driveways clearly marked with their addresses to ensure more rapid and accurate response to calls and better access.

## **Chapter 7 Plan Monitoring and Maintenance**

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This entire CWPP should be reviewed annually, from the date of adoption, at a special meeting of a joint planning committee, open to the public and involving all jurisdictions, where action items, priorities, budgets, and modifications can be made or confirmed. The LCCD (or an official designee of the joint committee) is responsible for the scheduling, publicizing, and leadership of the annual review meeting. During this meeting, participating jurisdictions will report on their respective projects and identify needed changes and updates to the existing plan. Maintenance of the plan should be detailed at this meeting, documented, and attached to the formal plan as an amendment. A re-evaluation of this plan should be made on the 5th anniversary of its acceptance, and every 5-year period after.

### **Annual Review Agenda**

The focus of the joint planning committee at the annual review meeting should include at least the following topics:

- Update historical events record based on any events in the past year.
- Review county profile and individual community assessments for each hazard and note any major changes or mitigation projects that have altered the vulnerability of each entity.
- Add a section to note accomplishments or current mitigation projects.
- All action items will need to be updated as projects are completed, and as new needs or issues are identified.
- Incorporate additional hazard chapters as funding allows.
- All meeting notes, news releases, and other documentation of revisions should be kept on record by Lincoln Emergency Management.

### **Five Year Re-Evaluation Agenda**

The focus of the planning committee at the five-year re-evaluation should include all the topics suggested for the annual review in addition to the following items:

- Update demographic and socioeconomic data.
- Address any new planning documents, ordinances, codes, etc. that have been developed by the county or cities.
- Review municipal water sources, particularly those in the floodplain or landslide impact areas.

- Redo all risk analysis models incorporating new information such as an updated county parcel master database, new construction projects, development trends, population vulnerabilities, changing risk potential, etc.
- Update county risk profiles and individual community assessments based on new information reflected in the updated models.
- All meeting notes, press releases, and other documentation of revisions should be kept on record by the LCCD.

## **Continued Public Involvement**

Lincoln County is dedicated to keeping the public informed of reviews and updates of the Community Wildfire Protection Plan. A public announcement will go out as part of each annual evaluation or when deemed necessary by the planning team. The public will have the opportunity to provide feedback about the plan annually on the anniversary of the adoption at a meeting of the County Board of Commissioners. Copies of the Plan will be kept at the LCCD. A public meeting will also be held as part of each annual evaluation or when deemed necessary by the planning team. The meetings will provide the public with a forum for which they can express concerns, opinions, or ideas about the plan. The County Commissioners will be responsible for using county resources to publicize the annual meetings and maintain public involvement through the county's webpage and local newspapers.

## Chapter 8 Appendices

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### Glossary

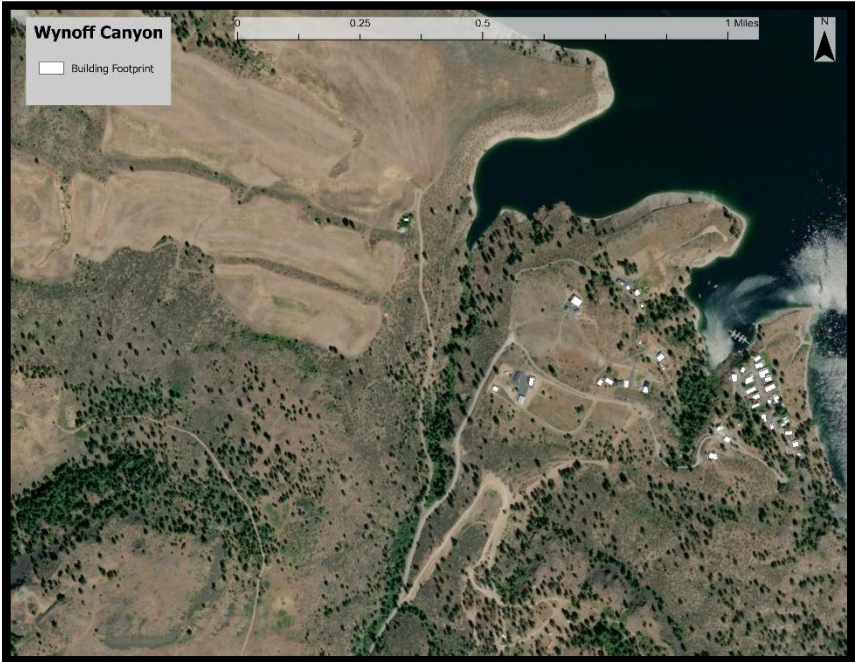
<b>ACS</b>	American Community Survey
<b>AFMO</b>	Assistant Fire management Officer
<b>BLM</b>	Bureau of Land Management
<b>CEMP</b>	Comprehensive Emergency Management Plan
<b>CRP</b>	Conservation Reserve Program
<b>CWPP</b>	Community Wildfire Protection Plan
<b>DO</b>	Directors Order
<b>DOI</b>	The Department of Interior
<b>EMS</b>	Emergency Medical Services
<b>FMO</b>	Fire Management Officer
<b>FOS</b>	Fire Operations Specialist
<b>FRG</b>	Historic Fire Regime
<b>HFRA</b>	Healthy Forests Restoration Act
<b>LCCD</b>	Lincoln County Conservation District
<b>LRNRA</b>	Lake Roosevelt National Recreation Area
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NFPA</b>	National Fire Protection Agency
<b>NPS</b>	National Park Service
<b>OAQPS</b>	Office for Air Quality Planning and Standards
<b>PLT</b>	Parment in Lieu of Taxes
<b>RCW</b>	Revised Code of Washington
<b>USFS</b>	United States Forest Service
<b>VCC</b>	Vegetation Condition Class
<b>WA DNR</b>	Washington Department of Natural Resources
<b>WAC</b>	Washington Administrative Code
<b>WADFWS</b>	Washington State Department of Fish and Wildfire
<b>WDOE</b>	Washington Department of Ecology
<b>WQS</b>	Washington Surface Water Quality Standards
<b>WRIA 43</b>	Upper Crab-Wilson Watershed
<b>WRIA 53</b>	Lower Lake Roosevelt Watershed
<b>WRIA 54</b>	Lower Spokane Watershed
<b>WUI</b>	Wildland Urban Interface

# Map of Project Areas

Hanson Harbor



Wynoff Canyon



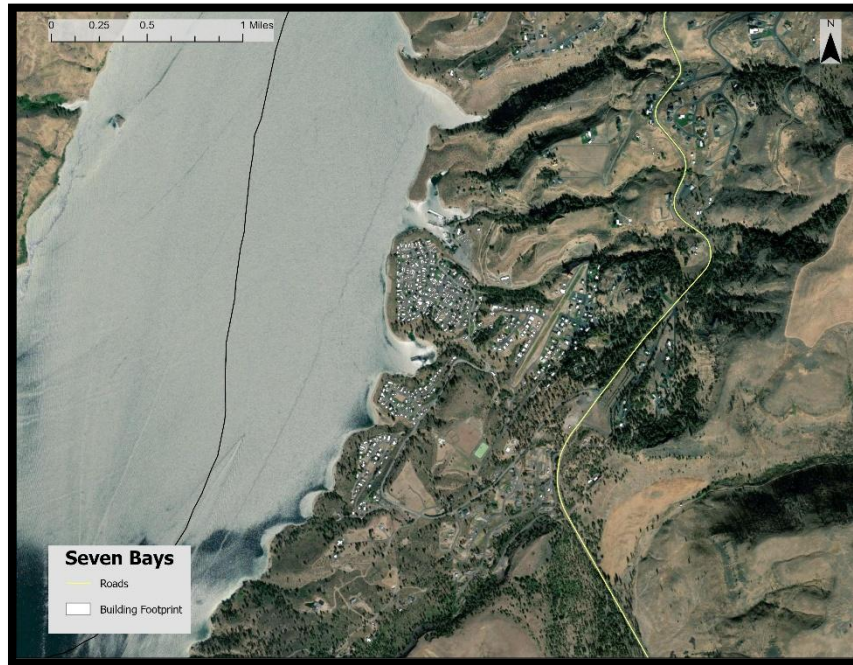
Sterling Point



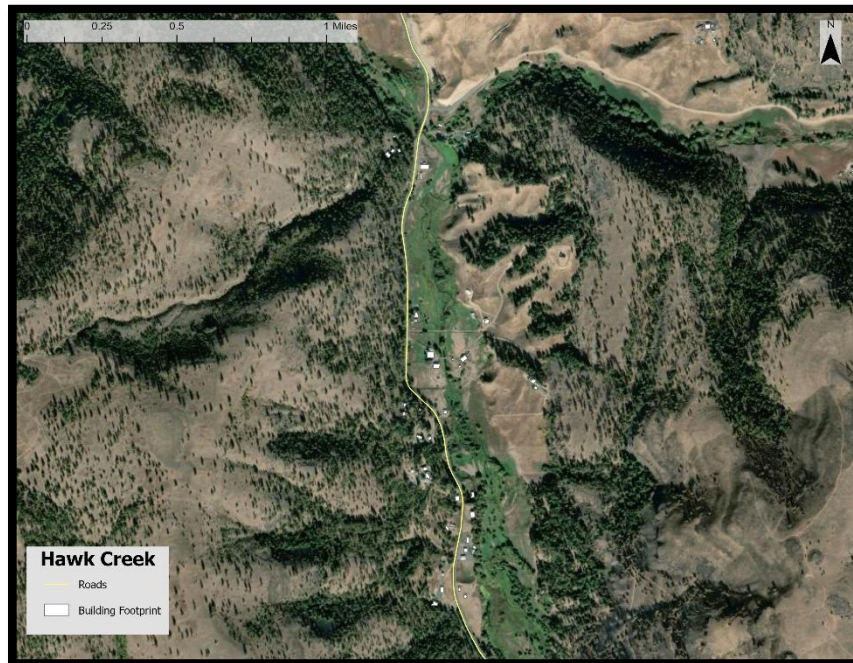
Lincoln



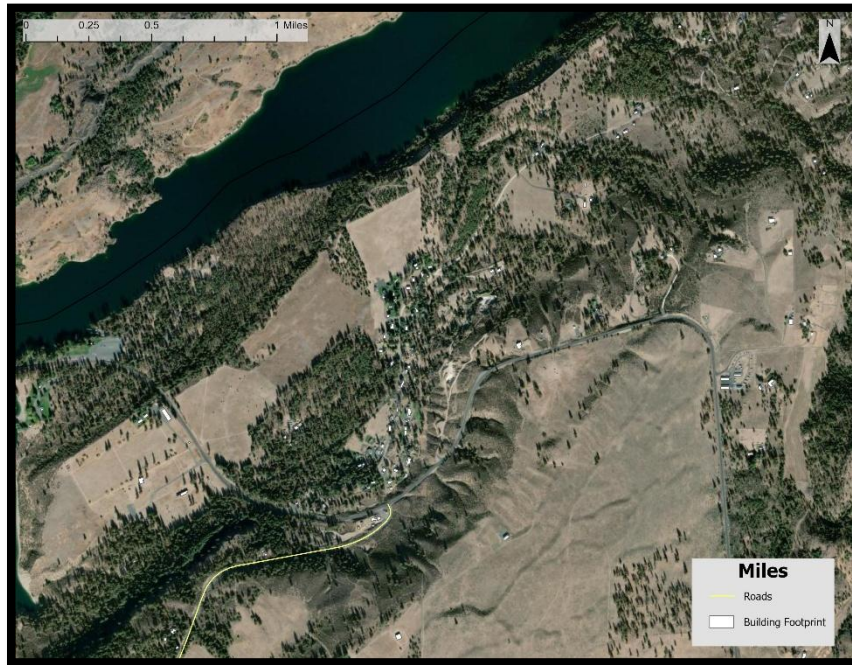
## Seven Bays



## Hawk Creek



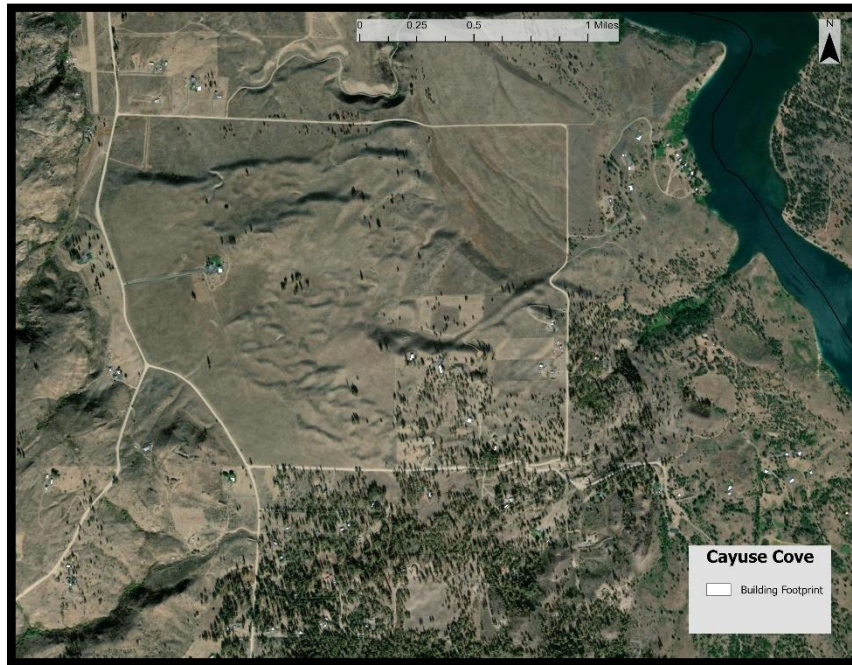
## Miles



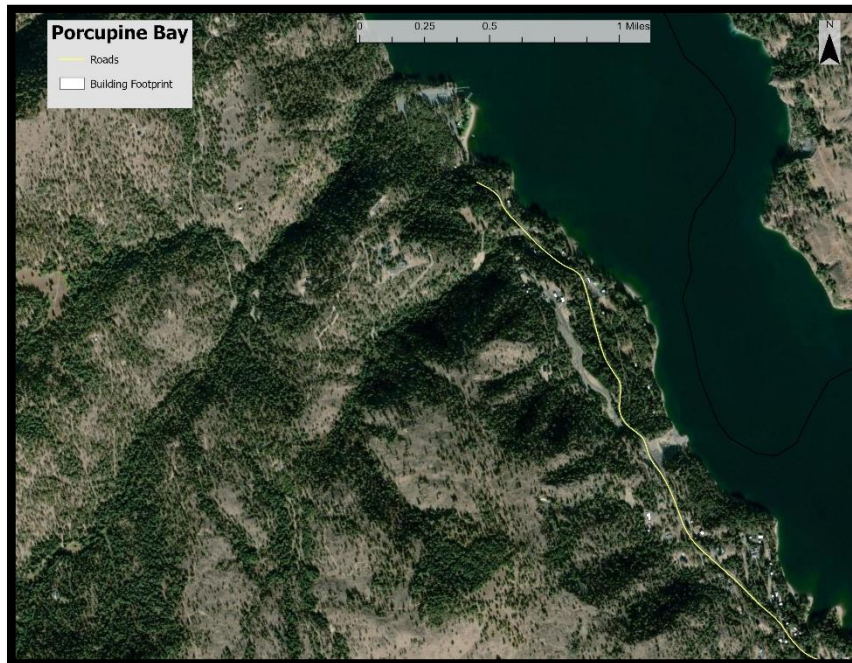
## Deer Meadows



## Cayuse Cove



## Porcupine Bay



Devils Gap



Missile Site



# Spring Creek



# Meeting Agendas

Kickoff Meeting February 18, 2025

<b>A G E N D A</b>	<b>Lincoln County Update Project Community Wildfire Protection Plan Kickoff Meeting</b> <b>Tuesday, February 18, 2025</b> <b>6:00 p.m. – 7:00 p.m.</b> <b>Public Works Building at 6:00 p.m.</b> <b>27234 WA-25</b> <b>Davenport, WA 99122</b>	
6:00 p.m.	<b>OPENING – Introductions and welcome</b> <ul style="list-style-type: none"> <li>▪ Summary of County Efforts To-Date</li> </ul>	Matthew Rosman
6:10 p.m.	<b>GROUP MEETING</b> <ol style="list-style-type: none"> <li>I. <b>Overview</b> <ul style="list-style-type: none"> <li>▪ Presentation: Overview of the CWPP Update Process</li> </ul> </li> <li>II. <b>The Planning Team</b> <ul style="list-style-type: none"> <li>▪ Planning team responsibilities</li> <li>▪ Meeting Schedule and Format</li> <li>▪ Stakeholders and Partners                             <ul style="list-style-type: none"> <li>➤ Who else needs to be at the table?</li> </ul> </li> </ul> </li> </ol>	Adam Herrenbruck, with Northwest Management, Inc.
6:30 p.m.	<ol style="list-style-type: none"> <li>III. <b>Developing the Outreach Strategy</b> <ul style="list-style-type: none"> <li>▪ Public Meetings</li> <li>▪ Other Outreach Methods</li> </ul> </li> </ol>	
6:45 p.m.	<ol style="list-style-type: none"> <li>IV. <b>Exercises</b> <ul style="list-style-type: none"> <li>▪ Review CWPP Outline</li> <li>▪ Review Excerpt of Goals and Guiding Principles</li> <li>▪ <u>Review</u> Recent Wildfire Events</li> <li>▪ Review Wildland Urban Interface</li> </ul> </li> </ol>	
2:30 p.m.	<ol style="list-style-type: none"> <li>V. <b>Homework</b> <ul style="list-style-type: none"> <li>▪ Review CWPP Excerpts</li> <li>▪ Data and Information Request</li> </ul> </li> </ol>	
7:00 p.m.	<b>ADJOURNMENT</b>	
<b>Contact Info:</b>		
<b>Manager and Project Lead:</b> Adam Herrenbruck <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a> Tanner Paulson (Co Lead) <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a> <b>Northwest Management Office:</b> 208-883-4488	<b>Project Support:</b> Erica Wimpe <a href="mailto:ewimpe@northwestmanagement.com">ewimpe@northwestmanagement.com</a>  Natalie Atkins <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a>	<b>Other Support:</b> Tucker Flaten <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a>  Eric Nelson <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a>

Planning Team Meeting April 28, 2025

<b>A G E N D A</b>	<b>Lincoln County</b> <b>Community Wildfire Protection Plan</b> <b>Meeting #3</b> <b>Wednesday April 28, 2025</b> <b>6:00 p.m. – 7:30 p.m.</b> <b>Virtual Meeting</b>	
6:00 p.m.	<b>OPENING – Introductions and welcome</b>	Matthew Rosman
6:10 p.m.	<b>GROUP MEETING</b>  <b>I. Overview</b> <ul style="list-style-type: none"> <li>▪ Review of the previous Meeting</li> <li>▪ Outreach Strategies</li> <li>▪ Wildland Urban Interface</li> <li>▪ Areas of Concern</li> </ul>	Adam Herrenbruck, with Northwest Management, Inc.
6:20 p.m.	<b>II. Continue the WUI discussion</b> <ul style="list-style-type: none"> <li>▪ We received feedback and added some of the roads brought up at the previous meeting along with a bigger buffer north of highway 2 to the Columbia River.</li> <li>▪ Map #1</li> <li>▪ Map# 2</li> </ul>	
6:30 p.m.	<b>III. Chapter 3</b> <ul style="list-style-type: none"> <li>▪ CH 3 Will be sent out this week once we have received information on all areas to be included</li> <li>▪ Ch 3 Questionnaire</li> </ul>	
6:45 p.m.	<b>IV. Wildfire Risk Assessment</b> <ul style="list-style-type: none"> <li>▪ Key to updating Chapters 4 and 5</li> <li>▪ Historic Fire Regime and Vegetation Type</li> <li>▪ Wildfire Risk Modeling</li> </ul>	
7:00 p.m.	<b>V. Homework</b> <ul style="list-style-type: none"> <li>▪ Fill out the Questionnaires</li> <li>▪ Review the new maps and send feedback</li> </ul>	
7:20 p.m.		
7:25 p.m.		
7:30 p.m.	<b>ADJOURNMENT</b>	
<b>Contact Info:</b>		
<b>Manager and Project Lead:</b> Adam Herrenbruck <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a> Tanner Paulson (Co Lead) <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a> Northwest Management Office: 208-883-4488	<b>Project Support:</b> Erica Wimpe <a href="mailto:ewimpe@northwestmanagement.com">ewimpe@northwestmanagement.com</a>  Natalie Atkins <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a>	<b>Other Support:</b> Tucker Flaten <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a>  Eric Nelson <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a>

Planning Team Meeting April 28, 2025

<b>A G E N D A</b>	<p><b>Lincoln County Community Wildfire Protection Plan Meeting #3</b></p> <p><b>Monday April 28, 2025 6:00 p.m. – 7:30 p.m.</b></p> <p><b>Virtual Meeting</b></p>	
6:00 p.m.	<b>OPENING – Introductions and welcome</b>	Matthew Rosman
6:10 p.m.	<p><b>GROUP MEETING</b></p> <p><b>I. Overview of the Previous Meeting</b></p> <ul style="list-style-type: none"> <li>▪ Outreach strategies – have we followed up?</li> <li>▪ Wildland Urban Interface considerations</li> <li>▪ Areas of concern</li> </ul> <p><b>II. Continue the WUI Discussion</b></p> <ul style="list-style-type: none"> <li>▪ Feedback received and areas added</li> <li>▪ Map #1</li> <li>▪ Map# 2</li> </ul> <p><b>III. Chapter 3</b></p> <ul style="list-style-type: none"> <li>▪ Ch 3 questionnaire and results so far</li> </ul> <p><b>IV. Wildfire Risk Assessment</b></p> <ul style="list-style-type: none"> <li>▪ Key to updating Chapters 4 and 5</li> <li>▪ Historic Fire Regime and Vegetation Type</li> <li>▪ Wildfire Risk Modeling</li> <li>▪ Current Wildfire Mitigation Activities</li> </ul> <p><b>V. Homework</b></p> <ul style="list-style-type: none"> <li>▪ Fill out the questionnaire and look for Ch. 3 draft</li> <li>▪ Review the WUI maps and send feedback</li> <li>▪ Look for Wildfire Risk Assessments and send feedback</li> </ul>	Adam Herrenbruck, with Northwest Management, Inc.
6:20 p.m.		
6:50 p.m.		
7:10 p.m.		
7:25 p.m.		
7:30 p.m.	<b>ADJOURNMENT</b>	
<b>Contact Info:</b>		
<p><b>Manager and Project Lead:</b> Adam Herrenbruck <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a> Tanner Paulson (Co Lead) <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a> <b>Northwest Management Office:</b> 208-883-4488</p>	<p><b>Project Support:</b> Erica Wimme <a href="mailto:ewimme@northwestmanagement.com">ewimme@northwestmanagement.com</a> Natalie Atkins <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a></p>	<p><b>Other Support:</b> Tucker Flaten <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a> Eric Nelson <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a></p>

Planning Team Meeting May 27, 2025

<b>A G E N D A</b>	<p><b>Lincoln County</b>  <b>Community Wildfire Protection Plan</b>  <b>Meeting #4</b>  <b>Tuesday May 27, 2025</b>  <b>6:00 p.m. – 7:30 p.m.</b>  <b>Virtual Meeting</b></p>	
6:00 p.m.	<b>OPENING – Introductions and welcome</b>	Matthew Rosman
6:10 p.m.	<p><b>GROUP MEETING</b></p> <p><b>I. Overview of the Previous Meeting</b></p> <ul style="list-style-type: none"> <li>▪ Outreach strategies</li> <li>▪ How did the Chiefs meeting go?</li> <li>▪ Upcoming “Days” events we can attend?</li> </ul> <p><b>II. Chapter 3</b></p> <ul style="list-style-type: none"> <li>▪ Ch 3 will be sent out this week</li> <li>▪ Additions to Chapter 3 have been made with suggestions we have received so far.</li> <li>▪ Any other areas that should be involved?</li> </ul> <p><b>III. Wildfire Risk Assessment</b></p> <ul style="list-style-type: none"> <li>▪ Key to updating Chapters 4 and 5</li> <li>▪ Wildfire Risk Models</li> <li>▪ Current/past Wildfire Mitigation Activities</li> </ul> <p><b>IV. Homework</b></p> <ul style="list-style-type: none"> <li>▪ Fill out the questionnaire and look for Ch. 3 draft</li> <li>▪ Review the WUI maps and send feedback</li> <li>▪ Think of other ways to reach the public</li> <li>▪ Look at Wildfire Risk Assessments and send feedback</li> </ul>	Adam Herrenbruck, with Northwest Management, Inc.
6:20 p.m.		
6:50 p.m.		
7:20p.m.		
7:30 p.m.	<b>ADJOURNMENT</b>	
<b>Contact Info:</b>		
<p><b>Manager and Project Lead:</b>  Adam Herrenbruck  <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a>  Tanner Paulson (Co Lead)  <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a>  <b>Northwest Management Office:</b>  208-883-4488</p>	<p><b>Project Support:</b>  Erica Wimme  <a href="mailto:ewimme@northwestmanagement.com">ewimme@northwestmanagement.com</a>  Natalie Atkins  <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a></p>	<p><b>Other Support:</b>  Tucker Flaten  <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a>  Eric Nelson  <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a></p>

Planning Team Meeting July 29, 2025

<b>A G E N D A</b>	<p><b>Lincoln County Community Wildfire Protection Plan Meeting #5</b></p> <p><b>Tuesday July 29, 2025</b></p> <p><b>6:00 p.m. – 7:30 p.m.</b></p> <p><b>Virtual Meeting</b></p>			
6:00 p.m.	<b>OPENING – Introductions and welcome</b>	Matthew Rosman		
6:10 p.m.	<p><b>GROUP MEETING</b></p> <p><b>I. Overview of Recent Progress</b></p> <ul style="list-style-type: none"> <li>▪ Outreach strategies</li> <li>▪ Chapters 3 and 4</li> </ul> <p><b>6:20 p.m.</b></p> <p><b>II. Chapter 4 Risk Assessments</b></p> <ul style="list-style-type: none"> <li>▪ Overview of Chapter 4</li> <li>▪ Feedback Received and Implemented for Whitney and Plum Point Fires</li> <li>▪ Added info on Western Pines Fire</li> <li>▪ Other Feedback?</li> </ul> <p><b>6:50 p.m.</b></p> <p><b>III. Chapter 5 Landscape Risk Assessment</b></p> <ul style="list-style-type: none"> <li>▪ Overview of Chapter 5</li> <li>▪ Different Landscapes in Lincoln County</li> <li>▪ Use of the Wildfire Hazard Potential Model</li> </ul> <p><b>7:10 p.m.</b></p> <p><b>IV. Mitigation Action Items</b></p> <ul style="list-style-type: none"> <li>▪ Completed WA DNR projects via Forest Health Tracker</li> <li>▪ Updates on projects from each of the Fire Districts?</li> <li>▪ Old Projects, New Projects, Completed Projects, Ongoing Projects</li> </ul> <p><b>7:25 p.m.</b></p> <p><b>V. Homework</b></p> <ul style="list-style-type: none"> <li>▪ Review Chapters 4, 5 and send feedback</li> <li>▪ Gather project information</li> </ul>	Adam Herrenbruck, with Northwest Management, Inc.		
7:30 p.m.			<b>ADJOURNMENT</b>	
<b>Contact Info:</b>				
<p><b>Manager and Project Lead:</b> Adam Herrenbruck <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a> Tanner Paulson (Co Lead) <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a> <b>Northwest Management Office:</b> 208-883-4488</p>			<p><b>Project Support:</b> Erica Wimme <a href="mailto:ewimme@northwestmanagement.com">ewimme@northwestmanagement.com</a> Natalie Atkins <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a></p>	<p><b>Other Support:</b> Tucker Flaten <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a> Eric Nelson <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a></p>

Planning Team Meeting September 29, 2025

<b>A G E N D A</b>	<p><b>Lincoln County Community Wildfire Protection Plan Draft Review Meeting Monday September 29, 2025 6:00 p.m. – 7:30 p.m. Virtual Meeting</b></p>	
6:00 p.m.	<b>OPENING – Introductions and welcome</b>	Matthew Rosman
6:10 p.m.	<p><b>GROUP MEETING</b></p> <p><b>I. Overview of Progress</b></p> <ul style="list-style-type: none"> <li>▪ Feedback added to several areas</li> <li>▪ Public outreach conducted and summarized</li> <li>▪ Mitigation Action Items compiled and sent as editable doc</li> <li>▪ CWPP draft distributed as comment-only doc</li> <li>▪ HMP update under way with CWPP serving as basis of wildfire chapter</li> </ul> <p><b>II. Draft of the CWPP</b></p> <ul style="list-style-type: none"> <li>▪ Overview of everything put together</li> <li>▪ Open forum for feedback</li> </ul> <p><b>III. Mitigation Action Items</b></p> <ul style="list-style-type: none"> <li>▪ Completed WA DNR projects via Forest Health Tracker</li> <li>▪ Updates on projects from each of the Fire Districts?</li> <li>▪ Old Projects, New Projects, Completed Projects, Ongoing Projects</li> </ul> <p><b>IV. Next Steps</b></p> <ul style="list-style-type: none"> <li>▪ Implement feedback and edits</li> <li>▪ Finalize project list</li> <li>▪ Distribute back to the planning team for final review</li> <li>▪ Submit to public for review and comment period</li> <li>▪ Submit to WA DNR for review and approval</li> </ul>	Adam Herrenbruck, with Northwest Management, Inc.
6:20 p.m.		
7:00 p.m.		
7:20 p.m.		
7:30 p.m.	<b>ADJOURNMENT</b>	
<b>Contact Info:</b>		
<p><b>Manager and Project Lead:</b> Adam Herrenbruck <a href="mailto:herrenbruck@northwestmanagement.com">herrenbruck@northwestmanagement.com</a> Tanner Paulson (Co Lead) <a href="mailto:tpaulson@northwestmanagement.com">tpaulson@northwestmanagement.com</a> <b>Northwest Management Office:</b> 208-883-4488</p>	<p><b>Project Support:</b> Erica Wimme <a href="mailto:ewimme@northwestmanagement.com">ewimme@northwestmanagement.com</a>  Natalie Atkins <a href="mailto:natkins@northwestmanagement.com">natkins@northwestmanagement.com</a></p>	<p><b>Other Support:</b> Tucker Flaten <a href="mailto:flaten@northwestmanagement.com">flaten@northwestmanagement.com</a>  Eric Nelson <a href="mailto:nelson@northwestmanagement.com">nelson@northwestmanagement.com</a></p>

## **Record of Feedback from Public Comment Period**