



**BLACHLY-LANE
ELECTRIC COOPERATIVE
WILDFIRE MITIGATION PLAN**

DATE: MAY, 2022

REVISION: V0



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1 Introduction/Executive Summary

Oregon has experienced some of the most devastating and catastrophic wildfires in the country. These unusually large wildfires are on the rise in the PNW with an increase in fires in west-side conifer forests. In the western U.S. region encompassing the PNW, the annual probability of very large fires is projected to increase by a factor of 4 in 2041-2070 compared to 1971-2000¹.

As a result of this increased wildfire danger the Oregon legislature passed Senate Bill 762 which Gov. Kate Brown signed into law in 2021. SB 762 establishes new programs to fight and mitigate wildfires, bolster recovery, help communities adapt to smoke, and implement changes to the state's building code for structures within high-risk areas in the wildland-urban interface (WUI). It also requires consumer owned electric utilities develop risk-based wildfire mitigation plans and submit them to the Oregon Public Utility Commission (OPUC) by June 30, 2022.

For Blachly-Lane Electric Coop, which aims to protect public safety and preserve the reliable delivery of electricity, wildfire mitigation is without question a top priority. While an electric utility can never fully eliminate the risk of fire, Blachly-Lane Electric Coop is committed to taking all practical actions available to it to prevent the devastation that a wildfire could bring to the people and communities we serve. This wildfire mitigation plan lays out the steps we are taking to do so.

1.1 Purpose of the Plan

The Plan describes Blachly-Lane Electric Coop's strategies, programs, and procedures to mitigate the threat of electrical equipment ignited wildfires, and addresses the unique features of its service territory, such as topography, weather, infrastructure, grid configuration, and areas most prone to wildfire risks. This includes the maintenance of its transmission and distribution (T&D) assets as well as the management of vegetation in the ROWs that contain these assets.

Blachly-Lane Electric Coop's Board of Directors reviews, and approves the plan as needed, while the Manager of Operations is responsible for its implementation. Primary accountability for plan implementation resides with the General Manager.

1.2 Objectives of the WMP

The main objective seeks to implement an actionable plan to create increased reliability and safety while minimizing the likelihood that Blachly-Lane Electric Coop assets may be the origin or contributing factor in the ignition of a wildfire. This plan was developed to be consistent with current industry best management practices while complying with current Oregon State law, and National Electric Safety Code (NESC) regulations and guidelines. To help develop the Plan,

¹ Northwest Climate Adaptation Science Center

Blachly-Lane Electric Coop compared emerging technologies that not only reduce the likelihood of a service interruption, but also minimize the risk of ignition from the fault causing the outage.

The secondary objective is to measure, through the annual evaluation of certain performance metrics, the effectiveness of the specific wildfire mitigation strategies. Where a particular action, program component or protocol proves unnecessary or ineffective, Blachly-Lane Electric Coop will assess whether modification or replacement is suitable.

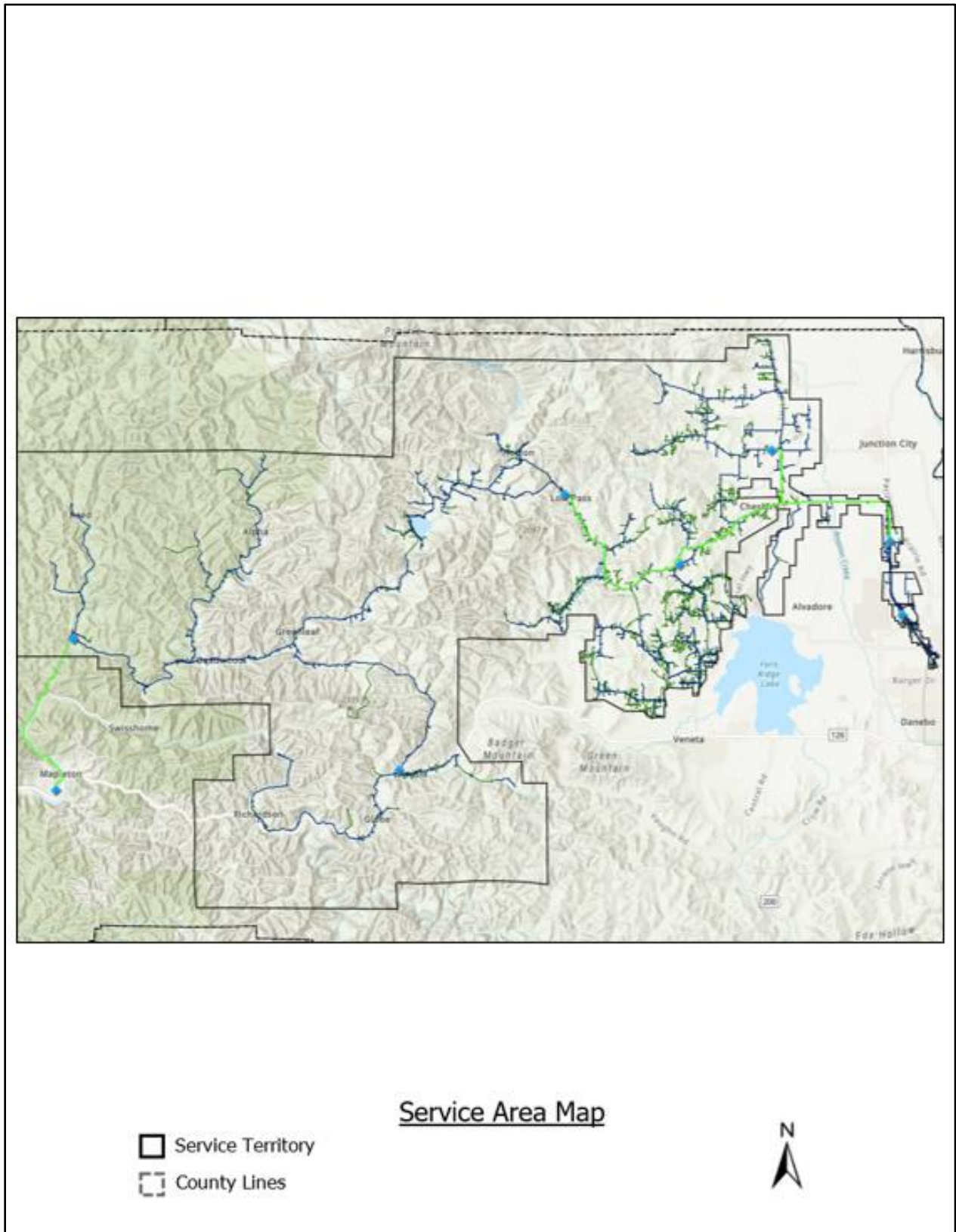
1.3 Utility Profile and History

- 1937 – Blachly became the first REA financed Cooperative in Oregon
- Serving about 2900 members in Lane County, Oregon
- 540 miles of line
- Average 5.5 members per mile
- Governed by 5 member elected Board of Directors

1.4 The Service Area

- Main office and warehouse located in service territory in Eugene, Oregon
- Service territory is entirely in Lane County
- Size of the service area 380 square miles
- Territory is in the Willamette Valley west and northwest of Eugene reaching towards the Coast Range;
 - Consists of valley foothills that transition between the flatter agricultural land in the eastern section of the district to the more rugged and heavily forested Coast Range in the western section
 - Access is along Oregon Highways 99, 126, and 36 with most access points being on private land.
 - Prairie Terraces and Valley Foothills ecoregions
 - Oak woodlands
 - Coniferous forests
 - Grasslands
 - Western hazelnut/swordfern shrub communities
 - Annual rainfall 46 inches (East) to 76 inches (West), dry summers
 - Temperate climate, temperatures exceed 85 degrees in July and August

Figure 1. Service Area



2 Overview of Utility’s Fire Prevention Strategies

This WMP integrates and interfaces with Blachly-Lane Electric Coop’s existing operations plans, asset management, and engineering principles, which are themselves subject to change. Future iterations of the WMP will reflect any changes to these strategies and will incorporate new best management practices as they are developed and adopted.

Table 1 summarizes Blachly-Lane Electric Coop’s five mitigation components with associated programs and activities that support Blachly-Lane Electric Coop’s ongoing commitment to wildfire prevention and mitigation.

Table 1. Mitigation Strategies/Activities

DESIGN AND CONSTRUCTION
Strategic undergrounding of distribution lines
Oil recloser to vacuum-type breaker change-out program
Covered jumpers and animal guards
Non-expulsion fuses in select high-risk areas
Avian protection construction standards
Targeted use of insulated overhead wire to reduce wire to wire contact
Substation perimeter fencing for security and protection
INSPECTION AND MAINTENANCE
Infrared inspections of substation equipment
Unmanned Aerial Vehicle (UAV) T&D line inspections
Wood pole intrusive inspection and testing
T&D system vegetation management program
Distribution system line patrols and detailed inspections

INSPECTION AND MAINTENANCE (cont.)

Enhanced line patrols during fire season

Thermal imaging cameras

Increased targeted removals of undesirable trees on right-of-way's

Lightning arrester inspection

OPERATIONAL PRACTICES

Work procedures and Fire Hazard training for persons working in locations with elevated fire risk conditions

Community outreach/wildfire safety awareness

Contractor/staff safety training and orientation for vegetation management work

Alternate recloser practices during fire weather

Fire suppression equipment on worksite during fire season

Provide liaison to county offices of emergency services (OES) during fire event

SITUATIONAL AWARENESS

Weather Monitoring alerts in the service area

Monitoring active fires in the region

Develop and maintain partnerships and relationships regionally

RESPONSE AND RECOVERY

Pre-emptive de-energization protocols

Coordination with local Department of Emergency Management

Line patrols before re-energization

Emergency Restoration Plan

Communications Plan

3 Utility Asset Overview

Blachly-Lane Electric Cooperative (BLEC) owns and operates electric distribution facilities presently serving approximately 3,600 meters in the northwest portion of Lane County, Oregon. The BLEC electrical service area is surrounded by the service territories of Emerald People’s Utility District (EPUD), Lane Electric Cooperative, Consumer’s Power, Inc., and Central Lincoln PUD. All electric power sold by BLEC is provided by BPA, and transformed at six BLEC-owned substations, and two BPA owned substations (Walton and Mapleton). BPA’s Mapleton Substation provides the 34.5kV source to BLEC’s Indian Creek Substation.

BLEC owns and operates two different 34.5 kV networks, consisting of radial service to three 34.5/12.47 kV substations (Erb, High Pass, and Indian Creek). Erb and High Pass substations are served from the Alderwood substation 12.47 kV bus, through a bank of 3 single phase step-up transformers (9 MVA total) immediately outside of Alderwood substation. These stations were previously fed from a 115 kV to 34.5 kV substation in Junction City that has now been rebuilt as a 12.47 kV distribution substation. Indian Creek substation is served from a BLEC-owned 34.5 kV line, which originates at the BPA owned Mapleton Substation.

BLEC total substation capacity is 134.8 MVA, not double-counting the Alderwood step-up, High Pass, and Erb transformers which are all served from the 115 kV transformer at Alderwood substation.

Table 2 provides a high-level description of Blachly-Lane Electric Coop’s T&D assets.

Table 2. Asset Overview

ASSET CLASSIFICATION	ASSET DESCRIPTION
Transmission Line Assets	Approximately 85 miles of conductor, transmission structures and switches at 34.5 kilovolt (kV).
Distribution Line Assets	Approximately 540 miles of overhead (OH) and 180 miles of underground (UG) conductor, cabling, transformers, voltage regulators, capacitors, switches, line protective devices operating at or below 12.47kV.
Substation Assets	Major equipment such as power transformers, voltage regulators, capacitors, reactors, protective devices, relays, open-air structures, switchgear, and control houses in 8 substation/switchyard facilities.

4 Risk Analysis and Risk Drivers

Blachly-Lane Electric Coop has completed a risk analysis of its service territory and identified areas of elevated risk. Tools used for the risk analysis include GIS layers from State and Federal resources along with historical knowledge from our field employees, outage data, and incident investigations. Burn probability, and potential impacts to people, structures and timber were considered when assessing overall risk.

4.1 Fire Risk Drivers Related to Construction and Operations

Blachly-Lane Electric Coop staff evaluated other utility's fire causes and applied its own field experience to determine the critical potential risk drivers. The categories listed below were identified as having the potential for causing powerline sparks and ignitions:

- Equipment/facility failure
- Foreign contact
- Vehicle impact
- Expulsion fuses
- Age of assets
- Vandalism

4.2 Fire Risk Drivers Related to the Service Area

As part of the risk analysis process, asset locations we examined to identify risk drivers unique to service area. These types of risk drivers included:

- Topography
- Accessibility
- Climate
- Vegetation Types / fuels
- Fire history
- Tree mortality / tree failure
- Lightning
- Fire Weather

4.3 Key Risk Impacts

Ignitions caused by the aforementioned risk drivers have many possible outcomes. The list below outlines some of the worst-case scenarios and consequences:

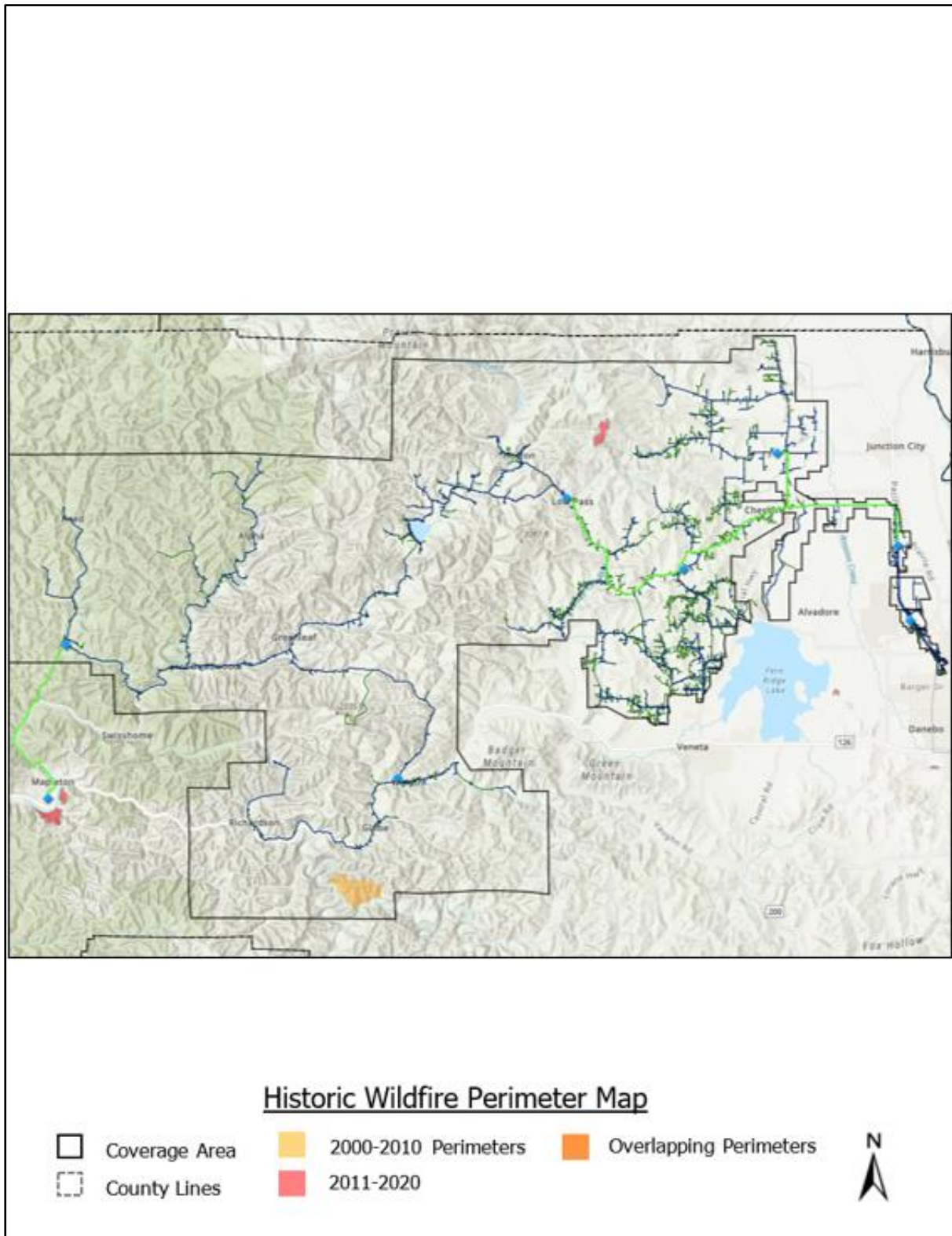
- Personal injuries or fatalities to the public, employees, and contractors
- Damage to public and/or private property
- Damage and loss of Blachly-Lane Electric Coop owned infrastructures and assets
- Impacts to reliability and operations
- Damage claims and litigation costs, as well as fines from governing bodies
- Damage to Blachly-Lane Electric Coop's reputation and loss of public confidence

4.4 Wildfire History and Outlook

Wildfire season is about 4-5 weeks longer than it has been historically. Fire season in the area is generally mid-June through mid-October. The decision on when Fire & Burn seasons start is made by local state and fire service officials. BLEC territory resides in Lane Fire Authority, Oregon Department of Forestry, and US Forest Service territory for fire suppression. Significant decade-to-decade increases in burned acres have occurred across all lands in Oregon. For each of the past three decades, 92-93% of all burned acres occurred on land outside Oregon Department of Forestry jurisdiction, namely federal land, which comprises 60% of forested land in Oregon. The majority of wildfires in Oregon are human caused, which has been trending upwards compared to lightning caused.

Historically there have been relatively few large wildfires in the Siuslaw Forest in the Coastal Range, as is shown in Figure 2 below. The Cascade Range, 45 miles to the east of the area, has seen the majority of recent large-scale fires.

Figure 2. Historic Wildfire Perimeters 2000-2020



4.4.1 Wildland Urban Interface

The United States Forest Service (USFS) defines the wildland urban interface (WUI) as a place where humans and their development meet or intermix with wildland fuel. Communities that are within 0.5 miles of the zone are included. According to the USDA Forest Service, the area considered WUI has expanded 39% in Oregon from 1990 to 2010, with the number of homes increasing by 53.6%². There are now over 615,000 homes in Oregon located in the WUI

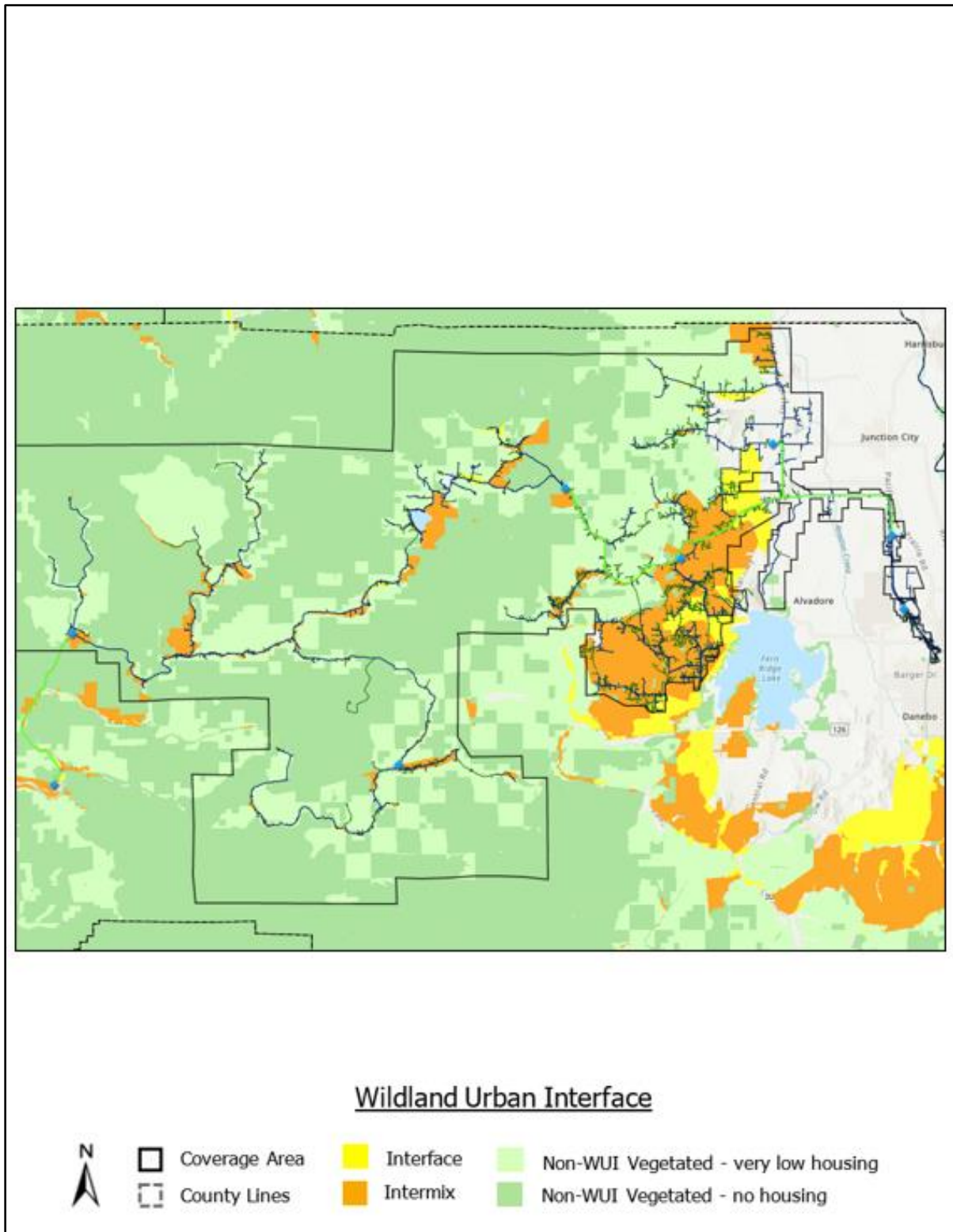
The WUI is composed of both interface and intermix communities. The distinction between these is based on the characteristics and distribution of houses and wildland vegetation across the landscape. Intermix WUI refers to areas where housing and wildland vegetation intermingle, while interface WUI refers to areas where housing is in the vicinity of a large area of dense wildland vegetation. Figure 3 illustrates the distribution of WUI areas in Blachly-Lane's service area.

The USFS has established five classes of WUI in its assessment:

- **WUI Intermix:** Areas with ≥ 16 houses per square mile and ≥ 50 percent cover of wildland vegetation
- **WUI Interface:** Areas with ≥ 16 houses per square mile and < 50 percent cover of vegetation located < 1.5 miles from an area ≥ 2 square miles in size that is ≥ 75 percent vegetated
- **Non- WUI Vegetated (no housing):** Areas with ≥ 50 percent cover of wildland vegetation and no houses (e.g., protected areas, steep slopes, mountain tops)
- **Non-WUI (very low housing density):** Areas with ≥ 50 percent cover of wildland vegetation and < 16 houses per square mile (e.g., dispersed rural housing outside neighborhoods)
- **Non-Vegetated or Agriculture (low and very low housing density):** Areas with < 50 percent cover of wildland vegetation and < 128 houses per square mile (e.g., agricultural lands and pasturelands)

² https://www.nrs.fs.fed.us/data/wui/state_summary/

Figure 3. Wildland Urban Interface



4.5 Fire Threat Assessment Mapping

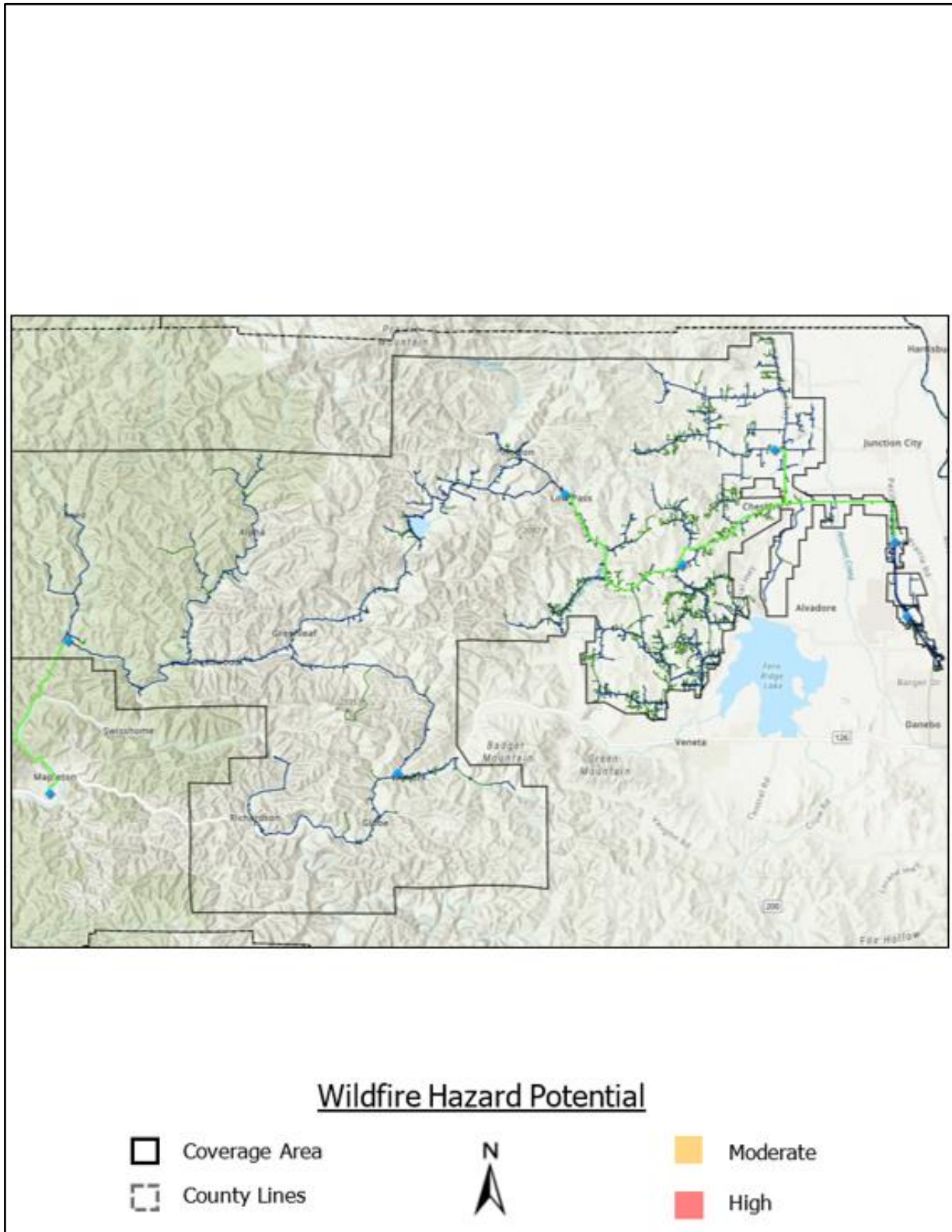
The Wildfire Hazard Potential (WHP) risk map is derived from a 270-meter resolution raster geospatial product created by the USDA/USFS, Fire Modeling Institute. The specific dataset used is the Wildfire Hazard Potential³ Version 2020, which is the third edition of the WHP product and depicts landscape conditions of the conterminous United States as of the end of 2014.

WHP was built upon spatial datasets of wildfire likelihood and fire intensity using the Large Fire Simulator (FSim), as well as spatial fuels and vegetation data from Landfire 2014, and point locations of historic fire occurrence (ca. 1992-2015). The objective of the map was to depict relative potential for wildfire that would be difficult for suppression resources to contain and for long-term strategic fuels management planning. On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as structures or powerlines, it can approximate relative wildfire risk to those specific resources and assets.

The data described here are derived from wildfire simulation modeling, and their exact accuracy cannot be measured. They are intended to be relative measures of wildfire risk for planning purposes.

³ Product citation: *Dillon, Gregory K. 2015. Wildfire Hazard Potential (WHP) for the conterminous United States (270-m GRID), version 2020 classified. 3rd Edition. Fort Collins, CO: Forest Service Research Data Archive. <https://doi.org/10.2737/RDS-2015-0047-3>*

Figure 4. Wildfire Hazard Potential



5 Wildfire Prevention Strategy and Programs

The Wildfire Mitigation Plan describes the range of actions that BLEC is taking to mitigate the threat of power-line ignited wildfires, including its various programs, procedures, and practices.

5.1 Transmission and Distribution System Operational Practices

5.1.1 De-energization - Public Safety Power Shutoff

A Public Safety Power Shutoff (PSPS) preemptively de-energizes power lines during high wind events combined with hot and dry weather conditions. When considering de-energization, Blachly-Lane Electric Coop examines the impacts on fire response, water supply, public safety, and emergency communications.

Blachly-Lane Electric Coop considers the external risks and potential consequences of de-energization while striving to meet its main priority of protecting the communities and members we serve. They include:

- Potential loss of water supply to fight wildfires due to loss of production wells and pumping facilities. Loss of water supply may also affect drinking water for homes and livestock.
- Negative impacts to emergency response and public safety due to disruptions to the internet and mobile phone service during periods of extended power outages.
- Medical emergencies for members of the community requiring powered medical equipment or refrigerated medication. Additionally, the lack of air conditioning can negatively impact medically vulnerable populations.
- Traffic congestion resulting from the public evacuation in de-energized areas can lengthen response times for emergency responders.
- Negative economic impacts from local businesses forced to close during an outage.
- The inability to open garage doors or motorized gates during a wildfire event can lead to injuries and fatalities.

The risks and potential consequences of initiating a PSPS are significant and extremely complex. Based on the above considerations, Blachly-Lane Electric Coop reserves the option of implementing a PSPS when conditions dictate. While Blachly-Lane Electric Coop believes the risks of implementing a PSPS far outweigh the chances of its electric overhead distribution system igniting a catastrophic wildfire, the PSPS provides a last resort tool and another mitigation option in a potential crisis.

On a case-by-case basis, Blachly-Lane Electric Coop has historically and will continue to consider de-energizing portions of its system in response to a known public safety issue or response to a request from an outside emergency management/response agency. Any de-energizing of the lines is performed in coordination with key local partner agencies, however, the final determination is made by Blachly-Lane Electric Coop.

5.1.2 Recloser Operational Practices

Blachly-Lane Electric Coop operates its reclosers during high-risk conditions strategically to prevent a wildfire from occurring but have less negative impact than a PSPS.

The electronic reclosers that have been installed at the substations allow for stepped approaches to adjusting settings based on the severity of the situation. As Blachly-Lane does not have remote control of these reclosers, the changes are made manually by field personnel.

Long-term (monthly) outlooks are used for when Blachly-Lane Electric Coop implements fire season settings. These fire season settings reduce the number of attempts to re-energize from 4 to 2.

Short-term (hourly/daily) forecasts are used for when Blachly-Lane Electric Coop implements fire weather settings. These fire weather settings reduce the number of attempts to re-energize from 4 to 1 and decrease the time it takes to de-energize.

The majority of field reclosers are hydraulic and do not have the same capabilities, so these changes are made at the feeder level. Feeder risk level and the area forecasted determines where setting changes are made.

5.1.3 Alternate System Switching

Blachly-Lane Electric Coop has built in redundancy into its electric system by way of creating alternate feeds in certain areas. These redundant feeds increase the ability to perform maintenance and shorten restoration time after an outage. The redundant lines can be de-energized for periods of time without causing a direct outage to members. BLEC has determined that strategically de-energizing some of these feeds during elevated risk conditions reduces overall risk while having less negative impact than a PSPS.

Operationally, transmission and distribution feeders that have been pre-identified as good candidates for de-energization will be switched out of service seasonally as determined by the risk level in the area.

5.1.4 Situational Awareness

Situational assessment is the process by which current operating conditions are determined. Situational Awareness is the understanding of the working environment, which creates a foundation for successful decision making and the ability to predict how it might change due to various factors.

Operational decision makers rely on various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Sources for weather information include, but are not limited to the following:

- **USFS-Wildland Fire Assessment System (WFAS):** For immediate and short-term situational awareness, mapping tools from the USFS-WFAS help determine daily and

short-term forecasted risk, with daily or weekly fire weather status maps produced as needed to assess PNW wildfire conditions. (<https://www.wfas.net/index.php/fire-danger-rating-fire-potential--danger-32/fire-danger-subsets-fire-potential--danger-55>)

- **The National Weather Service (NWS):** The NWS provide on-line predictive fire weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook. (https://www.spc.noaa.gov/products/fire_wx/)
- **NOAA Weather and Hazards Data Viewer:** This on-line map provides historic or real-time surface observations including wind speed and direction, wind gust, dew point, relative humidity, and sea level pressure collected from remote automated weather stations (RAWS). Extreme-weather alerts such as fire weather watch, high wind watch, and red flag warning are provided from this resource. (<https://www.wrh.noaa.gov/map/?wfo=psr>)
- **Oregon Department of Forestry (ODF) Industrial Fire Precaution Levels (IFPL):** This page provides current information relating to fire season restrictions and closures for industrial operations on lands protected by ODF. To prevent these fires from starting, the Oregon Department of Forestry impose restrictions pertaining to public and work-related activities. These are updated throughout the year and indicate when the territory is in fire season as well as the severity.

5.2 Infrastructure Inspections and Maintenance

Recognizing the hazards of equipment that operate high voltage lines, Blachly-Lane Electric Coop maintains a formal inspection and maintenance program for distribution, transmission, and substation equipment which play an essential role in wildfire prevention. Blachly-Lane Electric Coop currently patrols its system regularly and is increasing the frequency of inspections in high-risk areas. Table 3 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Oregon Administrative Rules Chapter 860-024-0011 provides inspection schedule requirements for electric distribution and transmission facilities. These standards require that an operator of electric supply facilities to:

- Construct, operate, and maintain its facilities in compliance with the Commission Safety Rules.
- Conduct detailed inspections on a prescribed schedule of its overhead facilities to identify violations of the Commission Safety Rules.

Table 3 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Table 3. Inspection Program Summary

ASSET CLASSIFICATION	INSPECTION TYPE	FREQUENCY
Transmission	Routine Safety Patrol Inspection	1-Year
	Detailed Inspection	10-Year
	Wood Pole Testing	10-Year
Overhead Distribution	Routine Safety Patrol Inspection	2-Year
	Detailed Inspection	10-Year
	Wood Pole Testing	10-Year
Underground Distribution	Routine Safety Patrol Inspection	10-Year
Substation	Routine Inspection	1-Month
	Detailed Inspection	1-Year

5.2.1 Definition of Inspection Levels

1. **Routine Safety Patrol Inspection:** A simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.
2. **Detailed Inspection:** Individual pieces of equipment and structures are carefully examined visually, or through use of routine diagnostic testing.
3. **Intrusive Pole Inspection:** Inspections involving the movement of soil, taking samples of the wood pole for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections.

5.2.2 Routine Safety Patrol Inspections

Blachly-Lane Electric coop performs regular routine safety inspections to reduce the risk of electrical equipment failure. In meeting the recommended schedule, 50% of the system is inspected per year by in-house personnel. Results of the inspections are documented, stored digitally in the GIS system and defects are documented and corrected as directed by engineering and operations. Corrections needed in high-risk areas will be prioritized.

The following is a listing of items checked while performing a routine safety inspection:

- Low clearance of primary conductor, secondary wires, and service drops
- Objects too close to electric lines
- Encroachments
- Physical damage to facilities
- Deterioration of facilities
- Idle facilities

5.2.3 Detailed Inspections of Transmission and Distribution Lines

Blachly-Lane Electric Coop uses a 3rd party contractor to conduct detailed inspections of its wires, poles, and attached equipment on a ten-year cycle to assess the condition of the equipment. The inspection is performed doing 10% of our system per year culminating in a 10-year cycle. Results of the inspections are transmitted electronically via report and defects are documented and corrected as directed by engineering and operations. Corrections needed in high-risk areas will be prioritized. Supplemental inspections are done in high-risk areas and performed by in-house personnel visually and by use of drone.

5.2.4 Wood Pole Testing and Inspection

To maintain Blachly-Lane Electric Coop's wood poles, a formal Wood Pole Assessment Plan was initiated with the goal to inspect 10% of the system each year. Wood pole inspections are carried out on a planned basis to determine whether they have degraded below National Electric Safety Code (NESC) design strength requirements with safety factors.

A third-party contractor inspects and tests all poles on a cycle meeting the interval recommended in RUS Bulletin 1730B-121. Circuits are identified, mapped, and scheduled for inspection and testing using latest industry standards and practices. If a pole must be replaced or reinforced for any reason, it is given priority and a work order is assigned for correction.

5.2.5 Substation Inspections

The Preventive Maintenance Plan provides for regular inspections of Blachly-Lane Electric Coop's substations on a 1-Month cycle. Qualified personnel will use prudent care while performing inspections following all required safety rules to protect themselves, other workers, the general public, and the system's reliability.

The substation inspection involves a thorough look at the system to confirm that there are no structural or mechanical deficiencies, hazards, or tree trimming requirements. Individual pieces of equipment and or structures receive careful visual examination and routine diagnostic tests as appropriate.

5.2.6 Prioritization of Repairs

Blachly-Lane Electric Coop considers and prioritizes maintenance work by assessing the most urgent needs. The inspector will document the overhead and underground systems' condition, recording defects, deterioration, violations, safety concerns, or any other factors requiring attention on the inspection records. The inspection should focus on any hazards that could affect the system's integrity or the safety of line workers and the public.

Inspection data (overhead & underground) will be prioritized and issued as follows per OAR 860-024-0012⁴ safety standards:

- **Priority # 1** – Immediate hazard: A violation of the Commission Safety Rules posing imminent danger to life or property must be repaired, disconnected, or isolated by the operator immediately after its discovery.
- **Priority # 2** – Non-emergency repair condition: Except as otherwise provided by this rule, the operator must correct violations of Commission Safety Rules no later than two years after discovery.
- **Priority # 3** – Non-emergency repair condition: An operator may elect to defer correction of violations of the Commission Safety Rules that pose little or no foreseeable risk of danger to life or property until the next major work activity. In no event shall the deferral extend 10 years past discovery.

5.3 Vegetation Management (VM)

Blachly-Lane Electric Coop's formally adopted plan establishes the policies and procedures needed to maintain rights of way in a manner that ensures the safety of landowners, employees, and the public, as well as comply with the NESC, RUS, federal, PUC, state and local laws and regulations.

⁴ Stat. Auth.: ORS 183, 756, 757 & 759 Stat. Implemented: ORS 757.035

5.3.1 Vegetation to Conductor Clearance

Blachly-Lane Electric Coop has an operational and management responsibility and is required by State and Federal Agencies to maintain the right of way, under or around its power lines. Blachly-Lane Electric Coop will meet the minimum standards for conductor clearances from vegetation to provide safety for the public and utility workers, reasonable service continuity and fire prevention.

Vegetation management (WM) operations are scheduled to ensure all lines are cleared of vegetation hazards on a 4-year timeline. During tree work, contractors aim to achieve the clearance specifications described below, which meet or exceed OAR 860-024-0016 clearance guidelines.

- **OH Distribution:** 6 to 12 feet from the conductor
- **Roadside Transmission with distribution underbuild:** 10 to 15 feet from the conductor
- **Transmission ROW (defined width):** 30 feet between the conductor and the rooted tree stem. Defined width ROWs are generally found on cross-country corridors.
- **Trees Under Conductors:** Trees that are under conductors should have crowns reduced to a height 12 feet below the primary conductors varying by species or be removed.
- **Overhanging Branches:** Removed to a height of 15 feet above all distribution conductors and from conductor to sky on all transmission lines.
- **Secondary Conductor:** Trees near open wire secondary are pruned to provide a minimum of 3 feet of clearance.
- **Service Wire:** Branches that deflect or weigh heavily upon service or other secondary wires beyond the last Blachly-Lane Electric Coop pole are removed, but not pruned in their entirety without specific direction by Blachly-Lane Electric Coop operations
- **Pole Base:** A 3 to 6 foot radius area around the base of all poles is cleared of vegetation that would prevent the pole from being safely accessed and climbed.
- **Tall Growing Brush removal:** 3 feet beyond the maximum side clearances (15-18 feet)

5.3.2 Vegetation Trimming Standards

Blachly-Lane Electric Coop's contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle. The VM program was developed with RUS, ANSI A300, ANSI C2, and the National Electrical Safety Code (NESC)⁵ and OAR 860-024-0017 requirements.

Work performed to the above guidelines provides reasonable service continuity, public safety, and guards against wildfire damage caused by supply conductors. Consideration is given to the

⁵ Rules 012,013 and 218

impact of pruning on power line reliability, individual tree condition, and tree aesthetics. All work is conducted in a safe manner in accordance with the work rules set forth in OR-OSHA 1910.269 and Blachly-Lane Electric Coop's Technical Guidelines.

5.3.3 VM Trimming and Inspection Schedule

Blachly-Lane Electric Coop personnel and contractors perform annual, ground-based inspections of tree conductor clearances and hazard tree identification for Blachly-Lane Electric Coop ROWs and easements. Blachly-Lane Electric Coop contracts full-time tree trimming crews for year-round vegetation management work. Blachly-Lane Electric Coop field personnel also address vegetation concerns in response to service calls or field observations. Proactive maintenance during routine operations and prompt action during emergency events maintain system reliability, a safe work environment, and reduces fire danger. Any VM issues that cannot be immediately handled by the field personnel are referred to the VM contractor for priority trimming. Scheduled patrols ensure all lines are inspected for vegetation hazards and systematically trimmed. On-going, year-round field patrols identify targeted areas for vegetation pruning or removal and ensure compliance with state and federal regulatory requirements.

5.3.4 Hazard Trees

A subset of Danger Trees⁶, A Hazard Tree is defined as any tree or portion of a tree that is dead, rotten, decayed, or diseased and which may fall into or onto the overhead lines or trees leaning toward transmission and distribution facilities. These trees are sometimes located beyond the easement or ROW. Any tree that is located outside of the ROW and is deemed a hazard tree will be removed or topped to make safe for conductors.

A hazard tree will have one or more of the following characteristics:

- Dead or dying - all dead or dying trees along, or outside the Blachly-Lane Electric Coop right-of-way may be removed depending on the height of tree and the direction of the lean.
- Leaning trees - trees that have such a lean toward the right-of-way that they cannot be trimmed without removing the tops and slanting the tree back. Removal depends on height and species of the tree and direction of the lean.

5.3.5 Controlling Incompatible Vegetation

In addition to the annual patrols by Blachly-Lane Electric Coop field staff observing and reporting on encroachments, Blachly-Lane Electric Coop make efforts to educate public and private landowners about incompatible vegetation that can pose risks if planted under or near conductors. Blachly-Lane Electric Coop's website provides information on "Power Line Friendly Trees" and opportunities for qualifying tree replacement vouchers, as well as a tree planting guide.

⁶ As defined by ANSI 300 Part 7 standards

5.4 Fire Mitigation Construction

When considering construction of new facilities in elevated-risk areas, Blachly-Lane Electric Coop uses a variety of construction standards to reduce the likelihood of an ignition. Examples include:

- Non-wood poles
- Increased conductor spacing
- Undergrounding of distribution lines
- Fiberglass crossarms
- Fiberglass equipment mounts
- Insulated aerial conductor

5.4.1 Avian Protection Program

Birds can be electrocuted by simultaneously contacting energized and or grounded structures, conductors, or hardware. Electrocutions may occur because of a combination of biological factors and electrical design factors. The electrical design factor that is most crucial is the physical separation between energized and grounded equipment. In 2018, Blachly Lane Electric Coop commissioned 12 construction assembly drawings from its engineer of record to be utilized in mitigating the likelihood of a contact. As wildlife contact is a possible source of ignition for a wildfire, these 12 construction assemblies are also considered part of the fire mitigation construction standards.

5.5 Emerging Technologies

Blachly-Lane Electric Coop has initiated various pilot projects to explore new technologies and best management practices. These pilot projects will serve to evaluate the effectiveness of emerging technologies while controlling unwarranted expenditures on unproven methods. Blachly-Lane Electric Coop may elect to integrate these technologies or practices into its ongoing maintenance programs based on the outcomes. These technologies include, but are not limited to spacer cable systems, thermal imaging camera inspections, electronic reclosers, high impedance fault detection, and drone inspections.

6 Emergency Response

6.1 Preparedness and Response Planning

To best respond to an event that largely affects the power grid, Blachly-Lane Electric Coop developed a Natural Hazard Mitigation Plan in 2017. In conjunction with that preparedness plan, an Incident Command System (ICS) and Crisis Communication Plan were developed and updated in 2021. Tabletop exercises are used to allow for ICS officers to practice the decision making and ICS structure prior to an actual emergency.

6.1.1 Emergency Management Communication and Coordination

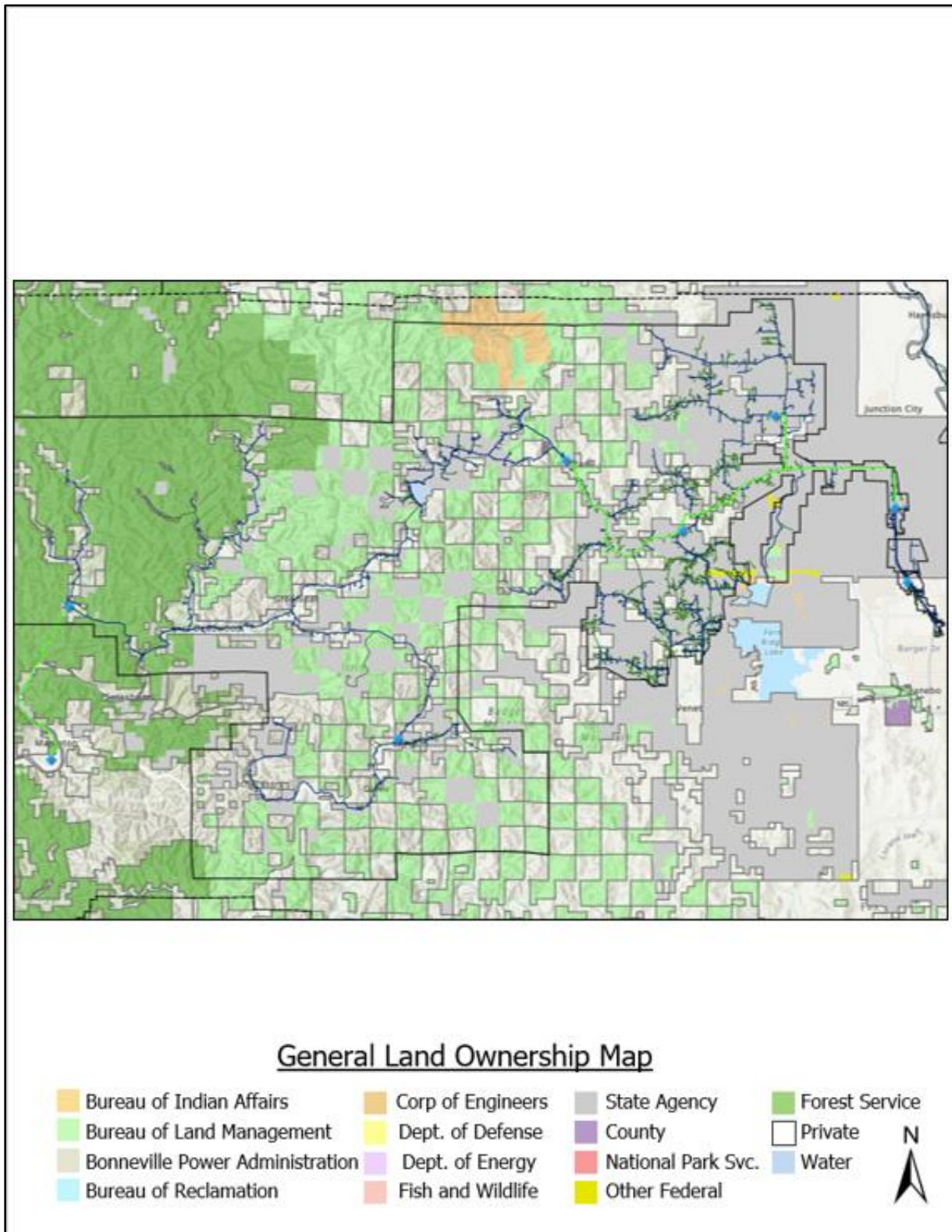
In response to active emergencies, Blachly-Lane Electric Coop coordinates and collaborates with the local Department of Emergency Management (DEM) and relevant local partners. During such emergencies, Blachly-Lane Electric Coop designates a utility representative as a contact to the county DEM to ensure effective communication and coordination.

Blachly-Lane Electric Coop's primary coordination point is the Lane County Emergency Manager. Using the Blachly-Lane Electric Coop's ICS Structure, the Incident Commander contacts the local DEM and establish themselves as the duty officer for coordination. The ICS Public Information Officer acts as the communications officer during an emergency.

6.1.2 Jurisdictional Structure

Most of Blachly-Lane's service territory is located on private, state, BLM and, USFS managed land. An example map showing the land ownership in the service area is shown below in Figure 5.

Figure 5. General Land Ownership



6.1.3 Public Agency and Customer Communications for Outages

The Crisis Communication Plan lays out the actions Blachly-Lane Electric Coop's staff should take during times of crisis. These scenarios include major outages, storms, and wildfires. Included with each scenario are checklists for employees to follow and drafts of press releases and website postings, alternative communication channels, and key messages. These are methods to distribute accurate information to the general public, employees and the news media.

Emergency situations create the imperative for accurate, timely, and sensitive information response. When reporters and consumers can't get information from the cooperative, other sources fill the void and increase the likelihood of distorted information reaching the public.

6.1.4 Community Outreach

Blachly-Lane Electric Coop provide information on its website regarding wildfire safety and emergency preparedness. It promotes Oregon Office of Emergency Management recommendations as well as ways to receive additional notifications and alerts from the co-op. Additional content is highlighted as a Spotlight Story on the website and is also at times featured in articles of a monthly publication available to members.

6.2 Restoration of Service

If an outside emergency management/emergency response agency requests a power shutdown, or if Blachly-Lane Electric Coop elects to de-energize segments of its system due to extreme fire weather, Blachly-Lane Electric Coop staff will patrol the affected portions of the system before the system can be re-energized. Suspect equipment or distribution lines that cannot immediately be patrolled will remain de-energized until Blachly-Lane Electric Coop staff can do so. Poles and structures damaged in a wildfire must be assessed and rebuilt as needed prior to re-energization.

6.2.1 Service Restoration Process

After a wide-spread outage, Blachly-Lane Electric Coop work crews take the following steps before restoring electrical service after a de-energization event. These measures intend to protect the worker, members, the public, and the system's reliability.

- **Patrol:** Crews patrol lines to ensure no hazards have affected the system during the outage. If an outage is due to wildfire or other natural disasters, as soon as it is deemed safe by the appropriate officials, crews inspect lines and equipment for damage, foreign contacts and estimate equipment needed for repair and restoration. Lines located in remote and rugged terrain with limited access may require additional time for inspection. Blachly-Lane Electric Coop personnel and contracted tree trimmers assist in clearing downed trees and limbs as needed.
- **Isolate:** If practical, isolate the outage and restore power to areas not affected.
- **Repair:** After the initial assessment, Blachly-Lane Electric Coop staff meet to plan the needed work. Rebuilding commences as soon as the affected areas become safe. Repair plans prioritize substations and transmission facilities, then distribution circuits serving

the most members. While the goal to reenergize all areas is as soon as possible, critical infrastructure receives first consideration when resources are limited. Additional mutual-aid crews and equipment are dispatched as necessary.

- **Restore:** Periodic customer and media updates of restoration status before full restoration are posted in approved communication channels and Blachly-Lane Electric Coop’s website. After repairs are made, power is restored to homes and businesses as quickly as possible. Members, local news, and other agencies may receive notification of restored electric service if they have opted to do so.

7 Performance Metrics and Monitoring

7.1 Plan Accountability

Staff responsibility for plan implementation and general communications is described below:

- The Board of Directors makes policy decisions relative to the utility – they will be responsible for approving and adopting the Wildfire Mitigation Plan.
- The General Manager directs management staff responsible for operations, member service and finance.
- The Operations Manager supervises the General Foreman, Engineering Supervisor, and Right of Way foreman.
- The General Manager and Operations Manager are responsible for the overall execution the WMP. Staff will be directed as to their roles and responsibilities in support of the plan.
- The General Manager and Operations Manager are responsible for communicating with public safety, media outlets, public agencies, first responders, local Office of Emergency Management, and health agencies during an emergency or planned maintenance outages.
- The General Manager determines when and how to notify outside agencies in cases of wildfire emergency events.
- The General Manager and Operations Manager will be responsible for monitoring and auditing the targets specified in the WMP to confirm that the objectives of the WMP are met, as well as the implementation of the plan in general.

7.2 Monitoring and Auditing of the WMP

The WMP key metrics will be reviewed regularly for the purpose of evaluating effectiveness. A more formal review will be done biannually updating the plan as needed to reflect knowledge gained and modified accordingly.

7.2.1 Identifying Deficiencies in the WMP

The General Manager will be responsible for ensuring that this WMP meets all public agency guidelines to mitigate the risk of its assets becoming the source or contributing factor of a wildfire. Staff responsible for assigned mitigation areas have the role of vetting current procedures and recommending changes or enhancements to build upon the strategies in the

WMP. Either due to unforeseen circumstances, regulatory changes, emerging technologies or other rationales, deficiencies within the WMP will be sought out and reported to the Board of Directors in the form of an updated WMP on an as needed basis.

The Operations Manager or their designee will be responsible for spearheading discussions on addressing any plan deficiencies and collaborating on solutions when updating the WMP. At any point in time when deficiencies are identified, the Supervisors or their delegates are responsible for making the appropriate policy adjustments. Blachly-Lane Electric Coop staff and qualified stakeholders are encouraged to bring any potential deficiencies to the attention of the Operations Manager. The Operations Manager, along with the appropriate staff, will evaluate each reported deficiency, and if determined to be valid, shall record the deficiency for further action.

7.3 Performance Metrics

Table 4. Performance Metrics

METRIC	RATIONAL	INDICATOR	MEASURE OF EFFECTIVENESS
Red Flag Warning (RFW) days in service area	Used to adjust annual variation in criteria	Number of RFWs during analysis cycle	N/A
Possible Utility caused ignitions	Demonstrates the effectiveness of the plan	Count of events	Reduction or no material increase
Ignitions in "High" WHP tier	Assess system hardening efforts in critical areas	Count of events	Reduction in the general trend of events
Power line down in "High" WHP tier* during fire season	Assess system hardening efforts in critical areas	Count of events	Reduction in the general trend of events
Faults in "High" WHP tier	Assess system hardening efforts in critical areas	Count of events	Reduction or no material increase
Vegetation-caused Outage during fire season	Assess VM program work schedules/QC process	Count of events	Reduction or no material increase
Vegetation-caused ignition	Assess VM program work schedules/QC process	Count of events	Reduction or no material increase

Programmatic QA/QC processes

7.3.1 Transmission and Distribution System Inspection QC Process

Blachly-Lane Electric Coop conducts quality assurance checks to ensure that inspections, record keeping, and repairs are being properly conducted. The following is checked by the Engineering Supervisor annually:

- Inspections of new and repaired installation: 10% of all such work performed.
- Detailed facility inspections: 5% of all such work performed.

Records of inspections and corrections are kept digitally in the GIS database and is maintained by the Engineering Supervisor.

7.3.2 Vegetation Management QC Process

Blachly-Lane Electric Coop conducts quality assurance checks to ensure that the vegetation management of the system is adequate and effective. These checks are performed annually by field staff in the drive by inspections:

- Public safety inspections: annually check 5% of all such work performed.

Records of inspections and corrections are kept digitally in the GIS database and is maintained by the Engineering Supervisor.

7.4 Plan Approval Process

7.4.1 Board Presentation

Blachly-Lane Electric Coop's Wildfire Mitigation Plan will be submitted to the Board of Directors for approval during a regularly scheduled board meeting. Within 30 days after approval by the board, the WMP will be submitted to the Oregon Public Utilities Commission.

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