



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

*Rely on us.*

TO: Commissioners Barofsky, Schlossberg, Brown, Carlson, and Morris

FROM: Tyler Nice, Electric Operations Manager, Sarah Gorsegner, Business Continuity Manager, Jeannine Parisi, Resiliency Program Manager

DATE: March 21, 2025

SUBJECT: 2025 Wildfire Mitigation Plan Annual Update

OBJECTIVE: Board Approval

---

## Issue

This is an opportunity to review and approve the 2025 Wildfire Mitigation Plan (WMP) and discuss preparations for the upcoming wildfire season.

## Background

All Oregon electric utilities are required to develop a risk-based Wildfire Mitigation Plan (WMP) and submit the approved plan to the Oregon Public Utility Commission (OPUC). The EWEB Board approved the utility's first WMP in July 2022. The second plan, developed with the benefit of fully adopted regulatory requirements, was approved in July 2023. The 2024 WMP was postponed pending completion of a Phase II wildfire risk assessment. A status update on wildfire activities and planning work was provided to the Board last July in lieu of a WMP review and approval process.

## Discussion

The increasing frequency of extreme weather events, shifting legislative environment and threat of natural disasters is prompting EWEB to adapt its operational practices while making strategic investments to maintain public safety and improve resiliency. Wildfire is now impacting EWEB assets, operations and customers on a near-annual basis. To address this growing threat, the utility is leveraging technology and third-party expertise to target multi-hazard risk reduction measures for greatest impact while maturing its WMP through operational experience and pilot projects.

The 2025 WMP builds on the comprehensive mitigation work described in prior plans, including enhanced operations and maintenance, wildfire season situational awareness tools, grid hardening and green infrastructure investments, and community outreach activities. Some notable enhancements reflected in the new plan are:

- Use of satellite and artificial intelligence technology for enhanced vegetation management
- Utility-focused fire risk modeling to validate and refine EWEB's High Fire Risk Zones (HFRZs)
- A second weather station to support custom, localized fire weather forecasting

- Improved operational readiness through trainings and situational awareness tools/communications during periods of high fire danger
- Installation of new equipment in HFRZs to reduce ignition risk and speed outage detection and response times
- Programmatic support to HFRZ customers, especially those who are reliant on power for medical equipment and mobility devices.

Staff have explored several grant opportunities to accelerate these efforts. Given the high level of uncertainty at the Federal level, focus is now on two grants:

1. Oregon Department of Energy Grid Resiliency grant. This \$1.2 million project would fund additional HFRZ equipment (fault indicators/reclosers) and rebuild nine miles of older distribution in the Cedar Flats neighborhood. The three-year grant agreement is currently in contract negotiations.
2. FEMA Hazard Mitigation Grant. This project would re-allocate previously approved FEMA funds to rebuild a portion of overhead transmission and distribution lines near the Amazon Headwaters Trail in South Eugene. The amended project has FEMA approval and following City permitting, should start construction in late summer/early Fall 2025.

In addition, EWEB was one of five public utilities selected to participate in the American Public Power Association's Wildfire Mitigation Project. This project will leverage Argonne National Laboratory expertise to support each utility with data-driven toolkits for wildfire risk management and planning. Coupled with the most recent fire risk analysis, this project will facilitate development of wildfire mitigation investment road map. The intent is to build a multi-year action plan that is scalable to resource availability and responsive to new learnings and emergent threats.

### **Recommendation**

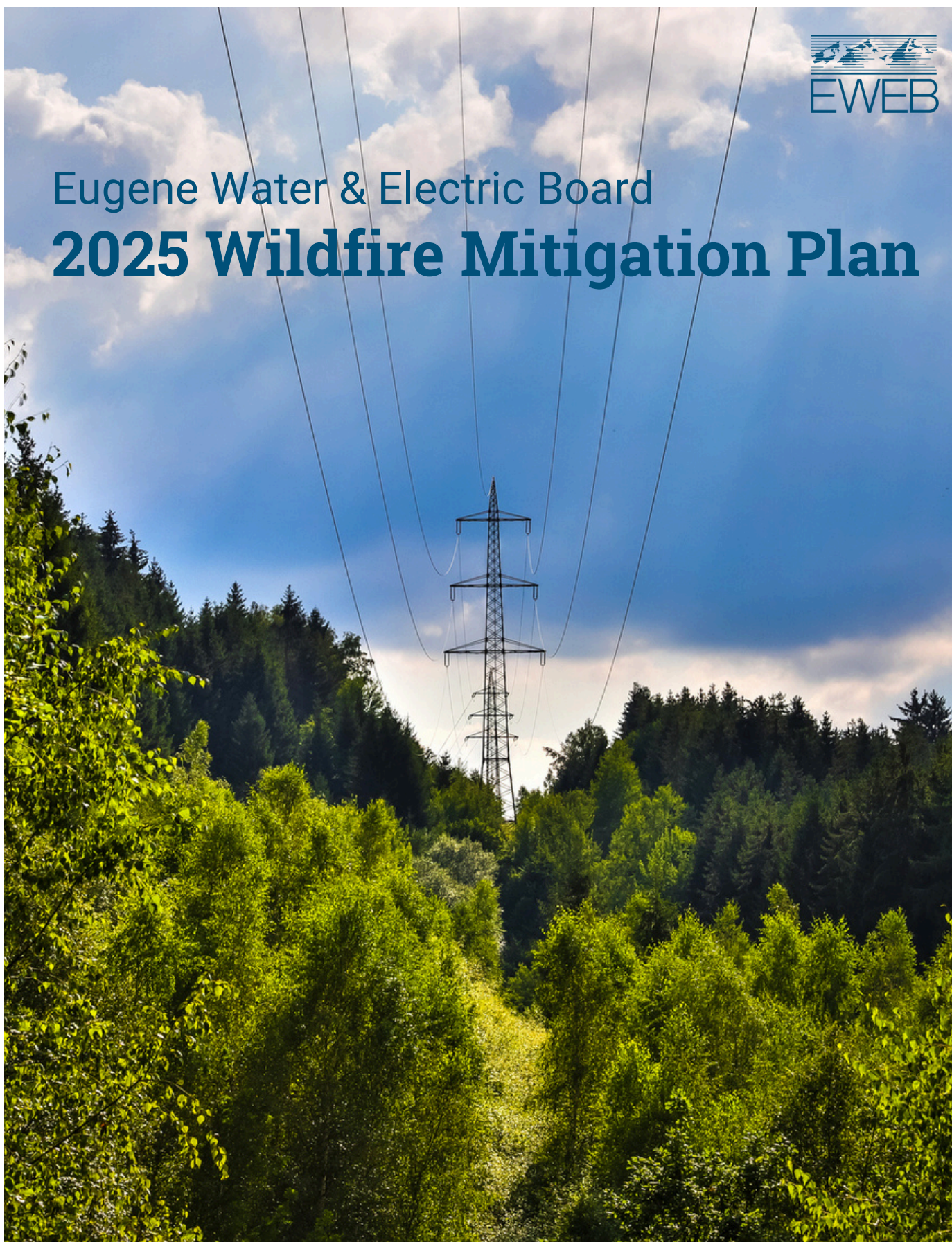
Management recommends Board approval of the 2025 Wildfire Mitigation Plan. This third iteration demonstrates ongoing compliance with OPUC requirements and contains 2023/2024 metrics for performance tracking and accountability. 2025 wildfire season operational practices emphasize situational awareness and operational practices that prioritize risk reduction over reliability, further illustrating the utility's commitment to public safety. If necessary, Board feedback and formatting updates will be included in a revised document prior to submission to the PUC.

### **Requested Board Action**

Approve the 2025 Wildfire Mitigation Plan (with minor amendments as discussed).



# Eugene Water & Electric Board **2025 Wildfire Mitigation Plan**





## Table of Contents

1. Executive Summary .....	1
2. Introduction and Background.....	2
2.1 Utility Profile .....	2
2.2 Plan Context and Approach.....	3
3. Plan Purpose and Policy Objectives .....	5
3.1 Purpose Statement .....	5
3.2 Policy Objectives .....	5
4. Wildfire Risk Assessment.....	7
4.1 EWEB Service Territory Overall Risk Profile .....	7
4.2 Initial Areas of Higher Wildfire Risk .....	11
4.3 Updated Fire Risk Analysis .....	13
5. Wildfire Risk Mitigation Actions.....	16
5.1 Mitigation Overview.....	16
5.2 System Operations & Maintenance.....	17
5.3 Vegetation Management .....	20
5.4 System Hardening.....	25
5.5 Situational Awareness Tools.....	28
5.6 Operational Response.....	30
6. Community Engagement and Interagency Coordination .....	34
6.1 External Communications Tactics .....	34
6.2 Interagency Coordination .....	36
7. Performance Tracking and Future Planning Efforts.....	38
7.1 2023-2024 Mitigation Plan Metrics.....	38
7.2 Future WMP Investments and Planning Activities.....	40
8. Appendices .....	43

# 1. Executive Summary

In response to the growing severity and frequency of dangerous wildfires, Oregon electric utilities are required to develop risk-based wildfire mitigation plans (WMP) for submission to the Oregon Public Utility Commission (OPUC). The plan should be designed to protect public safety, reduce risk to utility customers, promote electrical system resilience to wildfire damage and be routinely updated. The EWEB Board of Commissioners approved the utility's first WMP in July 2022.

Understanding areas of high wildfire potential across the electric system is the cornerstone to an effective mitigation plan. Most of EWEB's electric infrastructure is in urban areas with relatively low risk for wildfire. Areas initially determined to have heightened risk include the McKenzie River Valley and a portion of southeast Eugene. A new baseline wildfire risk assessment was conducted in 2024 and is under review to refine the utility's High Fire Risk Zones (HFRZs).

EWEB's electric capital plan includes robust investments in grid resiliency, some with overlapping wildfire mitigation co-benefits. The utility allocates an additional \$1 million as a financial floor for specific wildfire risk reduction measures. Commitments include:

- Annual vegetation management and equipment inspections in HFRZs;
- Targeted equipment upgrades and grid hardening investments; and
- Situational awareness tools and modified operational practices during wildfire season, including changes to electric system settings to limit ignition events in abnormal conditions.

EWEB is embracing new methods and equipment as technology matures and in response to emerging best practices and shared utility learned experience. Grant funding requests to accelerate these efforts and build a road map to guide future mitigation work are having some success. To improve operational readiness, staff practice the Public Safety Power Shut-off (PSPS) decision-making and implementation framework and have access to custom fire weather forecasts.

EWEB recognizes the heightened public concern around wildfire danger and continues a multi-pronged public outreach campaign on resiliency and emergency preparedness topics. Messaging and imagery to alert the public of heightened wildfire potential has been further refined following EWEB's first PSPS event in September 2022. Potential PSPS alerting involves direct advance notification to interagency partners, critical infrastructure owners and customers who have opted into the Enhanced PSPS Notification program.

Core metrics show steady progress in identifying opportunities to enhance grid resiliency while improving situational awareness and operational response to wildfire threats. EWEB prioritizes public safety and continues to exceed WMP compliance standards set forth by the OPUC.

## 2. Introduction and Background

### 2.1 Utility Profile

The City of Eugene (the City) commenced utility operations in 1908 with the purchase of a privately owned water system. In 1911, upon completion of the first municipal hydroelectric power plant, the City organized the Eugene Water Board to operate the City's electric and water utilities. The City Charter authorized the newly formed Board to supply electric and water service within the city limits of Eugene and to certain areas outside the city limits, including the lower McKenzie River Valley. To reflect its growing base of electric customers, the utility's name was changed to the Eugene Water & Electric Board (EWEB) in 1949.

EWEB's principal purpose is to provide reliable water and electricity to its customers while maintaining cost-based rates. As established by City Charter, EWEB is governed by a five-member Board of Commissioners (Board) who are elected by voters residing within city limits. The Board is responsible for overall utility governance, including annual budget approval and rate-setting.

- Population served: 176,700 (2020 estimate, U.S. Census Bureau)
- Land area served: 236 square miles
- Land area owned: 44 square miles

EWEB is the largest publicly owned electric and water utility in Oregon. The electric system serves almost 100,000 residential, commercial, and industrial customers within the City of Eugene and in rural areas along the McKenzie River east of Springfield to Vida (upriver territory). While the approximately 5,000 upriver services are mostly residential, critical infrastructure such as the Hayden Bridge Filtration Plant, Leaburg Fire Station and several communication towers are located in this area. EWEB's service territory adjoins the Springfield Utility Board to the east, the Lane Electric Cooperative system to the south/upriver, Blachly-Lane Electric Cooperative to the northwest and Emerald People's Utility District. See Appendix A for EWEB service territory maps.

Power is supplied via contracts with the Bonneville Power Administration (BPA), EWEB-owned generation resources, other contracted resources and wholesale market purchases. The utility operates two hydroelectric facilities along the McKenzie River, the smaller Walterville plant within the service territory and the Carmen-Smith Hydropower Project, located 70 miles east of Eugene in unincorporated Linn County. EWEB also owns the Stone Creek hydropower project on the Clackamas River, 45 miles southeast of Portland.

- Total electric system service area: 236 square miles
- Transmission and distribution lines: 1630 miles
- Substations: 38

## 2.2 Plan Context and Approach

Wildfires play an important role in the ecological health of natural areas. However, a convergence of complex issues is making wildland fire activity more dangerous and destructive than in the past. These factors include increased fuel loads from decades of fire suppression activities, the presence of non-native vegetation that can act as ladder fuels, more development in the wildland/urban fringe and the rising frequency of erratic climate patterns such as drought, extreme heat and severe storms. Even in the Pacific Northwest, where forests are typically too moist to burn with much intensity, wildfire risk is growing. Research shows that the largest fires in the Western Cascades are tied to short-term drought conditions coinciding with extremely dry fuels. These fire regimes, while less frequent, can cause more catastrophic damage compared to areas with shorter burn cycles. Further, the combination of warmer, dryer summers and less residual snowpack can create conditions more conducive to large fires<sup>1</sup>.

Following the destructive 2020 Labor Day fires, the Oregon legislature passed Senate Bill 762, a \$190M Omnibus Wildfire Bill that funded numerous fire prevention, response and recovery programs. SB 762 further mandated all electric utilities to file risk-based Wildfire Mitigation Plans (WMP) with the Oregon Public Utility Commission (OPUC).

The minimum standards described in SB 762 served as a framework for EWEB's first WMP:

- I. A consumer-owned utility must have and operate in compliance with a risk-based Wildfire Mitigation Plan (WMP) approved by the governing body of the utility. The plan must be designed to protect public safety, reduce risk to utility customers and promote electrical system resilience to wildfire damage.
- II. The consumer-owned utility shall regularly update the risk-based wildfire mitigation plan on a schedule the governing body deems consistent with prudent utility practices.
- III. A consumer-owned utility shall conduct a wildfire risk assessment of utility facilities. The utility shall review and revise the assessment on a schedule the governing body deems consistent with prudent utility practices.
- IV. A consumer-owned utility shall submit a copy of the wildfire mitigation plan approved by the utility governing body to the OPUC to facilitate commission functions regarding statewide wildfire mitigation planning and wildfire preparedness.

The EWEB Board approved the utility's first WMP on July 5, 2022. The OPUC completed its year-long rulemaking process delineating WMP requirements a month later and opened a separate docket to address outstanding issues related to correcting safety violations posed by third-party communications equipment. These rules were adopted in December 2022.

To build the first WMP, EWEB leveraged existing programs and policies for grid reliability and safety to advance wildfire risk mitigation work. The initial plan sought to improve fire season

---

<sup>1</sup> "Projected Impact of Mid-21<sup>st</sup> Century Climate Change on Wildfire Hazard in a Major Urban Watershed outside Portland, OR", [Fire](#), December 2020.

situational awareness while ramping up interagency coordination and community engagement efforts. The next plan, adopted in July 2023, was informed by operational experience as well as best practices from other electric utilities and subject matter experts. It expanded on prior mitigation efforts with a continued focus on resiliency projects with wildfire risk reduction co-benefits. The resulting plan complied with the adopted OPUC rules while incorporating several enhancements to protect public safety and promote grid resiliency.

This third iteration demonstrates EWEB's commitment to maturing its wildfire mitigation program even as the planning landscape for electric utilities continues to evolve. Significantly, several pilot projects to test new technologies are underway and the results from an updated risk assessment to refine the utility's High Fire Risk Zones is in review. This fire risk analysis is critical to direct future investments towards areas with the highest threats to public safety and utility infrastructure.

Other overarching objectives include:

- Building on community engagement and inter-agency coordination efforts to strengthen wildfire preparedness and prevention partnerships, with a focus on our most at-risk customers.
- Testing new equipment and technologies that provide wildfire risk reduction co-benefits and support year-round resiliency, seeking grant funds to accelerate work where feasible.
- Ensuring compliance by consolidating and documenting dispersed operational practices and aligning mitigation, response and recovery plans.
- Building a culture of wildfire safety through increased exposure to situational awareness tools, trainings/conferences and third-party expertise.

Regular plan updates are crucial to track progress, integrate related work, identify gaps, and respond to emerging information and conditions. The EWEB Board agreed to an annual planning cycle to review the previous year's key metrics, measure progress towards on-going and new activities and ensure alignment with Board strategic priorities. However, this WMP was postponed several months to incorporate any immediate adjustments to our HFRZs resulting from the latest risk-modeling work. The next annual update is planned for early 2026.



## 3. Plan Purpose and Policy Objectives

### 3.1 Purpose Statement

***EWEB's Wildfire Mitigation Plan will adhere to OPUC rules to protect public safety, reduce risk to utility customers and promote electric system resilience to wildfire damage. The risk-based plan, developed in coordination with key stakeholders, will provide a basis for continuous improvement to evolve our operational practices, communication plans and mitigation efforts as best practices and regulations are updated.***

The Board is responsible for adopting the WMP and determining funding levels for priority mitigation activities. The General Manager or designee will ensure the plan meets all regulatory compliance thresholds and oversee plan implementation.

### 3.2 Policy Objectives

While filing a Board-approved plan with the OPUC is a compliance requirement, a formal risk-based wildfire mitigation plan aligns with several other EWEB strategic priorities, policy objectives, planning documents and core values.

The safety of our workforce and community is a primary organizational core value and fundamentally drives how essential utility services are delivered to the public. Annual updates to EWEB's strategic plan continue to prioritize resiliency and emergency preparedness. In August 2023, the EWEB Board of Commissioners adopted a Resiliency Policy, recognizing the steady uptick in disruptive events impacting critical utility services. These priorities are reflected in the types and level of investment in our 10-year Capital Improvement Plan, as well as financial and workforce investments.

In addition to aligning with EWEB core values and strategic priorities, the WMP builds on existing planning documents, programs and practices, such as the Incident Command System (ICS), as well as robust public engagement around emergency preparedness. The WMP seeks to reinforce linkages between other risk mitigation and response programs and management plans associated with our hydroelectric facility licenses. Examples of related planning documents are listed in Table 1.

Table 1. WMP-Related Planning Documents

Related Plan	Last Update
Electric Capital Improvement Plan (2024-2034)	Updated Annually
<a href="#">Lane County Multi-Jurisdictional Natural Hazard Mitigation Plan</a>	2023 - 2028
Carmen-Smith Fire Response and Suppression Coordination Plan	July 2020
Carmen – Cougar Transmission Line Management Plan	April 2021
Right of Way Vegetation Management Program	June 2022
Stone Creek Transmission Line Operations and Maintenance Plan	2022

Most importantly, the WMP is an action plan that demonstrates the utility’s commitment to operate our electric equipment in a safe and reliable manner while taking prudent, proactive steps to reduce the risk of our equipment becoming involved in a wildfire. Annual metrics and reporting serve as tools to measure the effectiveness of actions undertaken, adjust strategies and retool practices as necessary to achieve its primary objective.

## 4. Wildfire Risk Assessment

### 4.1 EWEB Service Territory Overall Risk Profile

Understanding wildfire risk potential for the electric system at a scale that can inform the location and types of mitigation investments is the cornerstone to an effective WMP. Lane County's 2020 [Community Wildfire Protection Plan](#) (CWPP) contains a risk assessment to evaluate the potential loss of lives, property and essential infrastructure from a wildfire event. The assessment breaks Lane County into three distinct ecoregions and describes the overall wildfire risk<sup>2</sup> for the Willamette Valley Ecoregion as generally low to moderate risk. Areas of higher risk for this ecoregion include the south hills of Eugene, where there is dense residential development close to and intermixed with forestlands.

The Cascades Ecoregion, which includes the McKenzie Valley, was classified as moderate to high risk due to the predominance of forested lands with mountainous topography, frequent lightening events and limited access for firefighting resources. The assessment relied largely on the statewide [Oregon Wildfire Risk Explorer](#) tool, supplemented by information from the Oregon Department of Forestry, U.S. Forest Service and other stakeholders. EWEB is participating as a steering committee member for the 2025 Lane County CWPP update. Similarly, based on wildfire occurrences from 2018 – 2023, the Lane County Multi-Jurisdictional Natural Hazards Mitigation Plan classified the Cascades region as a high probability for future wildfires (one event per year on average) and the Valley region as moderate probability.

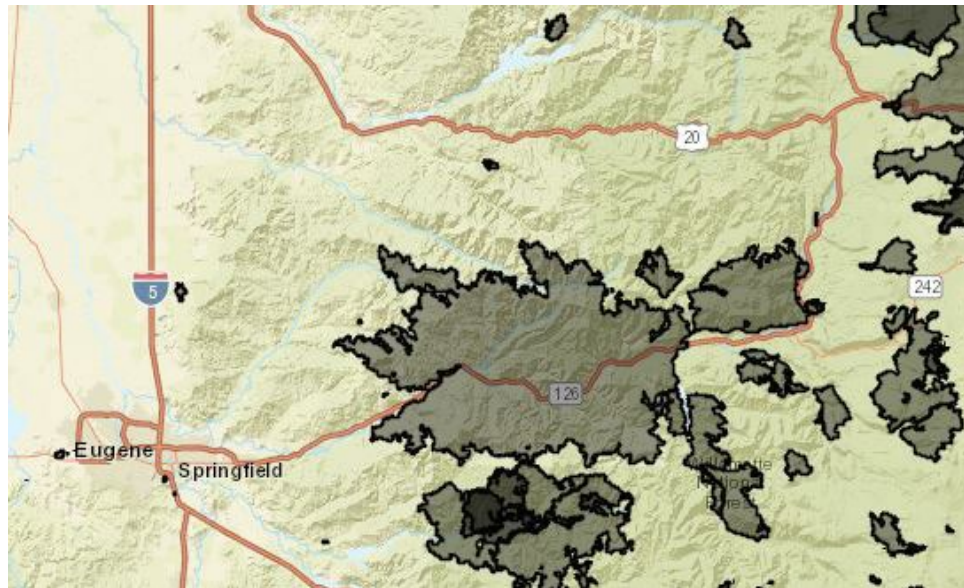
Table 2. Recent Wildfire Activity in McKenzie Corridor

Event Name	Year	Location	Acres Burned
Ore/Boulder Creek Fires	2024	6 miles NE McKenzie Bridge	4,008
Lookout/Horse Creek	2023	4 miles NE McKenzie Bridge	26,510
Moon Mtn Fire	2023	Southeast Eugene	34
Knoll Fire	2021	7 miles NE McKenzie Bridge	544
Holiday Farm Fire	2020	3 miles W of McKenzie Bridge	173,393
Terwilliger Fire	2018	3 miles SE of Blue River	11,555
Rebel Fire	2017	13 miles S of McKenzie Bridge	8,709
Horse Creek Complex	2017	7 miles S of Belknap Springs	33,780

<sup>2</sup> Overall wildfire risk is the product of the likelihood of a fire greater than 250 acres and consequence of wildfire on all mapped highly valued resources and assets (critical infrastructure, timber, housing unit density, etc.)

As Table 2 and Figure 2 show, wildfires are almost entirely located in the middle and upper reaches of the McKenzie River corridor. Several of these fires have impacted operations at the Carmen Smith Hydro-electric plant and caused damage along the transmission corridor.

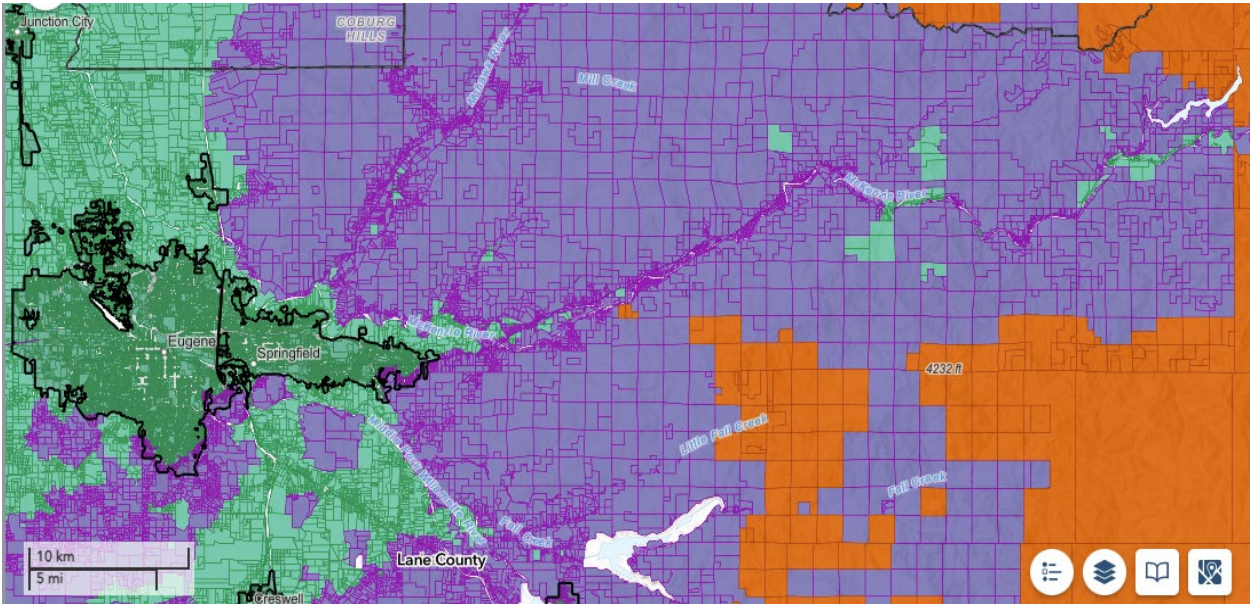
Figure 2. Large Wildfire Perimeters, 2000 – 2024, Northwest Coordination Center



The Oregon Wildfire Risk Explorer tool is another way to assess wildfire risk to a community. The primary purpose of this tool is to help residents and property owners understand wildfire danger to their properties at a simple scale, with green depicting low risk and purple moderate risk. Figure 3 is an image of the area surrounding EWEB's service territory using this tool.

These maps and the historical record of wildfire occurrences show most of EWEB's electric infrastructure is in urban areas with relatively low risk for wildfire. However, long portions of the electric system run adjacent to and across areas with heavy tree canopy, and EWEB serves several thousand customers who live in the wildland-urban interface. This includes the lower McKenzie Valley, which has not yet experienced a large wildfire. The Hayden Bridge Water Treatment facility is one of several critical facilities that could be impacted by a wildfire starting or moving into this area.

Figure 3. West Lane County, Oregon Wildfire Risk Explorer Map, July 2024.



Utilities assessing wildfire risk can overlay landscape level hazard maps with their above ground electric assets to build a better picture of their wildfire exposure. For EWEB, about half of the electric distribution system is buried underground (UG), mostly in newer developments within Eugene’s city limits. As typical for electric utilities, primary overhead power lines are installed as bare wire. Electric safety regulations and design standards determine clearance requirements from the ground and adjacent objects (buildings, trees), as well as spacing between lines to prevent contacts that can cause faults or sparking.

Table 3. Electric System Asset Overview<sup>3</sup>

Asset	Overhead Line Miles	UG Line Miles
Total Transmission Lines	117	8.3
69 kV Transmission	13	---
115 kV Transmission	104	3.6
Primary Distribution Lines	554	608
Secondary Distribution	840	831
Asset	Quantity	
Pole Structures	16,583 EWEB-owned poles	
Transmission Structures	2025 EWEB-owned	

<sup>3</sup> Does not include Stone Creek Hydro-Electric Project assets

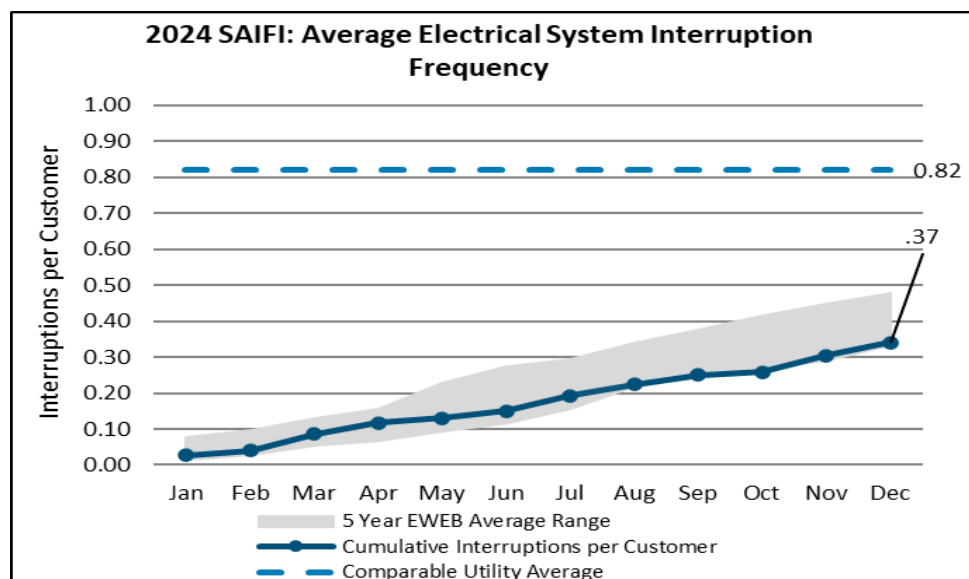


EWEB tracks outages, both planned and unplanned, by incident type and length of time. Common causes of unplanned outages are contacts with trees/vegetation, equipment failures, animal interactions and vehicles hitting equipment. During most of the year, unplanned outages pose little risk of ignition due to western Oregon's temperate climate. As soils and vegetation dry out in late summer/early fall, risk conditions are elevated.

Other risk drivers include:

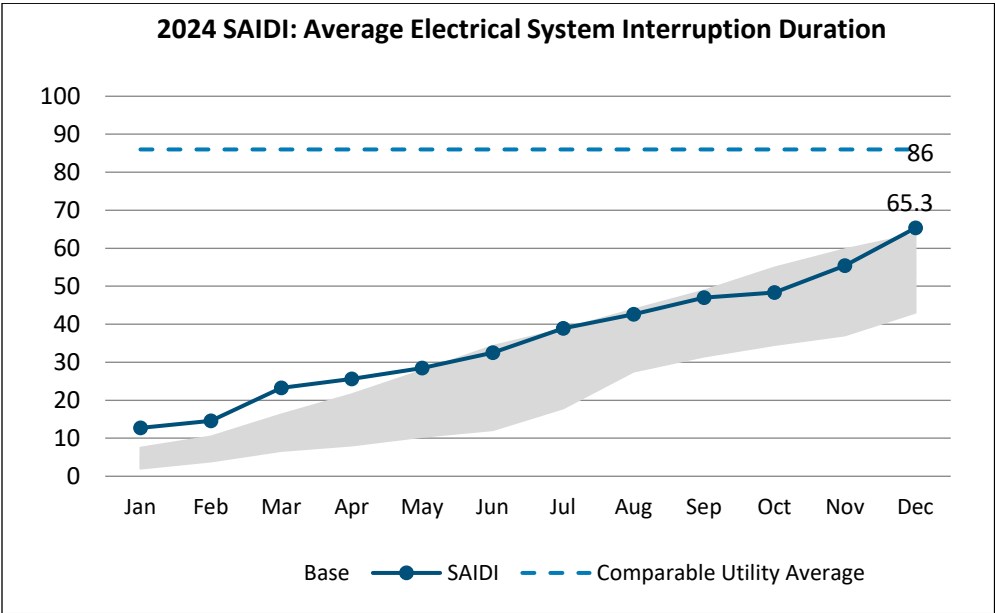
- Vegetation type, health and prevalence of ladder fuels such as blackberries
- Terrain/slope
- Drought
- High wind events combined with low humidity
- Soil conditions

Figure 4. EWEB 2024 Outage Frequency Metrics



EWEB customers enjoy highly reliable electric service. As the chart above shows, the frequency of outages is well below comparable utility averages. While also lower than comparable utilities, the duration of EWEB customer power durations is near a 5-year high. This trend is attributed to several factors such as the severity of damage from recent storms, staffing constraints, and the time required to complete safety patrols prior to re-energizing circuits during wildfire season.

Figure 5. EWEB 2024 Outage Duration Metrics



4.2 Initial Areas of Higher Wildfire Risk

Adopted OPUC rules require electric utilities to identify High Fire Risk Zones (HFRZ) in their service territory, as well as within the right of way for generation and transmission assets, even if located outside their service territories. For the first WMP, EWEB engaged a third-party consultant to review 13 circuits in areas with higher potential for wildfire, comparing these against the Oregon Wildfire Risk Explorer tool. These circuits included a small area in the southeast hills of Eugene, as well as the McKenzie Valley. Except for one small span of in-town transmission, the consultant concurred with EWEB’s preliminary assessment that the other 12 circuits are in HFRZs.

Table 4. Preliminary Higher Risk Transmission and Feeder Lines

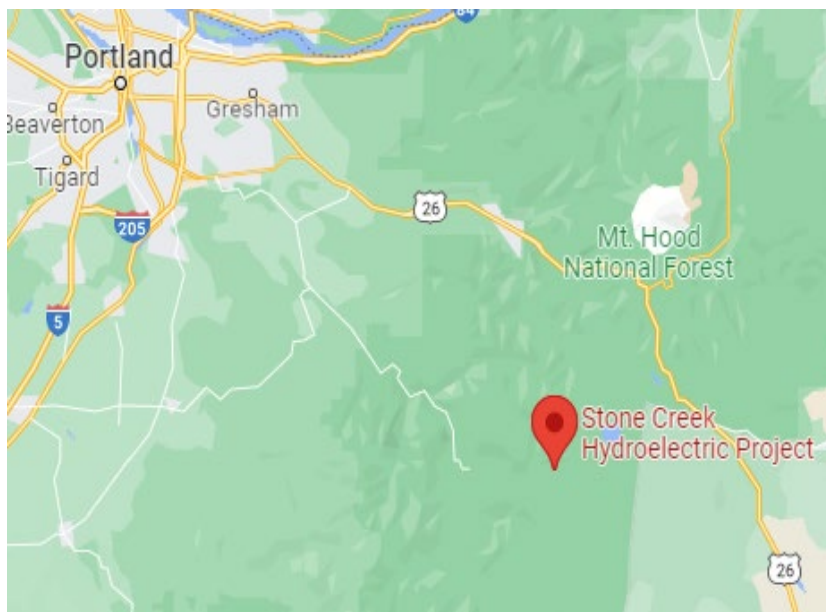
Transmission Line Description	Length (miles)
115 kV Carmen Tap	18 miles EWEB-owned / 48 miles BPA-owned
69 kV Thurston – Walterville Line	5.4 miles
69 kV Walterville – Hayden Bridge Line	6.6 miles
115 kV Currin – BPA Alvey Line	5.7 miles
115 kV Dillard Tap	0.7 miles

Substation Name and Feeder ID	Overhead Circuit Length (miles)
Dillard 4734	4
Thurston 2312	21
Walterville 2222	28
Walterville 2224	26
Holden Creek 7124	32
Holden Creek 7134	10
Hayden Bridge 2406	7

See Appendix B for a map of the HFRZs in the Wildfire Mitigation Plan ([also available on EWEB website](#)). Note that these HFRZs were qualified as preliminary pending further analysis to refine areas of highest risk.

In addition, EWEB owns the Stone Creek hydropower project on the Clackamas River, 45 miles southeast of Portland. Stone Creek’s hydropower plant and transmission line facilities are within the Mt. Hood National Forest, an area considered at high risk for wildfire. EWEB contracts with Energy Northwest to operate the hydroelectric plant and the 115 kV transmission line running to EWEB’s Harriet Lake Substation. Portland General Electric (PGE) operates the 115 kV transmission line that ties the Harriet Substation into PGE’s Oak Grove Substation, where the 12 MW of power output flows into the regional grid.

**Figure 6. Stone Creek Project Area**



In 2022, EWEB and PGE agreed to new operational protocols whereby PGE will operate the EWEB-owned facilities in the same manner as its equipment during periods of high wildfire risk.

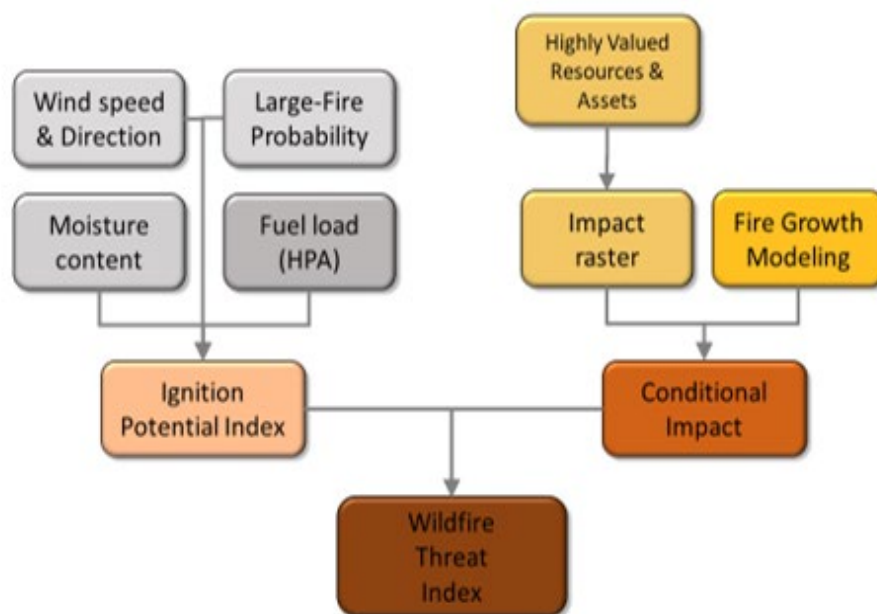
This includes proactive de-energization of the EWEB transmission line when PGE declares a PSPS event in this area. These protocols are reviewed annually.

### 4.3 Updated Fire Risk Analysis

EWEB's initial HFRZ assessment was largely based on the first iteration of the Oregon Wildfire Risk Explorer Tool which was developed using pre-2020 data sets. In late 2022, EWEB issued a request for proposals for a system-wide baseline wildfire risk assessment using the most current available data and modeling methodologies. Despite the scale and magnitude of wildfires in the Western United States, there are relatively few consulting firms with fire risk modeling expertise specific to electric utilities. EWEB began negotiations with one vendor, only to have the process stall out due to incompatible expectations on pricing and deliverables. Fortunately, the utility was able to pivot and negotiate a contract with [Pyrologix, LLC](#), which has performed similar analyses for Portland General Electric. The firm uses quantitative methods that generally follow the California Public Utilities Commission Fire Threat Mapping projects, and its scientists partnered with the Oregon State University to build/update the Oregon Wildfire Risk Explorer Tool.

The Pyrologix methodology differs from other wildfire fire risk models like the Oregon Wildfire Risk Explorer Tool in a few significant ways. Typically, risk maps show a general fire likelihood and hazard from all ignition sources. The Pyrologix model calculates the propensity of an ignition from utility-owned electric equipment growing into a large wildfire due to weather and fuel conditions and then couples that with the fire consequences. This allows utilities to better understand risk exposure at the utility asset level. Note that electric equipment condition and utility power outage data are not factored into the assessment.

Figure 7. Wildfire Threat Assessment Framework



As Figure 7 shows, the modeling framework accounts for climate, fuel conditions and the consequences of a fire on the built environment and other high value resources like watersheds and timber. Specifically, the updated risk assessment performed for EWEB incorporates base vegetation data from the US Forest Service and then updates it to 2023 conditions. EWEB provided 2021 LiDAR data which was incorporated to improve tree canopy cover and height estimates. 216 different weather scenarios (a combination of wind speeds, directions and fuel moisture contents) were modeled, and 50,522 ignition points were simulated near EWEB overhead infrastructure under each fuel and weather scenario. This resulted in about 11 million fire simulations across the analysis area.

Three data sets were delivered as part of the project:

- 1) Ignition potential index as a function of weather and fuels;
- 2) Conditional impact, or consequences of a fire based on fire growth potential and nearby infrastructure/critical resources;
- 3) Wildfire Threat Index (WTI) which combines the potential for a fire to occur with the consequences of a fire to the community. The overall WTI can help utilities identify locations most appropriate for operational fire safety measures and to prioritize risk mitigation investments. See Appendix C for EWEB service territory WTI maps.

EWEB received the final data sets in late October 2024 and uploaded them into our GIS wildfire risk map to overlay with the utility's asset information. This first step allowed staff to focus attention to just those areas with overhead electric infrastructure. The next step was to look for locations with higher WTI ratings that were not originally identified as High Fire Risk Zones in the WMP. Focusing on these higher WTI areas resulted in 40 Eugene-area locations for additional evaluation, ranging from a few spans to a few blocks of overhead power lines. There were no new areas in town that showed entire feeders crossing areas with higher WTI ratings.

The Pyrologix risk indices, including the WTI, are relative measures of wildfire risk within the EWEB analysis area, not the entire state or Northwest. To help calibrate relative risk, the locations with heightened wildfire threat were compared to the ratings in the most recent Oregon Wildfire Risk Explorer Tool. This calibration exercise helped ensure we were not over or underestimating wildfire risk and yielded similar, but not identical, results.

A ground truthing process was then performed as a modeling quality assurance check and to validate the results from a local public safety and operational response perspective. Wildfire professionals from the Eugene-Springfield Fire Department and Oregon Department of Forestry agreed to field check the 40 areas with higher WTI ratings and evaluate wildfire threat using four criteria:

- Slope/terrain
- Fuels/vegetation type
- Fire response capabilities
- Emergency response access/public egress concerns



These field checks have been completed and offered valuable insights from our fire partners on location-specific risk factors and public safety concerns. EWEB vegetation management and electric operations staff are now evaluating these same locations, considering a slightly different set of risk criteria:

- Vegetation/clearance concerns
- Known animal-related issues
- Equipment age/condition
- Utility access and visibility to overhead lines

Once EWEB's field checks are complete, the utility will use both the fire risk modeling results and first responder and utility operations expertise to determine if any of these areas should be added as a new HFRZs. See Appendix C for maps showing WTI results.

The utility recognizes that recent catastrophic wildfires like the Marshall Fire in Colorado and the Maui fires occurred under extreme and rare weather conditions. As previously noted, the Pyrologix methodology applies 216 weather scenarios and calculates the probability of ignition under each scenario. The scenarios are integrated using a custom fire season risk weighting that is the combination of the frequency of occurrence using historic weather records and the magnitude of each scenario's ignition potential index.

As another measure of due diligence, EWEB requested the firm to re-run its analysis under just the worst-case wildfire weather conditions. This data set, showing overall wildfire consequence for the 95 percentile weather scenarios with the greatest impacts, has been delivered and is being used to further validate and refine our HFRZ decisions.

EWEB's existing HFRZs are identified at the feeder level, not by individual circuits or taps. The latest risk modeling and quality assurance checks did not reveal new feeders that would be obviously classified as HFRZs. Instead, the analysis exposed several shorter overhead line segments with risk characteristics that may require additional operational safety measures or proactive mitigation measures.

Applying a more surgical, nuanced approach to address these discrete areas requires thoughtful consideration of each location. The goal is to leverage both data modeling and local expertise to target resources and HFRZ safety practices to areas yielding the greatest fire risk reduction benefits to the community. Therefore, future WMPs may define HFRZs as circuits rather than feeders if appropriate. Any recommended changes to the HFRZ will be discussed with fire agency partners prior to amending the next WMP. As such, the Dillard 4734 remains the only Eugene-area HFRZ feeder in the 2025 WMP.

The methodology described thus far focused on areas within Eugene that were not initially identified as HFRZs. Currently, all feeders in EWEB's upriver territory have a HFRZ designation. In reviewing relative WTI values in this area, the new modeling results indicate that some circuits in East Springfield merit reconsideration and possible de-listing as HFRZs. As field validation and consultation with stakeholders is on-going, EWEB is taking a conservative approach to this iteration of the WMP, leaving the entire upriver service territory as a HFRZ.

## 5. Wildfire Risk Mitigation Actions

### 5.1 Mitigation Overview

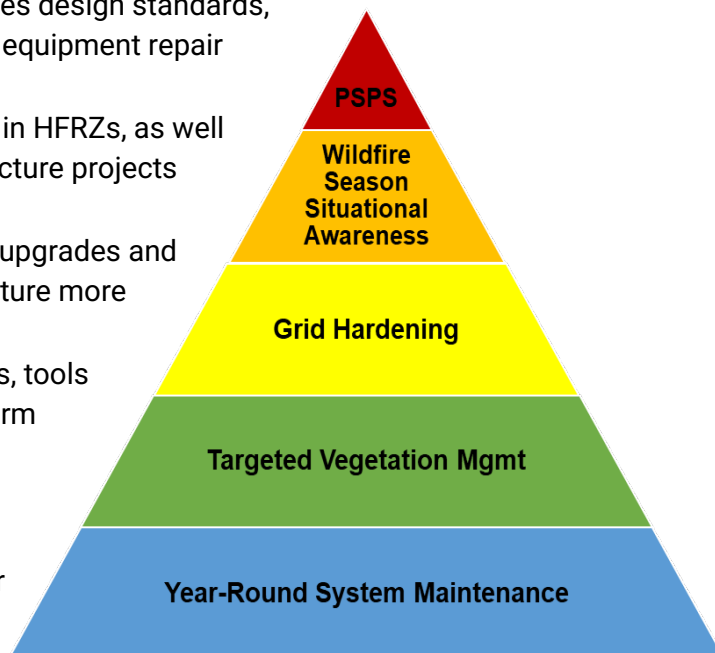
The State of Oregon Natural Hazards Mitigation Plan notes that during a typical year, more than 2,500 wildland fires are started on forest lands in Oregon. ODF and USFS estimate 66 percent of these fires are caused by human activity (1,650) and the remainder result from lightning (850).

Experience from California electric utilities indicate that of the human-caused wildfires, those linked to utility infrastructure are often the result of vegetation contacting wires and/or equipment failures during dangerous fire weather conditions. Thus, WMPs seek to bolster system maintenance and vegetation management as the first line of defense, focusing on portions of the electric system situated in areas with higher wildfire potential.

Other common mitigations include infrastructure and technology investments to improve situational awareness during wildfire season and improve grid resiliency. Operational safety practices and customer communication plans are developed to support utility response and prepare customers for potential service interruptions during extreme conditions.

Likewise, EWEB's WMP contains five main components for a comprehensive approach to wildfire prevention and response.

- **System Operations and Maintenance:** Includes design standards, inspections and equipment diagnostics, and equipment repair and replacement.
- **Vegetation Management:** Enhanced pruning in HFRZs, as well as fuels reduction and select green infrastructure projects with wildfire risk reduction co-benefits.
- **Grid Hardening:** A broad array of equipment upgrades and capital investments to make utility infrastructure more resilient to wildfires.
- **Situational Awareness:** Operational practices, tools and monitoring of weather conditions to inform field activities and utility response to wildfire threats.
- **PSPS:** Encapsulates changes to system operational settings and Public Safety Power Shutoff (PSPS) for specific circuits during extreme fire risk conditions.



## 5.2 System Operations & Maintenance

### **Equipment Inspections**

Proactive inspection and timely system maintenance is foundational to EWEB's reliability and risk reduction objectives. The electric system is routinely inspected to address any defective poles, cross arms, and associated components and ensure required clearance is maintained. Consistent with NESC and OPUC requirements, these detailed inspections are completed for the entire system over a 10-year period, with at least 50% of the system inspected by year five.



EWEB contracts with a third-party vendor to perform detailed pole inspections, as well as to test and treat poles when necessary. The contractor inspects wood poles for signs of decay or damage, documents pole conditions and conducts a visual assessment of crossarms and other EWEB-owned ancillary equipment. Wood poles that pass inspection have fumigant treatment applied while defective poles are reported to EWEB to further assess for repair or replacement. Poles requiring priority attention are targeted for repair or replacement within 30 days.

In 2023, detailed inspections of facilities in HFRZs included the Stone Creek, BPA Alvey-Currin and Currin-Laurel transmission lines (2023). All facilities passed third-party inspection with no pole rejects (197 poles, 22 concrete structures). In 2024, the Dillard Tap and 4734 Feeder were part of the detailed inspection process, with several poles requiring replacement.

EWEB also performs annual visual patrols of all HFRZ transmission and feeder circuits, including the following components:

- Poles & crossarms
- Hardware components
- Tree and vegetation encroachments
- Other notable hazards

Safety inspections are typically performed in early spring so that any priority corrections can be completed prior to wildfire season. Beginning in 2022, annual HFRZ safety inspections were extended beyond feeders to include all primary distribution components, consistent with OPUC requirements for Investor-Owned Utilities. This change tripled the amount of line miles inspected annually. Despite this expansion, repairs resulting from annual safety patrols continue to decline as older equipment is proactively upgraded.

**Table 5. Safety Patrols and Accelerated Maintenance in HFRZs**

Equipment	2021	2022	2023	2024
Crossarms Replaced	91	94	8	8
Poles Replaced	11	5	13	6
Transformer Upgrades	24	1	76	25

Note that smaller components like insulators, lightening arrestors and/or guy wires are also replaced as necessary, though not reflected in the statistics above.

### **Reliability Programs with Environmental and Risk Reduction Benefits**

One example of a system-wide reliability measure with fire risk reduction co-benefits involves replacing mineral oil transformers. EWEB has been upgrading to FR3 transformers, which use natural esters made from soybean oil, for the past several years. Upgrades were originally planned to reduce environmental contamination risks, but because FR3 fluid is less flammable than mineral oil, these change-outs also reduce wildfire risk.

It is worth noting that a sizable portion of the upriver distribution system was rebuilt after the 2020 Holiday Farm Fire. The rebuild effort included 173 new poles and associated components, as well as 62 FR3 transformers. An assessment prioritized an additional 139 HFRZ transformers for upgrades. While supply chain issues delayed this work, EWEB has since been able to rebuild equipment stocks and complete the majority of transformers upgrades.

Avian protection practices offer another opportunity to increase reliability and reduce wildfire risk while supporting healthy migratory bird populations. Raptor nests built on electrical equipment can cause power outages and increase the likelihood of bird electrocution. Migratory species like osprey have high fidelity to their chosen nesting sites, returning to the same nest year after year. As the birds add more material over time, the nest can become very large, exceeding the design criteria of the pole structure and creating an unstable nest. Nesting

material can also fall into electrical equipment, particularly in high wind events, which can create faults and outages.

To support healthy osprey populations while addressing reliability impacts, EWEB erected 27 nesting platforms throughout our service territory. Most of these structures were placed on existing power poles while a few were built as stand-alone structures. EWEB's avian program includes cleaning out or removing inactive nests to reduce their size and monitoring active sites during wildfire season. Decoy geese are placed in selected areas to discourage nesting on electrical equipment without platform sites.

In 2023, the utility began tracking bird-related outage statistics. Prior to this change, such incidents would be generally categorized as 'animal' related. Specifying bird-related outages helps quantify risk associated with nesting activity by better defining the cause, location and timing of such outages. In the past two years, there have been 34 documented bird-related outages across the service territory. Coupled with enhanced monitoring, the goal is to target intervention strategies to problematic nesting sites, improving outcomes for birds and reducing equipment damage and potential ignitions.



*Insulator Covering Picture Courtesy of Reliaguard*

Avian coverings are an industry best practice to protect raptors and electric equipment. EWEB has initiated a pilot project to test protective coverings on equipment below a nesting platform site for ease of installation and overall effectiveness of the products selected. If the pilot project is deemed successful, the intent is to add avian coverings to equipment at other nesting platform sites over time, prioritizing installation in HFRZs.



In 2024, the utility upgraded its existing fault indicator devices in the HFRZs with a new product that coordinates with wildfire safety protective settings (fast trip). These fault indicators use flashing LED lights to pinpoint where the problem occurred, which will speed field crew patrols and repairs. Over 160 new devices were installed in 2024, replacing all older fault indicators in the HFRZs. As part of this work, EWEB took the opportunity to change out some 200 fuses along the upriver circuits. Utilizing the results of a load study performed in 2023 enabled downsizing of numerous fuses so that if they trip, less energy is released, reducing potential ignition risk. See Appendix D for a map displaying the location of this work.

### 5.3 Vegetation Management

#### **Right of Way (ROW) Vegetation Management Program**

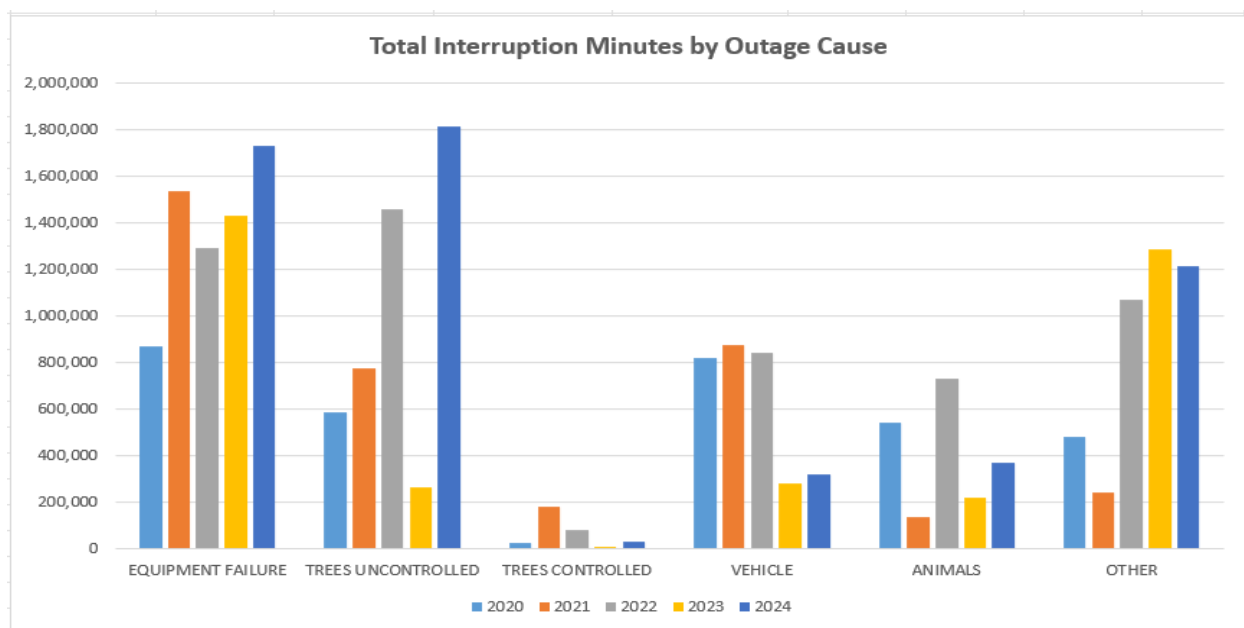
EWEB's vegetation management program involves utility staff and contractors working year-round to maintain safe clearance around electric facilities. Best management practices, as well as applicable OPUC rules, guide activities by vegetation and structure type. In addition to pruning specifications, the procedures address danger tree removal, working with customers to manage hazard trees on private property, and methods for chipping and brush disposal.

Routine pruning is critical to maintain clearance from electrical equipment, particularly to avoid limbs contacting wires during high wind events. EWEB's Vegetation Management Plan uses a five-year cycle to complete routine tree-trimming activities throughout the entire EWEB system. Mid-cycle pruning is used to prevent faster-growing vegetation from encroaching into primary distribution lines.

As an additional safety measure, EWEB is committed to annual patrol and trimming around circuits in the HFRZs. One tree crew is focused on responding to fast-growing 'cycle-buster' trees that pose the greatest clearance problems as identified by EWEB foresters. Altogether, this amounts to about 250 line-miles that are inspected and pruned annually. Furthermore, annual HFRZ safety patrols may identify vegetation management issues to be corrected, meaning these circuits are looked at twice a year by different personnel.

EWEB's focus on ROW vegetation management has improved reliability over time. However, trees outside the right of way and/or on private property continue to be problematic. For outage reporting purposes, these events are classified as "trees – uncontrolled." As the graph on the following page indicates, 'uncontrolled' trees cause the vast majority of outages in most years.

Figure 8. Unplanned Outages by Cause

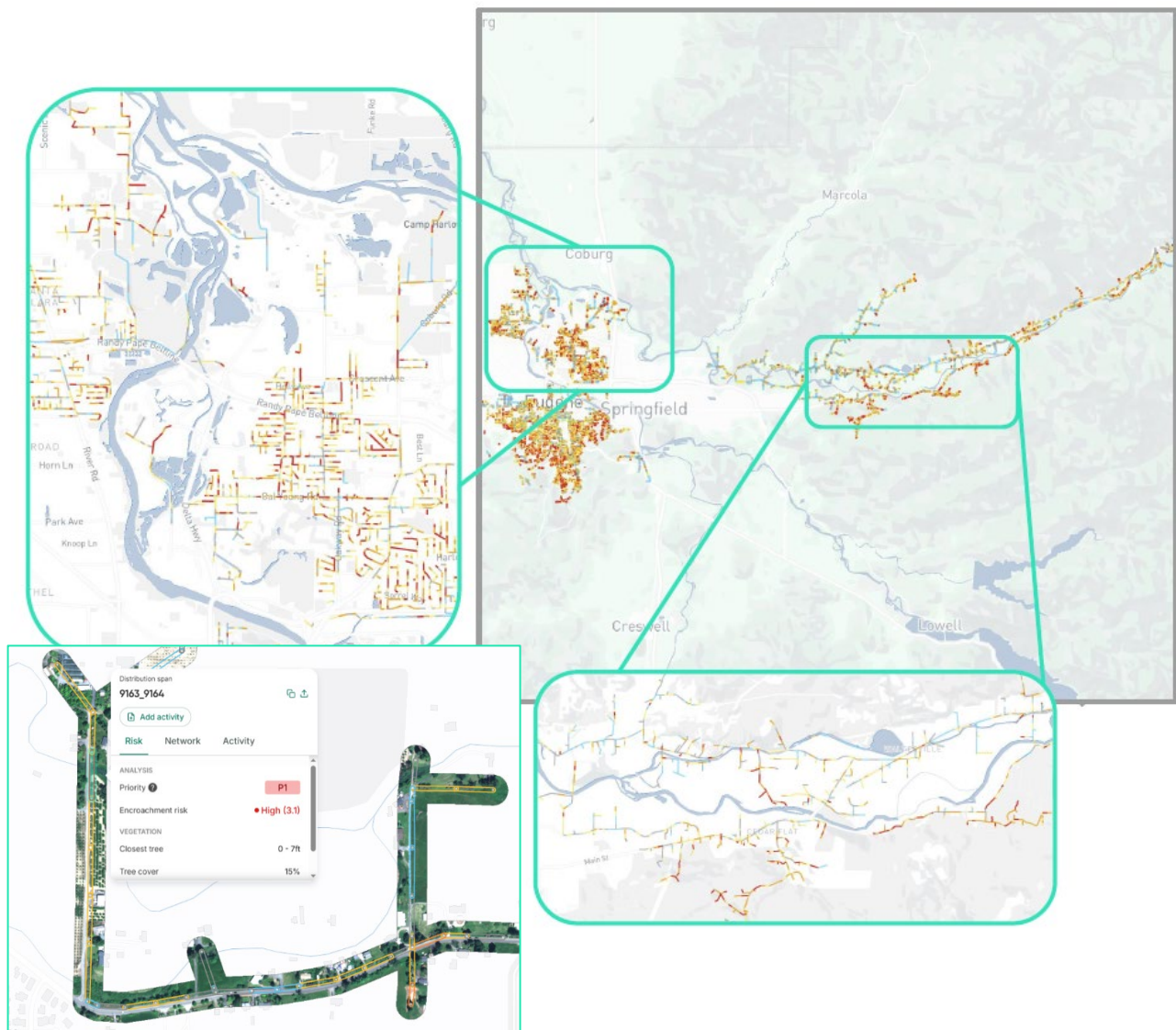


Recent drought and extreme heat events, as well as disease and beetle infestations, are stressing the predominantly coniferous forest and our urban tree canopy. Dead and dying trees have a greater fall-in risk to electrical equipment, which in turn elevates ignition risks. At the same time, residents may not recognize this hazard and/or have financial means for tree removal.

To assist the utility in understanding its tree-related risk exposure, EWEB contracted with technology vendor [Overstory](#) for support. Overstory acquires satellite imagery and, using Artificial Intelligence (AI) enhanced software, quantifies risk of vegetation encroaching into the overhead line clearance space. AI is used to help differentiate overhang from tall trees that are managed for appropriate vertical clearance from trees with vegetation growing into the lines.

Figure 9 is an example of how the software displays encroachment risk by color (red being the highest risk segments) and allows the user to zoom in to specific areas, all the way to the overhead span. Overstory also identifies individual trees within striking distance of powerlines and provides a heat map showing clusters of trees that are dead or in declining health. Hazard trees, defined as trees in declining health and within strike distance, are mapped to further target risk reduction measures.

Figure 9. EWEB Distribution Encroachment Risk (2024)



The 2023 scan covered about 180 miles of overhead lines, including HFRZ distribution lines. Overstory's analysis found that only 8% of the scanned area had trees within six feet of the line. Vendor personnel met with utility vegetation management staff to spot check areas with more encroachment risk for quality assurance and to refine the underlying risk matrix.

A second scan was completed in the summer of 2024, covering over twice the amount of EWEB service territory and the Carmen Smith transmission corridor. This analysis calculated 14% of the lines as having high encroachment risk (7% within the HFRZs).

The most recent Overstory analysis found over 60,000 individual trees within striking distance of EWEB’s electric equipment, nearly 1,500 of which were in declining health. In looking at just the number of hazard trees by circuit, over 75% of the hazard trees identified in this scan were along four feeders. The top two circuits also had significantly more hazard trees compared to the 2023 analysis, likely due to damage from the January 2024 ice storm.

The Overstory tool was used to locate areas along these feeders with higher concentrations of hazard trees for extra attention during EWEB’s annual pruning cycle. The tool is also helping identify locations for fuels treatment as part of a grant project (2025/26 implementation). Planning for the 2025 Overstory scan is now underway.

Table 6. Top Feeders with Overstory Identified Hazard Trees

Feeder Name	2024 Hazard Tree Count
Thurston 2312 (+59 hazard trees)	137
Walterville 2222 (+42 hazard trees)	72
Walterville 2224	65
Holden Creek 7124	61

**McKenzie Watershed Restoration and Fire Mitigation Efforts**

EWEB is nationally recognized for its innovative approaches to drinking water source protection. As part of our watershed restoration effort, the utility is working with numerous federal, state and nonprofit partners to implement large-scale floodplain restoration projects in the middle McKenzie Valley. The primary goal of these projects is to protect drinking water quality from the impacts of wildfires, and to improve ecological function of these complex riparian systems.

Major restoration projects were completed in the last few years on the South Fork McKenzie, Deer Creek, Gate Creek and Finn Rock reach of the Middle McKenzie River. These floodplain enhancement projects create wetlands and slow-water habitat to hold more water on the land, even during dry conditions. In doing so, these areas act as fire breaks that lessen the severity of wildfire on the landscape.

The new floodplain in the Deer Creek drainage was tested when the 2023 Lookout Fire burned over the project. Only five percent of the downed in-stream wood was burned and the wetted valley along the power line corridor led to a lower severity mosaic fire while acting as a fire break in the lower section. Future floodplain restoration projects are planned for Quartz and Ennis Creeks using a combination of local, state and federal funding sources.

While less of a focus area, EWEB continues to support fuels reduction work on private properties in collaboration with its watershed recovery partners. Landowner support has shifted from hazard tree removal to managing ladder fuels and invasive species that can quickly



proliferate in a post-fire landscape. In 2023, fuels reduction treatments were completed at seventeen sites, and contractors treated invasive species on nearly 100 properties in 2024.

While EWEB was not directly involved in fuels reduction work in 2024, the utility was awarded \$1 million to work collaboratively with the Oregon Department of Forestry and McKenzie Fire and Rescue to reduce wildfire fuels in the lower McKenzie Valley and South Eugene areas. The project, sponsored by Senators Merkley and Wyden, is in the planning stages with fuels reduction projects scheduled to begin later in 2025.

As required in the Federal Energy Regulatory Commission (FERC) license, EWEB is expanding portions of the Carmen Smith Transmission Right of Way (ROW), widening the corridor from 70 to 140 feet along the entirety of the US Forest Service properties and three participating private easements. In 2022, surveys identified all trees in the expansion area with potential fall-in risk to the transmission lines. In 2023 and early 2024, EWEB contractors topped and girdled over 500 trees (below line clearance height), and topped additional trees that will be left alive for future potential use as snags. The cut tops were limbed with the trunks left in place to meet license requirements for down large woody debris.



*Widened Carmen-Smith Transmission Corridor*



*EWEB Contractors Topping Trees*

The remaining trees in the expanded corridor have been identified for potential habitat project uses, such as increasing in-stream wood for fish habitat. Protocols for future harvests include removal of all trees along the expanded areas utilized, and the chipping or removal of all slash generated to prevent fuels build up.



## 5.4 System Hardening

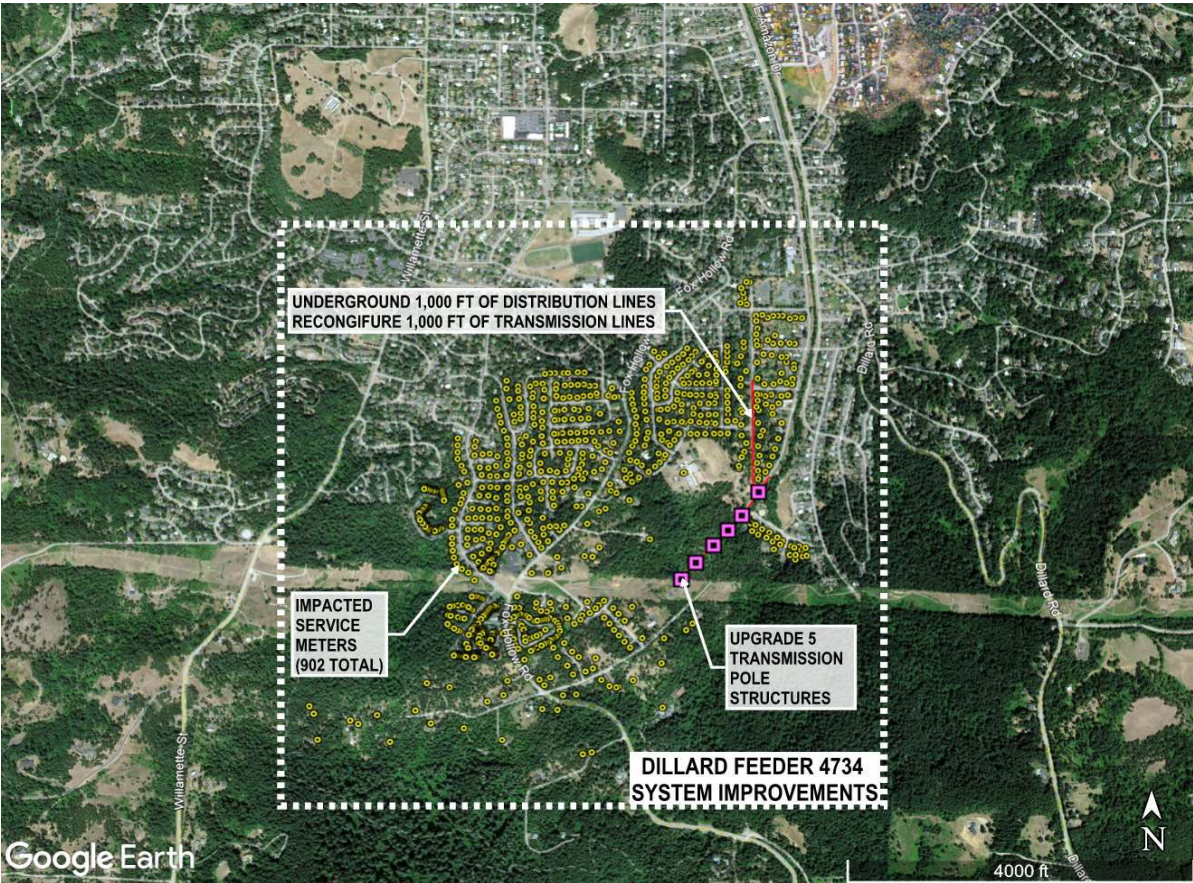
EWEB's capital improvement plan includes a robust set of investments to replace aging equipment and upgrade infrastructure for increased resiliency. Layering on wildfire risk mitigation to these planned investments can result in different design configurations and equipment deployed. Examples include installing ductile iron poles in place of wood, upgrading transformers with FR3 fluid, and converting to single-phase conductor. This slim distribution line format removes crossarms as potential points of failure and increases line clearance from nearby vegetation.

In 2021, crews converted approximately 1,700 feet of distribution to single phase on North Gate Creek Road as part of the upriver rebuild effort. In 2023, the utility completed a high-profile project to remove 31 miles of idle 69kV transmission in the upriver HFRZ, including 159 poles spanning five miles. As part of the decommissioning project, crews took the opportunity to reconfigure area distribution lines that were part of the 69kV under build. This single-phase reconfiguration project allowed crews to remove 80 cross-arms while improving clearance, reducing the chances that branches contact wires during wind events. Grant funds have been requested to support another single-phase reconfiguration project in the lower McKenzie. The Cedar Flats project is described in greater detail later in this plan.

A grid hardening project that is further along in planning involves the Dillard 4734 Feeder and transmission line. In 2023, EWEB requested FEMA to re-allocate remaining hazard mitigation grant funds to rebuild this HFRZ circuit serving around 900 customers. The Dillard 4734 Resiliency Rebuild proposed to underground over 1000' of distribution line and replace older wooden transmission facilities with metal poles and new insulators for additional fire hardening. The intent was to increase resiliency in an area that abuts Eugene's popular Ridgeline trail system and largest forested natural resource area, while enhancing reliability during storm events.

To gain FEMA approval for the amended project, EWEB contracted for engineering and design services, had the benefit-cost analysis updated and conducted a new cultural/historic review study. As part of the planning work, the utility coordinated with the City of Eugene to pre-emptively remove 44 trees with fall-in risk to powerlines along the corridor. FEMA has approved the project and will pay up to 90% of eligible costs (estimated at about \$600,000). The Dillard 4734 Resiliency Rebuild is planned for construction in summer 2025, following City permitting and outreach to area neighbors. Pole replacements as identified in the 2024 detailed inspection process may be addressed concurrent with the Resiliency Rebuild project.

Figure 10. Dillard 4734 Resiliency Rebuild Project Map



EWEB continues to offer financial assistance to upriver customers with undergrounding their secondary services when rebuilding. This program offers customers a cost-effective way to enhance reliability and resilience to future wildfire events and will be in effect through 2025.

Table 7. Secondary Service Underground Program Participation

Year	Participation	Incentive Amount
2021	3 projects	\$12,241
2022	6 projects	\$32,265
2023	5 projects	\$36,734
2024	7 projects	\$95,593

## **Grants and Pilot Projects**

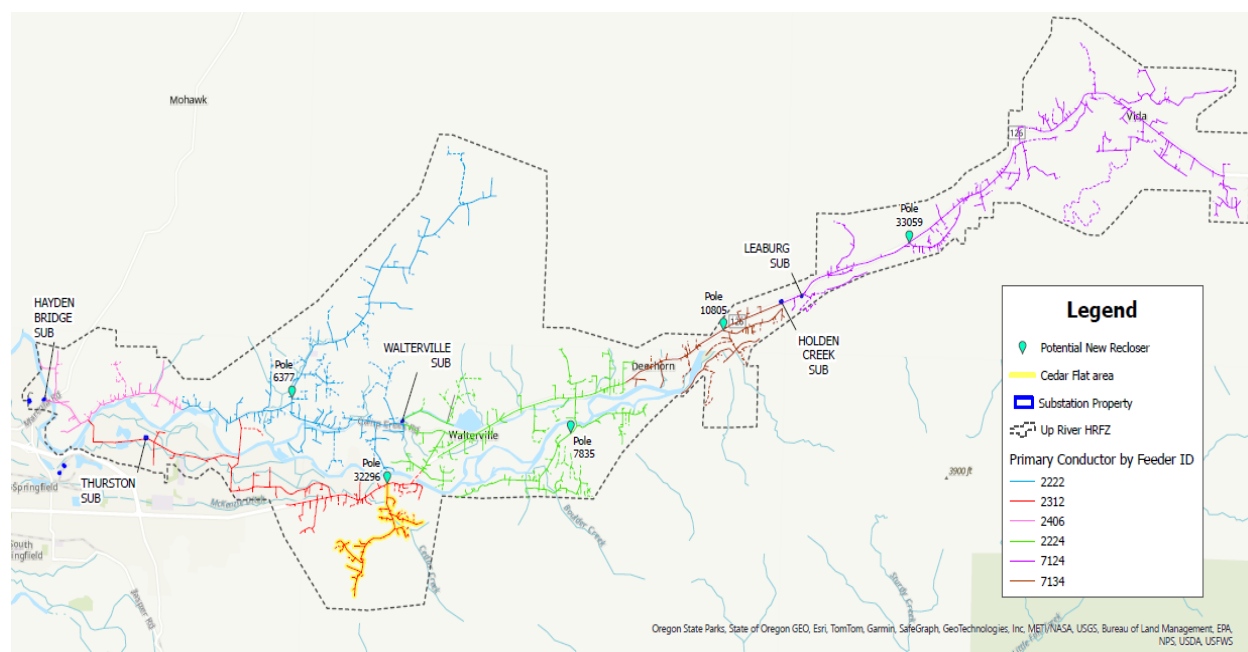
An effective WMP requires a risk-based approach to target investments to projects with greatest public safety benefit. Grid hardening practices are evolving as new materials are field-tested and results are shared with industry partners. Advanced technologies such as remote fault detection show great promise in early identification, diagnosis and response to abnormal conditions that can impact grid reliability and safety. EWEB monitors industry best practices and is seeking third-party expertise and outside funding opportunities to advance wildfire program work.

In 2024, the Oregon Department of Energy (ODOE) notified EWEB that its Grid Resiliency grant application was successful. The utility applied for over \$1 million in grant funding for additional wildfire mitigation work in the upriver service territory. The proposed activities included installing another 122 fault indicators and adding advanced recloser devices in areas with more frequent outages and greater customer impacts. These reclosers were selected to clear transient faults for improved year-round reliability and to facilitate system segmentation to reduce the impact of future PSPS events.

The bulk of the ODOE funding request was for rebuilding the distribution line along Cedar Flats Road (see yellow highlights in Figure 11). This area was prioritized for investment in consultation with agency partners due to heightened public safety risk resulting from heavy tree canopy, egress constraints and poor cellular service coverage which can impede emergency evacuations. Fire officials noted that the Cedar Flats area was heavily impacted by the 2024 ice storm, adding significant fuel loads to an area already at risk for wildfire. Since the grant application was submitted, both the Overstory hazard tree analysis and Pyrologix wildfire risk assessment confirmed this area as a high priority for targeted mitigation work.

Grid hardening activities planned for the Cedar Flats distribution line include single-phase reconfiguration of approximately nine miles of older primary overhead distribution, replacing poles and transformers as appropriate. The proposal also identified five potential locations for targeted undergrounding and offered the opportunity for EWEB to test installation of covered conductor if determined to be an appropriate risk reduction measure in this location. EWEB was notified in September 2024 that its grant proposal was accepted and is working through contract negotiations with ODOE.

Figure 11. ODOE Grid Resiliency Grant Project Area



## 5.5 Situational Awareness Tools

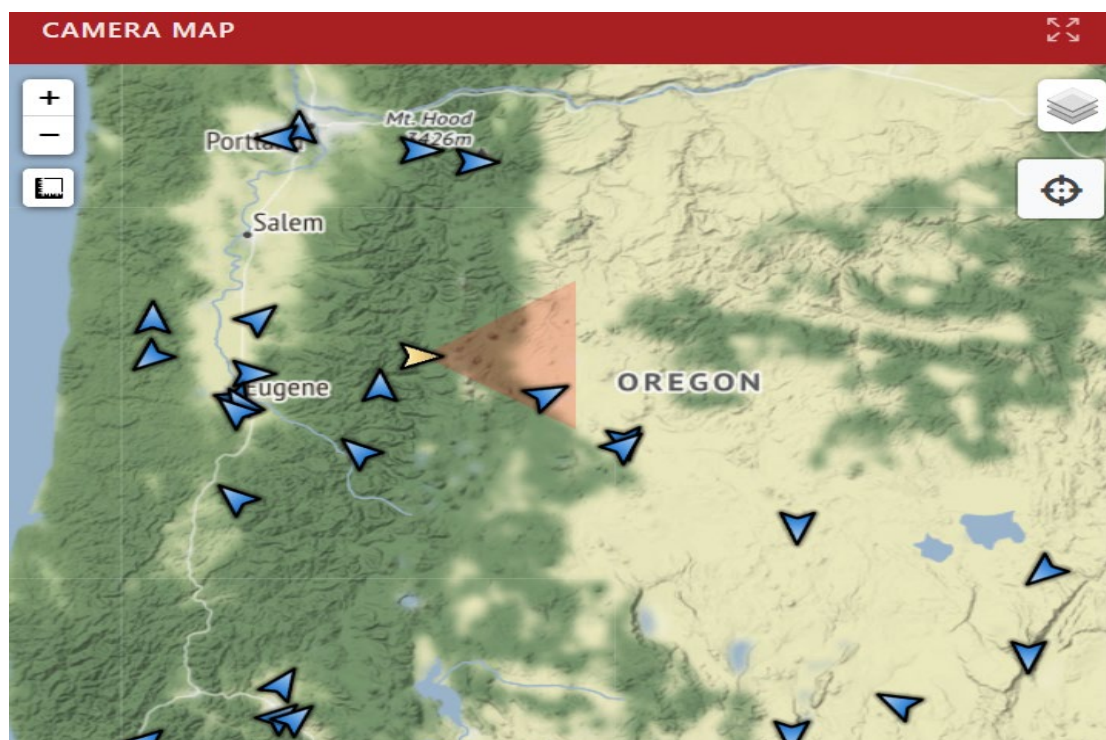
While some field work can be planned in advance, providing reliable electric service to our customers is a 24-7 operation that requires crews to respond to emerging safety issues. During wildfire season, EWEB and our contractors comply with the Industrial Fire Precaution Levels (IFPL) requirements. Based on published restrictions, EWEB will modify the hours, type and location of field work to limit the potential for equipment-related fire incidents. Depending on the location of the work, this may include coordination with the U.S. Forest Service and other public safety partners. IFPL waivers are requested annually to allow necessary work to proceed, with required additional precautions during IFPL levels 1 - 3. To limit fieldwork during wildfire season to the extent feasible, annual safety patrols and vegetation management in the HFRZs are scheduled for completion by April 1.

With support from Oregon Department of Forestry staff, EWEB conducts annual in-person wildfire prevention and response trainings for EWEB field crews and other key staff. This includes inspection and certification of EWEB's equipment readiness as required for crews to continue to work safely throughout fire season. This seasonal training, together with internal communications for situational awareness during dangerous fire weather conditions, is elevating the utility's wildfire safety culture.

In partnership with the University of Oregon and Elevate Technology, the first AlertWildfire camera in the McKenzie Valley was installed at the Smith Communications Tower in July 2022. The [Smith Ridge camera](#) has since been used to locate, verify and monitor multiple wildfires as



part of a growing network of wildfire detection cameras in the area. These cameras can rotate 360 degrees and zoom up to 40 times, providing up to 30 miles of range. While any member of the public can watch live camera feeds and view timelapse video, credentialed EWEB staff and public safety partners can control the cameras, enabling them to monitor fire behavior and support public safety.



*AlertWest Cameras - Smith Ridge in yellow.*

In 2024, the cameras were upgraded to the AlertWest platform which uses AI technology to automatically detect new ignitions. Each ignition is verified by AlertWest technicians before the system sends out automated alerts to registered users. In addition, the cameras are integrated with the WatchDuty application, a powerful and popular tool for the public to receive wildfire alerts and monitor containment status.

Another critical situational awareness tool EWEB utilizes is local fire weather forecasting. In 2023, the utility initiated a contract with Western Weather for customized weather forecasts during fire season. Meteorologists provide EWEB with daily, three day and longer-term weather forecasts to support operational decision-making, as well as more detailed or frequent analysis on request.

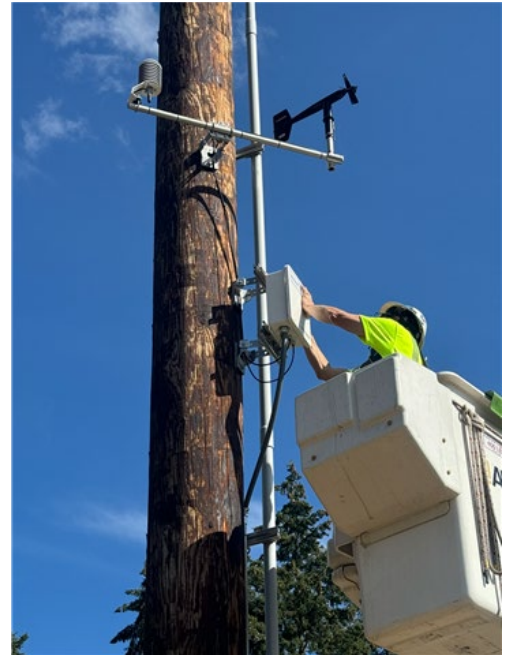
Recognizing that wind conditions can vary significantly across EWEB's service territory, in 2024 the utility installed a second weather station for improved wildfire season forecasting accuracy. Weather equipment was added to an EWEB-owned pole near Blanton Heights in South Eugene to complement data collected from the Hayden Bridge Filtration Plant station and other third-party owned weather stations further upriver. EWEB-owned weather stations provide real-time,

localized wind and humidity data for our contracted meteorologists and for broader use by the National Weather Service. Customized weather reports now provide forecasts for upriver, valley and South Eugene regions.

Lastly, to support access to these and other situational awareness tools, links to weather data, cameras feeds and related resources are made available to all employees on EWEB's intranet site (Sharepoint).

## 5.6 Operational Response

EWEB continues to iterate its wildfire season operational practices to balance risk and reliability while providing clear guidance to field staff.



*Weather station install on EWEB pole*

Under normal operating conditions, reclosers at the feeder breakers are programmed to open and close three times to allow temporary faults to clear and keep power flowing. When in “wildfire safety” settings mode, EWEB remotely disables the reclose function so that the power trips off after sensing a fault. Additionally, instantaneous relay is used to open the breaker much faster than standard settings. Taken together, these actions significantly increase the sensitivity to irregularities, reducing the potential for sparking that could lead to an ignition event.

The utility has employed wildfire safety or powerline protective settings since 2021, initially just during dangerous fire weather such as Red Flag Warning (RFW) events. After a series of back-to-back RFWs, EWEB elected to leave all HFRZ circuits in wildfire safety settings for the remainder of the 2022 fire season. This decision, made in part for operational and public communications simplicity, meant that the HFRZs were in wildfire season settings through October 24th. A post-season review of outage data indicated that one wind/rain related outage may have been avoided had the system been returned to normal operational settings prior to the official end to fire season.

Building on this experience, EWEB refined its operational practices in 2023 and began placing HFRZs in wildfire safety settings seasonally, starting when wildfire risk increased to moderate (and/or IFPL 2). This conservative approach extends the period of time the circuits could instantaneously de-energize from several days to several months.

Enabling wildfire safety settings seasonally was anticipated to impact both the frequency and duration of power outages for HFRZ customers. Prior to power restoration, EWEB requires visual patrols of the entire circuit to ensure its safe to re-energize the line, and confirmation with public safety partners that there is no active fire in the area. A review of HFRZ outage data



confirms that this practice results in summertime outages that are longer in duration than our system average of just over an hour. On balance however, wildfire safety settings offer a valuable risk reduction alternative. An independent study of a large California utility's data measured a 72% reduction in ignitions when 'fast trip' settings were enabled seasonally.

**Table 8. Wildfire Safety Settings Outage Summary**

Year	Date Span for Protective Settings	# HFRZ Feeder Lockouts	Average # of Customers Impacted	Average Duration	Documented Ignition Events
2022	Mid July – October 24*	5	676	4 hrs	1 (tree/line down)
2023	June 30 – Sept 24	7	675	4.5 hrs	1 (tree)
2024	July 3 – Sept 26	6	857	3 hrs	1 (equipment)

*\*Does not include September PSPS event.*

Note that the 115 kV transmission lines in the HFRZs are owned by the Bonneville Power Administration (BPA). EWEB operates these lines under the direction and control of BPA, and BPA is responsible for authorizing any changes to operational settings for these facilities. BPA has authorized EWEB to place the Carmen Tap in protective settings mode during periods of high wildfire risk with proper notification. Operational changes to other segments of 115 kV transmission would occur in emergency situations. See Appendix E for metro area transmission map.

In an effort to limit customer exposure to numerous lengthy power outages, procedures were refined again in 2024 to allow field staff to avoid full patrols under a limited set of circumstances and with supervisor approval. For example, a waiver could be requested if the outage was caused by a vehicle hitting a power pole during a typical summer day.

#### **Public Safety Power Shutoff (PSPS) Protocols**

EWEB system operators have the authority to de-energize portions of the distribution system during emergency events when requested by police or fire officials, such as a house fire. Operators can also de-energize portions of the EWEB electric system if there is an active fire nearby or imminent fire danger in the area.

During weather conditions that pose extreme fire risk, utilities may elect to enact a Public Safety Power Shut Off (PSPS), preemptively de-energizing power lines to customers for several hours or longer. While a PSPS may remove a potential ignition source during dangerous fire weather, widespread power outages introduce other public safety risks. Of notable concern is the potential loss of telecommunications facilities and internet service for public safety alerts, water supplied by electric well pumps for fire suppression and consumption, and power to operate cooling, medical and mobility equipment for medically fragile residents.

The decision to enact a PSPS is an action of last resort, requiring careful consideration of all risks. Coordination and communication with critical infrastructure owners, public safety partners and impacted customers is essential to address the associated risk tradeoffs. This includes procedures for pre-event alerts, ongoing communication during the PSPS event with targeted outreach to vulnerable populations, and notifications that power has been restored.

The table below summarizes EWEB's updated wildfire season operational settings posture, while Appendix F contains more detailed response protocols.

**Table 9. Wildfire Safety Operational Protocols**

Event	Operational Response	Notes
Red Flag Warnings (RFW) - Outside Fire Season or during IFPL 1	HFRZ circuits covered by the RFW, including BPA-owned Transmission Lines, will be placed in wildfire safety settings mode for the duration of the Red Flag Warning Event. If there is a trip on the circuit, full patrols will be conducted to ensure the cause of the fault has been cleared and it is safe to re-energize (daylight hours).	RFW events can occur in spring/early summer and later in the fall when other fire risk conditions are relatively low (temperatures, fuel moisture contents). This operational response is intended to balance risk and reliability.
IFPL 2	IFPL 2 for East Lane County triggers moving HFRZ circuits into wildfire season protective settings and leaving them in that mode until IFPL returns to Level 1.	Timing for moving in and out of this operational response will be based on local agency fire season declarations and weather forecasting for EWEB service territory.
Extreme Fire Danger	EWEB may proactively de-energize circuits to protect public safety (PSPS) in cases of high fire danger (nearby wildfire, impending dangerous fire weather conditions). EWEB will provide advance communication to impacted customers and critical infrastructure partners if warning is received early enough to do so. All PSPS circuits will be fully patrolled in daylight hours prior to re-energization for safety.	The number of impacted circuits and duration of the PSPS event will be determined on a case-by case basis considering weather forecasts, on the ground observations and emergency managers/public safety partner input.

EWEB's PSPS protocols were tested in September 2022 when National Weather Service (NWS) predicted dangerous fire weather conditions with strong easterly winds. On Wednesday, September 7, EWEB stood up its Incident Command System structure to prepare for possible de-energization of circuits in the HFRZs and began consulting with neighboring utilities, Lane County Emergency Management, and public safety partners.

With weather forecasts unchanged, EWEB made the decision to enact its first PSPS, impacting about 3,000 customers over a 36-hour period (Friday Sept 9 – Sunday, Sept 11). Lane Electric, Pacific Corp and Consumers Power also decided to de-energize circuits in portions of Lane County, and PGE declared a PSPS event for areas of its service territory. PGE's PSPS resulted in de-energization of the Stone Creek transmission line per our joint protocols.

EWEB conducted an internal post-event hotwash and financial analysis, debriefed with area utilities and participated in a post-event stakeholder discussion hosted by the OPUC. While the forecasted strong easterly wind did not impact the EWEB service territory as expected, this event offered valuable learnings to the utility and heightened public awareness about PSPS practices.

In June 2024, EWEB conducted its first tabletop exercise to practice the PSPS decision-making and response framework. The exercise was divided into three modules to simulate a six-day timeframe of environmental conditions and actions including:

- Pre-event preparation, PSPS decision-making inputs and coordination activities
- De-energization of circuits, communication and response strategies
- Restoration process and hotwash

About 30 EWEB staff participated in the exercise. This hands-on practice allowed staff to better understand the complexities of the entire PSPS process, from planning to the final restoration phase. The exercise also helped refine situational awareness and decision-making tools, internal and external communication and coordination needs, and resource management considerations.

Another PSPS tabletop is planned for May 2025 to reinforce and build on learnings from last year's exercise.



## 6. Community Engagement and Interagency Coordination

EWEB's overarching communication strategy emphasizes that wildfire risk reduction is a shared responsibility, requiring the commitment and cooperation of many stakeholders. With numerous organizations involved in wildfire awareness, consistency in the core content of our information campaigns and coordination among partners is important to align messaging and amplify calls to action. The utility's wildfire public information campaign covers a host of relevant topics such as the value of vegetation management and other year-round system maintenance, utility-initiation reliability investments with wildfire co-benefits, and wildfire safety and outage readiness messaging. Communications channels ranged from traditional news media coverage, amplified through our social media channels, to participation in community events, and an emergency preparedness e-newsletter to customers.

### 6.1 External Communications Tactics

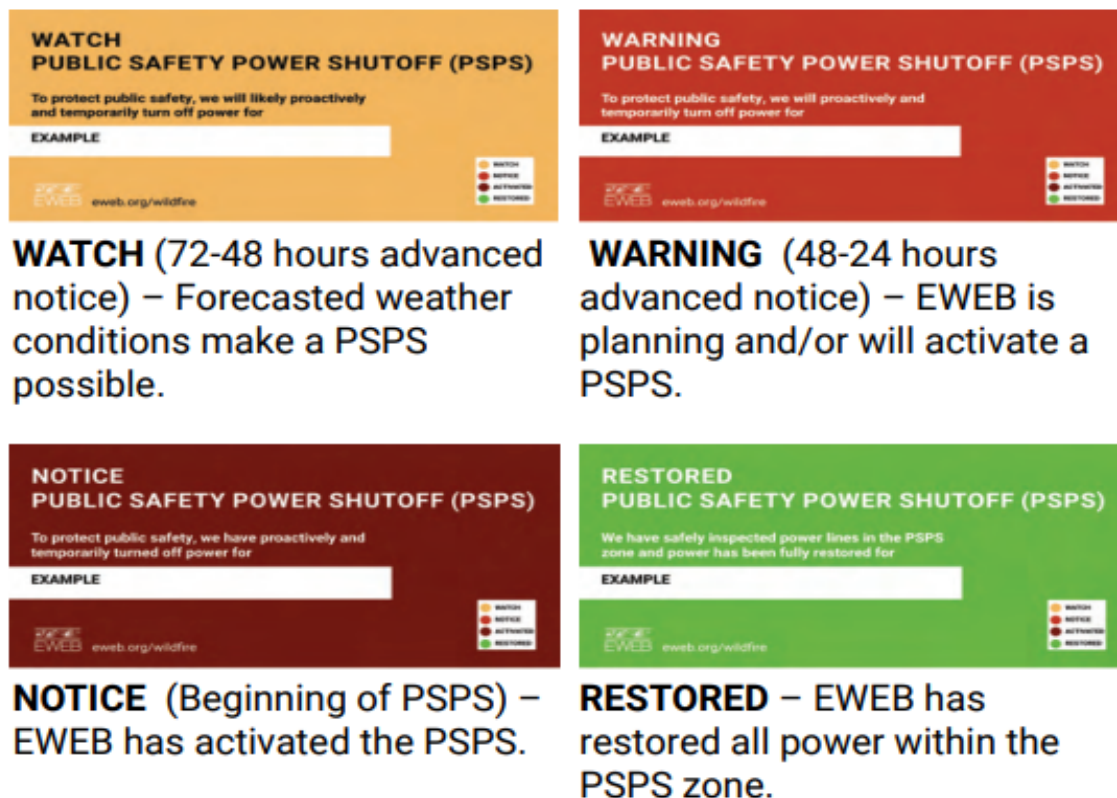
The wildfire community engagement strategy builds on a strong foundation of effective public outreach campaigns on resiliency and emergency preparedness, such as the Pledge to Prepare and Water Reliability initiatives. A dedicated landing page for wildfire safety information is in place on our [website](#), including a map of the HFRZs. In addition, the HFRZs are outlined on EWEB's Power Outage map to reinforce awareness of the possibility of more frequent and longer outages in these areas when wildfire safety settings are in place. Direct customer engagement is achieved through a bi-annual emergency preparedness e-newsletter, with content replicated in selected utility bill inserts to reach an even broader audience.

Neighborhood-hosted meetings offer another opportunity for public engagement on this topic. See Appendix G for a wildfire safety public outreach flyer used for such engagements.

As discovered after the 2022 PSPS and in post-event discussions with other utilities, common lessons learned pertained to public communications. Recommended improvements included a more thorough explanation of the power restoration process and messaging specific to summer outages, such as operating a generator safely when fire risk is high.

EWEB has since developed a PSPS communications playbook that includes additional outage preparedness tips and a phased messaging approach for 24-48 hours prior to a potential PSPS event, PSPS activation, and post-event patrols and re-energization. While EWEB has not had to enact another PSPS, watches were issued to the public in both 2023 and 2024.

Figure 12. EWEB PSPS Alert Continuum



### Customer Support Programs

Power outages during the heat of the summer with active nearby wildfires nearby create a different set of challenges than a wintertime outage. EWEB recognizes that customers who rely on electricity for medical equipment and mobility devices can be especially impacted. A targeted outreach effort to prepare vulnerable customers for potential loss of power due to PSPS events was launched in 2023. This began with a campaign to gather updated contact information for all residents in HFRZs. Next, a focused outreach effort was initiated to invite customers with special medical or mobility needs to opt-in to a new PSPS notification program.

Known as the PSPS Enhanced Support Program, this program invites medically fragile customers residing in HFRZs to opt in to receive direct phone call notification ahead of a PSPS event. The intent is to ensure that these customers or their caregivers are aware of an imminent planned power outage and have a safety plan in place. If participating customers request additional support during a PSPS event, such as a welfare check, EWEB will attempt to connect them with personal safety resources during a prolonged power outage. This enhanced support is reliant on customers self-identifying as needing extra help and voluntarily providing personal and emergency contact information to EWEB and its partners.

Following the 2023 public outreach campaign, eighteen customers opted in to the PSPS Enhanced Notification Program. Using a special identifier in our customer information system allows staff to quickly export a list of these customers with their contact information for direct outreach and support any special needs requests.

In 2024, program procedures were developed to document eligibility requirements, staff roles and responsibilities, and coordination with partner agencies during a PSPS event. Procedures now include annual outreach to enrollees to confirm participation and update contact information.

Another way EWEB supports customer safety and resiliency during power outages is through the zero-interest generator loan program. This program is eligible to all electric customers, with higher loan amounts available to customers who use domestic wells for water service. Customers who rely on electricity for medical devices may be at heightened safety risk during power outages and could benefit from back-up power supplies as well. EWEB requested ODOE Resiliency grant funds to create a pilot program to provide small battery-powered generators to customers in the PSPS Enhanced Support Program. However, ODOE determined the proposal was ineligible for funding under the rules of this grant. As such, staff are exploring other solutions and potential partnerships.

## 6.2 Interagency Coordination

Wildfire mitigation and response planning requires a whole-community approach. Coordination with interagency stakeholders, including local fire agencies, ODF and other utilities, is a priority. Examples include gathering feedback on the Pyrologix wildfire risk analyses from fire partners and while developing the ODOE resiliency grant application. Information-sharing with other utilities, through formal trainings and regional meetings, is another high-value activity to keep current with best practices and coordinate response.

EWEB actively seeks opportunities to participate in multi-agency drills, such as wildfire evacuation exercises hosted by Lane County Emergency Management. Staff are also active in related regional planning activities, such as the 2025 Community Wildfire Protection Plan. Lastly, utility personnel are consistently in attendance for OPUC hosted seminars related to wildfire mitigation and response best practices.

In response to interagency requests, an external fire weather email notification list that includes about two dozen stakeholders is used to alert our partners of potential PSPS events. The notification list is updated annually and includes private communications providers so they can prepare any available back-up power sources should an outage ensue. To further facilitate real-time information-sharing and response coordination, custom weather forecasts are shared with other local utilities when dangerous fire conditions are predicted.



Table 10. EWEB WMP and Emergency Response Stakeholder List

Stakeholder Group	Organization Description/Department
Critical Agencies/First Responders	City of Eugene Emergency Management Eugene/Springfield Fire Department Lane County Emergency Management Linn County Emergency Management (Carmen-Smith) McKenzie Fire & Rescue
Communications	Private telecommunication companies Local media (TV/radio) Lane County Emergency Communications
Utilities	Blachly-Lane Electric Cooperative Bonneville Power Administration Consumers Power, Inc. Emerald People's Utility District EWEB Water Operations Lane Electric Cooperative Metropolitan Wastewater Management Division Rainbow Water District Springfield Utility Board Portland General Electric (Stone Creek)
Local Government	City of Eugene Emergency Management & Public Works Oregon Department of Fish and Wildlife City of Springfield McKenzie and Springfield School District Oregon Department of Forestry Oregon Public Utilities Commission University of Oregon Emergency Management and Hazards Lab Willamette National Forest (U.S. Forest Service)

## 7. Performance Tracking and Future Planning Efforts

### 7.1 2023-2024 Mitigation Plan Metrics

Plan metrics were included in the initial WMP based on compliance requirements under discussion during the OPUC rule-making process, including:

- Wildfire community education and outreach campaign metrics
- PSPS/protective settings mode events and outcomes
- Risk-based mitigation projects completed and financial investments
- Relevant training on industry best practices and tabletop/functional exercises

While the adopted rules do not require public utilities to report on these activities, EWEB tracks these and other performance measures for transparency and accountability. The utility also elected to annual plan updates, although OPUC rules provide the flexibility for community-owned utilities to update their WMPs on a schedule they deem prudent.

Metrics in this third iteration of the plan, delayed to incorporate information from the Pyrlogix risk analysis, cover both calendar years 2023 and 2024. Future WMPs will provide more detail on events, dates and participation levels in trainings and exercises.

**Table 11. Extreme Weather Event Response Actions**

Date	Description	Notes
June 30 – Sept 24, 2023	Wildfire Safety Settings	All HFRZs
August 11, 2023	PSPS Watch	RFW in effect
August 13 – September 18	Carmen T-Line De-Energized	Lookout Fire
July 3 – September 26, 2024	Wildfire Safety Settings	All HFRZs
July 18, 2024	PSPS Watch	Upriver circuits due to fire activity near BPA lines

Table 12. Wildfire Safety Public Outreach Metrics

Communication Methods, Topics and Results		
Social Media - 2023	Posts: 23	Reach: 14,654
Social Media - 2024	Posts: 22	Reach: 28,724
Earned Media & EWEB Newsroom	6/30/23: "Wildfire Season is here – safety tips" 7/21/23: New PSPS EWEB Webpage: information & resources 8/11/23: Video: What is a PSPS? 8/31/23: "EWEB grounds transmission lines for Lookout Fire" 6/28/24: "EWEB boosts resiliency toolbox with satellite imaging to manage trees around power lines" 12/5/24: "EWEB awarded \$1 million for wildfire resiliency projects from Federal funding package"	
Targeted Outreach	4/23, 3/24, 6/24: Emergency Preparedness E-newsletter: Wildfire Mitigation and PSPS Awareness (5,200 recipients) 7/20/23: PSPS Enhanced Support Program Mailer 8/10/23: Targeted Social Media: PSPS Enhanced Support Program 9/9/23: SE Neighborhood Meeting: Wildfire Preparedness 5/15/24: SHiNA Neighborhood Meeting: Wildfire Preparedness 5/16/23, 5/23/24: Upriver Board Meeting 7/1/24: Current Connections: HFRZ Awareness (70,000 recipients)	
Emergency Notifications	7/4/23: Red Flag Warning 8/11/23: PSPS WATCH Notification 8/16/23: PSPS STAND DOWN Notification 7/16/24: Red Flag Warning 7/18/24: Wildfire Safety Alert	

Note that outreach metrics do not include the September National Preparedness Month campaigns or employee communications.

Table 13. Mitigation Investments

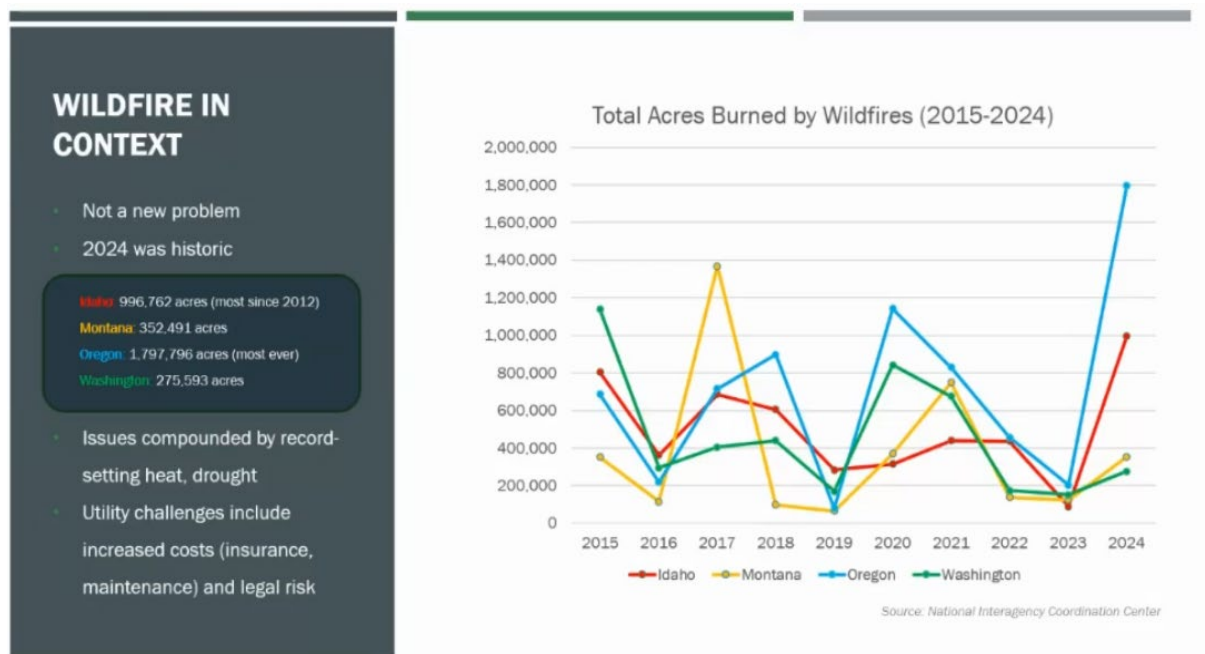
2023 Mitigation Actions		
Accelerated HFRZ Equipment Replacements	Poles, crossarms & components 75 transformers	\$227,000 \$263,000
Enhanced Vegetation Mgmt and Fuels Reduction Projects	18 acres on 17 Sites	\$122,000
Grid Hardening	Load study for fuse replacements	\$45,000
Weather Forecasting	Custom fire season forecasts	\$5,400
Overstory Software	Year 1 pilot	\$31,000
HFRZ Customer Incentives	5 secondary service UG projects 2 generator loans	\$37,000 \$4,000
<b>2023 TOTAL INVESTMENT</b>		<b>\$734,000</b>
2024 Mitigation Actions		
Accelerated HFRZ Equipment Replacements	Poles, crossarms & components 25 transformers New fault indicators and fuses	\$152,000 \$90,000 \$136,000
Grid Hardening	Dillard 4734 Rebuild (design work)	\$127,000
Weather Forecasting/Station	Seasonal forecasts & South Eugene weather station	\$21,000
Risk Assessment Tools	Overstory Year 2 & Pyrologix risk analysis study	\$196,000
HFRZ Customer Incentives	7 secondary service UG projects 5 generator loans	\$96,000 \$18,000
<b>2024 TOTAL INVESTMENT</b>		<b>\$836,000*</b>

\*\$700,000 of FERC required Carmen-Smith ROW expansion work not included.

## 7.2 Future WMP Investments and Planning Activities

More erratic weather is one variable contributing to the complex and dynamic landscape for utilities working to manage wildfire risk. In June 2024, the Climate Prediction Center indicated that with the prolonged period of severe drought ending, Oregon would likely experience a 'typical' fire season. Then extreme heat conditions took hold in early July, drying out abundant fuels and setting the stage for the numerous wildfires that ensued later in the summer (most due to lightning). As the graph shows, 2024 marked an all-time high for acres burned in Oregon.

Figure 13. Northwest Wildfire Activity



Given weather unpredictability and rapid pace of change on the landscape, EWEB's WMP emphasizes situational awareness and operational readiness. The utility will continue to deploy wildfire safety settings seasonally, a conservative approach that optimizes risk reduction over reliability. A five-year contract for custom weather forecasts, utilizing EWEB-owned and other validated weather stations, is now in place. Further, the utility is exploring locations in the lower McKenzie Valley for a second AlertWest camera, though so far, no viable sites have been identified.

To mature our risk assessment methods, EWEB is collecting more granular outage data, including ignition events and bird-related outages. The utility is leveraging technology to prioritize investments to areas with the greatest risk reduction benefit. Overlaying areas with higher concentrations of hazard trees with overall fire risk can help further target intervention strategies.

Staff screen planned capital improvement projects for wildfire risk reduction co-benefit opportunities and solicit new reliability project ideas from operations staff. Through this process, the utility selected two pilot projects to test new equipment in the HFRZs. The first involves switching to non-expulsive fuses. These devices are designed to clear faults without the potential for showering sparks or emitting hot debris into nearby vegetation. It was decided to pilot non-expulsive fuses along the Dillard 4734 circuit. Thirty-nine replacement fuses of various sizes were ordered and have since been delivered for installation this summer. Non-expulsive fuses combined with Dillard 4734 Resiliency project described earlier will deliver proven wildfire risk reduction and resiliency benefits to this area of Eugene.

After considerable research and internal discussion, approval was given to test out a new “Tripsaver” recloser in the HFRZs. These reclosers fit our existing overhead configuration and can be programmed to coordinate with wildfire safety operational settings. This capability may lead to fewer feeder lock out events for faults that occur downstream of the Tripsaver, reducing outage impacts to HFRZ customers. They can also be set to a ‘fuse saving’ option for improved reliability outside fire season.

A system-wide analysis of outage data was performed to identify the most effective locations for these reclosers based on frequency of outages and number of customers impacted, as well as projected cost-savings due to fewer outage calls when fuse saving model. Field validation of priority HFRZ locations to confirm final siting is complete, and installation of some 30 Tripsavers is planned following field crew training, scheduled for early May.

A process to track performance and solicit staff feedback will be used to evaluate the pilot projects and make informed recommendations for ongoing use and/or expanded deployment of these devices. This is consistent with the utility’s Continuous Improvement framework.

EWEB is adapting our operations, maintenance, and training practices, while advancing data driven analyses to determine the most effective risk reduction and resiliency investments. To further our WMP, the utility applied and was one of five utilities selected to participate in the American Public Power Association’s Wildfire Mitigation Project. The project aims to leverage Argonne National Laboratory’s expertise to:

- Provide public power utilities with data on evolving wildfire and extreme heat threats
- Create actionable, data-driven toolkits for risk management and planning
- Enhance datasets through partnerships with AT&T, FEMA, and power utilities
- Contribute to the APPA’s [Risk Management Toolkit](#) (RMT) to standardize risk management practices for public power utilities

EWEB intends to take the learnings from this project to build a multi-year mitigation investment road map, with additional third-party expertise as needed. The goal is to create a defined and actionable body of work that can be scaled based on resource availability and in response to changing risks and emergent safety needs.



## 8. Appendices

Appendix A. EWEB Metro Service and Upriver Service Territory Maps

Appendix B. High Fire Risk Zone Map

Appendix C. Pyrologix Wildfire Threat Indices (WTI) maps – Eugene area and Upriver service territory

Appendix D. New Fault Indicator and Fuse Installation Map

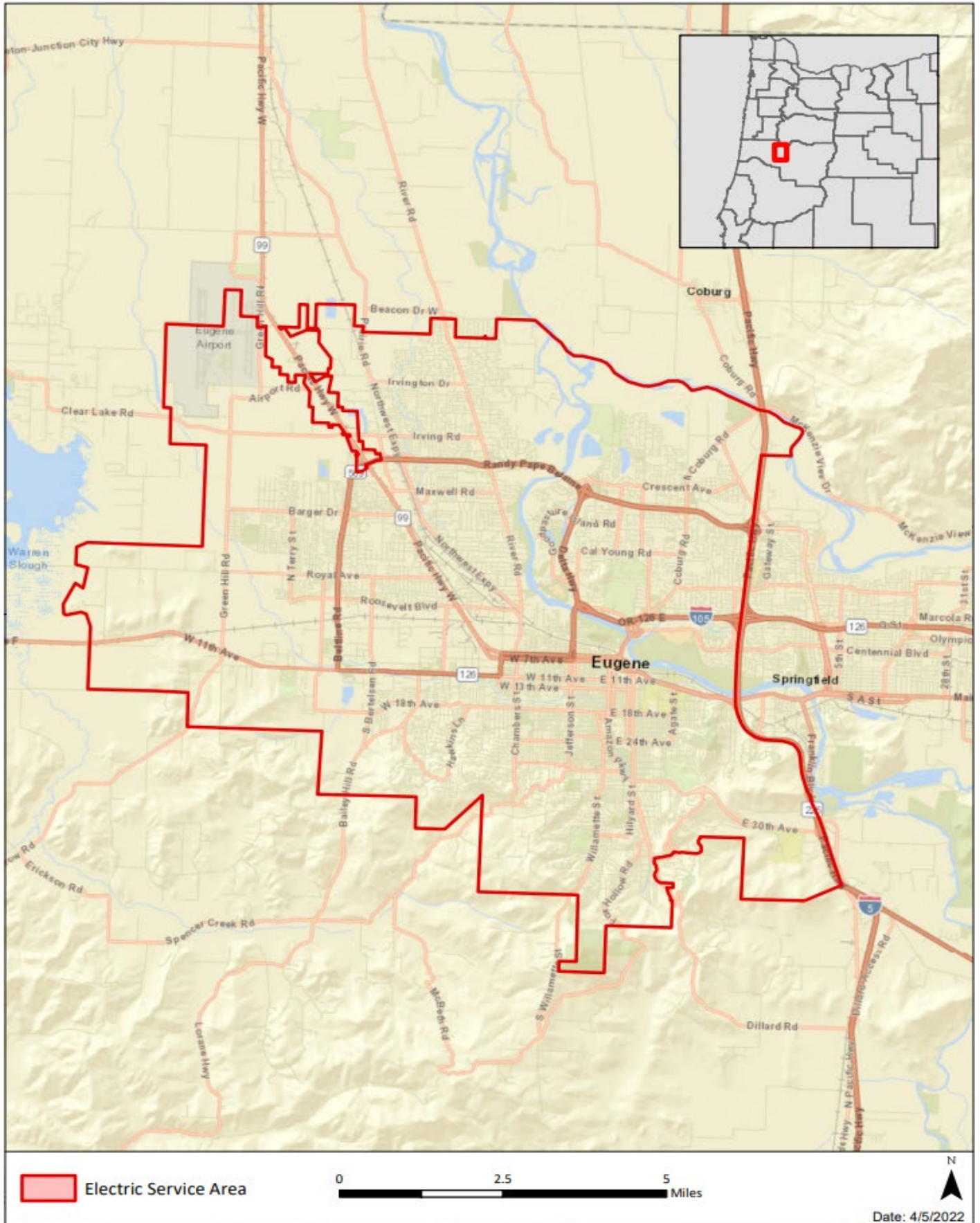
Appendix E. Metro Area Transmission Line Map

Appendix F. PSPS Protocols

Appendix G. EWEB Wildfire Safety Brochure

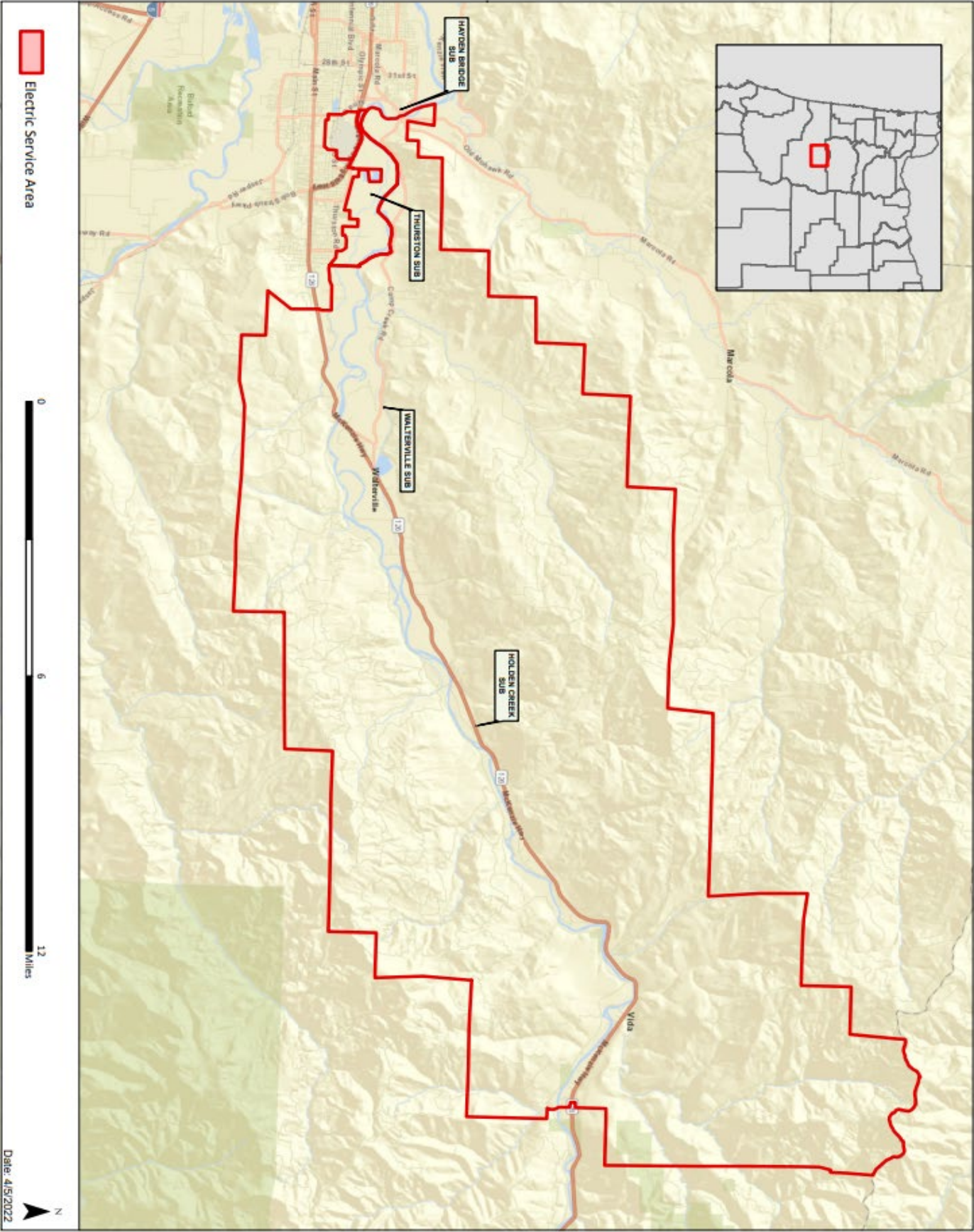
Appendix H: Plan Definitions

## Appendix A. EWEB Metro Area Electric Service Territory

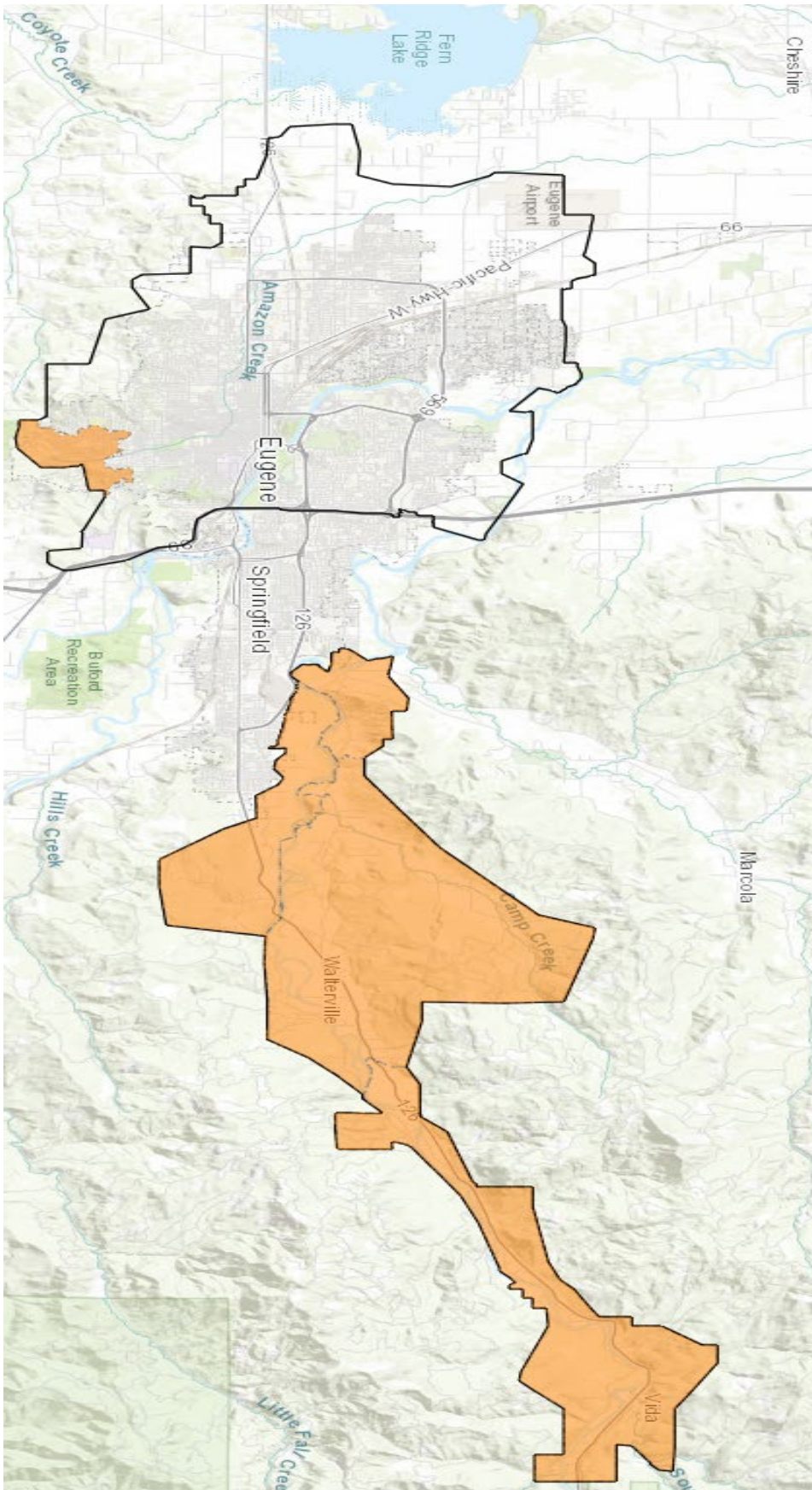




Appendix A. EWEB Upriver Electric Service Territory



## Appendix B. EWEB High Fire Risk Zone Map



### Legend

Higher Risk Service Area

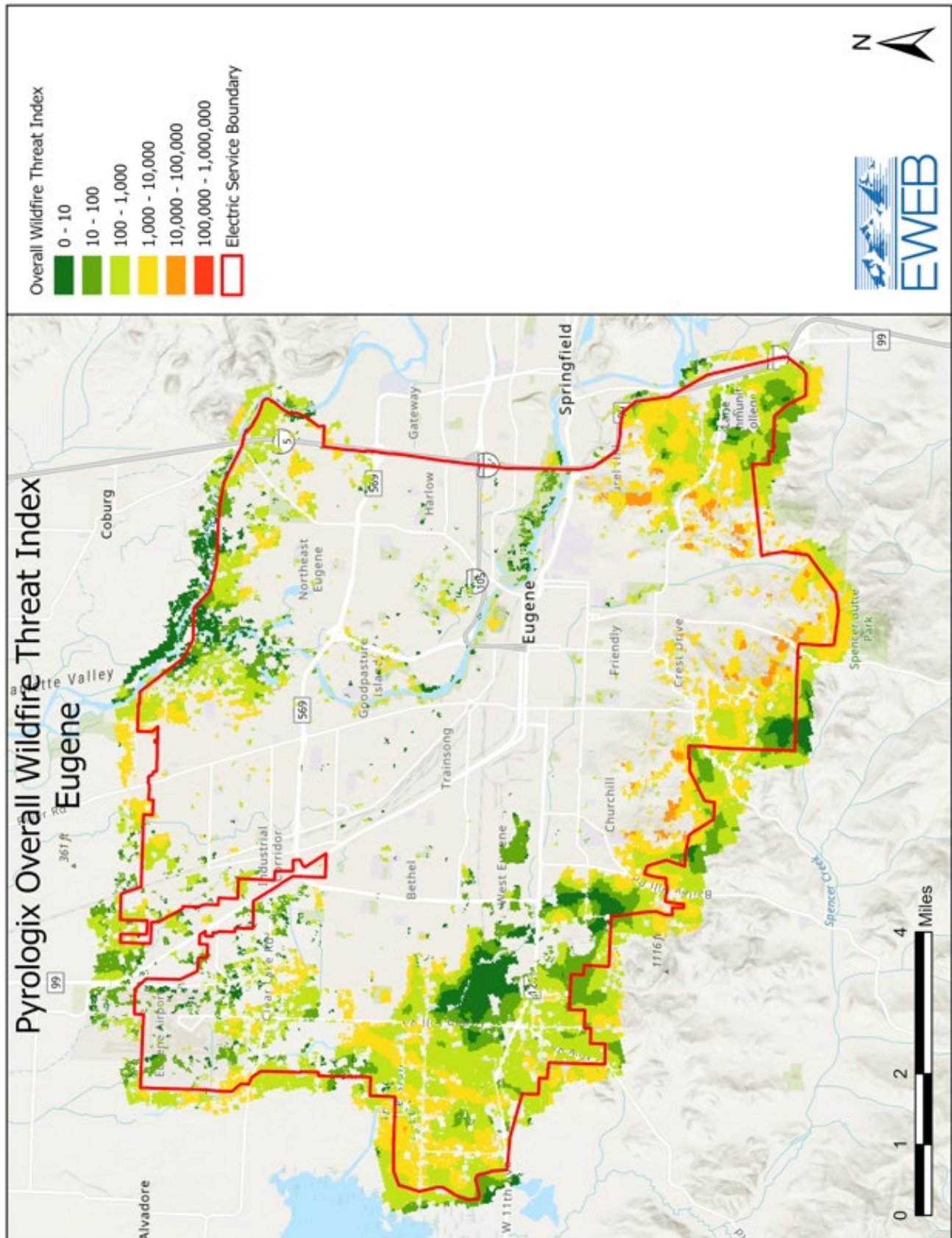


Electric Service Area



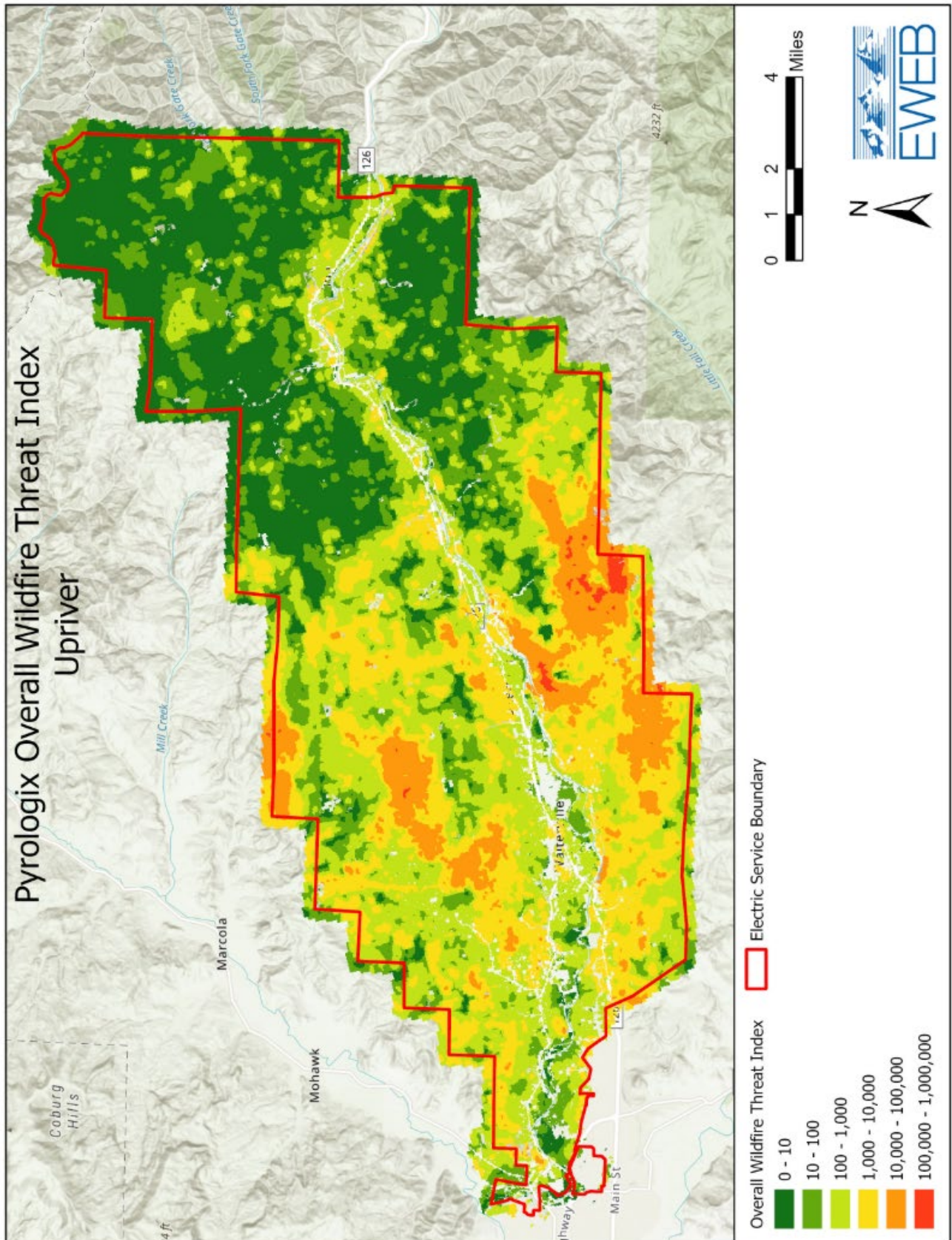


## Appendix C. Wildfire Threat Assessment (Eugene area)



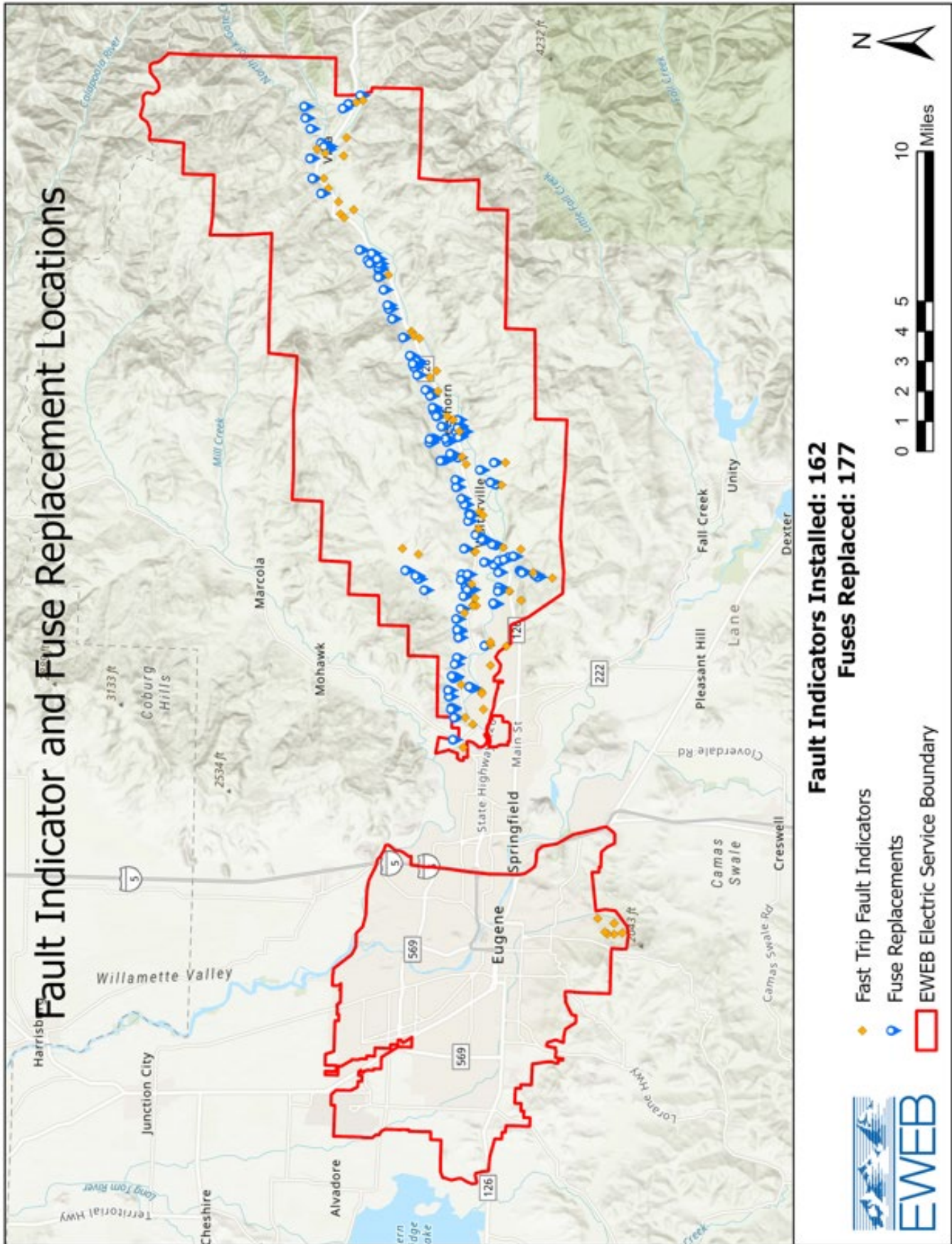


## Appendix C. Wildfire Threat Assessment (Upriver Territory)

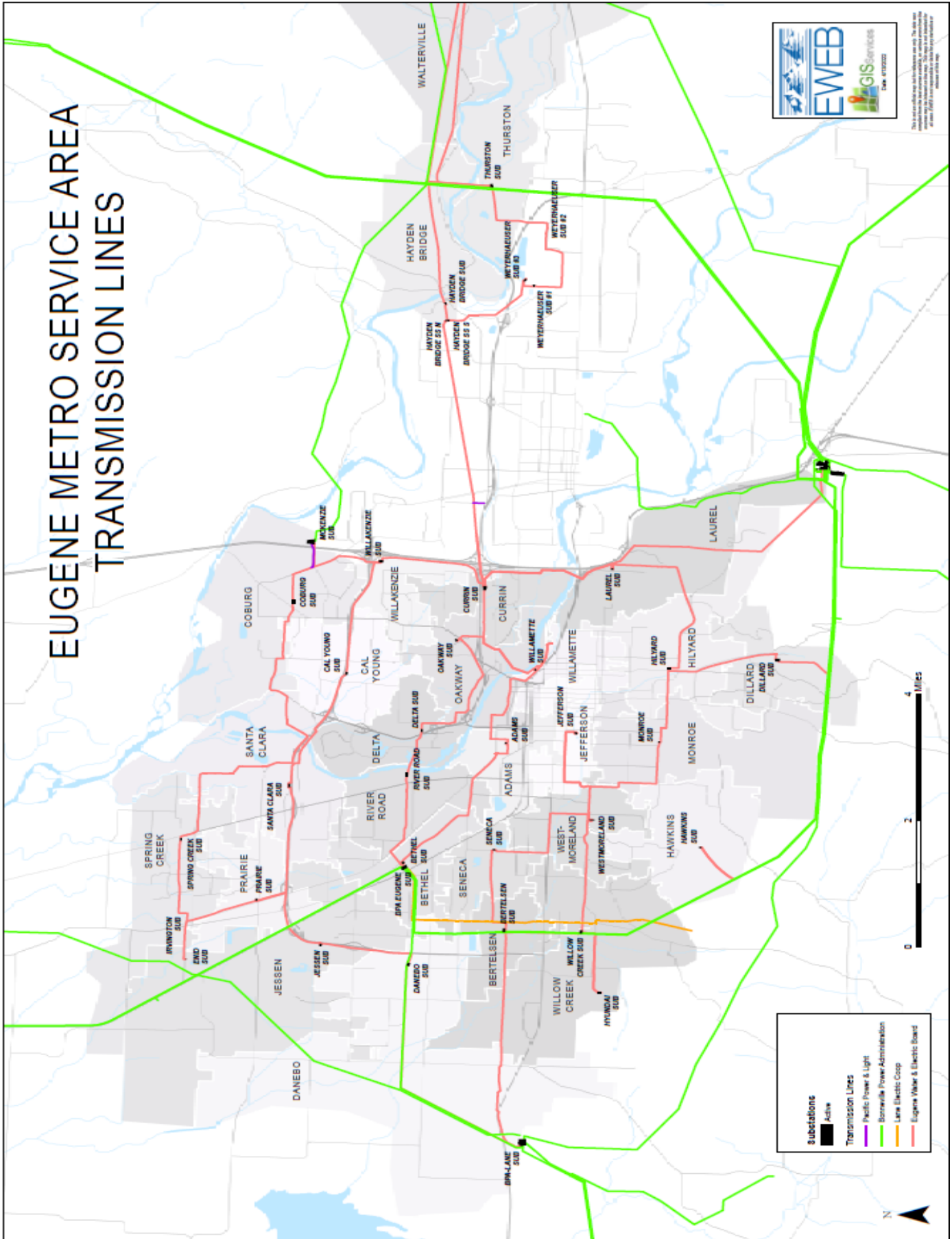




## Appendix D. Fault Indicator/Fuse Installation Map



## Appendix E. Metro Area Transmission Lines



## **Appendix F. Operational Protocols for 2025 Wildfire Season (DRAFT)**

### **1. Wildfire Season:**

- Operations Supervisors will monitor and adhere to Industrial Fire Protection Level (IFPL) restrictions and waiver requirements and communicate changes to field crews.
- Operations Supervisors, in coordination with the Safety Team, will adjust tools and practices for situational awareness and provide training updates for operational readiness. Field work will not be conducted in HFRZs during an active Red Flag Warning Event (RFW).
- Dispatch will ensure full safety patrols are conducted as soon as practical for outages along EWEB's High Fire Risk Zone (HFRZ) circuits, even with a successful reclose, during fire season (IFPL1 and above).
- Full patrols may be waived in isolated incidents with supervisor/manager approval, such as car hit pole events. Waivers are not authorized during a Fire Watch or RFW event.
- Marketing and Communications will work with other internal stakeholders to begin wildfire preparation public education campaign in coordination with interagency partners.
- When IFPL is moved to IFPL2 or moderate risk for East Lane County, wildfire safety settings will be enabled for HFRZ circuits and remain in place through the duration of wildfire season.
- In coordination with local fire professionals, Management will determine when to return circuits in HFRZ to normal operational settings (typically IFPL 1 for Eastern Lane). Should a RFW occur once circuits are returned to normal settings, Dispatch will re-enable wildfire settings during the event.

### **2. Fire Weather Watch/Red Flag Warnings**

Dispatch receives National Weather Service fire watch and/or Red Flag Warning (RFW) and sends internal notification to pre-designated team.

- A fire weather watch/alert will trigger a meeting to evaluate staffing/resource needs and begin additional weather monitoring and enhanced situational awareness for field crews during the event. Meeting shall include at least: Resiliency Program Manager, Electric Dispatch Supervisor, Electric Manager.
- Unless wildfire safety settings have already been enabled, when a RFW is received for relevant fire weather zones, Dispatch will enact High Fire Risk Zone Procedures per DSO #0024.
- To support operational readiness, EWEB will begin situational awareness and preparation activities, including warm ICS stand up (at minimum an IC, Operations Chief and PIO). This team or its designees will:
  - Notify interagency partners/critical infrastructure operators that protective settings will be put in place during RFW.
  - Begin proactive employee and customer communications about heightened fire risk through EWEB's Communications and Marketing Department.
  - Monitor weather forecasts and other relevant fire risk data throughout the event.
  - Track outages along impacted circuits for any additional customer communications, decisions re: re-energization post-patrol, and WMP reporting.
- Dispatch will track outage and re-energization information along impacted circuits, as well as prepare to return the system to standard operational settings if/when safe to do so.

### **3. Extreme Fire Danger**

EWEB may proactively de-energize power lines on a case-by-case basis in response to imminent fire danger, extreme weather conditions and risks to public safety. These situations may include:

- Active wildfire in service area
- Mandatory evacuation orders in effect
- Requests from emergency service providers/wildland managers
- On-the-ground and/or real-time observations of utility operators
- Coordinated response with other area utilities

If the IC recommends activating a PSPS and it is approved by the GM or designated ET member:

- PIO will initiate PSPS communication protocols for customers, inter-agency stakeholders and employees, including location (s) and expected duration of event.
- Dispatch and ICS Command Staff will continuously monitor real time weather, outage/damage reports and other risk conditions which may include:
  - Available internal or external partner weather stations
  - Spot forecasts from NWS
  - Field Operational staff observations and measurements
  - Indication of trips or damage to the system
  - Wildfire activity in area/available fire response resources
- ICS will continue to monitor weather forecasts and maintain close communication with public safety officials and area utilities throughout the event to determine when conditions warrant re-energizing circuits. Staffing plans and any outside resources needed will be made ready so that safety patrols can proceed when the PSPS is de-activated.
- IC will schedule and conduct a 'hotwash' to debrief the PSPS event to continuously improve response protocols and practices.



## Appendix F. Operational Protocols for 2025 Wildfire Season (DRAFT)

### Fire Safety Operational Settings Protocols

Event	Operational Response	Notes
Red Flag Warnings (RFW) - Outside Fire Season and During IFPL 1	HFRZ circuits covered by the RFW, including BPA-owned Transmission Lines if approved by BPA, will be placed in wildfire safety settings mode for the duration of the RFW event. If there is a trip on the circuit, patrols will be conducted to ensure the cause of the fault has been cleared and it is safe to re-energize the line (daylight hours).	RFW events can occur in spring/early summer and later in the fall when other fire risk conditions are relatively low (temperatures, fuel moisture contents). This operational response is intended to balance risk and reliability.
IFPL 2	IFPL 2 for East Lane triggers moving HFRZ circuits into wildfire safety settings and leaving them in that mode until IFPL returns to Level 1.	Timing for moving in and out of this operational response will be based on local agency fire season declarations (e.g., from low to moderate risk) and weather forecasting for EWEB service territory.
Extreme Fire Danger	EWEB may proactively de-energize circuits to protect public safety (PSPS) in cases of high fire danger (nearby wildfire, impending dangerous fire weather conditions). EWEB will provide 24-hr advance communication to impacted customers and critical infrastructure partners if warning is received early enough to do so. All PSPS circuits will be fully patrolled in daylight hours prior to re-energization.	The number of impacted circuits and duration of the PSPS event will be determined on a case-by case basis considering weather forecasts, on the ground observations and emergency managers/public safety partner input.

## Wildfire Safety & Protection

*Enhancing public safety and reducing risks*



**We are increasing our efforts to maintain and operate our electrical lines and equipment to minimize wildfire risk and keep our customers and community safe.**

### EWEB's Wildfire Prevention Efforts

Most of EWEB's service territory is urban, which means the threat of wildfire is relatively low. Our service areas in the McKenzie Valley and South Hills with steeper terrain and dense vegetation are at a higher risk of wildfire. High winds during dry, hot weather increase the potential for vegetation to come in contact with power lines, so we are taking several actions to mitigate this risk.

**Actions we take to enhance the safety and resiliency of our electric system include:**



#### Vegetation management

We proactively prune trees, branches and shrubs to make sure they don't come in contact with power lines. Maintaining clearance between trees and power lines helps reduce this risk. Each year, crews trim around 300 'line miles' of vegetation to minimize the chance of falling trees and branches. We inspect and prune an additional 250 'line miles' in high-risk areas such as south Eugene and the McKenzie Valley.



#### System inspection and maintenance

We conduct routine and proactive maintenance on more than 725 miles of overhead power lines to ensure our system is safe and reliable. We visually patrol and inspect the system and components, and replace worn or aging equipment throughout the system. Like our additional vegetation maintenance, we inspect high risk areas more frequently.



#### Proactive grid-hardening investments

We actively seek opportunities to replace older equipment such as power poles, crossarms and wires. In some cases, we take overhead distribution lines and put them underground. We are also installing fire-resistant equipment, such as using ductile iron instead of wooden poles in a completed transmission line project.



#### Situational 'wildfire season' awareness

Situational awareness during fire season includes monitoring weather for high winds and low humidity, modifying field work practices to be fire aware, bringing fire suppression equipment to every work site, and coordination with public safety partners when crews are working in areas with high fuel loads.



#### Power line protective measures

When weather conditions indicate there is a high risk of wildfire, we change the protective settings on our equipment in south Eugene and the McKenzie Valley. These protective measures include modifying high-voltage electric switches and relays. Just like a circuit breaker in your home, the switch senses when trouble occurs – such as a tree branch falling on the line – and shuts off the power. We will not reenergize the line until we visually inspect it and confirm with public safety partners it is safe to re-energize the line.



#### Red flag warnings

We activate this extra level of protection in areas at higher risk for wildfire when the National Weather Service issues a Red Flag Warning – typically related to high winds, high temperatures and low humidity. While enhanced protective settings help reduce wildfire risk, customers should anticipate that it will take longer to restore power when these more sensitive settings are in place.

# Wildfire Safety & Protection

*Enhancing public safety and reducing risks*



## Preparing for Outages

Most wildfires are started by lightning strikes or caused by human actions. Regardless of cause, if a fire starts in an area with power infrastructure, we may de-energize that part of the system. We are generally able to shut the system down in sections, and we work to minimize the size of the shutdown to affect as few customers as possible. The length and duration of a fire-related outage will vary based on where in the system it occurs and the situation on the ground.

Our goal is to provide safe and reliable power, but outages can happen year-round, not just during winter snow or ice storms. You should be prepared for 14 days without power. Unlike a winter outage, preparedness for a summer outage includes methods to stay cool and hydrated.

### 1 Emergency Plan Basics

**You should be prepared to manage 14 days without power.**  
Be sure to plan with the following categories in mind:

- **Food and refrigeration/food preservation** (coolers, ice)
- **Cooking plan** (BBQ, cookstove and fuel – outside only)
- **Water** (have supplies of stored water and a plan if your home is served by a well)
- **Medical** (prescriptions, devices, first aid)
- **Pets and livestock** (food, water, evacuation plan)
- **Electronics, chargers, batteries**
- **Communications** (plan for charging, printed contact lists, radio)
- **Records** (vaccination records, insurance cards, ID, etc.)
- **Access** (manual overrides for electronic doors and garages)

**FOR ADDITIONAL PLANNING TIPS, GO TO:**  
[EWEB.ORG/EMERGENCYPREP](http://EWEB.ORG/EMERGENCYPREP)

### 2 Know Your Zone and Evacuation Level

If we are in an active fire situation, be sure that you know your evacuation level and how to get out. Alerts will come from Lane County and public safety support.

**TO SIGN UP FOR ALERTS AND LEARN MORE, GO TO:**  
[PUBLIC.ALERTSENSE.COM/SIGNUP](http://PUBLIC.ALERTSENSE.COM/SIGNUP)

### 3 Plan for the Medically Fragile

Take a few moments to make sure we have your current contact information in case we need to reach out to you in an emergency. If you rely on electrically powered medical devices, or you care for someone who is medically fragile, we encourage you to let us know and to have a contingency plan in the event of a prolonged outage. **Contact us by email at [eweb.answers@eweb.org](mailto:eweb.answers@eweb.org).**

## Working All Year to Keep You Safe!



### YEAR-ROUND SYSTEM MAINTENANCE

Ongoing maintenance and system hardening; robust tree-trimming program.



### TARGETED VEGETATION MANAGEMENT

More frequent inspection and pruning along 250 'line miles' in higher risk areas.



### SITUATIONAL AWARENESS

Weather monitoring, fire aware work practices, outreach and education during wildfire season.



### EXTREME RISK MANAGEMENT

Protective equipment settings.  
De-energize lines as a last resort.

**Learn more about wildfire preparedness and evacuation planning here: [eweb.org/wildfire](http://eweb.org/wildfire).**  
**Follow us on Facebook, Instagram and Twitter for the latest updates and emergency information.**



## Appendix H

### Wildfire Mitigation Plan Definitions

Term	Definition
<b>Asset (utility)</b>	Electric lines, equipment, or supporting hardware.
<b>Circuit (distribution)</b>	A medium voltage power line (7.2kV & 12.47kV for EWEB) originating at a substation circuit breaker and connecting all the service transformers fed via that circuit breaker.
<b>Circuit (transmission)</b>	A high voltage power line (69kV & 115kV for EWEB) originating at a power station or a transmission substation circuit breaker and connecting all the subordinate substations fed via that circuit breaker.
<b>Clearance</b>	Vertical and/or horizontal space between vegetation and electric infrastructure.
<b>Conductor</b>	The wire that transmits power in either a Transmission or Distribution circuit.
<b>Critical facilities and infrastructure</b>	Those facilities and infrastructure that provide essential public services and/or that require additional assistance and advance planning for community safety, including: <ul style="list-style-type: none"><li>• Fire/Police/Emergency Services</li><li>• Hospitals/Critical Care Facilities</li><li>• Energy Systems</li><li>• Water and Wastewater Systems</li><li>• Communications</li><li>• Transportation</li></ul>
<b>Enhanced PSPS Notification Program</b>	EWEB program that supports customers who are medically reliant on power (medical equipment/mobility devices) or otherwise medically fragile to opt in to direct, advanced notification of a PSPS event.
<b>Fault</b>	An abnormal condition on an electrical circuit that interrupts the flow of electrical current.
<b>Feeder</b>	See distribution circuit.
<b>Fire behavior modeling</b>	A software program which simulates wildfire spread in an area based on defined variables.
<b>Grid hardening</b>	Modifications, upgrades and replacement of electrical equipment to increase resilience of the asset to wildfire events and/or reduce the likelihood the equipment is involved in an ignition event.
<b>Hazard Tree (EWEB)</b>	Any trees that are dead, dying, diseased, damaged, or structurally defective and the utility arborist determines that their direction of failure is reasonably expected to be toward the conductors, guy wire, or other facilities. These trees should be removed or pruned/crown reduced to eliminate risk to EWEB facilities.

## Appendix H

<b>Hazard Tree (Overstory)</b>	Trees that determined via satellite imaging to be in declining health and within striking distance to EWEB overhead infrastructure.
<b>High Fire Risk Zone (HFRZ)</b>	Geographic area identified by utility operators in the current WMP as being at elevated risk for wildfire relative to other areas in the utility's service territory.
<b>Ignition Event</b>	A utility equipment arc or spark that becomes a self-sustaining fire.
<b>Impact/consequence of ignitions</b>	The effect or outcome of a wildfire ignition, affecting objectives, which may be expressed by terms including, although not limited to health, safety, reliability, economic and/or environmental damage.
<b>Powerline Protective Settings</b>	A risk mitigation action that changes the operational settings of a particular circuit to disable reclosing and/or make the system more sensitive to faults. Also known as wildfire safety settings.
<b>Public Safety Power Shutoff (PSPS)</b>	A proactive de-energization of a portion of an electrical utility's network, based on the forecasting of and measurement of extreme wildfire weather conditions.
<b>Recloser</b>	A device used in electric distribution systems to interrupt the circuit to clear faults and restore service if the fault is temporary. Several attempts may be made to clear and re-energize the circuit, and if the fault still exists, the recloser locks out and the line trips off until manually restored.
<b>Red Flag Warning (RFW)</b>	A Red Flag Warning means warm temperatures, very low humidity and strong winds, as defined by the National Weather Service, are expected to combine to produce an increased risk of fire danger. Each NWS office creates local criteria for RFWs. A fire weather watch may be issued up to 72 hours before the RFW conditions are expected to occur. A watch means that fire weather conditions are possible but not imminent, while a warning means that fire conditions are expected to occur shortly or are on-going.
<b>Span</b>	The space between adjacent supporting poles or structures on a circuit consisting of electric lines and equipment. "Span level" refers to asset-scale granularity.
<b>Vegetation management</b>	Trimming and clearance of trees, branches, and other vegetation that poses the risk of contact with electric equipment.
<b>Wildfire risk</b>	The potential for the occurrence of a wildfire event typically expressed in terms of ignition probability and wildfire impact/consequence.
<b>Wildland Urban Interface (WUI)</b>	An area or zone where natural, forested areas and development meet.
<b>Wildfire Threat Index (WTI)</b>	Combines the potential for a fire to occur with the consequences of a fire to the community. The overall WTI can help utilities identify locations most appropriate for operational fire safety measures and to prioritize risk mitigation investments.



**RESOLUTION NO. 2508**

**April 2025**

**EUGENE WATER & ELECTRIC BOARD  
2025 WILDFIRE MITIGATION PLAN APPROVAL**

**WHEREAS**, all consumer-owned utilities are required to develop and regularly update a risk-based Wildfire Mitigation Plan (WMP) per ORS 757.966; and

**WHEREAS**, the WMP must be designed to protect public safety, reduce risk to utility customers, and promote electrical system resilience to wildfire damage; and

**WHEREAS**, the WMPs are to be submitted to the Oregon Public Utility Commission upon approval by their governing bodies; and

**WHEREAS**, as EWEB's governing body, the Board of Commissioners approved the utility's WMPs in 2022 and 2023; and

**WHEREAS**, the EWEB Board has reviewed the 2025 WMP and determined the updated Plan demonstrates continued compliance with relevant PUC requirements; and

**WHEREAS**, the situational awareness tools, operational practices, mitigation investments and community engagement efforts described in the 2025 WMP further illustrate EWEB's commitment to public safety; and

**WHEREAS**, the 2025 WMP aligns with strategic guidance contained in the Board's adopted Resiliency Policy (SD 22).

**NOW, THEREFORE, BE IT RESOLVED** by the Eugene Water & Electric Board that the Board hereby approves the EWEB 2025 Wildfire Mitigation Plan.

DATED this 1st day of April 2025.

THE CITY OF EUGENE, OREGON  
Acting by and through the  
Eugene Water & Electric Board

---

President

I, ANNE M. KAH, the duly appointed, qualified, and acting Assistant Secretary of the Eugene Water & Electric Board, do hereby certify that the above is a true and exact copy of the Resolution adopted by the Board at its April 1, 2025 Regular Board Meeting.

---

Assistant Secretary