WILDFIRE MITIGATION PLAN

Effective: July 21, 2026

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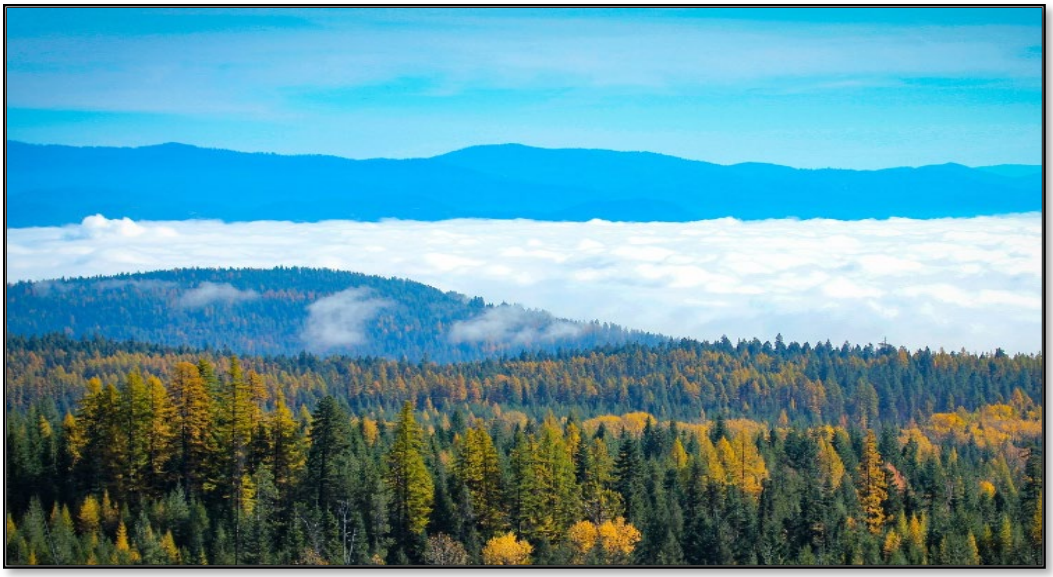

1 Executive Summary

Unusually large wildfires are on the rise in the Pacific Northwest. Although naturally occurring wildfire is necessary for healthy forests and ecosystems, Washington State has seen an increase in acres burned as well as longer fire seasons. In the western U.S. region encompassing the Pacific Northwest, the annual probability of very large fires is projected to increase by a factor of four from 2041 to 2070 compared to 1971 to 2000 data[1]. In response to this growing risk, Washington passed legislation (HB-1032) requiring electric utilities to develop Wildfire Mitigation Plans (WMP or Plan) aimed at reducing the risk of wildland fire, damage, and losses resulting from those fires. In 2024, the Department of Natural Resources (DNR) published the template and list of recommended elements for electric utility Wildfire Mitigation Plans [2]. This plan shall adhere to this template and guidelines and will be revised every three years, or as needed, going forward.

Public Utility District No. 1 of Pend Oreille County (POPUD or PUD) developed this Wildfire Mitigation Plan to help prepare for increasing wildfire risk in our region. The PUD worked with an outside consultant and collaborated with local fire protection districts and emergency response agencies to help shape this plan.

POPUD's top priorities are protecting our customers and communities and providing safe and reliable electric service. While wildfire risk can never be eliminated entirely, this plan outlines the steps the PUD is taking to reduce the likelihood of utility-related ignitions and improve preparedness across the system and organization.

[1] Northwest Climate Adaptation Science Center
[2] https://dnr.wa.gov/sites/default/files/2025-05/rp_fire_electric_utility_cmte_mit_plan_temp.pdf

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2.1 Purpose of the Wildfire Mitigation Plan

Reducing the risk of utility-caused wildfire is an essential part of POPUD's operational practices. Its existing policies, programs, and procedures are designed to manage and reduce the risk of utility infrastructure becoming the source of wildfire.

Moving forward, POPUD will continue to implement and refine programs that respond to changing wildfire conditions, incorporate new technologies, and improve operational practices to mitigate the potential for ignitions and more effectively respond to increasing wildfire danger.

The POPUD Wildfire Mitigation Plan takes an active approach to reduce fire-related risks while allowing for ongoing improvement over time. The Plan outlines POPUD's ongoing vegetation management (VM), asset inspection and maintenance, de-energization practices, communication strategies, and service restoration. It also describes roles and responsibilities for its implementation, performance metrics, methods for identifying areas of improvement, and the process for reviewing and update the Plan.

2.2 Description of where WMP Information Can Be Found Online

The WMP is available on the PUD's website at www.popud.org. Physical copies of the WMP are also available at the POPUD's offices.

2.3 Best Practices Cross-Reference Table

Table 1 Statutory Cross Reference Table

Standard or Best Practice Name and Description	Section & Page Number
HB 1032 – By October 31, 2024, and at least every three years thereafter, each Investor-owner and Consumer-owned Utility must review, if appropriate revise, and adopt its wildfire mitigation plan	Table 9 Plan Review and Revision Record
WAC 296-45: Electric Power Generation, Transmission, and Distribution	7.3.13 Safety Standards
Avian Protection Construction Standards	7.2.1 Avian Protection Construction Guidelines
(ANSI) A300 Part 1: Tree, Shrub, and Other Woody Plant Maintenance.	7.3.7 Trimming Standards

3 Utility Overview

Formed in 1936 under Washington's Title 54, Pend Oreille PUD is a community-owned, nonprofit utility providing safe and reliable electric, water and broadband services to Pend Oreille County. All utility costs are recovered through customer rates and grant funding. The PUD is governed by three locally elected commissioners and led by a General Manager who oversees employees primarily located in Newport, Ione and at Box Canyon Dam.

The PUD operates four primary systems: the Production System, Electric System, Community Network System and nine community Water Systems, each separately financed and managed.

Hydropower and Production
The Production System generates clean, carbon-free hydropower from Box Canyon Dam, built in 1950, with all output sold to the market. A regulatory and natural resources team manages all environmental, water quality and mitigation responsibilities at the dam. The PUD also owns the Sullivan Creek Dam, Calispell Powerhouse, Power Lake Dam, Calispell Pumping Station and related water-management structures.

Power Supply
The PUD manages a diverse power portfolio in real time and into the future. In addition to Box Canyon generation, the PUD purchases low-cost power through a long-term agreement with Seattle City Light's Boundary Dam and uses market purchases and sales to balance customer needs.

Electric, Broadband and Water Services
The PUD's Electric System serves nearly 10,000 customers, primarily residential, with additional commercial and industrial users. With a mission to maintain low cost, the PUD remains among the most affordable electric utilities in the country. The Community Network System provides wholesale broadband to nearly 3,000 fiber end-users and wireless users, while the Water System includes nine systems serving more than 600 customers.

Because this Wildfire Mitigation Plan is focused on electric utility wildfire risk, the remainder of this document primarily addresses the PUD's electric transmission and distribution system.

3.1 The Electric System

Pend Oreille PUD owns and operates an electric transmission and distribution system serving approximately 10,000 customer meters throughout Pend Oreille County. The system includes transmission facilities, substations, overhead and underground distribution infrastructure, protection and control systems, and associated operational support assets necessary to provide reliable electric service across a large and heavily forested rural service territory.

The PUD's electric system is interconnected with the greater Pacific Northwest electric grid through facilities owned by Bonneville Power Administration (BPA), Seattle City Light, Avista, and Inland Power & Light. Power supplied to customers is sourced through a combination of long-term purchased power agreements, market transactions, and generation from PUD-owned hydroelectric resources such as Box Canyon Dam and the Calispell Powerhouse.

The transmission system primarily operates at 115 kV and supplies seven distribution substations located throughout the service territory. Distribution circuits operate primarily at 12.5 kV and 25 kV and include both overhead and underground construction. Much of the overhead system traverses mountainous and heavily forested terrain, making vegetation management, asset inspection, and operational wildfire mitigation practices critical components of system operation.

As of 2026, the PUD operates approximately:

- 70 miles of overhead transmission line,
- 665 miles of overhead distribution line,
- 438 miles of underground distribution line.

The electric system is monitored and operated through a combination of field operations personnel, a 24/7 operations center, Supervisory Control and Data Acquisition (SCADA) systems, an Advanced Metering Infrastructure (AMI) system, and various engineering support systems including GIS and outage management tools. These systems support both routine operations and wildfire mitigation activities described throughout this plan.

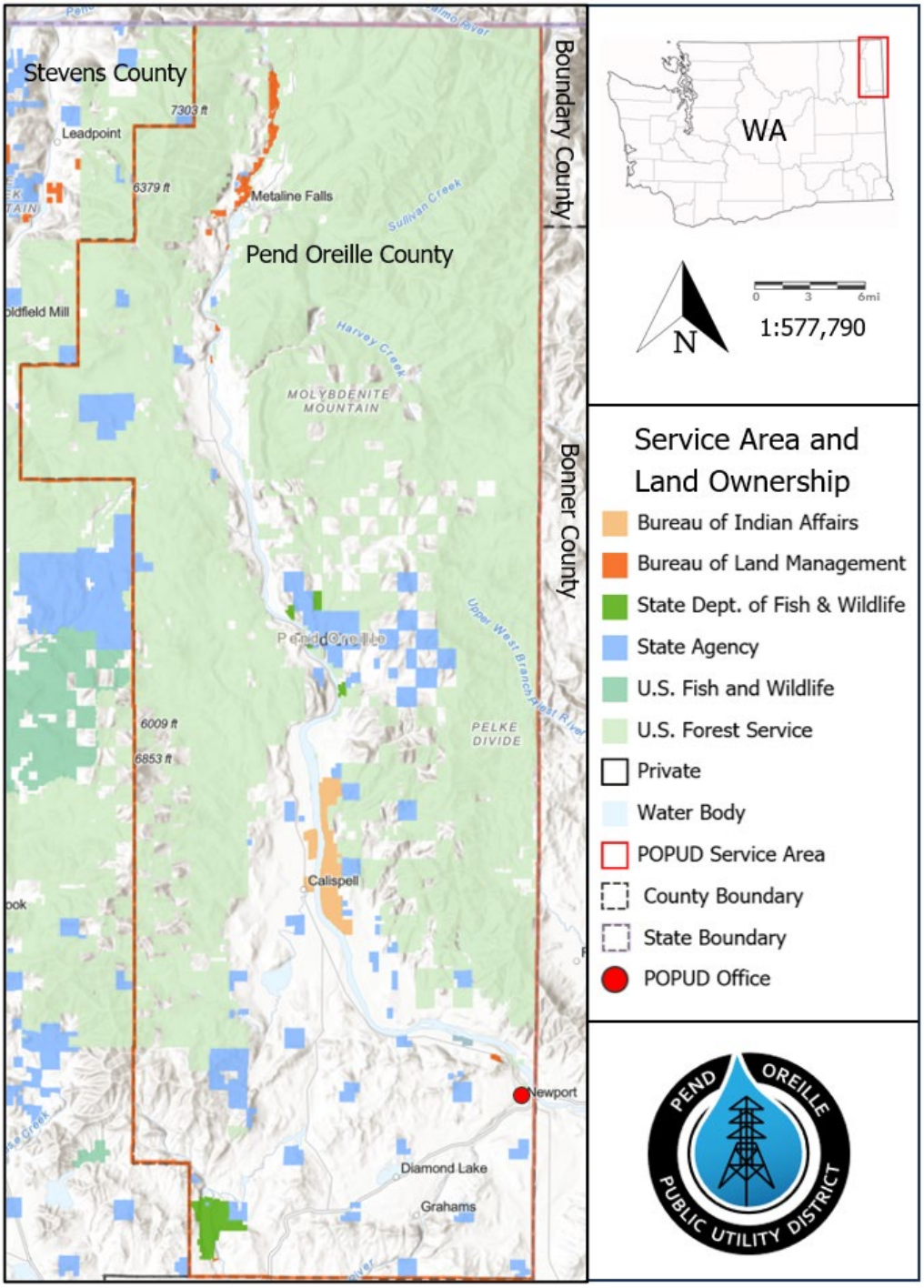
Table 2. Utility Context Setting Information

General Utility Information	
Service Territory Size (sq miles)	1,425
Service Territory Make-up [ ]% Urban [ ]% Agriculture [ ]% Barren/Other [ ]% Conifer Forest [ ]% Conifer Woodland [ ]% Desert	[ ]% Hardwood Forest [ ]% Hardwood Woodland [ ]% Herbaceous [ ]% Shrub [ ]% Water [X] NA / Not tracked (see section 3.2)
Service Territory Wildland Urban Interface	[0.19]% Wildland Urban Interface [5.94]% Wildland Urban Intermix
Consumers Served *As of May 2026*	10,187 meters
Account Demographic *[provide as % of total customers served]*	[90.2]% Residential [0.3]% Agricultural [9.5]% Commercial/Industrial [] NA / Not tracked
Utility Equipment Make-up *Calculated using GIS data*	Overhead Distribution: 665 miles Overhead Transmission: 70.5 miles Underground Distribution: 438 miles Underground Transmission: 0 miles Substations: 7
Have customers have ever been notified of a potential loss of service due to a forecasted utility de-energization event?	Yes: [ ] No: [X]
Has the utility developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	Yes: [ ] No: [X]
Has the utility previously implemented a PSPS in response to elevated wildfire risk?	Yes: [ ] No: [X]

3.2 The Service Area

Operating out of offices located in Newport WA, Box Canyon Dam and Ione, WA, the PUD serves the towns of Cusick, Ione, Metaline, Metaline Falls, the city of Newport, and several unincorporated communities throughout the County as well as the Kalispel Tribe (Figure 1). The service area is divided into three districts, each being represented at the PUD by an elected commissioner.

Figure 1. POPUD Service Area and Land Ownership



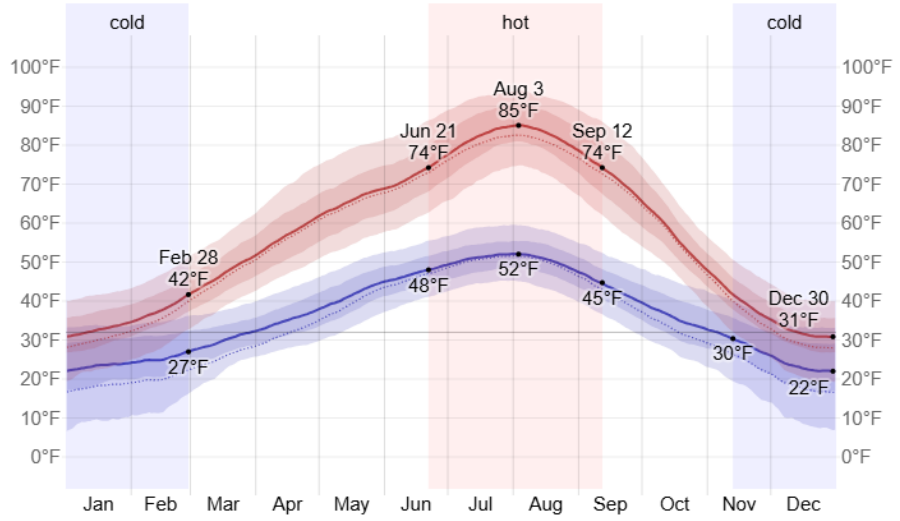
The 1,425-square mile service area is located in the extreme northeast corner of Washington state and is bordered by the state of Idaho to the east, Spokane County to the south, Stevens County to the west, and Central Kootenay Regional District of British Columbia, Canada to the north. The Pend Oreille River runs south to north through the County.

3.3 Climate

The Pend Oreille County area has a humid continental climate with continental and maritime air masses being the main weather influences. The major ecoregions include Granitic Selkirk Mountains, Inland Maritime Foothills and Valleys, Okanogan-Colville Xeric Valleys and foothills, Spokane Valley Outwash Plains, and Western Selkirk maritime Forest[3].

The summers are warm, dry, and sunny with occasional light rainfall. Fire season generally runs from mid-June to the end of September. As shown in ***Figure 2***, daily summer high average temperatures increase by 11°F, from 74°F on June 21 to 85°F on August 3[4]

Figure 2 Average High and Low Temperature in Newport, Washington



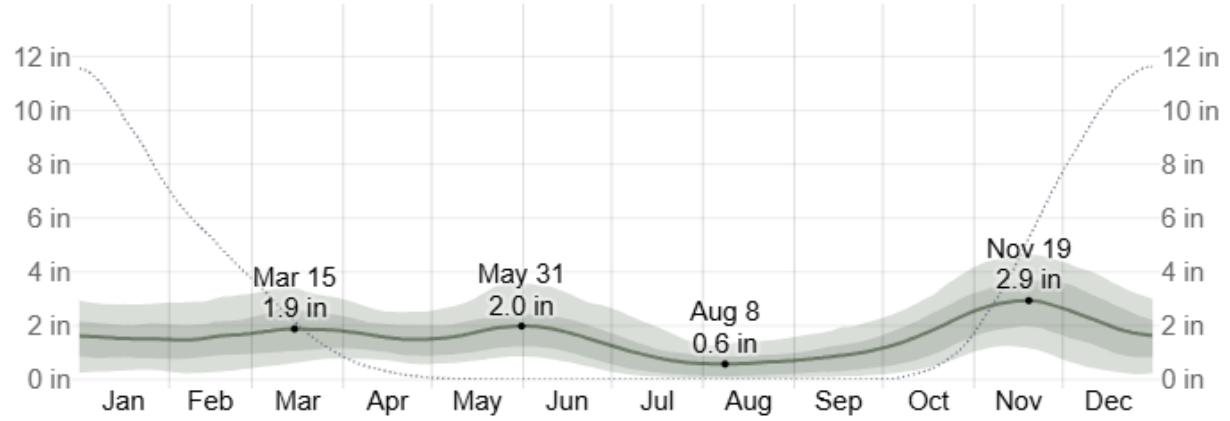
The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.

Statistically, the month with the least rain in Newport is August, with an average rainfall of 0.6 inches, as shown in ***Figure 3***.

[3] https://www.plantmaps.com/interactive-washington-ecoregions-l4-map.php

[4] https://weatherspark.com/s/2028/1/Average-Summer-Weather-in-Newport-United-States#Figures-Temperature

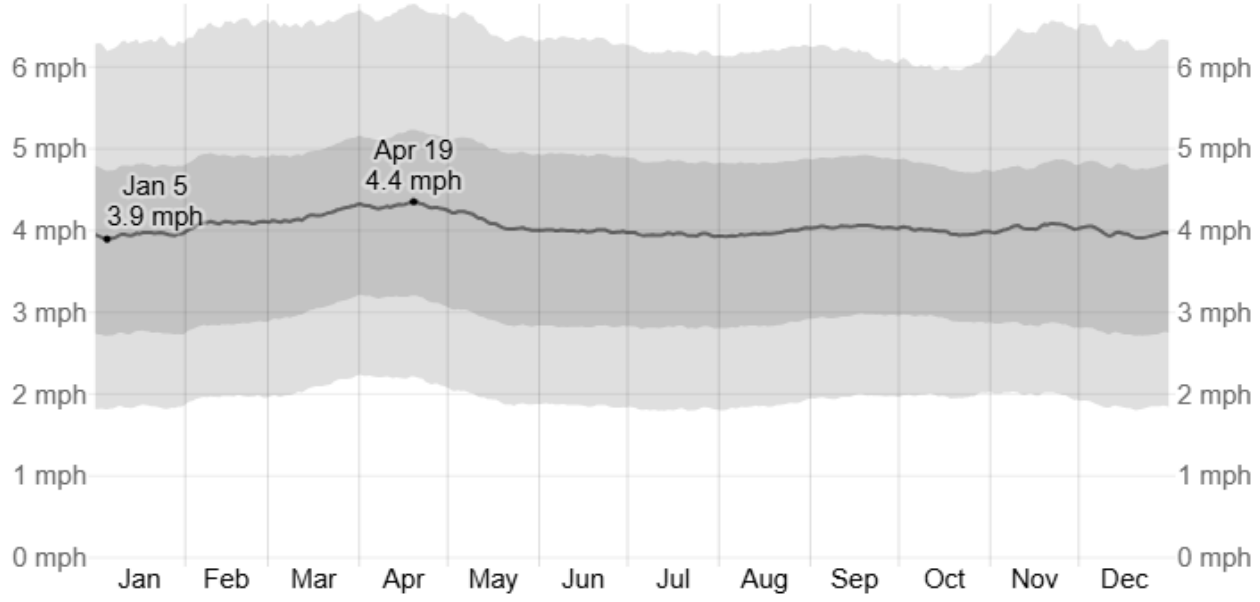
Figure 3 Average Monthly Rainfall in Newport, Washington



The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average snowfall.

While the wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages, the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground shows stability in ***Figure 4***. The average hourly wind speed in Newport does not vary significantly over the course of the year, remaining within *0.3 miles per hour* of *4.1 miles per hour* throughout.

Figure 4 Average Windspeed in Newport, Washington



The average of mean hourly wind speeds (dark gray line), with 25th to 75th and 10th to 90th percentile bands..

The service area is heavily vegetated with approximately 61% of the County occupied by federal and state managed lands[5], including approximately 825 square miles comprised of the Colville National Forest and the Idaho Panhandle National Forest.

Topography is primarily mountainous uplands with moderate slopes, broad valleys, medium to high gradient streams and rivers. The Pend Oreille River runs nearly the entire length of the County. Elevations range from ~2,000 feet in the river valley to ~7,300 feet on Abercrombie Mountain. The highest point of the distribution system is ~5,120 feet above sea level.

4 Objectives of the Wildfire Mitigation Plan

The main objectives of this WMP are to:

1. Implement an actionable plan to enhance reliability and safety while reducing the likelihood of POPUD assets becoming the origin or contributing factor for wildfire.
2. Comply with current Washington State law, and National Electric Safety Code (NESC) regulations and guidelines.
3. Maintain a plan that prioritizes safety, situational awareness, mitigation methods, and recovery for reduced liability.
4. Develop a plan that aligns with utility best practice competencies and risk mitigation activities.
5. Improved documentation and processes.
6. Continue to assess and incorporate new industry best practices, technologies, and risk mitigation activities.

4.1 Minimizing Sources of Ignition

The intended wildfire mitigation strategies can be categorized into five main mechanisms that align with the PUD's best practices. Together, the five components create a comprehensive wildfire preparedness and response plan with a principal focus on stringent construction standards, fire reduction through system design, proactive operations and maintenance programs, and specialized operating procedures and staff training.

- **Design & Construction:** POPUD's design and construction consist of system, equipment, infrastructure design, and technical upgrades. These practices aim to improve system hardening to reduce contact between infrastructure and burnable fuel sources to minimize the risk of POPUD's systems becoming a source of ignition.

5 Approximately 825 square miles of USFS: Colville National Forest and Idaho Panhandle National Forest

- **Inspection & Maintenance:** POPUD's inspection and maintenance strategies consist of diagnostic activities as well as various methods of maintaining and ensuring all equipment and infrastructure is in functional working condition.
- **Operational Practices:** These practices are comprised of proactive day-to-day actions taken to mitigate wildfire risks and to ensure preparedness in high-risk situations, such as dry and windy climatological conditions.
- **Situational & Conditional Awareness:** This component consists of methods to improve system visualization and awareness of environmental conditions. The practices in this category aim to provide tools to improve the other components of the Plan.
- **Response & Recovery:** These strategies consist of POPUD's procedures and protocols for response to wildfire, the process for restoring power after a major outage, and the methods for efficient communications with emergency responders.

4.2 Resiliency of the Electric Grid

While approximately 40% of the distribution system is underground construction, the remainder of the utility's assets are overhead, well-maintained wood pole construction; much of this is located throughout remote and heavily wooded landscape. The PUD has not historically lost poles due to wildfire. With no vast distances for utility crews to travel, POPUD has the ability to quickly address and respond for outage recovery work. Post-fire restoration and recovery time frames are always dependent on the magnitude of the wildfire and the response agency's ability to contain and extinguish any fires.

The local distribution system is designed to be switched enabling various routes if needed and the system currently contains no micro-grids. As is common, segments that cannot be re-energized by such switching may experience longer outages or remain de-energized until the feeders can be repaired and/or manually switched.

5 Roles and Responsibilities

The Commission makes policy decisions relative to the PUD – they are responsible for approving and adopting the Wildfire Mitigation Plan, while the GM, DEO and senior staff oversee its implementation and execution.

5.1 Utility Roles and Responsibilities

Staff responsibility for plan implementation, operations, and communications is described below:

- The **PUD Commission** makes policy decisions relative to the utility – they are responsible for approving and adopting the WMP.
- The **General Manager (GM)** directs management staff responsible for operations, engineering, finance, and information technology.
- The **Director of Engineering and Operations (DEO)** oversees the electric system's design and is responsible for implementing the plan in general. Staff will be directed as to their roles and responsibilities.
- The **DEO** coordinates responsibility with the senior staff, to monitor and audit the targets and performance metrics specified in the WMP to confirm that plan objectives are met.
- All emergency-related communications are reviewed by the **Public Information Officer (PIO) and/or the Director of Customer Services,** or designee, before distribution.
- The **PIO** responds to the news media and general membership and with designated staff, determines when and how to notify outside agencies in cases of wildfire emergency events.
- The **PIO**, or designated staff, communicates with first responders, health agencies, communication providers, and Offices of Emergency Management.
- The **DEO,** through the Operations Supervisor, oversees the contracted and in-house Vegetation Management operations and inspections.
- The **DCS** and **PIO** communicate with key accounts prior to planned outages.

5.2 Coordination with Local Utility and Infrastructure Providers

POPUD coordinates with other local utilities and infrastructure providers in the event of a wildfire impacting PUD infrastructure and other utility services and operations.

5.3 Coordination with Local Tribal Entities

POPUD coordinates with the Kalispel Tribal Public Safety Department (KTPS) in the event of a wildfire impacting PUD infrastructure on the reservation or adjacent lands. The KTPS has wildland fire response personnel and equipment, law enforcement and medical emergency response capabilities. During emergencies, the Tribe participates in the daily incident command meetings along with PUD and Pend Oreille Office of Emergency Management personnel.

5.4 Emergency Management/ Incident Response Organization

During active emergencies, POPUD coordinates and collaborates with local emergency response agencies as well as other relevant local, state and federal agencies, as a peer partner. A small-scale emergency

requires less resources and coordination than a large-scale event. Therefore, a two-tiered approach to emergency management interaction is sensible.

During small-scale emergencies, POPUD dispatch will coordinate efforts primarily through Pend Oreille County Sheriff's Office dispatch, which will communicate directly with fire crews and other first responders. This indirect coordination ensures that fire officers and emergency personnel receive clear and consistent information about POPUD's plans and actions on the ground. Communication and recovery efforts will continue until first responders declare the emergency over.

When large scale emergencies require County Emergency Management to stand up their emergency operations center (EOC), it means that many diverse resources are needed. During such events, POPUD's DEO will contact the local EOC and establish themself as the duty officer for coordination. The DEO and PIO will work with emergency management staff to ensure POPUD is contributing the necessary resources to the areas needed. Depending on the circumstances, this coordination may be via phone, email, or in person. POPUD's primary coordination point is Pend Oreille County Office Department of Emergency Management (PODEM or DEM).

6 Wildfire Risks

To establish a baseline understanding of the risks and risk drivers involved, POPUD continually reviews all aspects of its exposure to fire related hazards. Although there are inherent risks in the operation of an electric utility, it is possible to put in place strategies and processes to better plan and manage them.

6.1 Fire Risk Drivers Associated with Topographic and Climate Factors

POPUD staff evaluated fire causes within its service area and at other regional utilities, drawing on field experience to identify key risk drivers. Four categories were identified as contributors for heightened wildfire risk and listed by priority of concern and impact:

- High Winds
- Fire Weather/Drought
- Vegetation Type/Fuels
- Tree Failure

Risk is high due to the system's proximity to large stands of vegetative fuels, its position within a prevalent fire zone marked by recent incidents (***Figure 6***) and an increasing trend in wildfire activity.

The Pend Oreille County region has a notable record of frequent and intense wildfires, attributed to a combination of climatic conditions, prolonged dry spells, and human interactions with the environment. The landscape in this region is heavily forested, and the dense and dry nature of this vegetation, along with topographical features that facilitate rapid fire spread, contributes to a heightened risk.

6.1.1 High Winds

High wind events and storms are common occurrences in the region. Conductors can sway under these conditions, and if extreme, phase-to-phase contact or cross-phasing can occur. When two or more energized conductors encounter each other, it is possible to emit sparks or trip breakers.

6.1.2 Fire Weather/Drought

The County can experience hot and dry weather during late summer and early fall. Drought, combined with warming temperatures, can result in decreased snowpack and streamflow, increased evaporative demand, dry soils, and tree deaths, which results in increased potential for wildfires. These conditions create increased potential for extreme wildfires that spread rapidly, burn with more severity, and are costly to suppress.

The U.S. Drought Monitor[6] depicts the location and intensity of drought conditions across the landscape. The system uses five categories: Abnormally Dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought (D1–D4) as listed in the legend below.

[6] https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?fips_53051

Records going back to 2000 show drought conditions for the Pend Oreille County area range from "None" to "Exceptional Drought" (**Figure 5**). *Table 3* represents the historic occurrence of Red Flag Warnings (RFWs) issued by the Spokane NWS office for the region[7] between 2017 and 2023. Unlike drought, RFWs are regional alerts to short term weather conditions that are conducive to wildfire outbreak and spread.

Figure 5. Historic Drought Conditions; 2000-2027, Pend Oreille County

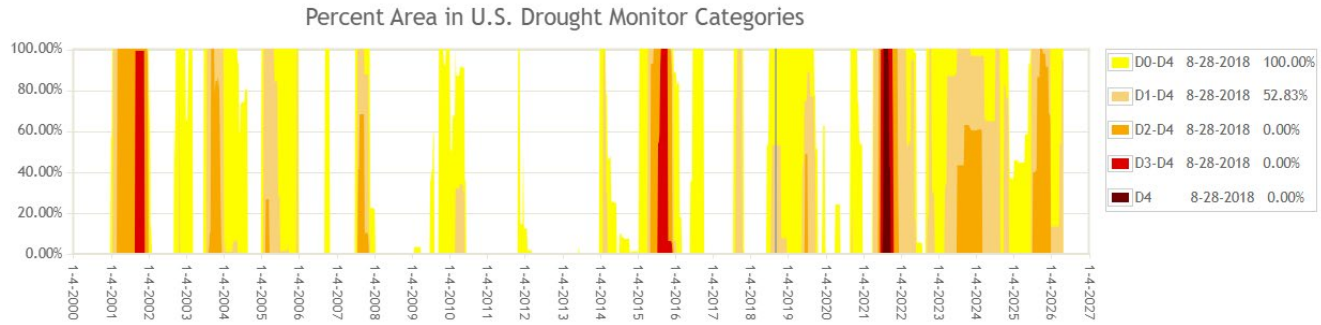


Table 3 Red Flag Warning by Year/Month 2017-2025 [8]

	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	**1**								1				
2018	**2**							1	2				
2019	**2**							1	2				
2020	**2**								1	1			
2021	**2**							2					
2022	**4**								2	2			
2023	**5**							3	2				
2024	**4**							1	2	1			
2025	**3**							1	1	1			

[7] Fire Weather Zones WAZ686, WAZ700, WAZ701

[8] https://mesonet.agron.iastate.edu/vtec/search.php?mode=list&by=wfo&datum=OTX&year=2025&phenomena=FW&significance=W

The PUD uses common standardized federal references for this information; National Weather Service Spokane (OTX) with Fire Regions of WAZ686, WAZ700, WAZ701.

6.1.3 Vegetation Type/Fuel Load

Vegetation (often referred to as fuels in a fire context), general climate, and specific fire weather patterns make up the fire environment. Most land in the County is made up of conifer forest types within the national forests. Breaks in the forested areas are usually associated with small wetlands, pastures, ranches, and dryland farming particularly in the south County. The native riparian vegetation of the river valley has been converted for the most part to agricultural uses.

A large percentage of power lines are located in densely forested lands containing a wide range of vegetation patterns and types; the predominant forest type in the hills and lower mountains is ponderosa pine, lodgepole pine, Douglas-fir, white-fir, larch, and other deciduous trees, transitioning to mixed, grand fir, western red cedar, and western larch forests at mid elevation, with subalpine fir, and spruce found at the upper elevations. These fuel types create a burning environment very conducive to large and intense wildfires. Drought conditions, beetles and other factors in recent years have stressed the area creating potential hazard trees.

Residential development within the wildland urban interface (WUI) are at increased risk for wildfire as these communities are primarily located within ponderosa pine and Douglas-fir forest types where grass, pine needle and brush surface litter create highly ignitable fuel conditions. Nine Pend Oreille County communities are listed in the "National Register Community at Risk" as "Urban Wildland Interface Communities within the vicinity of Federal Lands that are at high risk from wildfires[9]."

6.1.4 Tree Failure

Vegetation-related contacts are a leading cause of distribution line outages across the County. In fact, trees and limbs account for a significant portion of the outages for the PUD. Because much of POPUD's distribution system runs through wooded or heavily treed areas, any tree, either live or dead, is considered a potential threat to the electric system if it is within striking distance of the power lines. Electric utilities that investigate the actual causes of outages often find that the failure of hazardous branches and trees is a significant component of the tree-related outage category[10].

6.2 Enterprise-wide Safety Risks

Enterprise Risk Management is a tool to assist in anticipating and managing risks, as well as considering how multiple risks can present even greater challenges. The overall goal is to determine the residual risk level after all mitigation factors have been applied to the initial inherent risk.

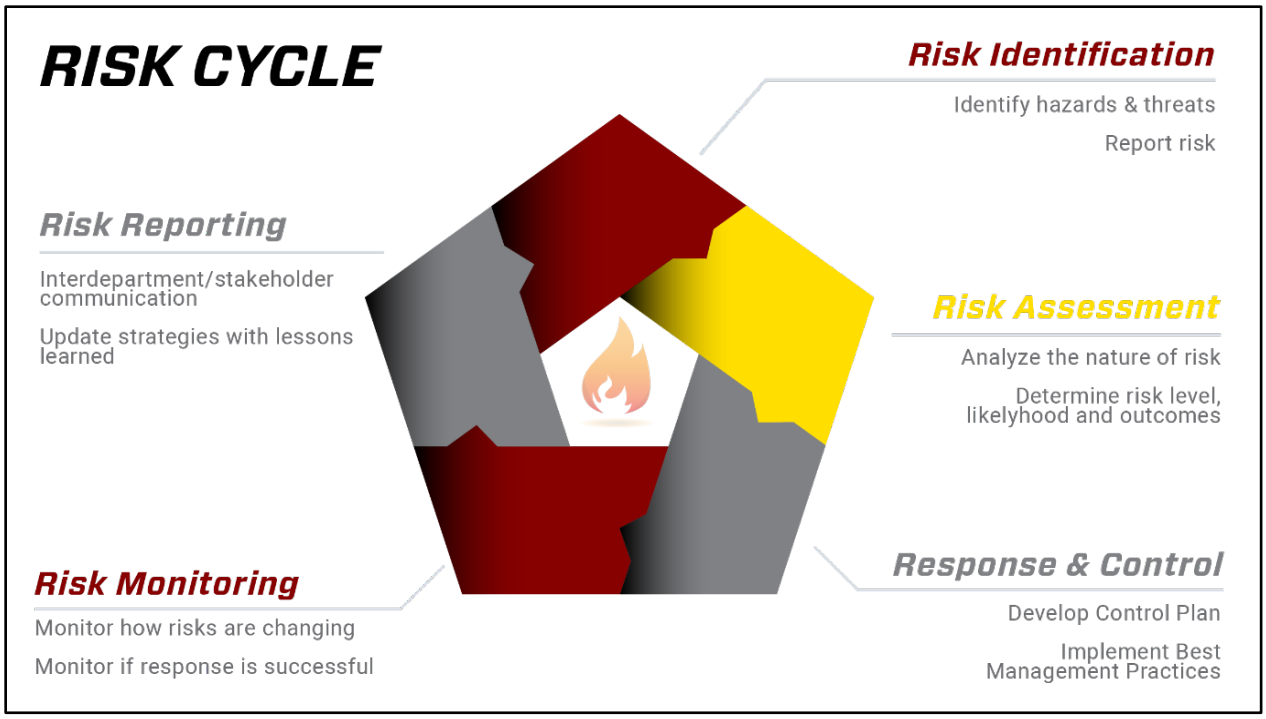
Enterprise Risk Management (ERM) is not a periodic "Risk Assessment" but an ongoing and forward-looking management discipline that allows POPUD to analyze risk on a routine basis and adapt to changing conditions. **Figure 5** displays the 5 steps of the ERM process. The key or critical risks

[9] Federal Register, Vol. 66, Number 160, 8/17/2001
[10] NRECA Vegetation Management Manual

affect the entire community and are interrelated, and thus, are managed holistically and with a structured approach.

The Risk Assessment process began with the General Manager, key staff, and stakeholders working together to collect information on potential and perceived risks. In 2024 POPUD staff participated in, and reviewed, the County's five-year Hazard Mitigation Plan update.

Figure 5. POPUD Enterprise Risk Management Process



6.3 Fire Risk Drivers Associated with Design, Construction, Operation, and Maintenance

6.3.1 Equipment Failure

There are many reasons equipment failure can occur during its service life. Most equipment requires regular maintenance for optimal performance. Even though POPUD's qualified personnel perform regular inspection and maintenance on system equipment, internal defects that are not visible or predictable can be the cause of destructive equipment failure resulting in ejection of sparks and/or molten metal. The failure of components such as hot line clamps, connectors and insulators can result in wire failure and wire to ground contact. Transformers and capacitor banks can have internal shorts potentially resulting in the ejection of materials which could be a fire source.

6.3.2 Foreign Contact

As is the case for most electrical utilities, most overhead power lines on the POPUD system are installed with bare wire conductors on insulated structures. Protection equipment is utilized to isolate issues (faults), but there are time delays associated with circuit breakers, reclosers and fuses. These time delays are not fast enough in some cases to prevent all sparks prior to interruption.

6.3.3 Other Potential Risk Factors

Construction projects by non-POPUD crews are another possible cause of ignition. Construction equipment, vehicles, and non-utility personnel working near power lines can contact conductors, causing a faulted condition. Excavation work performed without locating underground utilities is another hazard.

Tools and vehicles can be sources of sparks or ignition as well. For example, driving a vehicle over dry grass can cause an ignition when vegetation contacts hot exhaust components.

6.4 Key Risk Consequences

The aforementioned risks may result in several consequences if they contribute to an ignition. The following outlines potential worst-case scenarios that this wildfire mitigation plan is intended to help prevent:

- Personal injuries or fatalities to the public, employees, and contractors
- Damage to public and/or private property
- Damage and loss of POPUD's infrastructures and assets
- Impacts on reliability and operations
- Damage claims and litigation costs, as well as fines from governing bodies
- Damage to POPUD's reputation and loss of public confidence
- Negative public opinion of the power industry in general
- Environmental impacts

6.5 Fire Threat Assessment

As part of the risk analysis process, POPUD examined its asset locations in relation to topographic features, communities, wildfire history and land ownership data to identify risks unique to its service area. This chapter will provide an overview of the service area properties and associated risks which are factored into the wildfire mitigation strategy. See section 3.2 for a description of the service area.

6.5.1 Wildfire History and Outlook

Washington has a long history of both small and very large wildfires, some reaching over 100,000 acres. In 1910, a wind-driven fire burned much of the south county (which was then Stevens County) before jumping the Pend Oreille River. Historic records show at least four people died in the County. This fire was part of the "Big Burn" that summer that torched some 3 million acres of forest throughout the Northwest, During the 1920s and 1930s, several massive, drought-induced wildfires burned throughout

north Pend Oreille County, burning hundreds of thousands of acres of the Colville National Forest. More recently, the County endured the Oregon Fire (10,817 acres, 2023) and the Tower Fire (Kaniksu Complex 24,194 acres, 2015).

According to the DNR's fire cause database, human causes far outnumber natural sources of wildfire[11], with approximately 52% determined to have been negligently or intentionally started.

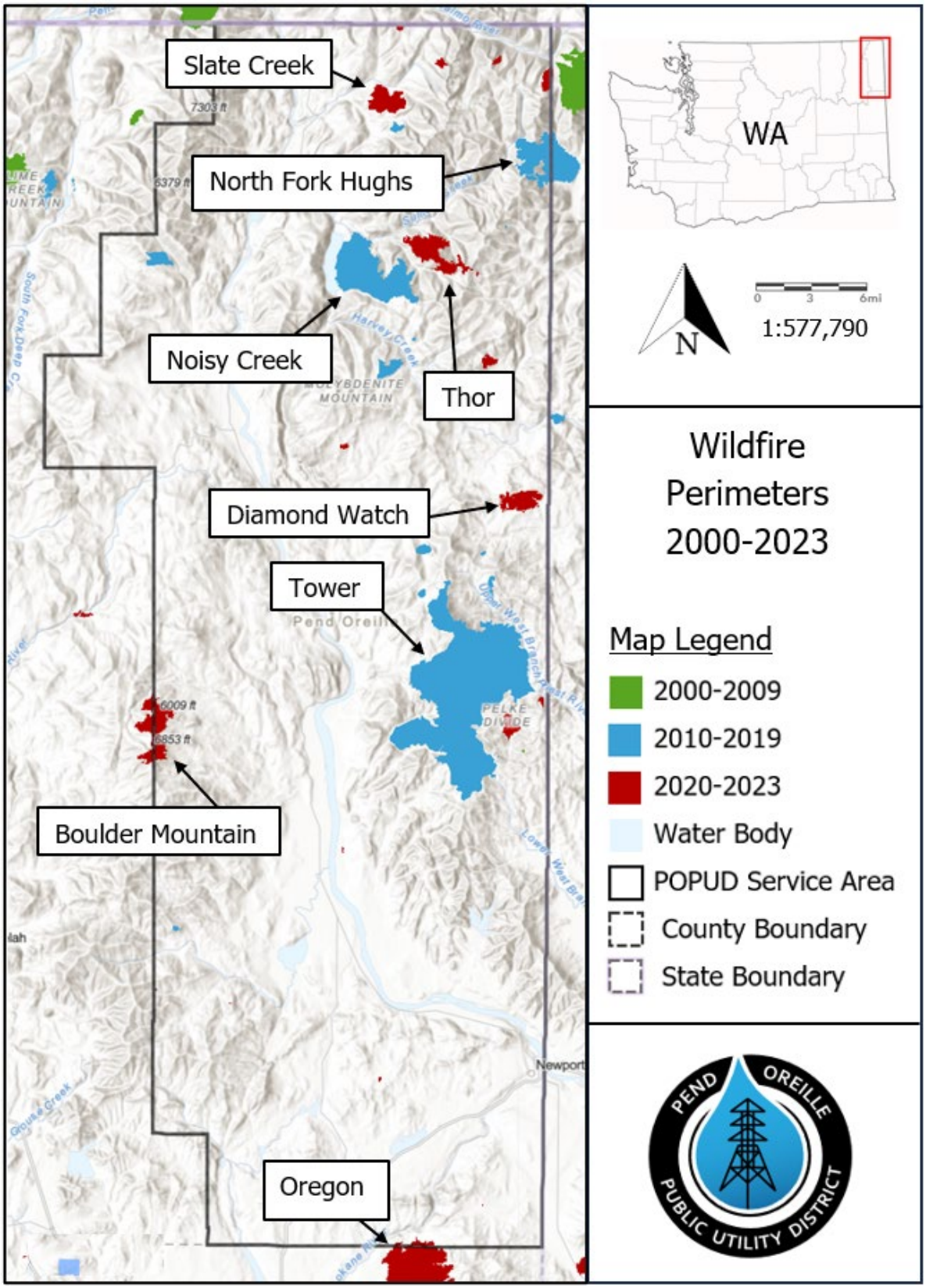
Based on National Weather Service (NWS) Fire Weather Watch (FWW) and RFW issuance data from 2000-2025. fire season in the region runs from June through the end of September.

Annual large wildfire frequency in United States Forest Service (USFS), National Park Service and Bureau of Indian Affairs (BIA) forests is significantly correlated with spring and summer temperature; the largest fire years coincide with warm spring and summer temperatures, and below-average winter precipitation or early spring snowmelt. Snow melting earlier in the spring leads to soils and forests that are drier and stay dry longer. This leads to wildfires that can burn hotter and spread faster[12].

Projections estimate that the annual area burned will quadruple in Washington's forests by the 2040s[13]. Climatic conditions conducive to very large fires - those over 12,355 acres - are also expected to triple in the interior western US by mid-century[14]. Meanwhile, fire seasons are getting longer. The USFS reported that in 2015, fire seasons were averaging 78 days longer than in 1970. By mid-century, the wildland fire season could last approximately 35 days longer, beginning about two weeks earlier and lasting about three weeks longer compared to 1971-2000 data.

[11] https://www.dnr.wa.gov/Investigations
[12] https://ecology.wa.gov/air-climate/responding-to-climate-change/wildfire-risks
[13] https://www.dnr.wa.gov/publications/rp_wildfire_strategic_plan.pdf?lmvb8d
[14] Projection for 2040-2069, compared to 1971-2000 (Barbero, et al. 2015)

Figure 6. Historic Wildfire Perimeters 2000-2023



6.5.2 Wildland Urban Interface

The USFS defines the wildland urban interface (WUI) as an area where human development meets or intermingles with wildland vegetation. The WUI consists of two categories: interface and intermix communities, which are distinguished by the arrangement and density of structures and surrounding vegetation.

Interface WUI

Interface is defined as those areas where human development meets areas that are covered with more than 50% wildlands. To be considered an "interface" land area, development or structures must be adjacent by wildlands on at least one side.

Intermix WUI

Intermix refers to areas where housing and wildland vegetation intermingle. To be classified as intermix, a development or structure must be surrounded on two (2) or more sides by wildlands. Intermix is often found between the Interface and the wildlands. However, as can be seen in Pend Oreille County, Intermix can also be found in undeveloped/low-density pockets of urban areas.

Wildlands

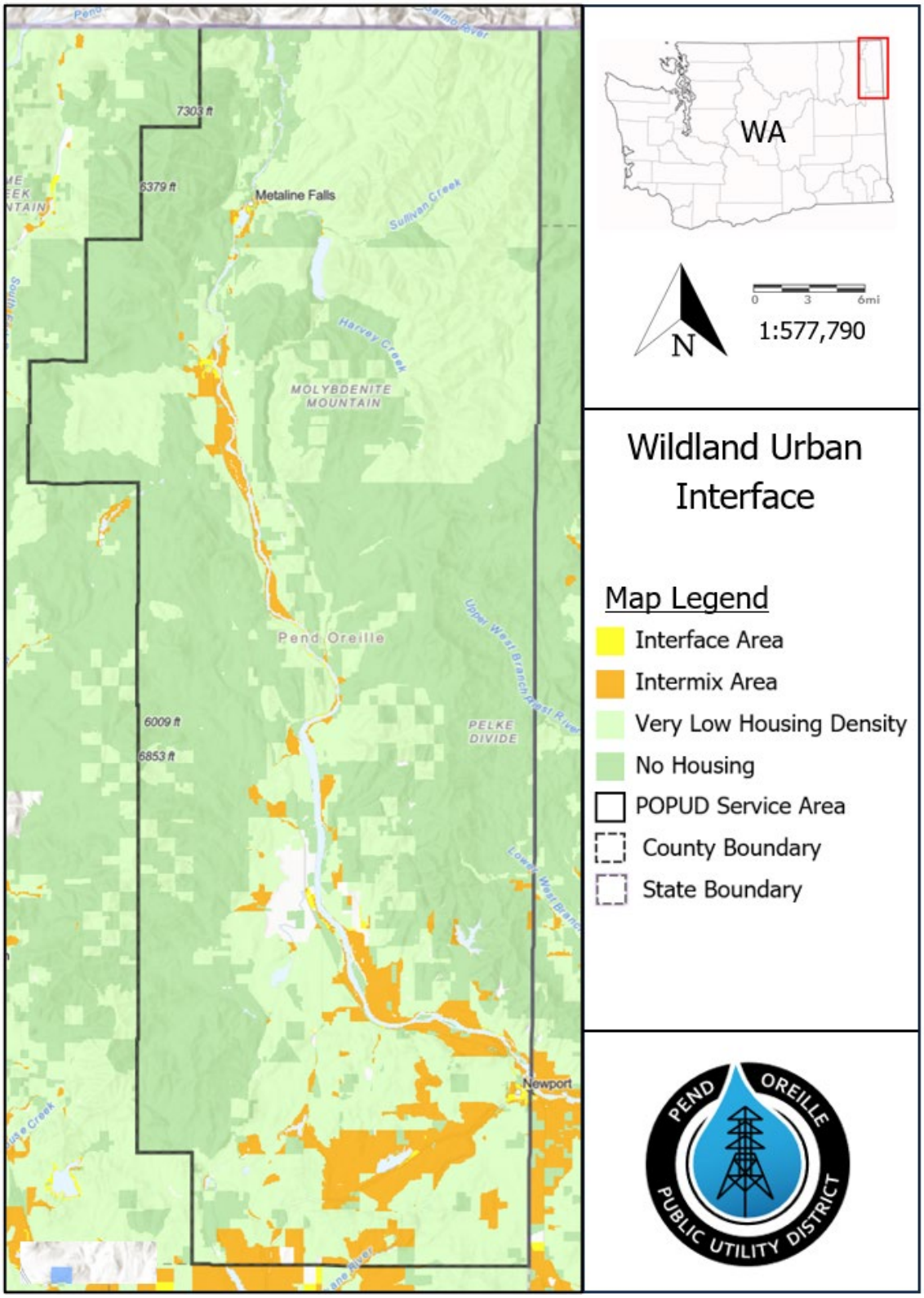
For the purposes of this map, "wildlands" are defined as any area with little to no structures or human development and greater than 50% burnable vegetative cover, including forests, grasslands and sagebrush-steppe.

According to the U.S. Forest Service, the area classified as WUI in Washington has increased 30% from 1990 to 2020, while the number of homes located within the WUI has increased by 50%[15]. There are now approximately one million homes in Washington located in the WUI,[16] with 77% of housing units located in the WUI in Pend Oreille County (*Figure 7*).

[15] https://www.nrs.fs.fed.us/data/wui/state_summary/

[16] https://www.dnr.wa.gov/publications/rp_wildfire_strategic_plan.pdf?lmvb8d

Figure 7. Wildland Urban Interface



6.5.3 Wildfire Threat Assessment Mapping

The Wildfire Hazard Potential (WHP) map (***Figure 8***) used in this plan is a raster geospatial dataset produced by the U.S. Forest Service, Fire Modeling Institute (FMI). It is intended to inform evaluations of wildfire risk or prioritization of fuels management needs across large landscapes. The specific objective of the WHP map is to depict the relative potential for wildfire that would be difficult for suppression resources to contain.

The WHP-2023 dataset was built upon:

- Spatial vegetation and wildland fuels data from *LANDFIRE 2020* (version 1.4.0). The *LANDFIRE* Fire Behavior Fuel Models layer is a primary input to the FSim Burn Probability (BP) and Fire Intensity Level (FIL) datasets and forms the foundation for WHP.
- Spatial datasets of wildfire likelihood and intensity were generated for the conterminous U.S. with the *Large Fire Simulator* (FSim). FSim simulates the growth and behavior of hundreds of thousands of fire events for risk analysis across large land areas using geospatial data on historical fire occurrence, weather, terrain, and fuel conditions. The effects of large-fire suppression on fire duration and size are also simulated. This research aims to develop a practical method of quantifying geospatial wildfire impacts, including annual probabilities of burning and fireline intensity distributions at any point on the landscape.
- Point locations of past fire occurrence from 1992 through 2020.

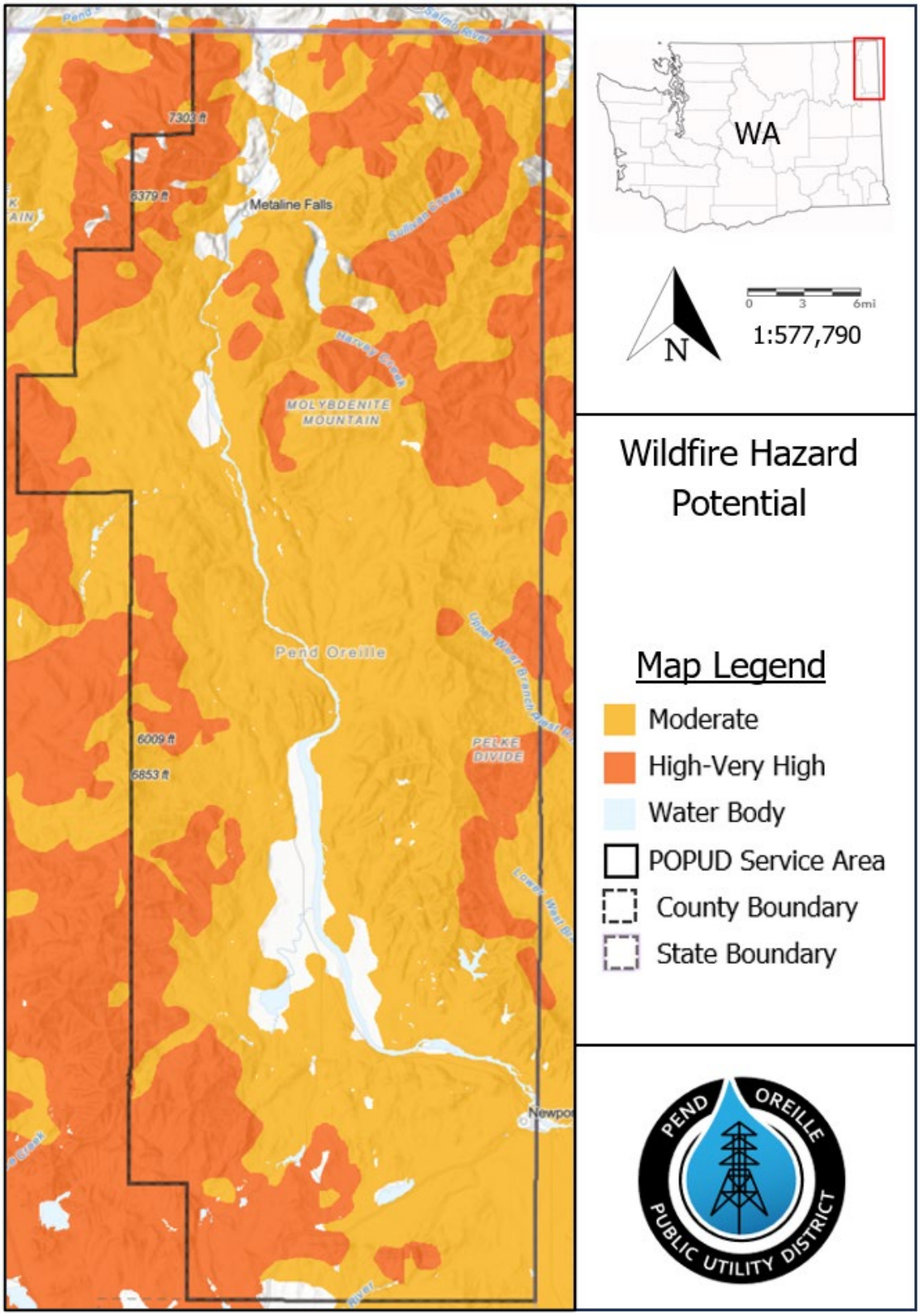
Areas with higher WHP values represent fuels that are more likely to experience torching, crowning, and other extreme fire behavior under conducive weather conditions. The methodology also incorporates resistance-to-control factors to distinguish between fuel types and help identify areas where forest fuel reduction treatments may be most beneficial.

On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as communities, structures, or powerlines, it can approximate relative wildfire risk to those resources and assets. WHP is not intended to serve as a seasonal forecast and does not account for current or projected weather conditions or fuel moisture.

The WHP map can be used to prioritize vegetation management activities, determining the location for focused recloser operational protocols, and future sectionalizing studies and associated remedial actions.

A smoothing process was applied to the raw data and the Very Low and Low tiers removed from the map. The High and Very High tiers were also combined to form the High-Risk tier. The POPUD transmission and distribution system was then overlaid, and line miles calculated for each risk tier. ***Figure 8*** illustrates the breakdown of the POPUD system in relation to the risk tiers throughout the service area.

Figure 8 Wildfire Hazard Potential in Pend Oreille County



6.5.4 Assets Within Wildfire Threat Index Tiers

Table 4 provides a high-level overview of POPUD's various transmission and distribution (T&D) assets relative to the Wildfire Hazard Potential tiers shown in the WHP map above (*Figure 8*). It should be noted that this information represents miles of Right of Way, not miles of conductor.

Table 4 Overview of T&D Assets within WHP Tiers

Assets	Total	Low		Moderate		High	
	Line-miles	Line-miles	%	Line-miles	%	Line-miles	%
115 kV OH Transmission	70.6	22.1	31.3%	48	68%	0.51	0.7%
7.2 kV–25 kV OH Distribution	643.3	119.4	18.6%	465.4	72.3%	58.5	9.1%
7.2 kV–25 kV UG Distribution	419.5	56.8	13.5%	316.5	75.4%	46.2	11%
Substations	7	3	37.5%	4	62.5%	0	0%

7 Wildfire Preventative Strategies

This WMP integrates and interfaces with POPUD's existing operations plans, asset management, and engineering principles, which are themselves subject to change. Future iterations of the WMP will reflect any changes to these strategies and will incorporate best management practices as they are developed and adopted. Table 6 summarizes POPUD's five mitigation components with associated programs and activities that support the PUD's ongoing commitment to wildfire reduction and

mitigation, even several that are beyond the scope of this report. Not all construction standards, such as underground lines, are employed solely for wildfire mitigation, or installed in all areas of the service territory.

7.1 Weather Monitoring

Situational assessment is the process of determining current operating conditions. Situational Awareness (SA) is the understanding of the working environment that provides a foundation for effective decision-making and helps anticipate how conditions may change due to various factors.

POPUD's System Operators use various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Based on available information, including real-time field observations, and ongoing wildfire reporting, POPUD appropriately schedules work crews, adjusts equipment settings, and prepares for fire conditions as needed.

- **The National Weather Service (NWS):** The NWS provides on-line predictive fire weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook. (https://www.spc.noaa.gov/products/fire_wx/)
- **Industrial Fire Level Precaution Levels (IFPL):** Fire season requirements become effective when fire season is declared in each Washington DNR Protection District. (https://www.dnr.wa.gov/ifpl)

7.1.1 Fire Period

Historically, the fire season in POPUD's service area occurs between June and the end of September, with mid-August most vulnerable to extreme fire conditions. For this WMP and POPUD's wildfire related operations will be considered year-round. However, specific to when the fire season is declared to be underway, POPUD and contracted crews shall:

- Abide by the requirements of this WMP.
- Be responsible for reporting any fires set directly as a result of their operations.
- Take corrective action when observing or having been notified that fire protection measures have not been properly installed or maintained.
- Avoid smoking during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter.

7.1.2 Industrial Fire Precaution Levels

Each summer, when conditions of fire danger exist, the State Forester will declare fire season to be in effect. The Industrial Fire Precaution Level (IFPL) system is intended to help prevent wildfires by regulating industrial and recreational activities on lands managed by the Washington Department of Natural Resources (DNR), U.S. Forest Service and Bureau of Land Management (BLM).

IFPL restrictions[17] are issued at one of four levels that begin with Level One at the start of the "closed fire season" and progress through Level Four as conditions warrant. Because conditions vary across the state, each protection district will declare fire season independently. The declaration of fire season affects forestry and other commercial operations as well as the activities of the general public. Fire season remains in effect until terminated by an additional declaration or the State Forester declares that conditions of fire hazard no longer exist.

POPUD crews and contractors abide by all state IFPL restrictions and have the required hand tools and fire suppression equipment at the worksite. During fire season, POPUD monitors the status of these precaution levels and issues instructions to its crews and contractors accordingly. The IFPL levels also inform the decision making on recloser settings in high fire risk areas.

7.1.3 Firewatch Services

The purpose of the Firewatch is to stay after the day's work is over and report any fire starts to the proper authorities. The Firewatch is required to be on duty after the last power-driven equipment used by the operator has been shut down for the day. The Firewatch must be on duty for a minimum of one hour, although during periods of high fire danger, DNR recommends the fire watch be on the operation site longer than the mandated one hour. A fire watch must do the following:

- Visually observe all parts of the operation area on which industrial activity has been in progress.
- Be physically capable of fighting a fire and experienced in operating firefighting equipment.
- Have on-site communication (radio, or cellular) to summon help in the event a fire breaks out.
- Have transportation available in case radio or phone communication doesn't work.

7.1.4 Reporting Fires

Immediately after the initial discovery of a fire, or as soon as feasible, POPUD or their contractors shall call PUD System Operations. When reporting a fire, POPUD staff or contractors are to provide the following information:

- Name
- Call back telephone number
- Location: Descriptive location (Reference Point), Intersection, GPS position etc.
- Known fire information: Examples include Acres, Rate of Spread, and Wind Conditions

7.2 Design and Construction Standards

7.2.1 Avian Protection Construction Guidelines

Since 2012, POPUD has employed design and construction standards to protect raptors, migratory birds, and other wildlife. The measures contained in POPUD's Avian Protection Plan have been shown to reduce collision and electrocution risks, as well as the number of birds injured. As a result, these

[17] https://app.leg.wa.gov/wac/default.aspx?cite=332-24-301

strategies also reduce the potential for fire ignitions while helping to prevent power outages. Avian interactions are considered in the design and installation of new facilities, as well as the operation and maintenance of existing structures. Construction guidelines include, but are not limited to:

- 10' cross arms to achieve 60" of phase separation
- Covered wire for jumpers and stingers
- Caps on surge arresters, energized bushings, and terminators
- Bushing covers on transformers, capacitors, reclosers, and regulators
- Bird flight diverters
- Replace double crossarms with single fiberglass crossarms to limit osprey nesting where needed
- Elevated nesting platforms
- Perch deterrents

The construction practices listed above are used where a need has been identified, and not necessarily at every structure. These safety measures have reduced the potential for fire ignitions while also assuring compliance with the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA).

7.2.2 Underground Conductor

The benefit of OH bare wire conductor is that it is much lighter and easier to work with compared to insulated wire. It is also easier to troubleshoot following an outage event and restore service more quickly than underground construction, making it a much more cost-effective method of delivering energy compared to insulated/covered wire or underground lines.

The primary drawback of bare wire is its susceptibility to contact from external factors such as wildlife, vegetation, and third-party equipment. The undergrounding of distribution lines eliminates exposure to ice loading, improves reliability during high wind events and serves as an effective mitigation of wildlife related outages. As of 2026, POPUD has approximately 421 miles of UG distribution line on its network. Some remote, rural stretches of line have been strategically converted from OH to UG where issues with vegetation are exceptional.

While there are many benefits, UG lines do not prevent all outages and can present their own unique maintenance problems. In some areas, underground lines may not be a reasonable or cost-effective solution due to distance, accessibility, terrain, or geological conditions.

7.2.3 Circuit Recloser Upgrade

A recloser is an automatic, high-voltage electric overcurrent protective device. Like a circuit breaker in a household electric panel, these devices shut off electric power when trouble occurs, such as a short circuit. Reclosers will close back multiple times to detect if the problem still exists. If the problem was temporary, the recloser automatically resets and restores power[18]. Electronic Vacuum reclosers

[18] https://www.eaton.com/content/dam/eaton/products/medium-voltage-power-distribution-control-systems/reclosers/recloser-definition-information-td280027en.pdf

provide fast, low energy interruption with long contact life, are oftentimes programmable, and do not require the high maintenance demands associated with traditional recloser devices which contain oil and utilize electromechanical mechanisms.

POPUD is currently replacing oil-filled hydraulic reclosers with electronic units that provide advanced line protection. These modern units reclosers, some of which can be remotely operated via SCADAallows Operations to initiate fire-safe protection schemes remotely in response to fast-changing weather conditions.

7.2.4 System Monitoring - SCADA

POPUD has select retrofit substation breakers with Supervisory Control And Data Acquisition (SCADA) functionality to monitor circuit conditions providing early notification and faster response to system abnormalities. Connecting electronic reclosers to the operations center via SCADA will also allow the operators to make settings adjustments without rolling trucks thus improving response time and safety. The transmission system is completely controlled via the SCADA network.

7.3 Fuel and Vegetation Management

7.3.1 Current Strategy Overview

As of 2026, POPUD maintains approximately 714 miles of OH right-of-way (ROW) to minimize interruptions of services to our customers. This includes maintenance of hardware, conductors, poles, and vegetation that could fall or grow into power lines. Trees that grow within or adjacent to powerline ROW are a common cause of outages, equipment damage and potential wildfire ignition. While POPUD is responsible for maintaining the ROW above and below our power lines, it strives to balance the need for a reliable and safe power supply with the preservation of natural surroundings be keeping lines clear of vegetation. Although trees are a critical part of the landscape and habitat, vegetation management supports three primary objectives: safety, reliability and affordability.

When work is well planned and completed, the overall impact on the desirable vegetation on the ROW is reduced, and the neighboring landowners, the motoring public, and the wildlife that uses the ROW for nesting and foraging benefit. With a prescriptive and balanced approach to Vegetation management (VM), POPUD can focus more of its resources on preparing for future weather events, improving the reliability of the grid, and controlling maintenance costs.

7.3.2 Annual Corridor Vegetation Inspection (ACVI)

Each year prior to the growing season, the DEO, Vegetation Management Supervisor, PUD journeymen tree trimmers, journeymen linemen, or certified arborists inspect 100% of the transmission, and ~33% of the distribution ROW for vegetation encroachment and wildfire risk. This inspection identifies any incompatible vegetation on or adjacent to the ROW or electrical facilities, and encroachments into the Minimum Vegetation Clearance Distance (MVCD) to the power lines. ACVI results will inform the Annual Work Plan (AWP) which sets annual VM goals and priorities to be completed in the following year. Vegetation clearance issues found by line crews during regular daily work are reported to the

DEO and/or Vegetation Management Supervisor and are corrected via the Service Order process. These clearance issues are remediated according to the severity of the deficiency.

7.3.3 Annual Work Plan

The AWP follows utility forestry best practices for the continual maintenance and improvement of our electrical system, which includes VM and control within utility corridors and ROWs. The AWP, developed from ACVI findings, sets out the goals and expectations of the in-house Tree Crew for the following calendar year. Prioritized by the results of the ACVI, approximately 20% of the distribution corridors, and 100% of the transmission ROWs are treated each year to mitigate fire risk, trim or remove hazard trees and to perform as-needed mid-cycle trimming. The goal is to complete all scheduled corrections within the yearly maintenance cycle as shown by Table 4. Vegetation Management Schedule. This program is governed by the GM and is subject to direct supervision by the DEO.

7.3.4 Mechanical and Chemical Control Options

Vegetation clearance options may include chemical, manual, or mechanical techniques. The choice of control option(s) is based on effectiveness, environmental impact, site characteristics, worker and public safety concerns, and economics. POPUD chooses the mechanical technique supported by chemical application as the preferred methods of maintenance.

POPUD-approved and environmentally safe herbicides may be applied for ROW maintenance and for cut stump treatment to prevent re-sprouting. Great care shall be taken to use herbicides and related products to provide the most cost efficient and effective maintenance of the ROW as possible. No herbicide applications shall be made within 3 feet of the fence lines of active pastures outside the ROW.

7.3.5 Site Preservation

Care shall be taken to encourage the establishment and growth of natural ground covers wherever possible. Rivers, lakes, streams, natural drainage area, ponds, etc. shall not be disturbed. All applicable local, state, and federal laws and regulations will be followed when performing work around fish spawning streams.

7.3.6 Mid-Cycle Trimming

The VM inspection process is driven by an ongoing assessment of vegetation growth throughout the system, with particular attention given to areas with increased potential for tree-caused damage to power lines and utility equipment. Through continuous evaluation of the electric system, POPUD focuses tree trimming resources in certain high growth areas more frequently than the normal 5-year cycle.

Table 5. Vegetation Management Schedule

ASSET CLASSIFICATION	OPERATION TYPE	FREQUENCY
Transmission ROW	Vegetation Management Inspection	Annual
	Maintenance	Annual
Overhead Distribution ROW	Vegetation Management Inspection	Every 3 years
	Maintenance	Every 5 years
High Growth Rate Areas	Mid-cycle Trimming	As needed

7.3.7 Trimming Standards

Trees are trimmed or removed for safety, reliability, and compliance with National Electric Safety Code (NESC)[19] and RCW 64.12.035 requirements. POPUD's tree trimming crew are also governed by "Best Management Practices-Utility Pruning of Trees[20]" which is a companion publication to the (ANSI) A300 Part 1: Tree, Shrub, and Other Woody Plant Maintenance. These standards are intended as a guide for federal, state, municipal, and private authorities including property owners, property managers, and utilities.

Proper tree trimming promotes growth away from electrical conductors, provide longer periods of clearance, and reduces future maintenance requirements.. Correct trimming techniques include, but

[19] The National Electric Safety Code, Vegetation Management Section 2IS.A.I
[20] The International Society of Arboriculture

are not limited to, directional pruning such as side, slope, and V-pruning. Crown reduction is performed when less extensive options are insufficient to maintain the system safety.

7.3.8 Clearance Specifications

POPUD crews clear and trim all trees that are located within 10 feet of overhead power lines to help ensure the reliability of our electrical system. Some tree clearance is also determined by the growth rate of the species. When permitted, trees are removed when proper pruning to the required clearance results in a reduction of 50% or greater in live crown area.

Factors considered in determining the extent of pruning required include, but are not limited to:

- Tree species, growth rates and failure characteristics
- Branch size
- Line voltage class
- Right-of-way limitations
- Framing and spacing between phases
- Vegetation's location in relation to the conductors
- Location of tree in relationship to protective devices and critical customers
- Location of tree in regard to general public safety
- Potential combined movement of vegetation and conductors during routine winds
- Sagging of conductors due to elevated temperatures or icing
- Ice and snow loading on branches
- Branches overhanging at a sharp angle

During vegetation management work, crews aim to achieve the following clearance specifications at time of trim:

- **OH Transmission:** All overhanging branches are removed over transmission conductors from ground to sky. So long as they do not obstruct safe access, some low-growing shrubs are allowed to remain in the transmission corridor and provide a viable habitat for wildlife.
- **OH Distribution:** Minimum of 15 feet from ROW centerline.
- **Trees Beneath Conductors:** All trees directly below POPUD facilities shall have the crown reduced to 5 feet below the system neutral wire. For high neutral construction, crowns are reduced to achieve 8 feet of clearance below the neutral wire.
- **Overhanging Branches:** Removed to a height of 15 feet above all distribution conductors. All weak, diseased, and dead limbs above primary lines shall be removed. No overhanging limbs are permitted on transmission circuits.
- **Pole Clearing:** Vines growing on poles and wires shall be cut at ground level to a 3-foot circumference.
- **Fiber Communications Cable:** Crown reduced to a minimum of 1 foot below the fiber cable.
- **ROW Brush Removal:** Cleared to 15-25 feet from centerline where feasible, or as far as allowed by the landowner.

7.3.9 Minimum Clearance Guidelines

Crews performing tree work must consider the tree species, growing environment, re-growth rate, maintenance cycle length, etc. in order to determine the amount of clearance required at the time of pruning. The objective is to achieve a minimum of 10 feet of clearance from conductors, plus sufficient additional clearance to accommodate anticipated growth over the next five years. Five-year growth rates can be as low as 5 feet for Douglas fir, or as high as 4 feet per year for young western larch. Mid-cycle trimming is often necessary where ROW limitations do not allow for 5 years of growth to be trimmed.

7.3.10 Brush Mowing Plan

The brush mowing process is used to remove under-growth within the POPUD's ROWs. Brush and small trees are removed with a large tractor mounted shredder that cuts and mulches the undergrowth into small pieces and spreads them across the ROW. This process reduces fuel loading and improves access for line crews and emergency responders. Brush mowing is prioritized in areas identified as having high fire risk where access to lines may be difficult.

7.3.11 Hazard Trees

Electric utilities that investigate the causes of outages often find that tree and branch failures are a significant contributor to vegetation-related outages. [21]. A subset of Danger Trees[22], a Hazard Tree is defined as any tree or portion of a dead, rotten, or decayed tree that may fall into or onto the overhead lines, or trees leaning toward transmission and distribution facilities.

When permitted, trees that are determined by the PUD to be a potential threat to the continued operation of the OH electrical facilities shall be removed, leaving the stump as close to the ground as possible

POPUD makes it a priority to remove hazard trees as soon as they are identified. If removal is not feasible, the crown is reduced below the neutral wire.

7.3.12 Reducing Incompatible Vegetation

In addition to routine patrols to identify incompatible uses and encroachments, POPUD works to educate public and private landowners about vegetation that may pose risks if planted under or near conductors. POPUD believes that the customer plays an important part in its ability to address problems that may pose a threat to the electric system. Customer input, combined with regularly scheduled ROW maintenance, helps maintain a safe and reliable system.

To support these efforts, POPUD provides tree planting guidance through its website and other public outreach channels. The PUD also offers free tree assessments and secondary line drops upon

[21] NRECA Vegetation Management Manual

[22] As defined by ANSI 300 Part 7 standards

request. Additionally, POPUD provides free safety trim services prior to customer tree work to maintain at least 10 feet of clearance away from energized primary electric lines.

7.3.13 Safety Standards

All personnel performing vegetation management work on or near POPUD facilities or ROWs follow approved safety procedures and comply with all applicable governmental safety and health regulations, as well as the safety and health requirements contained in their contracts.

POPUD follows the requirements of WAC 296-45 for worker safety. Contract line clearance tree workers must comply with these standards as well as any other applicable federal, state, or local laws, codes, or regulations.

7.4 Asset Inspections and Response

7.4.1 Current Strategy Overview

Recognizing the hazards associated with operating high-voltage equipment, POPUD maintains formal time-based inspection and maintenance programs for distribution and substation assets. These programs play an essential role in wildfire mitigation, system reliability, and safety. POPUD regularly patrols its system and has increased the frequency of inspections in areas of elevated wildfire risk. The following sections outline the inspection practices for utility-owned assets.

7.4.2 Substation Inspections

POPUD's maintenance plan provides for regular inspections of substations. Qualified personnel will use prudent care while performing inspections, following all required safety rules to protect themselves, other workers, the public and the reliability of the system.

Routine inspections are conducted quarterly to ensure safety and reliability. Additionally, each substation receives an annual detailed inspection, which involves a thorough look at the system to confirm that there are no structural or mechanical deficiencies, hazards, or tree trimming requirements. These inspections also include transformer oil testing, thermal infrared photography, yard cleaning, DC system resistance testing and maintenance planning.

Comprehensive substation inspection and testing are performed every five years, where the substation is taken off-line, and all systems and major pieces of equipment are tested. The Box Canyon substation is inspected daily by the generation facility operators.

7.4.3 Pole and Equipment Inspection Program

To maintain the PUD's approximately 13,000 wood utility poles, a Pole Management Program was initiated with the goal to inspect approximately 10% of the distribution system poles per year. Wood pole inspections are performed by qualified contractors on a planned basis to determine whether the wood structures have degraded below National Electric Safety Code (NESC) design strength requirements with safety factors.

In addition to assessing the condition of the wood pole, inspectors identify and note evident deficiencies of installed equipment such as missing ground wires, guy wire damage, damaged cross-arms, fire damage, as well as vegetation clearance violations and missing or damaged wildlife protection.

Poles that fail inspection are prioritized based on the severity of the structural defect and scheduled for replacement or corrective repair accordingly. Wood poles that pass intrusive inspections are re-tested with a target interval of every 10 years. **Table 6** offers an overview of inspection objectives for poles and other relevant assets.

Table 6. Inspection Program Summary

ASSET CLASSIFICATION	INSPECTION TYPE	FREQUENCY
OH Transmission	Wood Pole Test and Treat	Every 7-10 years
OH Distribution	Wood Pole Visual Inspection	Every 10 years
Regulators	Routine Inspection	Annual
Substations	Routine Inspection	Every 3 months*
	Oil and Infrared Testing	Every 12 months
	Detailed Inspection/Testing	Every 5 years

*Box Canyon substation is visually inspected daily

7.5 Workforce Training

POPUD is developing rules and complementary training programs for its workforce to reduce the likelihood of an ignition. Field staff will be trained on the applicable content of the WMP.

7.6 Relay and Recloser Policy

7.6.1 Current Strategy Overview

In response to the increasing wildfire risk, POPUD has developed wildfire sensitive operating procedures for feeder breakers and field reclosers during IFPL Level 3. Once IFPL 3 is triggered, the PUD moves protection to Fire Safe Mode.

To implement Fire Safe Mode, the PUD adjusts the configuration of the reclosers in the distribution system and the breakers in the substations. Within the distribution system, the PUD has both electronic and oil-filled reclosers. All substation breakers are connected to SCADA. They, along with the SCADA connected distribution system electronic reclosers are configured remotely. For the traditional, oil-filled units, and the electronic reclosers not equipped with communications, manual configuration is necessary. This practice aligns circuit protection schemes with fire threat conditions.

When weather forecasts or real-time weather station information indicates high fire threat conditions outside of the special case of a Red Flag Warning, which is discussed below, the PUD may configure select distribution lines with a more sensitive protection regime, where reclosers rely on 'instantaneous' rather than time-delay tripping or non-reclose settings.

For restoration of an outage during Fire Safe mode, **de-energized circuits must be patrolled prior to re-energizing to ensure no vegetation, downed conductor, or other clearance issues are impacting the lines**. These measures are further protection to reduce the risk of ignition, acknowledging this additional safety measure may lead to prolonged customer outages.

7.6.2 Red Flag Warning

Red Flag Warnings (RFW) are issued by the NWS when critical fire weather conditions are occurring or forecast. These warnings are intended to call attention to limited weather conditions of importance that may result in elevated wildfire risk. The type of weather patterns that can cause a RFW include low relative humidity, strong winds, dry fuels, the possibility of dry lightning strikes, or any combination of the above. A RFW may be issued during an on-going event, or if the fire-weather forecaster has a high degree of confidence that Red Flag conditions will occur in the foreseeable future.

When the PUD receives notice that an RFW has been issued covering a portion of the PUD's service territory, additional operational protocols are implemented to reduce wildfire risk. Work in areas of elevated wildfire risk is performed only when the following conditions are met:

- For emergency work only and if doing the work does not pose a higher risk for ignition
- Activities are under the direct observation of the crew foreman or site lead
- When the crew can maintain adequate communications
- Local weather conditions, terrain, and surrounding vegetation would permit crews to extinguish a fire resulting from the work being performed

- Crew has fire suppression equipment accessible in the immediate area of work that would facilitate an immediate response to an ignition, and
- Crews will be on alert for fires while working or passing through high-risk areas and immediately report fires or signs of fire to the operations center as soon as feasible.

In addition, a Red Flag Warning triggers enhanced protection settings. Breakers and/or reclosers are moved to Elevated Fire Safe Mode, which offers the fastest possible system response to a fault. To ensure protection for the zone covered by the RFW, PUD Engineering determines which devices to place into Enhanced Fire Safe Mode and will either adjust configuration via SCADA, if connected, or manually.

Restoration of an outage during Elevated Fire Safe Mode is similar to restoration under basic Fire Safe Mode, with the exception that lines will not be patrolled until the PUD deems it safe to do so. This is done out of an abundance of caution to protect field personnel under elevated fire risk conditions.

At the conclusion of a Red Flag Warning, all devices which were put into Elevated Fire Safe Mode are returned to basic Fire Safe Mode. *Table 7* summarizes the protection modes and their primary attributes.

Table 7 Comparison of Protection Modes

Protection Mode	Protection Curve Type	Reclosing Action	Restoration
Normal	Standard	Up to 3 reclosing attempts	No constraints
Fire-Safe	Standard	Non-reclosing (lockout after trip)	Patrol outage area and restore as conditions warrant
Elevated Fire-Safe	Instantaneous	Non-reclosing (lockout after trip)	Begin patrolling outage area once PUD determines it is safe to do so

7.7 De-energization/Public Safety Power Shutoff

A Public Safety Power Shutoff (PSPS) is a proactive measure that temporarily de-energizes power lines ahead of high wind events combined with hot and dry weather conditions. POPUD does not have a PSPS policy in place and has determined that implementation is not effective at this time.

8 Community Outreach and Public Awareness

8.1 Current Community Outreach and Public Awareness Program

Pend Oreille PUD provides regular communication to customers regarding electric service and wildfire preparedness. The PUD uses email, text messaging, automated phone calls, its website, social media platforms, and local media to share information. During wildfire season, customers receive specific instructions on emergency preparedness, including monitoring weather conditions, preparing defensible space around property, assembling an outage kit, and having an evacuation plan. The PUD also communicates frequently to customers and key stakeholders about its Fire-Safe mode practices.

In the event of an outage or emergency, Pend Oreille PUD directs customers to its website, outage map, and Facebook page for real-time updates. The PUD may also utilize the County's Nixle alert system to provide timely emergency notifications to customers.

Defensible Space is often defined as an area around a home or outbuilding, where the flammable vegetation is modified and maintained to slow the rate and intensity of an advancing wildfire. In practice, this is an area with a minimum of 30 feet around a structure that is cleared of flammable brush or vegetation. This area also provides room for firefighters to work to protect a structure from advancing wildfire as well as protect the forest from a structure fire.

POPUD encourages its customers to take proactive measures to safeguard their homes from wildfire danger and to prepare for emergency events. To help promote awareness of wildfire, and what homeowners can do to minimize risk, POPUD provides information on prevention and mitigation on its website and social media.

Customers will find links to information on the POPUD website regarding:

- Link to National Weather Service alerts
- Link to Pend Oreille County Emergency Notifications
- Home Emergency Planning
- Defensible Space Guidelines
- Trees Near Power Lines/Right Plant, Right Place

8.2 Public Agency and Customer Communications for Outages

POPUD communicates with its customers before planned outages and during un-planned outages. For scheduled maintenance outages the PUD provides as much notice as possible. Depending on how many customers will be affected by the outage, customers may receive advance notification via phone call, text message, email, postings on the PUD Facebook page and website, and in the local newspapers.

Key stakeholders and key accounts including health care facilities affected by a planned de-energization of the power lines are notified in all cases. POPUD calls the local communications companies (phone and internet providers) if they will be impacted by the outage. Similarly, County government officials and Pend Oreille County Department of Emergency Management (PODEM) are contacted prior to planned outages that would directly affect their operations.

During unplanned outages, information including the number of customers affected and geographical location are posted on the POPUD web-based outage map. Additional information, such as phone numbers for reporting downed lines and outages, and safety information are also included on the PUD's website and Facebook page.

8.3 Jurisdictional Structure

POPUD has considered the jurisdictional structure of the service area when developing or implementing its strategic plan, including those related to wildfires. **Figure 1** illustrates the general land ownership, while the various stakeholders with land management responsibilities within the service area are listed below.

POPUD has assets in the following counties:

- Pend Oreille, WA
- Stevens, WA (approx. one mile of OH distribution)
- Spokane, WA (< one mile of OH distribution)
- Bonner, ID (< one mile of OH distribution)

State Lands:

- WA Dept. of Fish and Wildlife – Sherman Creek Wildlife Area and LeClerc Wildlife Area
- WA State Parks – Lake Newport State Park
- WA Department of Natural Resources Districts – Northeast Arcadia and Northeast North Columbia
- WA Department of Natural Resources – Uplands

Federal Lands:

- US Forest Service – Colville National Forest
- US Forest Service – Idaho Panhandle National Forest
- US Fish and Wildlife Service
- Bureau of Land Management

Tribal Lands:

- Kalispel Tribe of Indians

9 Restoration of Service

If an outside emergency management response agency requests a power shutdown, **or an unplanned outage**, POPUD staff will patrol the affected portions of the system before the system is re-energized. Any equipment or distribution lines that cannot be immediately inspected will remain de-energized until visual confirmation of safe conditions is established. Poles and structures damaged in a wildfire must be assessed and rebuilt as needed prior to re-energization. Periodic customer and media updates of restoration status prior to full restoration will be made.

Following a large outage, transmission circuits are given priority over distribution lines during the restoration process. POPUD prioritizes outages at the higher-voltage level, which power substations serving large numbers of customers, schools, businesses, and hospitals first, then work is done to restore the largest feeders.

9.1 Restoration Process

POPUD work crews take the following steps prior to restoring electrical service after an unplanned outage. These measures are intended to protect the workers, the public, and system reliability.

- **Patrol:** De-energized lines are patrolled to ensure no hazards have affected the system during the outage. If an **outage is due to wildfire or other natural disaster**, as soon as it is deemed safe by fire officials**,** lines and equipment are inspected for damage, foreign objects and to assess repair needs. Lines located in remote and rugged terrain with limited access may require additional time for inspection. VM crews are called on to assist in clearing downed trees and limbs as needed.
- **Isolate:** Isolate the outage and restore power to unaffected areas where possible.
- **Repair:** Following initial assessment, POPUD supervisors, managers, and engineers develop a repair plan.. Rebuilding begins as soon as affected areas are deemed safe. Repair plans prioritize substations and transmission facilities, followed by distribution circuits that serve critical infrastructure. While the goal is to re-energize all areas as soon as possible, emergency services, medical facilities, and other essential services are prioritized when resources are limited. Additional crews and equipment will be dispatched as necessary. Upon request the PUD provides Pend Oreille County 911 with outage updates. During large-scale restoration events a POPUD representative may be on-site to provide a direct line of communication between PODEM and POPUD.
- **Restore:** Once repairs are complete and equipment is safe to operate, power is restored to homes and businesses as quickly as possible. Periodic updates are provided to customers and media until full restoration is achieved. After the initial restoration, additional work may be required to complete cleanup, reconstruction or repairs.

10 Evaluating the Plan

10.1 Metrics and Assumptions for Measuring Plan Performance

POPUD has developed performance metrics to evaluate the effectiveness of its various programs and strategies for mitigating power-related ignitions as shown in **Table 8**. The tracking of these metrics will help identify circuits most susceptible to unexpected outages, time-of-year risks, and the adequacy of the VM and asset inspection schedules. The metrics are also intended to assess the performance of different aspects of the plan. These metrics quantify the risk environment of POPUD's service territory and the mitigation policies.

Because this WMP is in the early stages of implementation, available data is limited. As mitigation programs and additional data is collected, POPUD will identify areas of operations that may require a different approach, as well as develop additional strategies to further reduce utility-sourced ignition risk.

As the metrics are analyzed over times, refinements will be made, and the selected metrics, as with other aspects of the plan, will likely evolve in future iterations of the WMP.

10.2 Programmatic Goals

POPUD outlines and schedules required work on an annual basis. The PUD strives to complete the work within the initially scheduled time frame; however, emergencies, unplanned staff turnover, and other unforeseen circumstances may require the reallocation of material and labor resources. When this happens, delayed work is re-prioritized and scheduled for completion in a future time frame to ensure safe and reliable operation in accordance with industry safety standards.

10.3 Identifying and Addressing Areas of Continued Improvement in the Plan

The GM is responsible for ensuring the WMP meets all Washington State guidelines to mitigate the risk of its assets becoming the source or contributing factor of a wildfire. Staff responsible for assigned mitigation areas must vet current procedures and recommend changes or enhancements to build upon the Plan's strategies. Any deficiencies within the WMP due to unforeseen circumstances, regulatory changes, emerging technologies, environmental changes, or other rationales, are reported to the GM, DEO and designated staff.

The GM, or designee, is responsible for leading discussions on addressing deficiencies and collaborating on solutions when updating the WMP. When deficiencies are identified, the GM and designated staff evaluate each reported deficiency to determine their validity. The GM, DEO and designated staff record the agreed upon corrective actions and plan steps for implementation and inclusion in future iterations of the WMP.

10.4 Monitor and Audit the Effectiveness of Inspections

Monitoring the effectiveness of inspection practices will occur through ongoing tracking and review of internal inspection results. Findings from routine field work, equipment inspections, and line inspections are used to evaluate and improve inspection procedures.

POPUD utilizes Key Performance Indicators (KPI) to regularly monitor inspection, corrective maintenance records and diagnostic test results. Results will be used to adjust maintenance plans and develop new programs.

Appendix A: Metrics

Table 8 Performance Metrics

External Metric	2025	2026	2027
Red Flag Warnings in service area			
Days in Fire-safe mode			
Distribution Performance Metrics			
Circuit Miles inspected			
Transmission Performance Metrics			
Circuit Miles inspected			
Vegetation Inspections			
Circuit Miles inspected			
Hazard Trees Removed			

Appendix B: Definitions

Best Management Practices (BMP): Innovative environmental protection practices applied to help ensure that projects or regular operations are conducted in an environmentally responsible or effective manner.

***Burnable fuel*:** Refers to fuel models that are "ignitable" in the fire modeling. Burnable land cover includes grasses, herbs, shrubs, trees, leaf litter, dead-and-down branch wood, etc.

Circuit Breaker: Distribution circuit breaker providing protection for distribution feeder circuits. Located inside substation.

Commission: PUD-elected board of commissioners.

Danger Tree: A danger tree is any tree, on or off the right of way, that can contact electric power lines. A danger tree may be completely healthy and intact, or it may be sick or dead. Even a healthy tree could sustain damage in a severe storm and impact nearby power lines, thus the potential for "danger."

Distribution System: The final stage in the delivery of electric power carrying electricity from the transmission system to individual consumers. The POPUD distribution system includes 7kV-12.47kV lines not tied to generation facilities.

Defensible Space: An area around a structure, either natural or manmade, where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildfire and the structure. In practice, it is defined as an area a minimum of 30 feet around a structure that is cleared of flammable brush or vegetation.

Fire Hazard: "Hazard" is based on the physical conditions that give a likelihood that an area will burn over a 30 to 50-year period without considering modifications such as fuel reduction efforts.

Fire Risk: "Risk" is the potential damage a fire can do, to the area under existing conditions, including any modifications such as defensible space, irrigation and sprinklers and ignition resistant building construction which can reduce fire risk. Risk considers the susceptibility of what is being protected.

Fire Season: 1) Period(s) of the year during which wildfires are likely to occur, spread, and affect resource values sufficiently to warrant organized fire management activities. 2) A legally enacted time during which burning activities are regulated by state or local authority.

Fire Weather Watch: A term used by fire weather forecasters to notify using agencies, usually 24 to 72 hours ahead of the event, that current and developing meteorological conditions may evolve into dangerous fire weather.

Hardening: Modifications to electric infrastructure to reduce the likelihood of ignition and improve the survivability of electrical assets.

Hazard Tree: A specific type of danger tree that poses a greater likelihood of causing damage to electric power lines or equipment. In this case, the tree is structurally unsound and positioned in such a way that it could fall onto conductors.

Industrial Fire Precaution Level (*IFPL):* Activated when needed during the summer fire season, IFPL is an activity closure system to reduce wildfire risk. By law (WAC 332-24-301), it applies to woods workers and other industrial forest users on 13 million acres of unimproved private, federal, and state forestlands protected by the BMLM or U.S. Forest Service. Levels range from Level-1 to Level-4.

Landscape: Refers generally to the area of interest in a project or study and could refer to modeled or on-the-ground conditions.

MVCD: Minimum Vegetation Clearance Distance is the calculated minimum distance stated in feet (meters) to prevent flash-over between conductors and vegetation, for various altitudes and operating voltages.

National Fire Danger Rating System (NFDRS): A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels. It combines the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area's fire protection needs.

Non-reclose: A recloser setting which prevents it from automatically reclosing after fault. When facilities are set to non-reclose, the lines must be manually patrolled downstream from the device during daylight hours to ensure they are clear before the line can be reenergized.

Pole Clearing: The process of establishing a firebreak clearance within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, transformer, or lightning arrester is attached and surrounding each dead end or corner pole unless such pole or tower is exempt from minimum clearance requirements.

Public Utility District: Public Utility Districts are not-for-profit, locally regulated utilities that are created by a vote of the people. They were authorized in 1930 by a voter-approved initiative. Their charter under state law is to "conserve the water and power resources of the State of Washington for the benefit of the people thereof, and to supply public utility service, including water and electricity for all uses."

Raster: An array or regular grid of square cells used to store data.

Recloser: Recloser is a device that is used in over-head distribution systems to interrupt the circuit to clear faults. Automatic reclosers have electronic control senses and vacuum interrupters that automatically reclose to restore service if a fault is temporary. There are multiple attempts made to clear and reenergize the circuit, and if the fault still exists, the

recloser locks out. Reclosers are made in single-phase and three-phase versions and use oil or vacuum interrupters.

Red Flag Warning (RFW)[23]: A term used by fire- weather forecasters to call attention to limited weather conditions of importance that may result in extreme burning conditions. It is issued when it is an on-going event, or the fire weather forecaster has a high degree of confidence that Red Flag criteria will occur within 24 hours of issuance. Red Flag criteria occurs whenever a geographical area has been in a dry spell for a week or two, or for a shorter period, if before spring green-up or after fall color, and the National Fire Danger Rating System (NFDRS) is high to extreme and the following forecast weather parameters are forecasted to be met:

- A sustained wind average 15 mph or greater
- Relative humidity less than or equal to 25 percent and
- A temperature of greater than 75 degrees F

In some states, dry lightning and unstable air are criteria. A Fire Weather Watch may be issued prior to the RFW.

Right of Way (ROW): The corridor of land under (and adjacent to) a transmission or distribution line.

Risk: A measure of the probability and severity of adverse effects that result from exposure to a hazard.

SCADA: SCADA is an acronym for Supervisory Control and Data Acquisition. SCADA refers to an industrial computer system that monitors and controls a process. In the case of the transmission and distribution elements of electrical utilities, SCADA will monitor substations, transformers, and other electrical assets. It is possible to control or reset equipment remotely using SCADA.

Substation: Part of the electrical generation, transmission and distribution system, substations transform voltage from high to low, or the reverse, or perform any of several other important functions. Between the generating station and consumer, electric power may flow through several substations at different voltage levels. A substation may include transformers to change voltage levels between high transmission voltages and lower distribution voltages, or at the interconnection of two different transmission voltages.

Transmission System: The bulk delivery of electrical energy from a generating site to an electrical substation. At POPUD, for line maintenance purposes, the transmission system is comprised of 115kV lines.

23 Source: https://w1.weather.gov/glossary/index.php?word=Red%20Flag%20Warning

Vegetation: Trees, shrubs, and any other woody plants.

Vegetation Management: A broad term that includes tree pruning; brush removal using power saws and mowers; the judicious use of herbicides and tree growth regulators; hazard tree identification and removal; the implementation of strategies to minimize the establishment of incompatible species under and near power lines; and the control of weeds.

Wildfire: Also called wildland fire, an unplanned, uncontrolled fire in a forest, grassland, brushland or land sown to crops.

Wildfire Mitigation Plan (WMP): A comprehensive plan to reduce the threat and severity of wildfire within an electric utility's service area. Plans include the preventive strategies and programs adopted by the utility to minimize the risk of its facilities causing wildfires along with its emergency response and recovery procedures.

Wildlands: Forests, shrub lands, grasslands, and other vegetation communities that have not been significantly modified by agriculture or human development*. A more specific meaning for fire managers, used by the National Wildfire Coordinating Group (which coordinates programs of participating wildfire management agencies nationwide), refers to an area in which development is essentially non-existent (except for roads, railroads, power lines, and similar transportation facilities); structures, if any, are widely scattered.

Wildland Urban Interface (WUI): Line, area, or zone where structures and other human development meet or intermingle with vegetative fuels in wildlands.

Appendix C: Acronym Glossary

ANSI	American National Standards Institute
AWP	Annual Work Plan
ACVI	Annual Corridor Vegetation Inspection
BIA	Bureau of Indian affairs
BLM	U.S. Bureau of Land Management
BMP	Best Management Practices
BPA	Bonneville Power Administration
DNR	Department of Natural Resources
DEO	Director of Engineering and Operations
DLI	Detailed Line Inspections
EOC	Emergency Operation Center
ERM	Enterprise Risk Management
GM	General Manager
HFTA	High Fire Threat Area
ICS	Incident Command System
IFPL	Industrial Fire Protection Level
kV	Kilovolt
MVCD	Minimum Vegetation Clearance Distance
NESC	National Electric Safety Code
NFDRS	National Fire Danger Rating System
OH	Overhead
PSPS	Public Safety Power Shutoff
QC	Quality Control
RFW	Red Flag Warning
ROW	Right of Way
SCADA	Supervisory Control and Data Acquisition
T&D	Transmission and Distribution
UG	Underground
USFS	United States Forest Service
VM	Vegetation Management
WA	Washington State
WHP	Wildfire Hazard Potential
WMP	Wildfire Mitigation Plan
WUI	Wildland Urban Interface

Appendix D: Version History

Table 9 Plan Review and Revision Record

Date	Version	Author	Revision Description
Oct 2024	V0	BKI/POPUD	Original document adopted and submitted in 2024
June 2026	V1	POPUD	Updates to align 2025 Wildfire Season practices to plan. General refresh of document to updated for dated information (i.e. updated climate info, etc). Clarification on PSPS position. Removed unnecessary FPP language in 7.1
July 2026	V2	POPUD	Updated language in 7.6.2 regarding Red Flag Warning practices to allow more efficient patrols