Gilliam County
Community Wildfire Protection Plan

September 22, 2022

Prepared By
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I. Signature Page

The contents of this document have been agreed upon and endorsed by the Gilliam County Court, the City Councils of Arlington and Condon, and the Oregon Department of Forestry Rangeland Fire Protection Specialist, the Fire Defense Board Chief and the Fire Chiefs for Arlington and Condon. This plan is not legally binding as it does not create or place mandates or requirements on individual jurisdictions. It is intended to serve as a planning tool for the fire and land managers of Gilliam County, Oregon and to provide a framework for those local agencies associated with wildfire suppression and protection services to assess the risks and hazards associated with wildland urban interface areas and to identify strategies for reducing those risks. This is a working document to be reviewed by members of the Steering Committee and updated as necessary.

Pat Shannon, Gilliam County Commissioner — Date: 12-12-2022

Sherrie Wilkins, Gilliam County Commissioner — Date: 12-07-2022

Elizabeth Farrar Campbell, Gilliam County Judge — Date: 12/7/2022

Greg Smith, South Gilliam County Rural Fire Protection District Chief — Date: 11-30-22

Joe Claughton, North Gilliam County Rural Fire Protection District Chief — Date: 12-02-22

Scott Goff, Fire Defense Board Chief — Date: 12/6/2022

Arlington City Council — Date: 12/14/22

Condon City Council — Date: 11-2-22

Richard Fletcher, Oregon Department of Forestry Rangeland Fire Protection Specialist — Date: 12/19/2022

Shawn M. Keel 11/14/2022

Lonerock City Council Date

II. Executive Summary

This Community Wildfire Protection Plan (CWPP) for Gilliam County was initiated by the Gilliam County Court in the spring of 2022 as an update to the original CWPP completed in 2007. Recent fires in Oregon and across the western United States have increased public awareness for the potential losses to life, property, and natural and cultural resources that fire can pose. Gilliam County has major ignition sources as well as wildfire hazards and is considered to be at high risk for the occurrence of large and destructive wildfires. Between 2008 and 2019 there were more than 39 wildfires in Gilliam County burning more than 224,983 total acres, averaging 22,498 acres burned per year (Oregon Wildfire Risk Explorer, 2022).

This plan is a result of a county-wide effort to identify and prioritize wildfire hazards and to develop a strategy to reduce those hazards. Communities with CWPPs are given priority for receiving funding for hazardous fuel reduction from the US Forest Service (USFS) and the Bureau of Land Management (BLM), as well as other funding sources according to the Healthy Forest Restoration Act (HFRA of 2003). The plan will assist the county, its communities and fire districts in achieving common goals, identifying priorities for reducing its wildfire risk and overall enhance the safety of the county and better prepare residents for wildfires that may occur. It includes a strategy with action projects which, when implemented, will decrease the potential for large wildfires in the county and reduce the potential loss of property values and threat to human life.

The planning process was designed to meet the guidance in the National Fire Plan and the Healthy Forest Restoration (HFRA) Act of 2003 (HR-1904). A Steering Committee with representatives from various agencies and local jurisdictions responsible for wildfire suppression and protection worked together to guide the planning process. Meetings were held during the revision of the plan to gain input from representative interest groups.

Goals for the planning process were:

- Involve local and state government representatives, in consultation with federal agencies and interested parties in the plan development process.
- Identify and evaluate wildfire hazards and risk factors.
- Improve wildfire response capability of fire districts and better prepare Gilliam County residents to survive and save their property during a wildfire situation.
- Make the county and their respective fire districts and communities eligible for funding assistance to reduce wildfire hazards and to prepare residents for wildfire situations (National Fire Plan, Health Forest Restoration Act, FEMA, and other sources).
- Develop and prioritize recommended strategies for private, state, and federal lands to reduce hazardous fuel situations and reduce the risk for damage to lives and property from wildfires.
- Recommend measures that homeowners and communities can take to reduce the ignitability of structures in the county.

The plan describes the various agencies and local jurisdictions responsible for wildfire protection and explains the pertinent programs and laws associated with wildfire issues in the county.

Section III reviews the planning process, Section IV gives the county profile and Section V reviews the Oregon Wildfire Risk assessment advanced report to review burn probability, fire intensity and overall potential impact of fires. Section VI of the plan addresses emergency management and wildfire protection, including emergency evacuation routes. Section VII covers structural survivability, including vulnerability and ignitability. Section VIII reviews areas that have received a Federal Declaration of Emergency. Section IX reviews non-native grasses and vegetation, and their impact on fire risk throughout the county. Section X addresses climate change and the continuing risk it imposes on Gilliam County. Section XI reviews high risk areas, including communities at risk, underserved communities, unprotected lands, recreation areas and infrastructure. Section XII reviews wildfire mitigation projects to reduce wildfire risk for the county as a whole and for specific zones and communities. Section XIII outlines the CWPP review schedule, and section XIV contains appendices.

The Gilliam County Community Wildfire Protection Plan provides a foundation and resources for understanding wildland fire risk and opportunities to reduce potential losses from wildland fire. In addition, individual communities, fire districts and neighborhoods can take local action by developing community-specific fire plans or by participating in county-wide activities for prevention and protection. This plan allows Gilliam County to prioritize fire hazard reduction projects, as well as highlight the importance of partnerships between fire districts, local government, community-based organizations, and public agencies.

III. Introduction

The primary purpose of the Gilliam County Wildfire Protection Plan is to identify and prioritize areas in the county with high levels of wildfire hazards and to develop a strategy to reduce these hazards. Completion of the plan will make the county and its communities and fire districts eligible for National Fire Plan grants and other funding sources to treat hazard fuel situations and to better prepare residents for wildfires that may occur. The plan describes projects which when implemented will reduce the potential for large wildfires in the county. It offers a strategy and methods designed to reduce the potential loss of property values and threat to human life from wildfires.

The original Community Wildfire Protection Plan for Gilliam County was prepared with the assistance of a National Fire Plan Grant from the Oregon Department of Forestry. The update to the Community Wildfire Protection Plan was prepared with assistance from the Arizona State University Master of Emergency Management Program. The planning process was designed to meet the guidance in the National Fire Plan and the Healthy Forest Restoration Act of 2003 (108th Congress, 2003).

A. Background

Gilliam County contains a diverse set of wildfire hazard and risk situations. Conditions throughout the county are conducive to large and fast-moving wildfires. Several Wildland Urban Interface (WUI) areas exists with the potential for property and human life loss during a wildfire event. The following are conditions and concerns found in portions of the county which contribute to the wildfire threat and potential for catastrophic losses:

- The John Day River/Canyon with numerous side canyons, all with very steep slopes.
- Large remote areas with no or limited vehicle access.
- Residential development next to areas with heavy fuel loads. Some homes in these areas do not have adequate defensible space around them.
- Climatic and topographic conditions conducive for large wildfires. Hot and dry conditions exist during the fire season throughout the county. Some portions, especially in the Columbia River Gorge area, have frequent high winds which can contribute to fast moving fires that are difficult to control. Much of the county has moderate to steep slopes which add to the rate of wildfire spread and suppression difficulty.
- Large agricultural areas planted to mainly grain plus significant Conservation Reserve Program (CRP) fields. Both agricultural types have the potential for fast moving fires which can destroy valuable crops in short periods of time.
- Risk factors for starting wildfires. A major railroad and Interstate Highway along the Columbia River represents significant ignition sources for wildfires. Lightening has ignited frequent fires in the past. Power lines, debris burning, and equipment use add to the risk. Most wildfires in the county are human caused.
- Gilliam County has been experiencing a moderate drought since 2014, which increased to extreme drought by 2021, and is ongoing as of 2022.

B. History

Gilliam County has experienced serious wildfires in the past and remains at high risk. Since 2000 there have been 39 large fires, with a trend towards increasing frequency, with large fires becoming almost annual occurrences. There have also been several small fires quickly extinguished by local fire departments annually that were not recorded by the state. The current trend in the United States is that the frequency of large fires is increasing and having plans like this in place are essential to reducing the growing threat.

Table 1.1 Historical fires in Gilliam County

Wildfire Name	Year	Acres Burned
Stubblefield 1008 RN	2018	54,210
Seale 1045 RN	2018	23,596
Jack Knife 0440 RN	2018	15,590
Lonerock 1057 RN	2018	5,053
Buckhorn 1018 RN	2018	203
Horn Butte 0594	2017	8,726
0353 RN Scott Canyon	2016	33,587
0561 Rn See Saw	2015	3,006
0139	2015	20
Black Rock Inc 358	2014	35,724
Sniption	2014	25,931
Jack Knife	2014	13,260
Horn Butte	2014	5,319

Spring Hollow	2014	2,993
Inc 0349	2014	257
0501	2012	292
I-0151	2012	16
30 Mile	2011	23,601
Butte	2011	1,949
Misery Flatt	2011	1,388
607	2011	607
0385	2010	4,197
0557 Streese	2010	2,565
0401	2010	391
Green Grass	2009	1,304
Jack Knife	2008	20,114
I 284	2008	9,788
Devils Canyon	2008	403
Incident 621	2007	15,591
North Gilliam	2007	200
Rock Creek	2003	461
Starvation Ridge	2001	6,962
Rock Creek	2001	1,972
Snipton Canyon	2000	6,423
I878	2000	2,845
Harmony	2000	2,340
Rose Briar	2000	2,226

Source: Oregon Wildfire Risk Explorer Map Viewer

C. Planning area boundaries

The planning area for the purpose of this study includes the entire area within Gilliam County including 1,233 square miles and the towns of Arlington, Condon and Lonerock.

IV. Planning Process

In the spring of 2022, the Gilliam County Court decided to update the Community Wildfire Protection Plan for the county, which was written in 2007. The review process was based on A Framework for Community Fire Plans, A collaborative approach to developing community fire plans by the University of Oregon (University of Oregon, 2004).

A. Partners and Committees

A Core Team designed to act as a steering committee was formed to help develop the plan made up of representatives from local governments, fire authorities and Oregon Department of Forestry. Additionally, Federal Stakeholders were involved through the Bureau of Land Management (BLM). The team coordinated and met during the planning process to review and critique planning documents. The Core Team consisted of representatives from the following entities:

- North Gilliam County Rural Fire Protection District
- South Gilliam County Rural Fire Protection District
- Gilliam County Fire Services
- Gilliam County Emergency Management
- Gilliam County Soil and Water Conservation District
- Gilliam County Planner
- Oregon Department of Forestry
- Oregon Fire Marshal's Office
- Gilliam County Sheriff's Office
- Bureau of Land Management (BLM)
- Farming/Ranching community
- Cities of Condon, Arlington and Lonerock
- Interested Citizens

B. Planning Area Boundary and Planning Goals

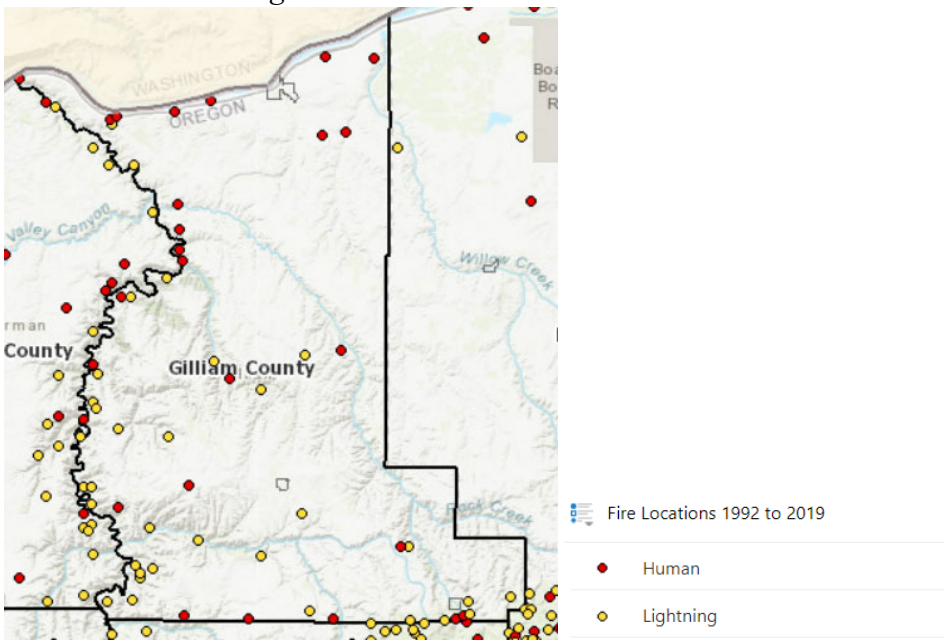
The planning area includes the entire county (1,223 square miles). The following are the goals for the Community Wildfire Protection Plan.

- Identify and evaluate wildfire hazards and risk factors.
- Identify specific high wildfire risk areas in Gilliam County
- Identify specific communities at risk in Gilliam County
- Improve wildfire response capability of fire districts and better prepare Gilliam County residents to survive and save their property during a wildfire situation.
- Make the county and their respective fire district and communities eligible for funding assistance to reduce wildfire hazards and to prepare residents for wildfire situations (National Fire Plan, Healthy Forest Restoration Act, FEMA, and other sources).
- Develop recommended strategies for private, state, and federal lands to reduce hazardous fuel situations and reduce the risk for damage to lives and property from wildfires.

C. Community Maps

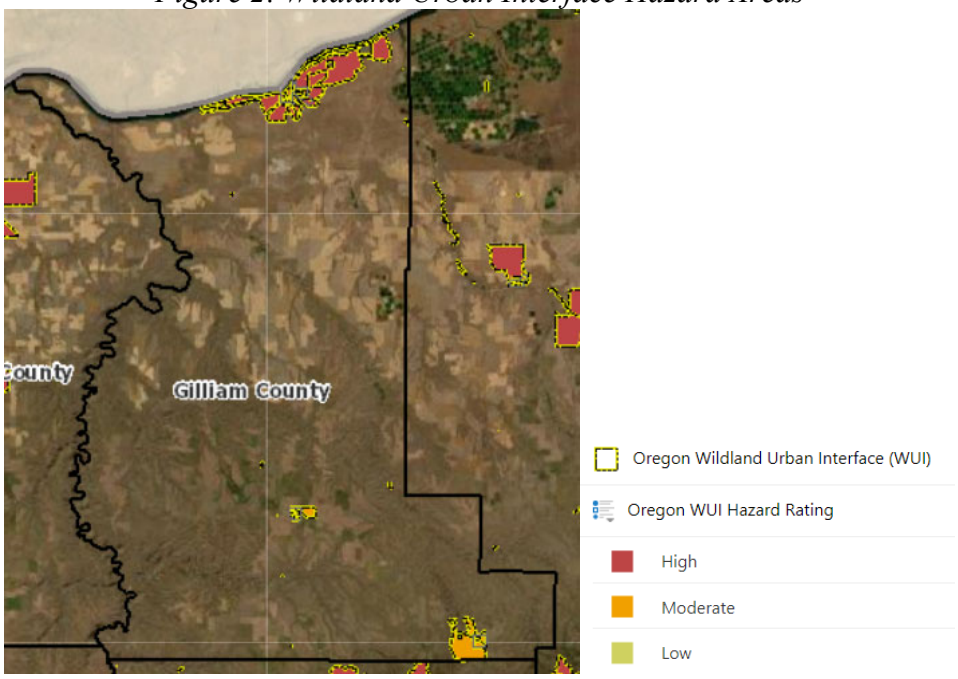
A series of county maps were developed using the Oregon Wildfire Risk Explorer developed and maintained by the Oregon Department of Forestry and the US Forest Service. Maps showing historic fires, wildland urban interface, fire risk, vegetation types and other pertinent information were created and used during the plan development. The information used was from the 2018 Qualitative assessment performed by the ODF and USFS (ODF and USFS, 2022).

Figure 1. Fire Locations 1992-2019



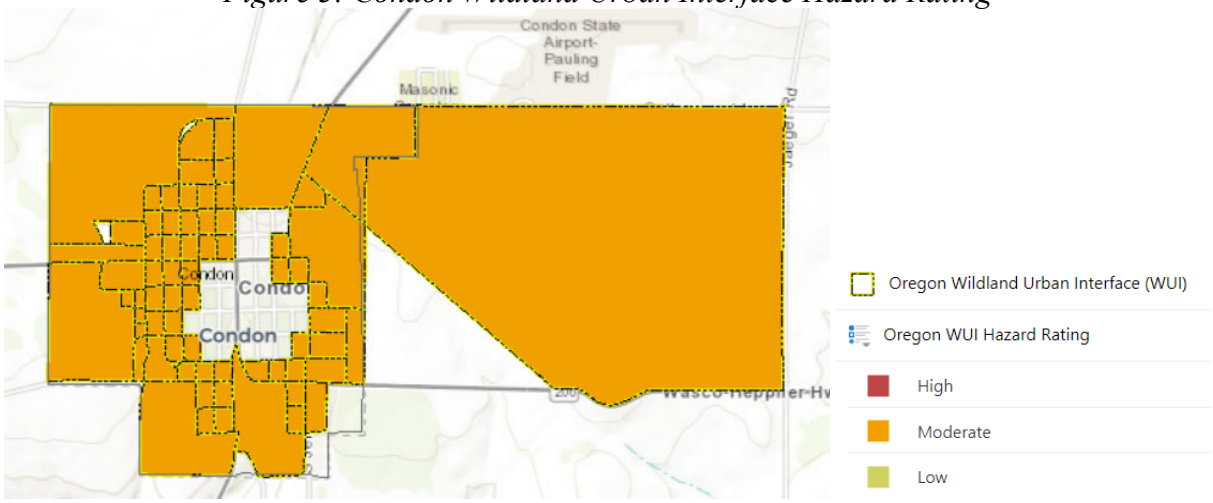
Source: Oregon Wildfire Risk Explorer

Figure 2: Wildland Urban Interface Hazard Areas



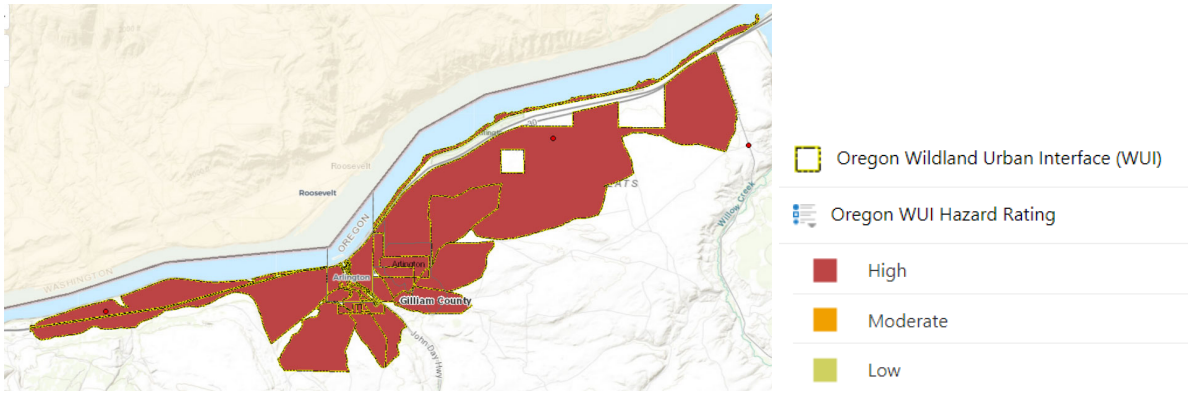
Source: Oregon Wildfire Risk Explorer Map Viewer

Figure 3: Condon Wildland Urban Interface Hazard Rating



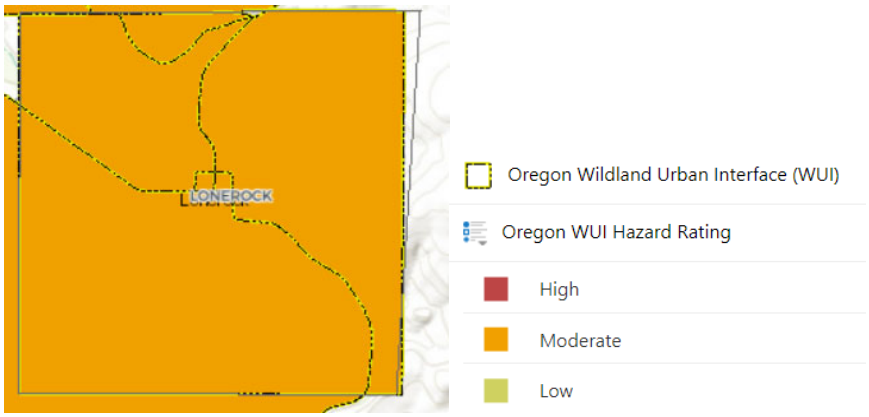
Source: Oregon Wildfire Risk Explorer Map Viewer

Figure 4: Arlington Wildland Urban Interface Hazard Rating



Source: Oregon Wildfire Risk Explorer Map Viewer

Figure 5: Lonerock Wildland Urban Interface



Source: Oregon Wildfire Risk Explorer Map Viewer

D. Wildfire Risk Data

Maps for planning purposes were generated using the Oregon Wildfire Risk Explorer (OWRE), which has replaced the Oregon Department of Forestry (ODF) Wildfire Risk Assessment. The OWRE advanced report and risk assessment is currently being revised by the State of Oregon in conjunction with local jurisdictions. The information and maps contained in this CWPP were generated using the 2018 Qualitative assessment. Once the maps are updated in 2023 the CWPP will need to be reviewed to determine if any changes need to be made (ODF and USFS, 2022).

E. Establish Community Priorities and Recommendations

Local knowledge, wildfire risk maps and state goals were used to assist with establishing a list of priority projects within the planning area. The types of projects considered include:

- Development of defensible space and fuel reduction around individual homes:
- Hazardous fuel removal along access routes
- Ingress and egress concerns
- Structural material hazards
- Fire district equipment needs
- Methods to distribute wildfire protection information to homeowners.

Criteria used in selecting priority projects include:

- The best chance for successful implementation
- The best cost-benefit ratio
- Likelihood of getting funding assistance for implementation

F. Review of applicable community plans and studies

While the CWPP is a stand-alone plan, it is important that it aligns with and draws information from other plans and studies that are relevant to Gilliam County.

a. Natural Hazard Mitigation Plan

In 2018 Gilliam County completed a Natural Hazards Mitigation Plan (NHMP) to prepare for the long-term effects resulting from natural hazards. The plan covers drought, earthquake, flood, volcanic events, wildfire, windstorm, and winter storm with the goal of safety of life and preservation of property and industry, increased cooperation and collaboration between groups and agencies, and to motivate the public, private sector, and government agencies to mitigate against the effects of natural hazards through information and education. The CWPP gives a more targeted view of fire protection and aligns with the NHMP (University of Oregon, 2018).

b. Gilliam County Resource Directory

The Gilliam County Resource Directory is a list of all available offices and institutions in Gilliam County. Due to the small size of the community, every municipal service or major location that people gather, either for work, school or social is included, making it an invaluable resource for responding to emergencies (Gilliam County Oregon, 2021).

c. Gilliam County Transportation System Plan

The Gilliam County Transportation System Plan (TSP) documents the county, Cities and Oregon Department of Transportation's priority projects, policies and programs that are carried forward for funding from state and federal agencies for the next 20 years. The TSP includes strategies to improve accessibility and connectivity. Condon, Arlington and Lonerock are wildly dispersed and rely on a large and remote system of roadways for safe and effective travel. The TSP includes recommendations for improving the roads that would address basic transportation needs and bolster the system of emergency routes available during a natural disaster. (Kittelson & Associates, Inc. , 2015)

V. County Profile

A. Environment and Natural Resources

Gilliam County is in the north-central portion of Oregon with the Columbia River comprising its north boundary. Its western boundary is the John Day River which it shares with Sherman County. Morrow County on the east and Wheeler County to the south share the remainder of its borders. There are three incorporated cities, Arlington, Condon and Lonerock. Elevations range from less than 200 feet along the Columbia River to about 4,300 feet in the southeast part of the county, although most of the county is at less than 3,500 feet.

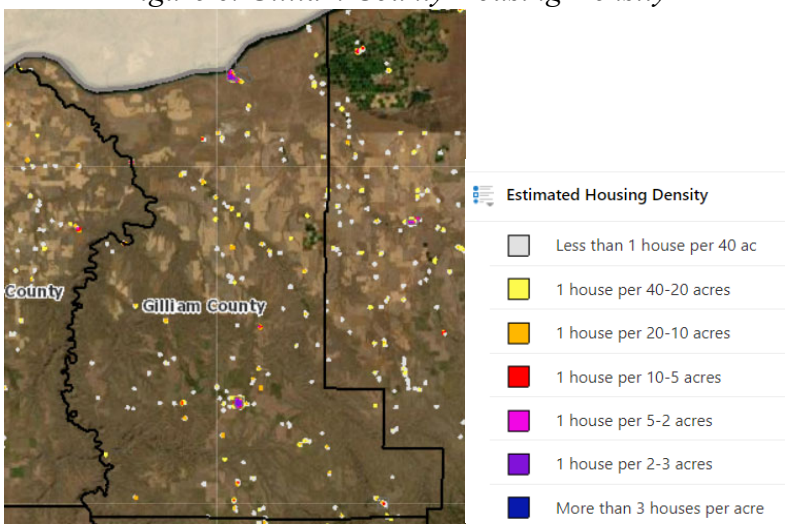
There are 1,223 square miles in the county. Principle industries providing employment in the county are agriculture, two regional waste disposal landfills and transportation. The major source of employment is county government, education and the two landfills. The county also has significant renewable energy infrastructure in the form of windmills.

The climate is generally dry, with the county receiving between 9 and 14 inches of rain annually. (Western Regional Climate Center, 2022). The major natural resources are farmland, wind generation and solar power, as well as the Columbia River on the Northern border of the county. Fuel types are similar throughout the county but there is considerable variation in elevation and percent slope. Most of the county is dominated by grass vegetation with scattered brush.

B. Population and Demographics

The total county population is 1,995, with most of the county's population residing in the cities of Arlington and Condon with a combined population of 1,342. The population is sparse with an overall average of 1.6 persons per square mile. (US Census Bureau, 2020).

Figure 6. Gilliam County Housing Density



Source: Oregon Wildfire Risk Explorer Map Viewer

In the year 2020 there were 1,095 housing units in the county, an increase of 52 units from the year 2000. 905 of those housing units are occupied, an occupation rate of 83%. The median household income was $41,848 in 2020, approximately 64% of the Oregon median income (US Census Bureau, 2020).

Condon, the County seat, is located about 150 miles east of Portland. Condon's population as of the 2020 census was 711, a decrease of 59 individuals since the 2000 census. The total number of housing units is 406, decreasing from 422 in 2000 (U.S. Census Bureau, 2020). Condon's elevation is about 2,800 feet and it receives about 14 inches of precipitation per year (WorldClimate, 2022).

Arlington has a total population of 628 according to the 2020 census, an increase of 104 individuals from 2000. The total number of housing units is 294 (U.S. Census Bureau, 2020). Arlington's elevation is about 285 feet, and it receives about 9 inches of rain per year (World Climate, 2022).

Lonerock has a total population of 25. The total number of housing units is 27 (U.S. Census Bureau, 2020). Its elevation is 2,800 feet and it receives an average of 14 inches of rain per year. (Weather Atlas, 2022).

C. Transportation, Infrastructure and Land Use

a. Transportation

The major transportation corridors are the I-84 Interstate Highway and the Union Pacific Santa Fe Railroad, both parallel the Columbia River. State Highway 19 is the major north-south route connecting Arlington with Condon, while State Highway 206 connects Condon with

communities to the east and west. There is no public transportation in Gilliam County. There is a bus that is available for senior transit, but it must be booked ahead of time.

b. Infrastructure

The infrastructure in Gilliam County is very small. Condon and Arlington both have a high school and middle school/grade school building, grocery stores, gas stations and general stores. There are several windmills for wind power throughout the county, and Waste Management has a large landfill. Most of the county is sparsely populated and consists of farmland.

c. Land use

About 12 percent of the county in any given year is in dry-land grain production. These fields present a significant wildfire hazard when in a mature stage. Nearly nine percent of county lands are enrolled in the Conservation Reserve Program (CRP). These lands contain perennial grasses which are not cut during the duration of the nine-year program resulting in heavy fuel loads of dense, dry material. Only 1,583 acres in the county (two-tenths of one percent) are classified as timberlands with juniper and ponderosa pine being the principal tree species (NRCS, 2022).

Farm and ranching lands primarily produce grains and forage. The Natural Resources Conservation Service in Oregon reports that the county has 288,002 acres of dry crop land, 6,571 acres of irrigated cropland, and 488,337 acres of rangeland. Of these 68,180 acres are in the CRP program (NRCS, 2022).

Cultivated farmlands generally have gentle slopes. A large portion of the remainder of the county contains moderate to steep slopes and usually has extremely limited access. Slopes more than 40 percent are common along the John Day River, and its side canyons.

The John Day River is a major recreation attraction for boaters, fishermen and hunters. Summertime use is often heavy with users coming from a regional and national base. Both day use and overnight camping occurs. Access along the river route is very restricted. Much of the land within the John Day Canyon is publicly owned and managed by the Bureau of Land Management (BLM). Most of the land (92%) in the county is privately owned. A breakdown of land ownership follows:

Table 2: Land Ownership Breakdown of Gilliam County

Landowner	Number of Acres
Private	851,577
Port of Arlington	51
State of Oregon	1,886
Gilliam County	133
Bureau of Land Management	46,672
Bonneville Power Administration	82
Corps of Engineers	11,391
Confederated Tribes of the Warm Springs Res.	4,630
Other	34

D. ISO Fire Hazard Rating

Most of Gilliam County has an Insurance Service Organization (ISO) rating score of ten (Condon, Arlington and the Air Base have a score of six). The ISO collects information on community fire protection capability and assigns a rating score based on the effectiveness and quality of the protection provided. Rating scores range from one to ten with a score of one indicating exemplary public protection and a 10 signaling the program does not meet minimum standards. A lower rating for community members is important from the standpoint that fire insurance costs would be lower as compared with a community with a higher rating.

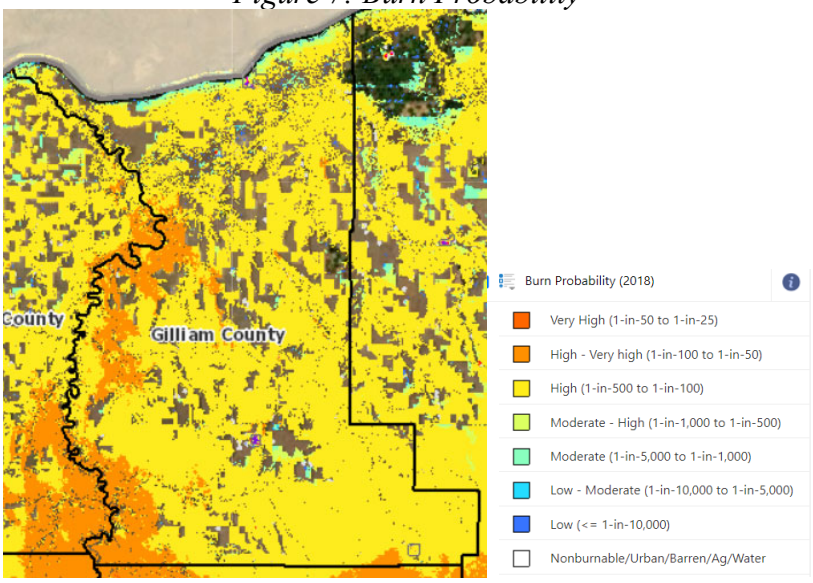
VI. Wildfire Risk Assessment

The Oregon Wildfire Risk Explorer (OWRE) was used to generate maps and to determine what observed risk in Gilliam County is at the State and Federal level. This program provides wildfire risk data compiled from the 2018 Pacific Northwest Quantitative Wildfire Risk Assessment, the 2013 West Wide Wildfire Risk Assessment, Oregon Department of Forestry, US forest Service, local fire managers, planners and natural resource specialists in Oregon and Washington (ODF and USFS, 2022). The OWRE uses state-of-the-art fire modeling techniques to determine fire risk and is improving their coordination with local planners (ODF and USFS, 2022).

A. Burn Probability

Burn probability shows the annual likelihood of a wildfire greater than 250 acres in size occurring, considering the weather, topography, fire history and fuels (vegetation) (ODF and USFS, 2022).

Figure 7: Burn Probability

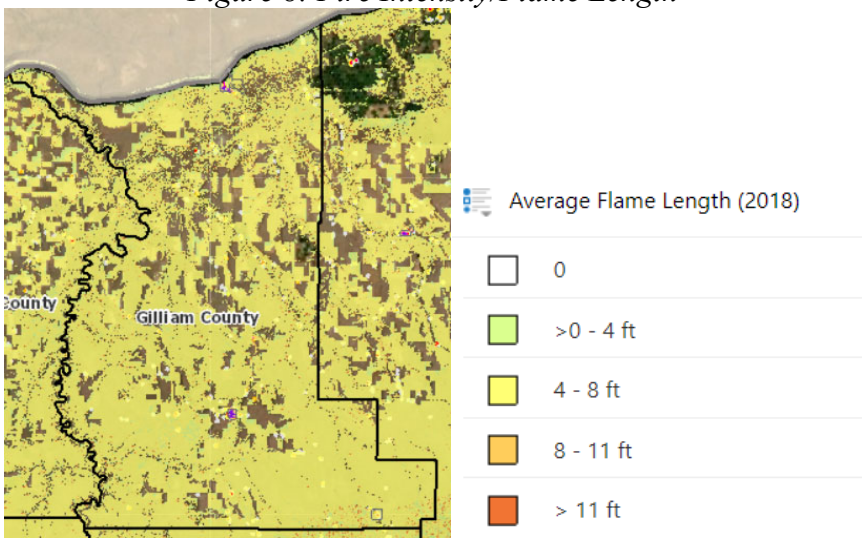


Source: Oregon Wildfire Risk Explorer Map Viewer

B. Fire Intensity/Flame Length

Flame length indicates fire intensity, which is an important factor when attempting to identify impacts to property, people, and other values, as well as firefighter safety (Oregon Wildfire Risk Explorer, 2022). Predicted fire intensity/flame length can assist with mitigation work by identifying areas that should have their hazardous fuel load reduced to lower fire intensity and flame length (Oregon Wildfire Risk Explorer, 2022).

Figure 8: Fire Intensity/Flame Length



Source: Oregon Wildfire Risk Explorer Map Viewer

VII. Emergency Management and Wildfire Protection

Gilliam County has two Rural Fire Protection Districts. The North Gilliam County Rural Fire Protection District covers Arlington and Northern Gilliam County, and the South Gilliam County Rural Fire Protection District covers Condon, Lonerock and Southern Gilliam County.

The North Gilliam County Rural Fire Protection District contains about 374 square miles (30.4 percent of the county) while the South District has 788 square miles (64.4 percent). Slightly more than one percent, or 14 square miles, is included in an Oregon Department of Forestry Protection District. These lands are in the southeast part of the county and contain the City of Lonerock.

The North Gilliam County Rural Fire Protection District has 12 volunteers and the following firefighting equipment:

- Four brush vehicles
- One tender
- One structure engine
- One tender rescue engine

The South Gilliam County Rural Fire Protection District has 17 volunteers and the following equipment:

- One Structure Engine
- One pumper/tender
- Two water tenders (one 3,000 and one 4,000-gallon capacity)
- Seven wildland apparatus (one used as a rescue rig)
- 10 SCBAs
- One SCBA compressor system
- Extrication tools, generators, scene lights, other miscellaneous tools, hose, and equipment.

A small portion of the county, 13,581 acres, is a part of an Oregon Department of Forestry Protection District. The ODF has seven engines and aerial resources available for this district. South Gilliam County RFPD has a mutual aid agreement with the ODF Central Oregon District for their respective jurisdictional areas.

Gilliam, Umatilla, and Morrow Counties are under one fire defense board. Umatilla National Forest is a part to this Fire Defense Board. This gives Gilliam County agencies access to firefighters and equipment from all the agencies in both Umatilla and Morrow Counties and the Umatilla National Forest. Gilliam County also maintains a mutual aid agreement with Sherman County.

Gilliam County has a mutual aid agreement with the Bureau of Land Management (BLM). It is a Mutual Aid Cooperative Fire Protection Agreement between Rivers Division, Oregon Fire Management Service (Prineville District-BLM) and Sherman, Wasco, Gilliam, and Wheeler County Fire Protection Districts. The agreement was established in 2006 and is still valid as of 2022.

There are also verbal cooperative agreements with the County Road Department to supply road graders and cats for fire suppression activities.

A. Emergency Evacuation Routes

Evacuation routes during a wildfire emergency depend on the specific situation and would be determined by the State Police and County Sheriff personnel on the time of the emergency. For the City of Condon, State Highway 19 provides escape routes to the north and south while State Highway 206 offers escape to the east and west. The City of Arlington relies on State Highway 19 for escape routes to the North and south towards Condon while I-84, Rhea Road and Cedar Springs provide east/west escape routes. The City of Lonerock would rely on Lonerock Road, Buckhorn and Buttermilk Roads.

VIII. Structure Survivability

This section describes the factors which affect the survivability of a structure during a wildfire event. It addresses factors surrounding the structure and the building material used in the construction of it. Recommendations are given to make a structure more survivable during a wildfire.

A. Structural Vulnerability

Structural Vulnerability is the likelihood that at structure will be destroyed during a wildfire event. The decisions and practices by the landowner within the home ignition zone account for 90 percent of the likelihood of a wildfire threatening a structure. The three primary criteria involved are construction material, defensible space, and presence of suppression action (access). Steps to reduce structural vulnerability are taken from Living with Fire, A guide for Homeowners developed by the Pacific Northwest Wildfire Coordinating group and are listed below (2001):

- Create a defensible space around the house. Defensible space is the area between a house and an oncoming wildfire where vegetation has been modified to reduce the amount of burnable material and to provide an opportunity for firefighters to effectively defend the structure. Methods for creating defensible space include the removal of some live trees or brush, removal of all dead material in the zone, pruning lower tree branches and mowing grass. The amount of defensible space around a structure can vary from as little as 30 feet to more than 200 feet, depending on the type of vegetation involved and the slope of the land. Homeowners should seek advice from their local fire department members, or the Oregon Department of Forestry when deciding on how to create a defensible space.
- Once a defensible space has been created, it must be maintained annually to be effective.
- Replace more flammable plants with more fire-resistant ones. A list of fire-resistant plants is in Appendix B.
- Maintain an emergency water supply when living in areas not served by municipal water source with hydrants nearby. A minimum supply of 2,500 gallons is recommended. Notify the local fire department as to the existence of the water source, clearly mark it, and provide easy access to it.
- Provide at least two exit opportunities by vehicle from your property.
- Design access routes to allow emergency equipment to reach the house. Consider road width, grade, and curves. Provide adequate turnaround areas for large vehicles. Clear flammable material at least 10 feet from roads and driveways.
- Post home identification numbers which can be easily identified by emergency personnel.

B. Structural Ignitability

Structural Ignitability relates to the cause of a structure igniting during a wildfire event. The cause of a structure igniting is usually related to building material used during construction. The roof of a structure is often the most vulnerable part of a building during a wildfire. Wood shake

roofs offer some of the best potential for a fire start, usually from flying embers. Following are some recommendations to help make a structure more resistive to ignition during a wildfire event from the National Fire Protection Association and US Forest Service:

- Replace wood shake roofs with a class C or better fire-resistant material
- Clean roofs and gutters of dead leaves, debris and pine needles that could catch embers.
- Replace or repair any loose or missing shingles or roof tiles to prevent ember penetration.
- Cover chimney outlets and stovepipes with a non-flammable screen of one-half inch or smaller mesh. Check screens for creosote buildup.
- Clean debris from exterior attic vents and install 1/8 inch metal mesh screening to reduce embers.
- Repair or replace damaged or loose window screens and any broken windows. Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
- Use fire resistant siding material.
- Limit the size and number of windows that face areas of dense vegetation. Use double or triple paned windows
- Consider sprinkler systems inside and outside the structure.
- Move any flammable material away from wall exteriors-mulch, flammable plants, leaves and needles, firewood piles-anything that can burn. Remove anything stored underneath decks or porches.
- Create fuel breaks with driveways, walkways/paths, patios and decks.
- Dispose of heavy accumulations of ground litter/debris.

An excellent pamphlet dealing with structural vulnerability and ignitability is the Living with Fire, A guide for Homeowners. Copies of this can be obtained from the US Forest Service Website, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_020876.pdf. Another useful guide is How to Prepare Your Home for Wildfires from the NFPA, available at https://www.nfpa.org//-/media/Files/Firewise/Fact-sheets/FirewiseHowToPrepareYourHomeForWildfires.pdf. A more complete list of projects for reducing wildfire vulnerability and ignitability is in Appendix C.

IX. Areas that have received a Federal Declaration of Emergency

While Gilliam County has suffered from several fires, they have never had an emergency that has reached the level of Federal Declaration. In Oregon, six disasters over the past 7 years have not reached Federal Declaration but have generated after action reports, and none were fires.

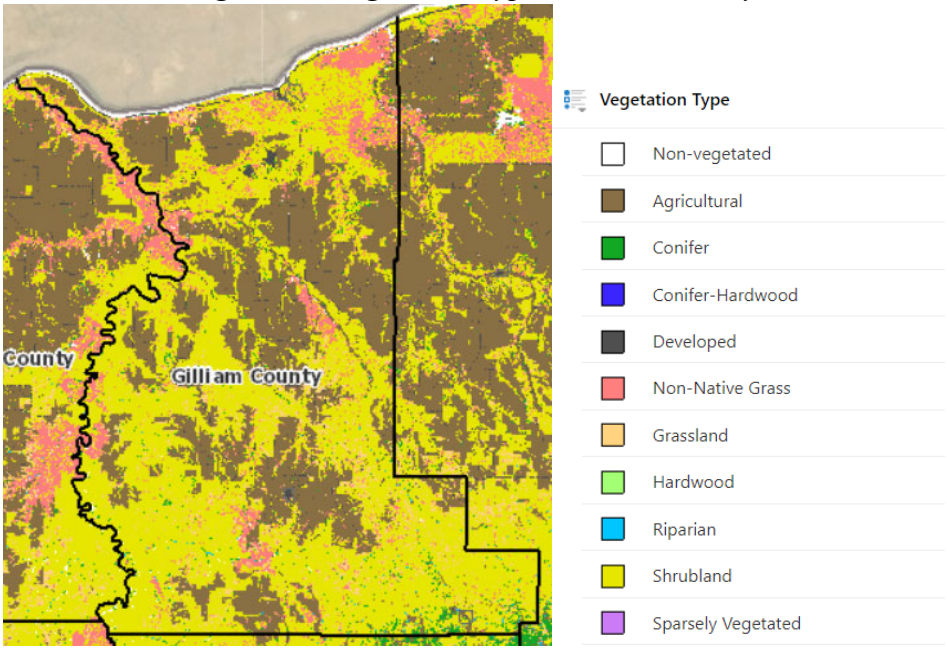
There were several Federally Declared disasters in Oregon over the past 7 years, with most of them being fires. Overall, in Oregon there were three fires declared Federal Disasters in 2021, 18 fires in 2020, one in 2019, six in 2018, four in 2017, two in 2016 and six in 2015.

X. Non-Native Grasses/Vegetation

The introduction of invasive annual grasses, such as cheatgrass, medusa head rye and/or ventenata have changed fire behavior in rural Oregon and throughout the United States (Canham, 2022). These annual grasses can build up over time and cause more extreme and more frequent fires (Canham, 2022). While there are several species of invasive grasses, the one that seems to alter fire behavior the most is cheatgrass (Bromos tectorum), and it is prevalent in Gilliam County (Fusco, Finn, Balch, Nagy, & Bradley, 2019). Cheatgrass can reach a heigh of .1-0.8 meters annually and is known to increase fire frequency, horizontal continuity, spread; it was a large contributor to the fires in the Great Basin (Fusco, Finn, Balch, Nagy, & Bradley, 2019). Cheatgrass does this by adding abundant fuels to an ecosystem, it grows quickly and recovers quickly from fires, providing hazardous fuel materials more quickly than native bunch grasses, potentially shortening fire return intervals (Fusco, Finn, Balch, Nagy, & Bradley, 2019). Cheatgrass has such a large effect on ecosystems that it is believed to alter fire recurrence intervals from 20 to 100 years for sagebrush grasslands to 3 to 5 years once it outcompetes native grasses (Ypsilantis, 2003). This issue is so important that the BLM Prineville District has spent quite a lot of time and resources to spray for cheatgrass after fires to give native bunchgrasses a chance to sprout (Canham, 2022).

According to the OWRE Map, several areas in Gilliam County are densely populated by non-native grasses, greatly increasing the wildfire risk in those areas.

Figure 11: Vegetation Types Gilliam County



Source: Oregon Wildfire Risk Explorer Map Viewer

XI. Climate Change

Climate change affects a wide variety of natural hazard events, especially wildfires (State of Oregon, 2020). Currently scientists are predicting that climate change will result in a longer

growing season for Oregon crops, but it will also increase the growing season for weeds and pests (Department of Land Conservation and Development, 2021). Gilliam County is currently predicted to have the number of days per year over 86 degrees Fahrenheit increase, and that precipitation that used to arrive as snow will now be falling as rain (Department of Land Conservation and Development, 2021). This change will result in earlier runoff, rivers becoming more unpredictable, increasing floods, less groundwater recharge, and less snowpack, translating to summer water shortages and increased stream and river temperatures, in addition to Gilliam County already being in an eight-year drought as of 2022 (Department of Land Conservation and Development, 2021). All these factors will increase wildfire risk.

The Intergovernmental Panel on Climate Change (IPCC) states that "many adaptation and mitigation options can help address climate change, but no single option is sufficient by itself. Effective implementation depends on policies and cooperation at all scales and can be enhanced through integrated responses that link mitigation and adaptation" (Department of Land Conservation and Development, 2021).

XII. High Risk Areas

A. Communities at Risk

a. Oregon Department of Forestry Communities at Risk Report

The Oregon Department of Forestry released a Communities at Risk Report January 2020. It provided a snapshot of wildland fire risks to Oregon communities using current data from the Quantitative Wildfire Risk Assessment, Oregon Department of Forestry Fires Statistics, and Silvis Data. A Community at Risk is defined as "a geographic area within and surrounding permanent dwellings with basic infrastructure and services, under a common fire protection jurisdiction, government or tribal trust or allotment, for which there is a significant threat due to wildfire" (State of Oregon, 2020).

Under this Report, Gilliam County has three communities at risk, one at low risk and two at medium risk. Condon and Lonerock are at High risk, and Arlington is at low risk (Trentadue & Alcock, 2020).

b. Gilliam County Steering Committee Local Risk Assessment

The Gilliam County Steering Committee performed an internal review of communities at risk in Gilliam County, and rated Arlington as a high risk, Lonerock as medium risk, and Condon as low risk. Arlington is high risk due to poor defensible space around the city, which has resulted in high annual grasses which contribute to fast moving and intense fires. It is also high risk due to the large amount of infrastructure, including wind turbines in the county. Lonerock is isolated and surrounded by juniper and sagebrush, contributing to its medium risk. Condon is isolated, but due to the large amount of cultivated land around the city has a particularly good defensible space, making it low risk for the County in comparison to the other cities.

B. Underserved Communities

According to the State of Oregon, the definition of historically and currently underserved communities includes Oregonians who are:

Native Americans, members of Oregon's nine federally recognized tribes, Indigenous people, Alaska Natives.
Black, Africans, African Americans.
Latinx, Hispanic;
Asian, Pacific Islanders;
Immigrants, refugees, asylum seekers;
Undocumented, DREAMers;
Linguistically diverse;
People with Disabilities;
LGBTQ+;
Aging/older adults;
Economically disadvantaged;
Farmworkers, migrants workers and
Living in rural parts of the state.

Frequently individuals will identify with multiple different underserved communities, and this should be taken into consideration when planning and responding to disasters, including wildfires (Office of Governor Kate Brown, 2021).

While Gilliam County has a wide variety of underserved communities, the entire county is rural, and therefore an underserved community overall. Gilliam County also has a significant number of aging/older adult which represent another underserved community.

C. Unprotected Lands

All of Gilliam County falls under the protection of a Fire District.

D. Recreation Areas

There are several recreational areas along the John Day River. These areas are frequented year-round by people from all over the state coming to enjoy outdoor activities. The large number of hikers, hunters and river-users make these areas very high risk.

c. Cottonwood Canyon State Park
d. 30 Mile Boat Launch on the John Day River at the Armstrong Access area
e. McDonald's Ferry at the mouth of Rock Creek
f. The entire John Day River area

E. Infrastructure

a. Powerlines
b. Gas lines
c. Communications lines/towers
d. Wind Turbines

XIII. Wildfire Mitigation Projects

This section establishes a strategy designed to mitigate the wildfire risk concerns in Gilliam County. Priority levels of High, Moderate or Low are assigned to mitigation projects along with a time frame in which they should be implemented (short-term, mid-term, long-term and ongoing) and the agency responsible for doing so. Some of the projects may require grant funding to be successfully implemented.

Project #1
Establish a fuel mitigation plan for maintaining fuel breaks around high-risk areas, including access roads, water sources and access to water sources. In this mitigation plan list out critical infrastructure for the Cities of Arlington, Condon, Lonerock and the County as a whole. The critical infrastructure in the County includes but is not limited to; Gilliam County Fair Grounds, South Gilliam County Rural Fire Protection District Fire Hall, North Gilliam County Rural Fire Protection District Fire Hall, 911 dispatch center in Condon, Highway 19, Highway 206, I-84 Access ramps, local water pumping stations and distribution centers, power generation, transmission and distribution infrastructure and sewage pumping stations. Hire an additional staff member or contractor to assist with management of the project and identifying additional critical infrastructure.

Priority – High
Timeframe – Mid-term
Responsibility- Fire Districts, City of Arlington, City of Condon, City of Lonerock GCFSC (Gilliam County Fire Services Coordinator), and Gilliam County Emergency Manager (GCEM)

Project #2
Purchase equipment and supplies for establishing fuel breaks. This includes fire resistant plants for landscaping, irrigation type water line, vegetation control devices (mowers, weed eaters, etc.) and other equipment. Consider alternate methods of fuel control, including prescribed animal grazing such as goats or cattle. Hire an additional staff member or contractor to manage the project.

Priority – Medium
Timeframe – Long-term
Responsibility- Fire Districts, City of Arlington, City of Condon, City of Lonerock GCFSC and GCEM

Project #3
Create and maintain fuel breaks around high risk areas in Arlington, Condon and Lonerock. These areas include critical infrastructure, the municipal buildings, the Western boundary of Arlington and areas with low income or elderly residents unable to maintain minimum defensible spaces physically or financially.

Priority – High
Timeframe – Mid-term
Responsibility-Land owners, Fire Districts, City of Arlington, City of Condon, City of Lonerock

Project #4
Establish the Gilliam County Fair Grounds in Condon as a multi-purpose Community Resilience Center to provide shelter and resources during fire, climate, and other emergencies. Install back-up generators to power buildings with emergency shelter capabilities, air filtration systems, and air conditioning systems. Hire an additional staff member or contractor to assist with management of the project.

Priority – High
Timeframe – Mid-term
Responsibility- Fire Districts, City of Condon, GCFSC, and GCEM

Project #5
Establish a multi-purpose Community Resilience Center in Arlington to provide shelter and resources during fire, climate, and other emergencies. Install back-up generators to power buildings with emergency shelter capabilities, air filtration systems, and air conditioning systems. Hire an additional staff member or contractor to assist with management of the project

Priority – Medium
Timeframe – Long-term
Responsibility- Fire Districts, City of Arlington, GCFSC and GCEM

Project #6
Complete a road, culvert, stream crossing and railroad crossing assessment to address existing situations which could result in problems for evacuation of residents and limit fire apparatus response during a wildfire situation. Develop alternative routes for when roads and railroads are blocked for emergency evacuation or firefighting access. Hire an additional staff member or contractor to complete the assessment.

Priority – High
Time Frame – Short to mid-term
Responsibility – Gilliam County Soil and Water Conservation District (SWCD), Fire Districts, Oregon State Fire Marshal (OSFM)

Project #7
Complete a county-wide inventory of water sources and heavy equipment available for firefighting within individual watershed districts. Inventory shall include earth moving equipment, such as front-end loaders and graders, as well as fire break equipment, including tractors and disc plows and any additional equipment that could be useful in a firefighting situation. Hire an additional staff member or contractor to complete the inventory.

Priority – Moderate
Time Frame – Short to mid-term
Responsibility – Gilliam County SWCD, GCFSC

Project #8
Assist Rural Fire Protection Districts in upgrading their firefighting equipment to increase wildland firefighting capabilities and capacity for local structural fire districts. Purchase additional apparatus for pre-positioning during red flag conditions and additional wildland firefighting equipment to increase available initial attack resources.

Priority – High
Time Frame – Short-term and ongoing
Responsibility –Fire Districts, GCFSC

Project #9
Provide additional professional trainings for Gilliam County Rural Fire Protection District Volunteer Firefighters and City employees in firefighting methods and strategies. Including sending firefighters to local schools for firefighting and fire management courses offered by state, federal and private agencies. Pursue opportunities for bringing in outside trainers to conduct training for volunteers.

Priority – Medium
Timeframe – Ongoing
Responsibility- Fire Districts, GCFSC

Project #10
Create a County-wide landowner outreach program to educate and incentivize defensible space best practices, including developing defensible spaces around homes, using fire resistant plants in landscaping and other established methods. Vulnerable areas include the west boundary of the City of Arlington, but this also applies to areas in Condon and Lonerock. Hire an additional staff member or contractor to develop and initially run the program.

Priority - High
Timeframe – Long-term and ongoing
Responsibility- Fire Districts, City Arlington, City of Condon, City of Lonerock, GCFSC and GCEM

Project #11
Conduct county-wide wildfire prevention efforts including:

- Distribution of fire prevention literature and material to homeowners
- Placement of fire prevention signs at strategic locations. Develop a county-wide fire prevention sign plan in cooperation with ODF and the BLM to identify type of signs, locations, maintenance schedule, etc.
- Place public service announcements about fire prevention on Fire Department social media and other channels.
- Conduct fire prevention programs in schools.
- Do one-on-one landowner contacts to discuss wildfire prevention, provide onsite assessments, suggestions, and assistance.
- Assist Arlington, Condon and Lonerock to become "Firewise Communities"
- Help communities to get organized and form neighborhood-type associations. Work with them to help identify fire prevention programs for their areas of concern.
- Provide information about what type of fire-resistant plants to use for landscaping.
- Establish a fire-resistant plant program for the County, including discounts on plants, advice on what to plant.
- Hire an additional staff member or contractor to assist with running fire prevention programs and establishing Firewise Communities.

Priority – High
Time Frame – Short-term and ongoing
Responsibility – ODF, OSFM, Fire Chiefs, BLM, GCFSC and GCEM

Project # 12
Explore the feasibility and budget options for hiring contractors for applying prescribed burns in high priority areas.

Priority – Moderate
Time Frame – Long-term
Responsibility – SWCD, Landowners

Project #13
Partner with the Gilliam County Soil and Water Conservation District and Bureau of Reclamation to install a minimum of 3 Agrimet weather stations for fire weather predictions along the John Day Basin. Install communications relay stations to augment areas with poor cell service and poor radio connectivity in high-risk areas throughout the county, especially on major roads without service (HWY 19, HWY 206, and Cedar Springs Lane). Install smoke detection cameras in high-risk areas with little traffic and poor connectivity to inform of smoke early. Hire an additional staff member or contractor to develop and initially run the project.

Priority – High
Time Frame – Short to mid-term
Responsibility – SWCD, GCFSC, ODF

Project #14
Seek funding options and explore feasibility of implementing a fuel reimbursement program for landowners utilizing their own equipment for firefighting activities conducted on behalf of fire

districts, state partners, and wildland firefighting partners such as USFS and BLM. Hire an additional staff member or contractor to assist with conducting and managing the program.

Priority – High
Time Frame – Short to mid-term
Responsibility – Fire Districts, GCFSC

Project #15
Establish community clean-up days in Arlington and provide green waste dumpsters and additional equipment to manage and dispose of debris for citizens who do not have easy access to garbage/flammable debris removal services. Provide assistance with personnel on a few of the days to ensure elderly, disabled and/or single-adult households can dispose of large debris that could be a fire hazard if maintained in or around the home. Acquire necessary equipment to move debris. Hire an additional staff member or contractor to assist with conducting and managing the program.

Priority – Medium
Time Frame – Short to mid-term
Responsibility – City of Arlington

Project #16
Conduct an NFPA (National Fire Protection Association) Community Risk Assessment for Gilliam County, addressing each community in the County. When conducting this risk assessment, liaise with Oregon State University and Oregon Department of Forestry to ensure that local risk assessments are considered when creating the statewide standard. Hire an additional staff member or contractor to develop and initially run the project.

Priority-High
Time Frame-Short-term
Responsibility – Fire Districts, GCFSC, GCEM

Project #17
Develop a Memorandum of Understanding (MOU) with the City of Arlington to enable the Fire District to request equipment from the city for fire suppression/contingency lines during a WUI fire event.

Priority – High
Time Frame – Long-term
Responsibility – City of Arlington and the Fire Districts

XIV. CWPP Review Schedule

A. Annual project review

The CWPP projects shall be reviewed annually to check on progress. Guidance for reviewing the CWPP has been written by the University of Oregon and is titled Community Wildfire Protection Plan Evaluation Guide. It is available on the ODF website, at https://www.oregon.gov/ODF/Fire/Pages/CWPP.aspx. This guidance may be used for evaluating the CWPP. Appendix D, important committee members and contacts will be checked for accuracy and updated without needing to update the entire plan annually as well.

B. CWPP Update

There is no set schedule for revising and updating CWPPs. However, it is recommended by FEMA and other agencies to update the CWPP at same time as the Natural Hazards Mitigation Plan (NHMP) which is required to be updated every 5 years (University of Oregon, 2004). Gilliam County will follow this recommendation and update the CWPP every 5 years. The next update is due in 2027.

XV. Appendices

Appendix A. Special Considerations

Senate Bill – 360

The Oregon Forestland Urban Interface Fire Protection Act of 1997 (SB-360) is the State of Oregon's response to several escalating wildland fire problems. Wildfires are burning homes in the interface and firefighters are working in increasingly hazardous situations. Fire suppression costs are increasing significantly in Oregon. Fire Fighting resources are limited and in some cases emergency service agencies cannot provide equipment and personnel to all structures threatened by a wildfire. SB-360 addresses these concerns and enlists the aid of the only people who can make fuel reduction changes to residential property: the landowners themselves. It includes vegetation treatments such as:

- Removing pine needles and leaves from the roof.
- Pruning limbs from trees, keeping trees healthy.
- Removing shrubs near the home and close to trees.
- Mowing dead grass near the home.
- Storing firewood and other flammable material at least 20 feet from the home (during fire season).
- Removing tree limbs within 10 feet of a chimney opening.
- Maintaining a shaded fuel break near the house and in some cases around the property line.
- Maintaining driveways that are over 150 feet long, clear of branches and trees that could prevent emergency vehicles from gaining access to the structure.

The act applies to lands protected by the Oregon Department of Forestry and does not apply to other properties outside of ODF protection. Each county will establish a classification committee that will identify the hazard class of each area affected by the act. Once classified, landowners are provided a certification package and given two years to certify that their lands meet the standards. The Central Oregon District of the Oregon Department of Forestry will work closely with local emergency management personnel, conduct public meetings, hearings, and community workshops along with providing onsite consultation for landowners affected by the act. (Oregon Department of Forestry, 2022)

The Forestland-Urban Interface Fire Protection Act of 1997 is intended to be both voluntary and self-certifying by the homeowner. By design, the Oregon Department of Forestry developed a program that recruits the assistance of each homeowner, offers defensible space prescriptions, and allows affected homeowners the option of certifying their property or not. The act contains no statutory provisions, homeowners will not be cited or required to appear in court if they choose not to participate. The act does contain a potential civil liability if the homeowner does not certify their property in two years after notification. If a fire originates on that property and spreads through the area that should be treated and the Oregon Department of Forestry must utilize extraordinary suppression efforts to contain that fire, a homeowner could be liable for up to one hundred thousand dollars of suppression costs. (Oregon Department of Forestry, 2022)

Senate Bill- 762

In 2021 Senate Bill 762 was signed to create a statewide approach to a wide range of wildfire mitigation measures. The legislature directed the Building Codes Division to adopt fire hardening building code standards, which could be applied to areas of the state mapped as extreme or high risk and that are in wildland urban interface. Fire hardening refers to using building materials and practices that can reduce the risk of ignition of a home by embers from wildfires. The fire hazard mitigation (fire hardening) standards that the division is in the process of adopting will be based on the existing wildfire mitigation provisions in Section R327 of the Oregon Residential Specialty Code (ORSC). The extreme and high-risk areas of the state and the wildland urban interface will be mapped out on the Oregon Wildfire Risk Map. Building code standards will apply to new construction or replacements of covered items and will not apply to buildings retroactively (Oregon.Gov, 2022).

Senate Bill 762 will provide more than $220 million to help Oregon Modernize and improve wildfire preparedness through three key strategies: creating fire-adapted communities, developing safe and effective response, and increasing the resiliency of Oregon's landscapes. The legislation provides direction and investment to many state agencies, including direction regarding the wildland-urban interface; statewide fire risk mapping; prescribed fire; baseline standards for unprotected and under-protected lands in Oregon and establishes grant programs to improve forest restoration and resiliency (Oregon Department of Forestry, 2022).

Emergency Conflagration Act

Under circumstances when wildfires create a serious threat to life and property, the Governor may invoke the Emergency Conflagration Act. Once invoked, the Act authorizes the Governor to use the resources of any county, city, or district fire suppression organization to assist firefighting efforts anywhere in the state. The Act requires the state to reimburse the political subdivision for costs in providing such fire suppression assistance (State Fire Marshal, 2021).

State of Emergency

The Governor can also declare a "state of emergency" authorizing the participation of all public agency personnel and equipment, including the Oregon National Guard to assist in the battle against wildfires in accordance with ORS 401.165. During a Governor-declared "state of emergency," the Oregon State Police Coordinates National Guard resources through the Office of Emergency Management and structural firefighting resources through the Office of the State Fire Marshal. The Oregon Military Department also provides both staff and equipment for emergency firefighting needs (State Fire Marshal, 2021).

Federal Emergency Management Act (FEMA) Eligibility

Federal fire management financial assistance is provided through the President's Disaster Relief Fund and made available by FEMA. Only fires involving structures or homes can be declared eligible for FEMA reimbursement. Cost reimbursement can only occur if the Governor invokes the Emergency Conflagration Act and the Office of Emergency Management requests assistance and provides information on the estimated amount and severity of the threat to structures or

homes through the FEMA Region 10 office. Each incident requires separate approval. After validating the nature and extent of the threat, the FEMA regional office requests approval by the FEMA director in Washington, D.C. Once approved, subsequent firefighting costs on all FEMA approved fires are eligible for approximately 70% cost reimbursement under an approved grant for managing, mitigating, and controlling designated fires during the incident period as established by FEMA. (FEMA, 2022)

The Federal Emergency Management Agency (FEMA) additionally has established grant programs for addressing hazards before they happen. The Building Resilient Infrastructure and Communities (BRIC) program was created to replace the pre-disaster mitigation grant program, and is designed to "support states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards," (FEMA, 2022). The goal of BRIC is to shift more funding to prevent disasters based on research-supported proactive investments, instead of spending money solely on responding to disasters (FEMA, 2022). Established CWPP plans help outline what a community could apply for BRIC funds for.

Healthy Forest Restoration Act (HFRA)

The November 2003, Healthy Forest Restoration Act (HFRA) offers new tools and additional authorities for treating more acres in a timely fashion to meet forest restoration goals. It provides new authorities for treating fuels on federal land that require NEPA at the EA or EIS level. HFRA strengthens public participation by providing incentives for the local communities to develop their own community wildfire protection plans. It limits the complexities of Environmental Analysis for hazard reduction projects. It provides a more effective appeal process and instructs the Courts to balance short-term effects of implementing projects against the harm caused by delay and long-term benefits of a restored forest (108th Congress, 2003).

HFRA Title, I addresses vegetation treatments on National Forest System and Bureau of Land Management lands that are at risk of wildland fire or insect and disease epidemics (emphasis is on Fire Regime I, II and III in Condition Class 2 & 3). Title II encourages each community to develop their own CWPP and to designate their own specific WUIs where restoration projects might occur. Half of all fuel reduction projects under the HFRA must occur in the community protection zone as defined by HFRA. It also encourages biomass energy production through grants and assistance to local communities to help create market incentives for the removal of otherwise valueless forest material (108th Congress, 2003).

National Fire Plan (NFP)

Following the explosive fire season of 2000, the National Fire Plan was established to respond to severe wildland fires and their impacts to communities. It is an umbrella term that covers a variety of government programs and ideas addressing wildland fire issues. The NFP is a long-term investment that will help protect human lives, communities, and natural resources, while fostering cooperation and communication among federal, state, and local governments, tribes and interested publics. Federal fire agencies worked closely with these partners and the Western

Governors Association to complete a 10-year comprehensive strategy in August 2001 (Department of Interior, 2006).

The authors of the 10-year strategy established a Collaborative Framework through which the strategy is to be implemented. This framework reflects their understanding that, to be successful, implementation must involve communication and collaboration across ownership boundaries, administrative jurisdictions, and areas of interest. Further the strategies should enhance collaboration among all levels and all parties for planning, decision making, implementation, monitoring, and learning, without altering the responsibilities or statutory authorities of participating federal and state agencies (Department of Interior, 2006).

In 2002, the Implementation Plan for the 10-year strategy reiterated the importance of this framework for achieving the desired principles, goals, and objectives. The implementation Plan identified the three levels of accountability on which the framework is built. A 2006 update of the implementation plan provides characteristics of successful collaboration and identifies three Implementation Tasks. These additions are intended to promote more effective implementation of the plan by participants at all levels (Department of Interior, 2006).

The NFP is focused on firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The guiding principle for dealing with fire risk is the reduction of hazardous fuel loads threatening communities and wildland ecosystems. The NFP offers grant opportunities for hazard fuel reduction, wildfire planning, wildfire prevention and fuel utilization. Most NFP funding in Oregon goes to wildfire preparedness and hazardous fuel treatment projects (Department of Interior, 2006).

Oregon Statewide Land Use Planning Goals

Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of nineteen statewide planning goals. The goals express the state's policies on land use and related topics. The program is administered through the Department of Land Conservation and Development (DLCD), and Oregon's cities and counties. Cities and counties implement the requirements of the statewide planning goals through state approved local comprehensive land use programs (State of Oregon, 2022).

Planning goals related to WUI fire hazards are Goal 4 – Forest Lands, Goal 7 – Natural Hazards, and Goal 14 – Urbanization. Goal 4 requires local governments to minimize risks associated with wildfire when new dwellings or other structures are allowed in forestlands. Goal 7 requires local governments to develop programs to reduce risks to people and property from a variety of natural hazards, including wildfire. Goal 14 mandates that cities have urban growth boundaries (UGBs) to provide for urban uses and limit urban-type development on rural resource lands outside of UGBs (State of Oregon, 2020).

County Emergency Management

Gilliam County has recently reviewed their completed Natural Hazard Mitigation Plan (University of Oregon, 2018). This plan addresses wildfire in its Risk Assessment section which has the following to say about the subject:

- Wildfire hazards exist throughout the county but are particularly notable in areas where wheat, other crops, and natural vegetation exist, which includes most of the county.
- Gilliam County overall has a high probability of wildfire, with Arlington and Lonerock having a high probability and Condon having a low probability.
- There have been 39 notable wildfires in Gilliam County since 2000.
- In July 2011, a lightening caused fire at Buckhorn resulted in 27,000 acres burning in one week.
- The Scott Canyon Fire in July 2016 burned 23,000 acres and was human caused.
- In October 2017, 9,000 Acres burned near Arlington.
- The summer weather, terrain, crops, and natural vegetation of Gilliam County lends itself to the ongoing problem of wildfires.
- The community of self-completed wildfire hazard risk rating is high with a high probability of a future wildfire event.

Fire Safety Standards

State Fire Marshal Office standards address water source and access for properties with structures; they are basically the same throughout the county. Homes larger than 3,500 square feet require a water source for firefighting purposes. For access, the State requires a way to get fire fighting vehicles to within 150 feet of the structure (Oregon State Fire Marshal, 2022).

Appendix B. Fire-Wise Plant Material

Fire-Wise Plant Material for the Pacific Northwest

(Adopted from "Living with Fire – A guide for the Homeowner")

Although there are no fire-proof plant materials, the following is a list of Firewise plants that can be used in landscaping for fire prevention. Landscape maintenance is far more important to fire prevention than the selection of plant materials. When planning your landscape, use the characteristics of Firewise plants along with site characteristics such as slope, aspect, hardiness zone and amount of precipitation to choose plant material suitable for your site.

Trees	**Common Name**
Conifers:	
Calcodedrus decurrens	Incense cedar
Thuja plicata	Western red cedar
Deciduous:	
Acer spp.	Maple
Alnus spp.	Alder
Betula	Birch
Catalpa speciosa	Northern catalpa
Cetis occidentalis	Hackberry
Cornus Florida	Flowering dogwood
Fagus spp.	Beech
Fraxinus spp	Ash
Gleditsia tricanthos	Honeylocust
Liquidambar styracifua	Sweetgum
Malus spp.	Apple
Populus spp	Aspen, cottonwood, poplar
Prunus spp.	Cherry
Querus spp.	Oak (white, burr or red)
Robinia pseudoacacia	Black locust
Salix spp.	Willow

Shrubs	**Common Name**
Amelanchier spp.	Serviceberry
Altriplex canescens	Four wing saltbrush
Berberis spp.	Oregon Grape
Buddelia davidi	Butterfly bush
Caryopteris x clandonensis	Blue-mist spirea
Cornus sericea	Red osier dogwood
Cotoneaster spp.	Cotoneaster
Gaultheria shallon	Salal
Holodiscus discolor	Oceanspray
Liqustrum spp.	Privet

Mahonia spp.	Creeping grape holly
Pachistima canbyi	Dwarf mountain lover
Philadelphus spp.	Mock organe; syringa
Rhamnus fragula	Bucktorn
Rhododendron spp	Azaleas, rhododendrons
Rhus spp.	Sumac
Ribes spp.	Currant
Sherperdia argentea	Siler buffaloberry
Symphoricarpos albus	Snowberry
Viburnam trilobum	Cranberry bush
Yucca spp.	Yucca

Perennial	**Common Name**
Achillea spp.	Yarrow
Allium schoenoprasm	Chives
Bergenia spp.	Bergenia
Brodiaea spp.	Lillies
Coreopsis spp.	Coreopsis
Erysimum linifolium	Wall flower
Eschscholzia	California Poppy
Fragaria spp	Wild Strawberries
Geranium spp.	Geranium
Hemerocallis hybrids	Daylillies
Heuchera spp.	Coral bells
Hosta spp.	Hosta
Iris spp.	Iris
Kniphofia uvaria	Red hot poker
Lupinus spp.	Lupine
Oenotheria spp.	Evening primrose
Penstemon spp.	Beard tongue
Solidago spp.	Goldenrod
Strachys byzantine	Lamb's ear

Groundcovers	**Common Name**
Succulents:	
Delosperma nubigenum	Hardest ice plant
Echeveria spp.	Hens & chicks
Sedum spp.	Stone crops
Non-Succulents:	
Achillea tomentosa	Wolly yarrow
Ajuga reptans	Carpet bugle
Arctostaphylos uva-ursi	Kinnikinnick

Armeria maritima	Sea pink; thrift
Cerastium tomentosa	Snow in summer
Cotoneaster dammeri	Bearberry cotoneaster
Euonymus fortunei	Winter creeper
Hypericum calycinum	St. John's wort
Potentilla tabernaemontanii	Spring cinquefoil
Senecio cineraria	Dusty miller
Thymus praecox arcticus	Mother of thyme
Verbenia bipinnatifida	Verbenia
Vinca minor	Periwinkle

Appendix C. Firewise practices to reduce wildfire vulnerability/ignitability

No cost, just a little time projects

- Move your firewood pile out of your home's defensible space
- Perform a FIREWISE assessment of your home.
- Clean your roof and gutters of leaves and pine needles (best done in October).
- Clear the view of your house number so it can be easily seen from the street.
- Put a hose (at least 100' long) on a rack and attach it to an outside faucet.
- Trim all tree branches if they overhang your house.
- Trim all tree branches from within 20' of all chimneys.
- Remove trees along the driveway to make it 12' wide.
- Prune branches overhanging the driveway to have 14' overhead clearance.
- Maintain a green lawn for 30' around your home.
- If new homes are still being built in your area, talk to the developer and local zoning officials about building standards.
- Plan and discuss an escape plan with your family. Have a practice drill. Include your pets.
- Get involved with your community's disaster mitigation plans.
- Check your fire extinguishers. Are they still charged? Are they easy to get to in an emergency? Does everyone in the family know where they are and how to use them?
- Clear deadwood and dense flammable vegetation from your home's defensible space.
- Remove conifer shrubs from your home's defensible space especially if your home is in a high-risk area.
- Review your homeowner's insurance policy for adequate coverage. Consult your insurance agent about costs of rebuilding and repairs in your area.
- Talk to your children about not starting fires or playing with matches.
- If you have a burn barrel that you use for burning trash, remove it!
- Compost leaves in the fall, do not burn them.
- If you burn your brush piles or grass in the spring, get a burning permit.
- Always have a shovel on hand and hook up the garden hose before you start the fire.
- Never burn if the smoke and flames are blowing towards your home (or your neighbor's home).
- Be a Firewise advocate.

Minimal cost actions ($10-$25 and a little time)

- Install highly visible house numbers (at least 4" tall) on your home.
- Install big, highly visible house numbers (at least 4' tall) at the entrance of the driveway onto the street. Use non-flammable materials and posts.
- Install metal screens on all attic, foundation, other openings on your home to prevent accumulation of leaves and needles.
- Hold a neighborhood meeting to talk about fire safety. Invite your local fire chief. Have coffee and donuts for neighbors.
- Install a fire extinguisher in the kitchen and in the garage. Install a metal shield between your home and an attached wood fence.

- Replace conifer and evergreen shrubs with low-flammable plants in your home's defensible space.
- Thin and prune conifer trees for 30' to 100' around your home.
- Purchase and use a NOAA weather alert radio. Many types of emergencies are announced through this service.
- Replace vinyl gutters and downspouts with non-flammable, metal gutters and downspouts.
- Install a spark arrestor or heavy wire screen with opening less than ½" on wood burning fireplaces and chimneys.

Moderate cost actions – ($50-$250 and a little more work)

- Build a gravel turn around area near your house big enough to allow a fire truck to turn around.
- Join your neighbors in having an additional access road in your neighborhood. Share the costs.
- Treat flammable materials like wood roofs, decks, and siding with fire retardant chemicals.
- Modify driveway gates to accommodate fire trucks. They should be at least 10' wide and set back at least 30' from the road. If locked, use a key box approved by your local fire department or use a chain loop with the lock that can be cut in an emergency.
- Enclose decks to prevent accumulation of leaves, needles, and debris. Include a metal screen with a 1/8" mesh opening to prevent sparks from getting under the deck.

High-Cost actions – (more than $500)

- Replace your roof with fire-resistant materials such as Class A shingles.
- Install a roof irrigation system to protect your home's roof.
- Install an independent water supply for a sprinkler system with a non-electric (e.g., propane) powered pump capable of running unattended for 24 hours.
- Replace wood or vinyl siding with non-flammable material.
- Replace single-pane glass windows and plastic skylights with tempered, double-pane glass.
- Box in eaves, facias, and soffits with aluminum or steel materials with metal screens to prevent entry of sparks.
- Improve driveway culverts and bridges to accommodate the weight of a fire truck.
- Relocated propane tanks inside the defensible space but at least 10' from the house.
- Have non-flammable ground cover such as gravel around them for 10'.
- Have electric service lines to your house placed underground.
- Improve your driveway by straightening sharp curves and filling in sharp dips that would hinder a fire truck.

Appendix D. Committee members and important contacts as of 2022

Fire Defense Board Chief: Scott Goff, (541) 379-2849, sgoff@ucfd1.com

Deputy State Fire Marshal: Craig Andresen (541) 667-7422, craig.andresen@osp.oregon.gov

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Oregon Department of Forestry Rangeland Specialist: Rick Fletcher cell: 541-980-9036; Richard.a.fletcher@odf.oregon.gov

Bureau of Land Management: Sheldon Rhoden (541) 416-6780, srhoden@blm.gov

North Gilliam County Rural Fire Department Chief: Joe Claughton (541) 561-6468; jclaught@gmail.com

South Gilliam County Rural Fire Department Chief: Greg Smith (541) 980-0290; gregs5338@gmail.com

Lonerock City Council: Andrew Beebe (541) 384-5523

Lonerock Mayor: Shannon Hill (541) 678-9018, (541) 384-2394; lonerockmayor68@yahoo.com

Gilliam County Emergency Manager: Chris Fitzsimmons (541) 384-2851; chris.fitz@co.gilliam.or.us

Gilliam County Sheriff: Gary Bettencourt (541) 351-9530; sheriff@co.gilliam.or.us

Gilliam County Fire Services Coordinator: Casey Zellars, Arlington Office (541) 454-2900, Condon Office (541) 384-5555, cell (541) 303-3121; gcfs@ortelco.net

National Fire Plan Coordinator (Salem based): Jenna Trentadue (503) 945-7444

Office of State Fire Marshal Fire Risk Reduction Specialist: Simone Cordery-Cotter (503) 976-6626

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