

Public Utility District No. 2
of
Pacific County

Wildfire Mitigation Plan



Adopted October 15, 2024

1 Executive Summary

The Washington Legislature passed House Bill 1032 in July 2023. Among other things, this bill established RCW 19.29A.170 which requires consumer-owned utilities to adopt a Wildfire Mitigation Plan (WMP) by October 31, 2024. In addition, the plan must be reviewed and, if appropriate, revised and adopted at least every three years.

Through the Utility Wildland Fire Prevention Advisory Committee established by the Commissioner of Public Lands, a template for the WMP was developed. When reviewing or revising a wildfire mitigation plan, utilities must use the recommended format and elements contained in this template. The plan must be submitted to the utility wildland fire prevention advisory committee created in RCW 76.04.780 to be posted on their website.

2 Wildfire Mitigation Plan Overview

Recent increases in the frequency and severity of wildfires throughout the State and even in the Pacific Northwest present tangible evidence of the effects of climate change. Wildfire season seems to begin a little earlier and the damage seems to be more destructive each year. This Wildfire Mitigation Plan is designed to implement a proactive strategy to boost reliability and safety, while reducing the risk that district assets could initiate or exacerbate wildland fires.

This Wildfire Mitigation Plan can be found on the district’s website at:

<https://www.pacificpud.org/about-us/company-documents/>

Standard or Best Practice Name and Description	Document, page number, or citation
HB 1032	House Bill 1032
RCW 19.29A.170 - By October 31, 2024, and every three years thereafter, each Consumer-owned Utility must review, if appropriate revise, and adopt its wildfire mitigation plan	19.29A.170
RCW 76.04.185 – Elements of utility Wildfire Mitigation Plan	76.04.185
Pacific County Hazard Mitigation Plan – Section 3.8 : Wildfires	https://pcema.info/wp-content/uploads/2024/05/Pacific-County-Hazard-Mitigation-Plan-2022-Final.pdf Pg. 99-110

Pacific County Community Wildfire Protection Plan	<p>TBD – Expected adoption by Pacific County in March 2025.</p> <p>Tool to be used for addressing wildfire risk within Pacific County.</p>
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3 Utility Overview

Pacific County PUD At a Glance:

Active Electric Meters (2024):	18,650 (87.9% residential)
Substations:	8 (115 kV to 12.47 kV)
Overhead Transmission (Route Miles):	26
Overhead Primary (Route Miles):	232
Underground Transmission (Route Miles):	1
Underground Primary (Route Miles):	562

4 Objectives of the Wildfire Mitigation Plan

The sole objectives of this wildfire mitigation plan are to reduce the likelihood of district facilities being sources of wildfire ignition and define coordination between other agencies and the district. This plan identifies potential sources or situations specific to the electrical infrastructure that could be ignition points and identify best practices to reduce, mitigate or eliminate those sources. In addition, this plan identifies aspects of the district’s system and/or practices that may need to be modified to better achieve higher wildfire resiliency.

This may include the district electing to de-energize segments of its system due to extreme weather or by request from emergency services officials to ensure the safety of the public and first responders. Best effort will be made to minimize outage size and duration, while creating and maintaining safe conditions as it relates to utility infrastructure.

5 Roles and Responsibilities

The district’s General Manager has the ultimate responsibility for this plan. Reporting to the General Manager, the district’s Chief of Engineering and Operations is the owner of this plan and is responsible for its execution.

The district maintains current contact information with Pacific County 911 dispatch enabling contact with appropriate district personnel through the 911 service. In addition, contacting either district office phone number will initiate contact with district personnel. During regular office hours, district personnel can be reached at the numbers listed below for emergency or planning purposes. After hours, the number is transferred to a call center for outages and emergencies. The call center as well as Pacific County 911 can contact district personnel in the event of an outage or emergency. The office numbers are:

WOC (Raymond)	360-942-2411
POC (Long Beach)	360-642-3191

District personnel have contact information for other emergency services, including police, fire and EMS. Coordination with these other emergency services is well established.

6 Wildfire Risks and Drivers Associated with Design, Construction, Operation, and Maintenance

Pacific County is located in the southwestern corner of Washington State and characterized by its diverse geography. It is bordered by the Pacific Ocean to the west, the Columbia river to the south, Grays Harbor County to the north and Lewis County and Wahkiakum Counties to the east. The county encompasses a variety of landscapes, including rugged coastlines, expansive estuaries, dense forests, and rolling hills.

The western edge of Pacific County features a scenic and often windswept coastline with sandy beaches and rocky cliffs. Inland, the terrain transitions to lush, temperate rainforests typical of the Pacific Northwest, with extensive areas of coniferous forests. The region is also known for its numerous rivers and streams, including the Willapa River and the Naselle River, which flow through the county's lowland areas and contribute to its rich wetland habitats.

Pacific County's topography includes both flat, fertile river valleys and higher, forested hills, offering a range of natural environments from wetlands and estuaries to hilly uplands. This diverse geography supports a variety of wildlife and plant species.

Because of the natural influence of the large bodies of water, Pacific County experiences a temperate maritime climate, which is characterized by mild temperatures and significant precipitation throughout the year. The following is an overview of the climate in Pacific County:

- **Temperature:** The climate is generally mild, with relatively moderate temperatures year-round. Summers are relatively cool, with average highs ranging from the upper 60s to mid-70s Fahrenheit (20-25°C). Rarely does the temperature reach over 90 degrees Fahrenheit. Winters are mild, with average highs in the upper 40s to low 50s Fahrenheit (8-12°C). Overnight lows in winter can drop to just above freezing, but extreme cold is rare.
- **Precipitation:** Pacific County is known for its substantial rainfall, which is typical of the Pacific Northwest. The region receives around 60 to 80 inches of precipitation annually, with the majority falling between October and April. Rain is fairly consistent throughout the year, but winter months usually see the highest rainfall.
- **Humidity:** Due to the frequent precipitation and proximity to the ocean, humidity levels in Pacific County are generally high, contributing to the region's lush vegetation and dense forests.
- **Seasonal Variations:** Winters are generally overcast and wet, while summers are drier and often sunnier, though still relatively cool compared to other regions. Fog and mist are common, especially in the coastal areas, and can contribute to a unique, often damp atmosphere.

Western Fireshed

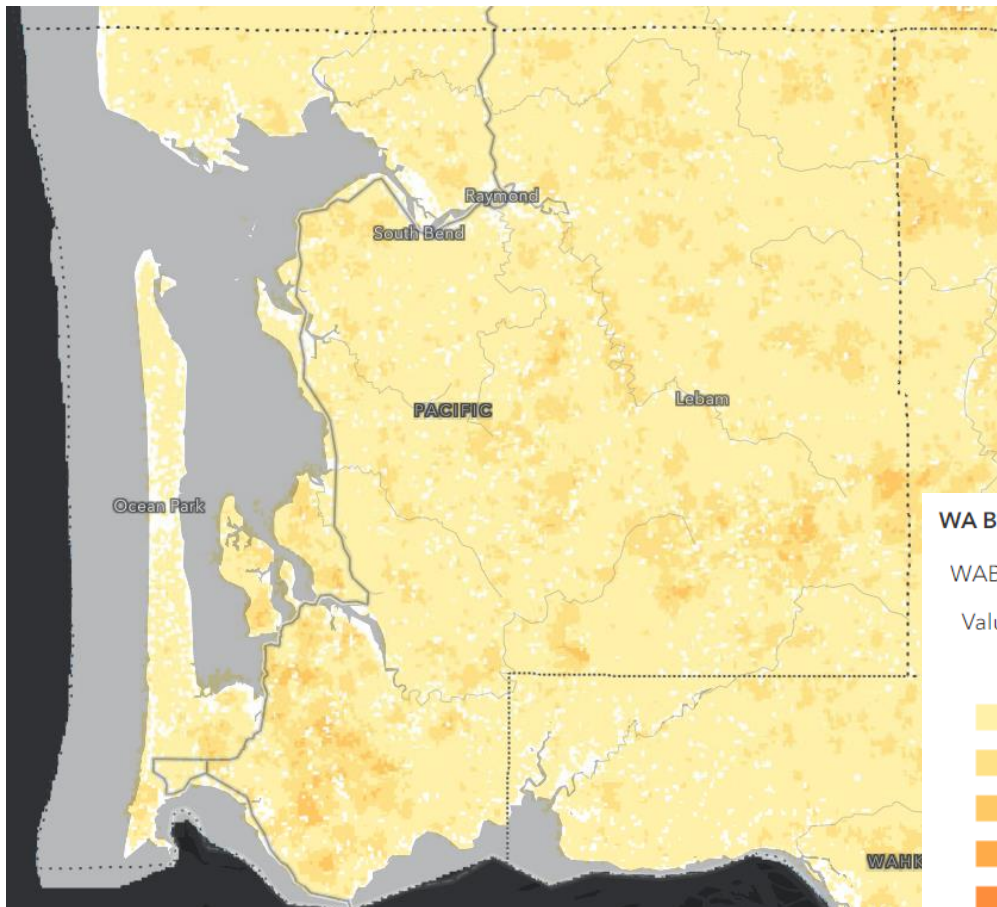
Pacific County is not within a “High-risk Western Fireshed” per USDA/US Forest Service Fireshed Registered areas. Firesheds are a way to delineate where fires ignite and are likely to, or not to, spread to communities and expose buildings. Fireshed maps are used to show the source of exposure to fire.

SOURCE: <https://www.fs.usda.gov/rds/archive/catalog/RDS-2020-0054-3>

Burn Probability

Burn probability estimates the probability of a given area burning under current (end of

2020) landscape conditions and fire management practices. The data presented here represents a 270-meter grid spatial resolution. Pacific County registers a burn probability less than .0004642. Source: [Burn Probability](#)



WA Burn Probability

WABurnProbability

Value

0

>0 - 0.0001000

0.0001000 - 0.0002154

0.0002154 - 0.0004642

0.0004642 - 0.0010000

0.0010000 - 0.0021544

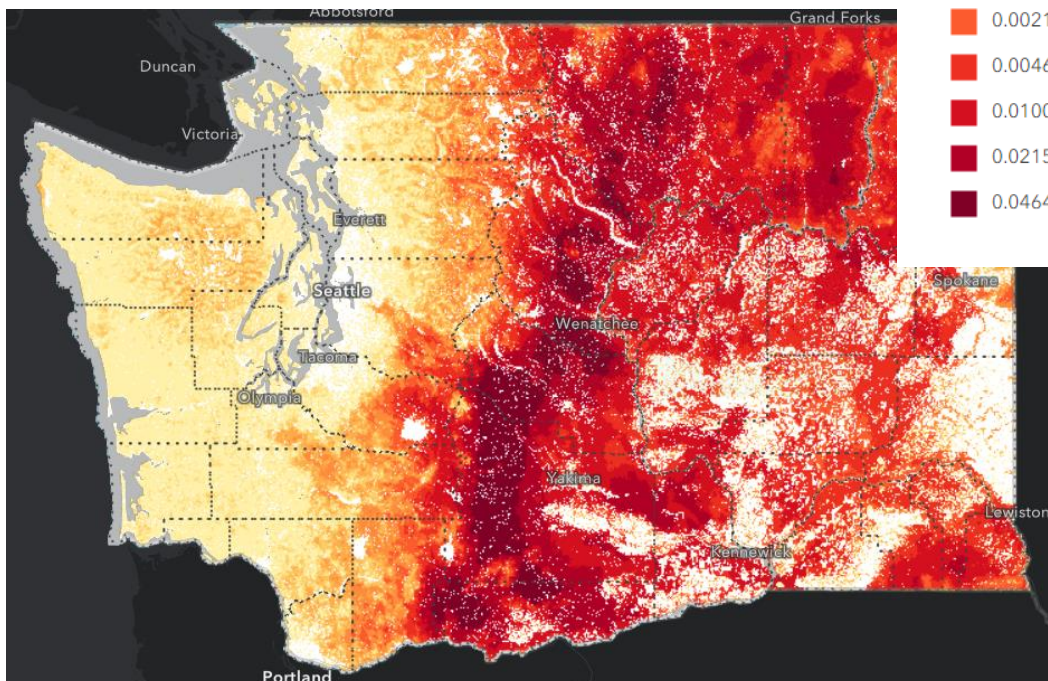
0.0021544 - 0.0046416

0.0046416 - 0.0100000

0.0100000 - 0.0215443

0.0215443 - 0.0464159

0.0464159 - 0.1000000



Even though historical wildland fire data would indicate extremely low probability of a fire igniting in Pacific County from other than human sources, it is important that the district recognize the changing climate conditions which could increase those chances. It is widely accepted that managing risk drivers inherent in the district's electrical system appropriately can help mitigate powerline ignited wildland fires. Generally, in a faulted or abnormal condition, electrical energy is released as heat resulting in a spark that can ignite a fire. Depending on the hypothetical ignition's proximity to high density, dry fuel sources and weather conditions (e.g., high wind), a fire event can spread and propagate to become wildland fire.

7 Wildfire Preventative Strategies

Potential hazards of electrical equipment and strategies to minimize likelihood of ignition:

Wire-to-Ground Contact

When an energized power line falls to the ground or makes contact with a foreign object like a tree, the system is designed to operate a fault interrupting device to open the circuit and de-energize the line. However, there are rare occasions where the system does not operate as quickly as desired, and the line may remain energized on the ground. This can be due to insufficient fault current, or unique circumstances regarding the damaged equipment. If the protection devices do not operate as quickly as necessary, there is potential for live, energized lines to make contact with people, foreign objects, or fuel sources. The district practices aggressive vegetation management around district overhead facilities. Trees and other vegetation are generally cleared to a 10' buffer around all overhead facilities. For vegetation within the 10' buffer of district facilities and in right of way, the vegetation is cleared to the ground.

Lightning Arrestors

Lightning strikes are uncommon in Pacific County. However, when lightning occurs, there is a potential for a direct strike to power lines or structures. This could result in flashover, ignition of the wood pole, melted and broken conductor, or ground wire damage. The district has taken steps to mitigate the damaging effects of lightning on its system by installing lightning arrestors on all overhead to underground primary taps throughout the distribution system.

Porcelain Arrestors

The district's porcelain-based arrestors can be quite explosive when operating. At times, this can spread hot debris around the base of the pole, potentially igniting dry fuel sources. The district's new style polymer arrestors do not carry such a great risk.

Expulsion Fuses

The utility industry typically installs expulsion fuses on transformer and tap-lines to protect and isolate parts of the system that have experienced a faulted condition. Expulsion fuses utilize a tin or silver-link element in an arc-tube that vents gas and potentially molten metal to the atmosphere to extinguish an arc created by a faulted condition. The molten metal can be a source of ignition for fire.

The district looks for opportunities to reduce expulsion fuse sizing where possible to provide for a safer and better-coordinated electric system.

Animal Caused Outages

Animal contact is a common cause of outages in Pacific County. When a fuse operates, there could be an expulsion of sparks. Tragically, the animal itself may be charred and fall to the ground as an ignition source. Strategic prevention measures including tree trimming, pole framing, and covered jumpers are deployed to reduce the risk of ignition through animal contact, and nuisance outages to customers.

The district does not utilize Wildlife Guards in all new construction because the wet climate causes moisture to collect on the polymers and moss eventually forms. This can cause tracking, faulted conditions, unnecessary interruptions of service, and operation of the very devices that can be a source of wildfire ignition.

Equipment Malfunction & Failure

Equipment malfunction and failure can occur during its service life for many reasons. Most equipment requires regular maintenance for optimal performance. Even though the district's qualified personnel perform inspections and maintenance on electrical system equipment, internal defects not visible or predictable can cause destructive equipment failure resulting in the ejection of sparks and/or molten metal. The failure of hotline clamps, arrestors, terminators, connectors, splices, switches, and insulators can result in equipment failure and line-to-ground contact. Transformers and capacitor banks can have internal shorts, potentially resulting in the ejection of materials, which could be an ignition source.

Third-Party and Sub-Contractors

Construction projects by non-district crews are another possible cause of ignition. Construction equipment, vehicles, and non-utility personnel working near power lines can contact conductors, causing a faulted condition. Excavation work performed without locating underground utilities is another hazard. The district participates in the one-call system for location of underground power lines and performs pre-construction meetings with all contractors working on behalf of the District on or near its facilities in an effort to mitigate these hazards.

One Shot is a relay setting generalized as “the fastest the relay can operate”. One Shot is the setting which should be enabled when contractors are performing work on or around an energized circuit. This ensures that in the unlikely event of a flashover, the relay will operate as fast as possible to limit total arc flash energy and reduce the likelihood of expulsion fuse operation.

District Standard Operating Procedures for Wildland Fire Prevention

Fire Suppression Equipment

All district vehicles are equipped with fire suppression equipment including Class ABC Fire Extinguishers. All district operations employees receive annual training on how to use a fire extinguisher.

All vehicles for field personnel (e.g. line trucks, tree crew trucks, and bird dog engineering trucks) carry a shovel.

Vegetation Management

The district budgets for and performs regular annual tree trimming and vegetation management with its own crews. In addition, monies are typically budgeted for outside tree trimming contractors particularly for difficult situations, such as around high transmission lines.

Underground Policy

For many decades, the standard construction practice of the district has been to install new distribution facilities underground versus the less expensive overhead option. This policy extends to end user services as well, where nearly all new services installed are required to be placed underground.

Communication Coverage

The district utilizes cellular technology primarily for communication between personnel in the field and in the offices. The district also utilizes a coordinated tower / radio system with Pacific County that allows for truck to truck and truck to office communication even in areas where cell service is unavailable. This layered communication is vital for a high standard of safety.

8 Community Outreach and Public Awareness

The district maintains communication with its customers through various channels including website, social media, newsletters, mail, email, and its SmartHub application.

9 Restoration of Service

The district may elect to de-energize segments of its system due to extreme weather or by request from emergency services officials to ensure the safety of the public and first responders. Best effort will be made to minimize outage size and duration, while creating and maintaining safe conditions as it relates to utility infrastructure. It is important to note that shutting off power may not be the safest strategy as power may be needed for community wells and water systems so firefighting personnel can perform their work.

In cases where segments have been de-energized due to extreme weather conditions or by request from emergency personnel, those segments will be visually inspected prior to re-energizing to make sure re-energizing does not pose a high risk of ignition.

In cases where the segment of line is not accessible, the segment will remain de-energized until it is accessible. Only after it has been deemed safe by the appropriate personnel will it be re-energized.

Any district poles or structures damaged in a wildland fire are assessed and rebuilt as needed before being re-energized. Priority is given to substation and transmission systems, then distribution circuits that service the most critical infrastructure needs and number of customers. With the goal being to re-energize all areas as soon as possible, emergency services, medical facilities, and other community centers receive first consideration when resources are limited. Additional crew and equipment (and/or Mutual Aid) are dispatched as necessary and available.

10 Evaluating the Plan

Tri-Annual Review (Commission)

Every three years, beginning in 2027, this Wildfire Mitigation Plan is to be reviewed and approved by the Pacific PUD Board of Commissioners and submitted to the Department of Natural Resources and the Utility Wildland Fire Prevention Advisory Committee, per RCW 19.29A.170.