

Southwest Lincoln County Water People's Utility District Addendum to the Lincoln County Multi-Jurisdictional NHMP



Photos courtesy of SWLCWPUD

Effective:

December 17, 2025 through December 16, 2030



Prepared for
Southwest Lincoln County Water People's Utility District
7740 HWY 101 N
Yachats, OR 97498

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

This Natural Hazard Mitigation Plan was prepared by:



UNIVERSITY OF
OREGON

School of Planning, Public
Policy and Management

Institute for Policy
Research and Engagement

Planning grant funding provided by:



FEMA

Federal Emergency Management Agency (FEMA)
Hazard Mitigation Grant Program
Grant No: HMGP-PF-5446-01-P-OR

Additional Support Provided by:



*This material is a result of tax-supported research and, as such, is not copyrightable.
It may be freely reprinted with the customary crediting of the source.*



FEMA

December 17, 2025

Stephen Richardson
State Hazard Mitigation Officer
Oregon Department of Emergency Management
3930 Fairview Industrial Dr SE
Salem, OR 97302

Reference: Approval of the Lincoln County Multi-Jurisdictional Natural Hazard Mitigation Plan

Dear Officer Richardson:

In accordance with applicable¹ laws, regulations and policy, the Risk Analysis Branch of FEMA Region 10 Mitigation Division has approved the local mitigation plan for the following jurisdictions:

Lincoln County	City of Depoe Bay	City of Newport
City of Toledo	Beverly Beach Water District	Central Lincoln People's Utility District
Central Oregon Coast FRD	Depoe Bay Fire District	Gleneden Sanitary District
Kernville-Gleneden Beach-Lincoln Beach Water District	North Lincoln Fire and Rescue District	Otter Rock Water District
Panther Creek Water District	Salishan Sanitary District	Seal Rock Water District
Siletz Valley Fire District	SW Lincoln County Water People's Utility District	

Mitigation plans may include additional content to meet Element H: Additional State Requirements or content the local government included beyond applicable FEMA mitigation planning requirements. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements.

The approval period for this plan is from December 17, 2025 through December 16, 2030.

¹ Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and National Dam Safety Program Act, as amended; 44 CFR Part 201, Mitigation Planning; and Local Mitigation Planning Policy Guide (FP-206-21-0002).

The jurisdictions' plan approval ensures the eligibility for project grants under FEMA's Hazard Mitigation Assistance programs. All requests for funding are evaluated individually according to eligibility and other program requirements. Having an approved mitigation plan does not mean that mitigation grant funding will be awarded. Specific application and eligibility requirements can be found in each FEMA grant program's respective policies and annual Notice of Funding Opportunities, as applicable.

FEMA's approval is for a period of five years, effective the date FEMA received the adoption documentation. For this plan, documentation was received on December 17, 2025 and is considered approved as of then. Prior to December 16, 2030, each jurisdiction must review, revise, and submit their plan to FEMA for approval to maintain eligibility for grant funding. The enclosed plan review tool provides opportunities to incorporate into future updates.

Sincerely,

Wendy Shaw, P.E.
Risk Analysis Branch Chief
Mitigation Division

JG: MB

Attachment: Local Mitigation Plan Review Tool

Southwest Lincoln County Water PUD
7740 HWY 101 N
Yachats, OR, 97498
541-547-3315

Resolution NO 26-01

A Resolution Adopting SWLCWPUD's Representation in the Updates to the Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan

Whereas, SWLCWPUD recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

Whereas, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, SWLCWPUD has fully participated in the FEMA prescribed mitigation planning process to prepare the *Lincoln County, Multi-Jurisdictional Natural Hazards Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

Whereas, SWLCWPUD has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities SWLCWPUD to the impacts of future disasters within the *Lincoln County, Multi-Jurisdictional Natural Hazards Mitigation Plan*; and

Whereas, these proposed projects and programs have been incorporated into the *Lincoln County, Multi-Jurisdictional Natural Hazards Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the participating cities and special districts of Lincoln County; and

Whereas, the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Lincoln County, Multi-Jurisdictional Natural Hazards Mitigation Plan* and pre-approved it contingent upon this official adoption of the participating governments and entities;

Whereas, the NHMP is in an on-going cycle of development and revision to improve it's effectiveness; and

Whereas, SWLCWPUD adopts the NHMP and directs the Board of Directors to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

Now, therefore, be it resolved, that SWLCWPUD adopts *the Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan; and

Be it further resolved, that SWLCWPUD will submit this Adoption Resolution to the Oregon Department of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan*.

Adopted this 19 day of November, 2025



Roxie Cuellar, President



Frank Sherkow, Secretary

Table of Contents

INTRODUCTION.....	1
<i>Purpose and Adoption</i>	1
PROCESS, PARTICIPATION, AND ADOPTION	1
IMPLEMENTATION AND MAINTENANCE	2
<i>Implementation through Existing Programs</i>	3
<i>Capability Assessment</i>	3
Policies and Programs	3
Personnel	4
Mitigation Successes.....	4
MITIGATION STRATEGY	4
RISK ASSESSMENT	7
<i>Hazard Analysis</i>	7
<i>Community Characteristics and Assets</i>	8
Community Characteristics	8
Facilities and Property Assets Inventory	9
<i>Hazard Identification</i>	9
<i>Vulnerability Assessment</i>	11
ATTACHMENT A: PUBLIC INVOLVEMENT SUMMARY	15
ATTACHMENT B: HAZARD MAPS.....	17

List of Tables

TABLE PUD-1 ACTION ITEMS	6
TABLE PUD-2 HAZARD ANALYSIS MATRIX	8
TABLE PUD-3 HAZARD RISK AND DESCRIPTION OF IMPACT	11
TABLE PUD-4 FACILITIES SUMMARY	14

List of Maps

MAP PUD-1 DISTRICT BOUNDARIES	10
MAP PUD-2 COASTAL EROSION HAZARD	18
MAP PUD-3 EARTHQUAKE LIQUEFACTION (SOFT SOIL) HAZARD AND ACTIVE FAULTS	19
MAP PUD-4 PROBABILITY OF DAMAGING SHAKING.....	20
MAP PUD-5 PERCEIVED SHAKING AND DAMAGE POTENTIAL, PROBABILISTIC EARTHQUAKE MODEL	21
MAP PUD-6 PERCEIVED SHAKING AND DAMAGE POTENTIAL, CSZ EARTHQUAKE MODEL	22
MAP PUD-7 TSUNAMI INUNDATION SCENARIOS	23
MAP PUD-8 FLOOD HAZARD ZONES (100- AND 500-YEAR FLOODPLAINS)	24
MAP PUD-9 LANDSLIDE SUSCEPTIBILITY EXPOSURE	25
MAP PUD-10 BURN PROBABILITY AND FIRE HISTORY (1992-2022).....	26
MAP PUD-11 POTENTIAL WILDFIRE IMPACT (OVERALL)	27

Introduction

Purpose and Adoption

This is the Southwest Lincoln County Water People’s Utility District (SWLCWPUD) addendum to the Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan (NHMP). This addendum is not intended to be a standalone document, rather information contained herein supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume II (Appendices), which provides additional information. This addendum meets the following requirements:

- Multi-jurisdictional **Plan Requirements: Participation** §201.6(a)(4),
- Multi-Jurisdictional **Plan Content: Risk Assessment** §201.6(c)(2)(iii),
- Multi-jurisdictional **Plan Content: Mitigation Strategy** §201.6(c)(3)(iv), and
- Multi-jurisdictional **Plan Content: Documentation** §201.6(c)(5).

This is the first addendum to the Lincoln County NHMP for the SWLCWPUD.

Process, Participation, and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(a)(3), *Participation* and 44 CFR 201.6(c)(5), *Plan Adoption*.

SWLCWPUD adopted their addendum to the Lincoln County Multi-jurisdictional NHMP on November 19, 2025. FEMA Region X approved the Lincoln County NHMP and the district’s addendum on December 17, 2025. With approval of this NHMP the district is now eligible to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act’s hazard mitigation project grants through December 16, 2030.

In addition to establishing a comprehensive community-level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in 44 CFR 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption, and federal approval of this NHMP ensures that the SWLCWPUD will remain eligible for hazard mitigation assistance project grants.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon’s Institute for Policy Research and Engagement (IPRE) collaborated with the Oregon Department of Emergency Management (OEM), Lincoln County, and SWLCWPUD to develop this addendum. Members of SWLCWPUD participated in the County NHMP update process (Attachment A and Volume II, Appendix B).

Convener and Committee

The district’s President of the Board of Commissioners serves as the NHMP addendum convener. The convener of the NHMP addendum will take the lead in implementing,

maintaining, and updating the addendum in collaboration with the designated convener of the Lincoln County NHMP (Lincoln County Emergency Manager).

Representatives from the District met formally, and informally, to discuss the development of their addendum (Attachment A). They reviewed and developed the district's addendum, with a focus on their risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings, and during subsequent work, and communication with OPDR.

The SWLCWPUD steering committee was comprised of the following representatives:

- Convener, Angela Vogl, Administrative Manager
- Tim Gross, Civil West Senior Engineer

Implementation and Maintenance

The SWLCWPUD Board of Directors will be responsible for adopting the addendum to the Lincoln County NHMP. This addendum designates the steering committee, and a convener to oversee the development, and implementation of action items. Because the District is part of the County's multi-jurisdictional NHMP, the District will look for opportunities to partner with the County. The district's steering committee will convene after adoption of the addendum on an annual schedule. The County is meeting on a quarterly basis and will provide opportunities for participating jurisdictions (cities and special districts) to report on NHMP implementation, and maintenance during their meetings. The steering committee, assembled by the convener, will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing, and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating, and training new steering committee members on the NHMP, and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement;
- Evaluating effectiveness of the NHMP at achieving its purpose and goals (use Table 4-1, Volume I, Section 4, as one tool to help measure effectiveness); and
- Documenting successes, and lessons learned.

The convener will also remain active in the County's implementation and maintenance process (Volume I, Section 4).

The Steering Committee will be responsible for activities outlined in Volume I, Section 4.

The district will utilize the same action item prioritization process as the County (Volume I, Section 4 and Volume II, Appendix D).

Implementation through Existing Programs

Many of the NHMP's recommendations are consistent with the goals and objectives of the district's existing plans and policies. Where possible, the SWLCWPUD will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

This NHMP is strategic and non-regulatory in nature, meaning that it does not necessarily set forth any new policy. It does, however, provide: (1) a foundation for coordination and collaboration among agencies, residents, and the district; (2) identification and prioritization of future mitigation activities; and (3) aid in meeting federal planning requirements and qualifying for assistance programs. The SWLCWPUD currently has the following plans that relate to natural hazard mitigation. For a complete list visit the district's [website](#).

- Water System Master Plan ([2019](#))
- Water Management & Conservation Plan ([2014](#))

Capability Assessment

The Capability Assessment identifies and describes the ability of the SWLCWPUD to implement the mitigation strategy and associated action items. This is a key component of the 2024 Natural Hazard Mitigation Plan (NHMP) update. Capabilities can be evaluated through an examination of broad categories, including existing authorities, policies, programs, funding, and resources.

Policies and Programs

The NHMP provides direction for the SWLCWPUD to explore integration into other planning documents and processes.

Water System Master Plan, 2019

The plan includes A review of the fundamental planning elements (design criteria) such as population, system capacity, water supply and demand, and fire flow requirements. A summary of each water system component, its condition and status. A seismic risk assessment. Identification of upgrades and improvements to address potential vulnerabilities and correct deficiencies. And a summary of recommended capital improvements with anticipated costs.

The seismic risk assessment looks at both earthquake and tsunami hazards and their potential impact on the district. It finds several improvements the district can make in phases over the next 50-years to make the water system more resistant to damage and more resilient to be returned to service in the case of an earthquake and/or tsunami. The District should actively seek to replace the ridged AC pipe with the flexible, more resilient HDPE pipe

as recommended in Priority 1 improvements. These improvements, if done, will increase the ability of the system to withstand the impacts of an earthquake.

Water Management & Conservation Plan, 2014

Section 2 describes the water supply system, including key demographic information, water consumption, and the type of infrastructure present in the water system. Section 3 identifies the conservation measures the Water District has implemented and proposed new measures with associated benchmarks for each new measure. Section 4 describes the tools available to the Water District in the event of a water emergency, including a water curtailment plan. Section 5 uses the information presented in Section 2 to forecast future demand, compare that demand to present water rights, and assesses the need for additional source water diversions.

Personnel

The district is governed by a board of five directors. The board is responsible for the overall operations and performance of the district's water distribution. The district contracts and employs their own administrative, bookkeeping, and water system operations personnel.

Mitigation Successes

This is a list of funding that SWLCWPUD has sought out or received, as well as recently completed projects to improve mitigation.

- Oregon Infrastructure Finance Authority (IFA) Water Infrastructure grant for a water line replacement project.
- The Seabrook water pump was rebuilt.
- Valve bolts have been replaced throughout the entire system to decrease the risk of leaks and improve water conservation rates.
- Lincoln County emergency preparedness grants have been secured to help the district prepare for natural disasters.
- A new fuel tank was installed for the district's Blodgett facilities.

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3)(iv), *Mitigation Strategy*.

The SWLCWPUD adopts the mission and hazard mitigation goals described in Volume I.

To develop the district's mitigation strategy (action items), the Steering Committee assessed the district's risk and identified potential issues to be addressed. The Steering Committee also noted what mitigation accomplishments have been made in recent years.

Priority Action Items

Table PUD-1 presents a list of mitigation actions. The highest priority actions are shown with orange highlight. The district will focus their attention, and resource availability, upon these achievable, high leverage, activities over the next five years. Although this methodology provides a guide for the steering committee in terms of implementation, the steering committee has the option to implement any of the action items at any time. This option to consider all action items for implementation allows the committee to consider mitigation strategies as new opportunities arise, such as capitalizing on funding sources that could pertain to an action item that is not currently listed as the highest priority.

Table PUD-1 Action Items

Mitigation Strategies		Impacted Hazard												Implementation and Maintenance			
Action Item #	Statement	Air Quality	Coastal Erosion	Drought	Earthquake	Extreme Heat	Flood	Landslide	Tsunami	Volcanic Event	Wildfire	Windstorm	Winter Storm	Potential Funding Resources	Lead	Timeline	Cost
1	Replace the existing 200,000-gallon Dicks Fork water tank with a 500,000 to 1 million-gallon seismically resilient tank to ensure continued water service following a major earthquake and to meet projected system demands identified in the district’s buildout study			X	X		X	X						Local Funds, HMA, USDA grants, CWSRF	Administration	M	H
2	Complete the water line replacement project identified in the 2021 feasibility report to improve system reliability, reduce leakage, and enhance seismic resilience of aging distribution infrastructure.			X	X		X	X						Local Funds, HMA, USDA grants, CRWU	Administration	L	H
3	Replace aging fire hydrants and install additional hydrants in underserved areas to improve fire suppression capabilities, particularly in wildfire-prone zones near Blodgett and Dicks Fork.			X	X						X			Local Funds, USDA grants, CRWU	Administration	S	M
4	Install Starlink satellite internet systems at both the Dicks Fork and Blodgett treatment plants to ensure reliable communication during power outages and natural disasters, supporting remote monitoring and emergency coordination.											X	X	Local Funds	Administration	S	L
5	Install a Supervisory Control and Data Acquisition (SCADA) system at the Dicks Fork treatment plant, with an estimated cost of \$200,000, to enable remote monitoring and control of operations during emergencies when physical access may be limited.											X	X	Local Funds, HMA	Administration	S	M
6	Develop and adopt a tsunami-specific emergency response plan that includes evacuation protocols, asset protection strategies, and coordination with local emergency services, focusing on infrastructure located within the tsunami inundation zone.								X					Local Funds, HMA, County grants	Administration	S	L
7	Complete a defensible space and fuels reduction project around the Blodgett treatment plant and maintenance buildings to reduce wildfire risk, protect critical infrastructure, and comply with Oregon Department of Forestry guidelines.										X			Local Funds, HMA	Administration	S	L
8	Initiate a monitoring program to assess potential long-term impacts of coastal erosion on water mains and infrastructure near Highway 101, and integrate findings into future capital improvement planning.		X											Local Funds	Administration	S	L

Source: SWLCPUD steering committee, 2025.
 Cost: L (less than \$50,000), M (\$50,000-\$499,999), H (\$500,000-\$5 million), VH (more than \$5 million),
 Potential Funding Sources: HMA=FEMA’s Hazard Mitigation Assistance disaster and non-disaster grant programs
 Timing: Ongoing (continuous), Short (1-4 years), Medium (4-10 years), Long (10 or more years)
 Priority Actions: Identified with orange highlight
 Dark Grey highlight indicates that the hazard does not impact the jurisdiction.

Risk Assessment

This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - *Risk Assessment*. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards. Assessing natural hazard risk has three phases:

Phase 1: Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.

Phase 2: Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places and drinking water sources.

Phase 3: Evaluate the extent to which the identified hazards overlap with, or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein, and within Volume I, Section 2, and Volume II, Appendix C.

Hazard Analysis

The district developed their [hazard analysis](#), using the County's (Volume I, Section 2) as a reference. Where appropriate, changes were made to distinguish the district's risks from those in the County's hazard analysis, as detailed throughout this addendum.

Table PUD-2 shows the hazard analysis matrix listing each hazard in rank from high to low. For local governments, conducting hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with a sense of hazard priorities but does not predict the occurrence of a particular hazard. See Volume I, Section 2 for methodology details.

Windstorm, landslide, riverine flood, tidal flood, Cascadia Subduction Zone earthquake, and local tsunami are the **high hazard threats** to the district. Winter storm, drought, wildfire, and distant tsunami are the **medium hazard threats** to the district. Tornado, coastal erosion, crustal earthquake, air quality/smoke, extreme heat event, and volcanic event are the **low hazard threats**.

Hazards classified in the 'bottom tier' pose low probability of occurrence and/or vulnerability of impact to the district. Therefore, the district has chosen not to develop specific mitigation strategies for these hazards. Instead, the district will support and collaborate with the County and relevant cities in implementing broader mitigation efforts related to these hazards.

Table PUD-2 Hazard Analysis Matrix

Hazard			Maximum		Total Threat Score	Hazard Rank	Hazard Tiers
	History	Vulnerability	Threat	Probability			
Windstorm	20	50	100	70	240	#1	Top Tier
Landslide	20	40	80	70	210	#2	
Flood (Riverine)	20	45	70	70	205	#3	
Flood (Coastal)	20	45	70	70	205	#4	
Earthquake (Cascadia)	2	50	100	49	201	#5	
Local Tsunami	2	50	100	49	201	#6	
Winter Storm	18	20	90	70	198	#7	Middle Tier
Drought	8	40	80	56	184	#8	
Wildfire	6	40	80	49	175	#9	
Distant Tsunami	10	15	60	35	120	#10	
Tornado	8	10	30	56	104	#11	Bottom Tier
Coastal Erosion	16	10	20	56	102	#12	
Earthquake (Crustal)	10	20	40	21	91	#13	
Air Quality/Smoke	10	5	10	56	81	#14	
Extreme Heat Event	4	10	30	21	65	#15	
Volcanic Event	2	5	40	7	54	#16	

Source: SWLCWPUD steering committee, 2025

Community Characteristics and Assets

The following section provides information on SWLCWPUD specific demographics and assets (Table PUD-4). Many of these community characteristics can affect how natural hazards impact communities, and how communities choose to plan for natural hazard mitigation. Considering the District specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Community Characteristics

The Southwest Lincoln County Water People’s Utility District (SWLCWPUD) serves a narrow, approximately eight-mile-long corridor along the central Oregon coast, between the cities of Waldport to the north and Yachats to the south. The district spans roughly 8,640 acres and is bordered by the Pacific Ocean to the west and forested lands, including U.S. Forest Service property, to the east. U.S. Highway 101 runs through the heart of the district and serves as the primary transportation and service corridor. Most of the district’s water users are located west of the Coast Range foothills, at elevations below 100 feet, with few areas exceeding 200 feet.

SWLCWPUD provides water to approximately 1,258 service connections, with residential customers making up over 95% of accounts and consuming about 89% of the district’s water. Commercial customers, primarily motels and hospitality businesses, account for around 3% of connections and 4% of water use, while public institutions, including parks, schools, and government facilities, make up the remaining 2%, using about 7% of the supply. The district holds water rights to four creeks, totaling 2.30 cubic feet per second (cfs), though operational constraints currently limit treated water production to between 0.79 and 0.87 million gallons per day (mgd). Plans to expand the Dicks Fork treatment plant aim to address this limitation.

Seasonal population fluctuations are significant, with winter populations around 2,000 swelling to approximately 6,000 in the summer due to tourism and seasonal residents. Growth in new service connections has averaged 0.5% annually, slightly below the county average, but the district is planning for future development based on a recent buildout study and ongoing updates to its Water System Master Plan.¹

Facilities and Property Assets Inventory

This section provides information on district specific assets. Assets that may be affected by hazard events include residential and nonresidential buildings, critical facilities, and infrastructure. Considering the district specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Table PUD-4 lists the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of the district.

The district's facilities are located within their service area (Map PUD-1) which includes the Lincoln County unincorporated community between Yachats and Waldport.

Hazard Identification

This section profiles the district's hazards and assesses their vulnerabilities, distinct from the countywide planning area. Detailed hazard profiles of the most significant countywide hazards are described in Volume I, Section 2. The detailed profiles include hazard characteristics, history, location, extent, previous occurrences, and probability of future occurrences. An event that affects the County, or applicable cities where district assets are located (Waldport, Yachats), is likely to affect the district as well. However, not all hazards impact the district assets. The district chose to profile the hazards shown in Table PUD-2 due to the impact these hazards have upon their assets. Factors included during discussions by the district included the number of potential assets damaged, extent of damage, and length of time required for repairs (economic losses were also considered).

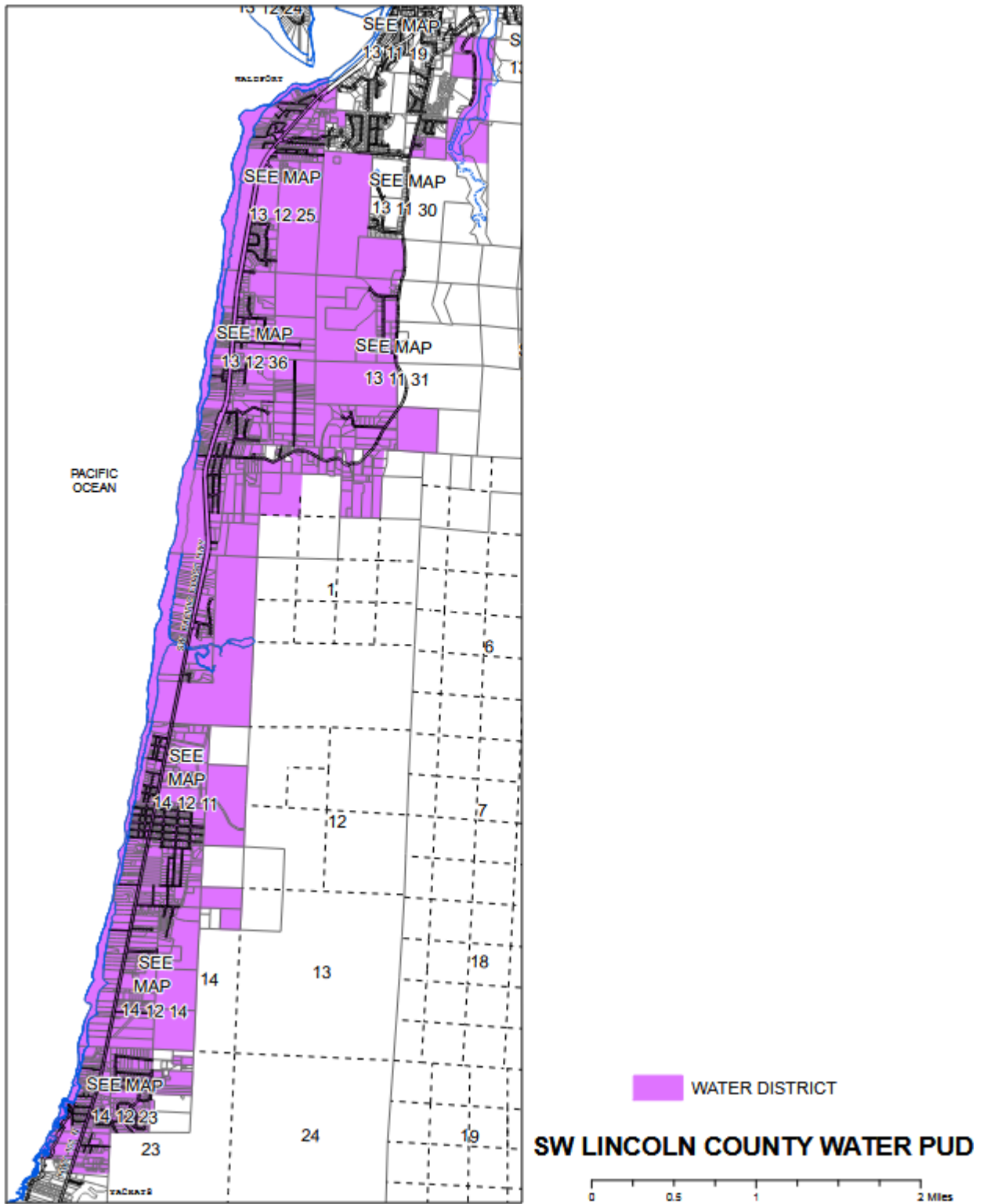
Additional information is found in the [Risk Assessment for Region 1, Oregon Coast, Oregon SNHMP \(2020\)](#).

National Flood Insurance Program (NFIP)

The district does not have the authority to adopt and enforce floodplain management or other land use regulations for the areas within its jurisdiction. For more information on National Flood Insurance Program (NFIP) claims and other potential flood impacts, see the City of Waldport, Yachats, or the County plan (Volume I or Volume II).

¹ SWLCWPUD Water Management & Conservation Plan (2014)

Map PUD-1 District Boundaries



Source: Lincoln County GIS - Click [link](#) for more information

Vulnerability Assessment

Development and population forecasts are not expected to increase or decrease the impact of most of the profiled hazards. However, the population of adults aged 65 and older is increasing within this jurisdiction. As a result, the impact of the air quality hazard may increase.

The district’s concentrated population and resources, as well as the soil characteristics and relative earthquake hazards described herein and in Volume I, Section 2 are cause for significant effort toward mitigating the earthquake hazard. The district’s infrastructure (water lines, tanks, treatment plant, etc.) is highly vulnerable to a severe earthquake event. No quantitative assessment of the risk of natural hazards has been conducted at a district wide scale. However, there have been several reports conducted for the unincorporated region of the county that include the district’s service area.

Table PUD-3 provides the ranking of hazards of concern based on total threat score and Table PUD-4 shows hazard impact to the district’s assets.

Hazard area extent and location maps are included in Attachment B. Information shown on the maps is for planning purposes, represents the conditions that exist at the map date, and is subject to change. Refer to the original source documentation to better understand the data sources, results, methodologies and limitations of each dataset presented.

Table PUD-3 Hazard Risk and Description of Impact

Hazard	Description of Impact	Total Threat Score
Windstorm	High winds frequently cause trees to fall within the district, leading to power outages that disrupt water treatment operations. While backup generators are in place, recurring outages—typically 1–2 each winter—pose challenges for plant computers and remote monitoring, especially at the Dicks Fork facility.	240
Landslide	Although not a widespread issue, landslides remain a localized concern in district’s service area, particularly in forested and sloped terrain. These events could threaten access roads, surface water, and above-ground infrastructure, especially following heavy rainfall or seismic activity. Landslide may also disrupt creeks and potentially damage intakes.	210
Flood (Riverine)	Localized flooding can occur during heavy rain events, particularly near low-lying infrastructure such as pump stations, distribution lines, and intakes. While the district’s treatment plants have not experienced direct impacts, nearby areas have seen significant water accumulation, which could affect access and operations.	205

Hazard	Description of Impact	Total Threat Score
Flood (Tidal)	Tidal flooding is a moderate concern, especially along Highway 101 where water mains run close to the shoreline. While most critical infrastructure is located outside the tidal zone, inundation could still disrupt service routes and emergency response.	205
Earthquake (CSZ Event)	A Cascadia Subduction Zone earthquake poses a major threat to infrastructure. The district’s facilities, including tanks and treatment plants, are vulnerable to ground shaking and potential liquefaction, which could result in long-term service disruptions and costly repairs.	201
Local Tsunami	The district’s service area lies within the tsunami inundation zone, with water mains and some infrastructure at risk. Although most above-ground assets are outside the zone, a local tsunami could damage pipelines and isolate the district from emergency support.	201
Winter Storm	Winter storms bring heavy rain and strong winds, often resulting in power outages and access issues. While snow and ice are rare, saturated soils combined with wind can lead to tree falls and infrastructure strain (including settling basins). The district’s remote sites within the Siuslaw Forest, particularly Blodgett and Dicks Fork, are located in heavily forested areas are especially vulnerable,.	198
Drought	The district currently has ample water sources and has not faced mandatory restrictions, even supporting nearby cities like Waldport and Yachats during dry months. However, a voluntary curtailment was issued to water users this season. Prolonged drought could reduce streamflow and increase demand, prompting the district to seek additional water rights.	184
Wildfire	Both treatment plants are in remote, forested areas, making them susceptible to wildfire. Risks include damage to above-ground infrastructure and water quality degradation from ash and debris. Creating defensible space around facilities is a key mitigation strategy.	175
Air Quality	Air quality is generally good in the district, but regional wildfires can cause temporary spikes in particulate matter. These conditions may affect outdoor operations and pose health risks to staff during extended smoke events.	146

Hazard	Description of Impact	Total Threat Score
Distant Tsunami	While less severe than local tsunamis, distant tsunami events could still cause coastal flooding and impact infrastructure near the shoreline. Preparedness remains important due to the district’s proximity to the Pacific Ocean.	120
Tornado	Tornado risk is extremely low in this region, but a rare event (originating from waterspouts) could still damage exposed infrastructure and disrupt operations.	104
Coastal Erosion	Coastal erosion is not currently a major concern as most infrastructure is inland. However, future development near the coast or along Highway 101 may face increased risk from shoreline retreat and wave action.	102
Earthquake (Crustal)	Crustal earthquakes, while less powerful than subduction events, could still damage pipelines, tanks, and treatment facilities—especially if they trigger landslides or occur near critical infrastructure.	91
Extreme Heat Event	While not a major threat historically, increasing temperatures could stress water supply and demand systems, particularly during drought conditions.	65
Volcanic Event	Though distant from active volcanoes, the district could be affected by ashfall, which may contaminate surface water sources and clog filtration systems. Emergency protocols would be needed to maintain water quality and service continuity.	54

Source: SW Lincoln County Water PUD steering committee, 2025.

Table PUD-4 Facilities Summary

Name/Number	Address	Identified Hazard Exposure											
		AQ	CE	DR	EQ	EH	FL	LS	TS	VE	WF	WS	WT
Water Treatment													
Blodgett					X							X	
Dicks Fork					X							X	
Storage Tanks													
Dicks Fork – 200,000 gal					X				X				
Seabrook – 200,000 gal					X								
Blodgett – 1,000,000 gal					X								
Starr Creek – 500,000 gal					X								
Crabapple – 54,000 gal					X								
Wakonda Beach Road – 500,00 gal					X								
Seabrook No. 2 – 250,000 gal					X								
Pump Station													
Seabrook													
Pump Stations								X					
Piping, Hydrants, Generators, and other infrastructure													
Distribution Pipelines					X				X				
Two pressure reducing stations					X								
Interconnect with City of Waldport					X								
Interconnect with City of Yachats					X								
113 Fire Hydrants													

Source: Information provided by SWLCWPUD Grey highlight indicates that the hazard does not impact the jurisdiction.

Table Key:

“X” – Facility may be exposed and may be impacted by the identified hazard per a visual inspection of the mapped hazard area

[blank] = facility exposure has not been assessed for this hazard

Hazard Descriptions:

AQ = Air Quality

EH = Extreme Heat

LS = Landslide

WF = Wildfire

CE = Coastal Erosion

EQ = Earthquake

TS = Tsunami

WS = Windstorm/Tornado

DR = Drought

FL = Flood

VE = Volcanic Event

WT = Winter Storm

Attachment A: Public Involvement Summary

Members of the Steering Committee helped to develop and provide edits to the NHMP prior to the public review period as reflected in the final document. In addition, a survey was distributed that included responses from residents of the district (Volume II, Appendix G).

To provide public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was provided from August 7 through 21, 2025 on the County's website and publicized by the district. Comments were reviewed and integrated into the NHMP as applicable. Additional opportunities for stakeholders and the public to be involved in the planning process are addressed in Volume II, Appendix B.

Various agencies and organizations contributed input through multiple channels, including comments on the draft. These groups include local and regional hazard mitigation agencies, development regulators, neighboring communities, businesses, academia, nonprofits, and community-based organizations serving underserved and socially vulnerable populations (see Volume II, Appendix B).

Steering Committee

Steering Committee members possessed familiarity with the district and how it is affected by natural hazard events. The Steering Committee guided the development process through several steps including goal confirmation, action item review, development, and prioritization, and information sharing, to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: May 1, 2025 (virtually via Zoom)

During this meeting, the Steering Committee was provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee meeting details include:

- Reviewed and provided feedback on recent history of hazard events.
- Reviewed and confirmed the County NHMP's mission and goals.
- Discussed the NHMP public outreach strategy.
- Reviewed and provided feedback on the draft risk assessment including community vulnerabilities and hazard information.
- Developed their mitigation strategy (actions).
- Reviewed and provided feedback on their implementation and maintenance program.

Meeting Attendees:

- Angela Vogl, Administrative Manager
- Tim Gross, Civil West Senior Engineer

Meeting Summary

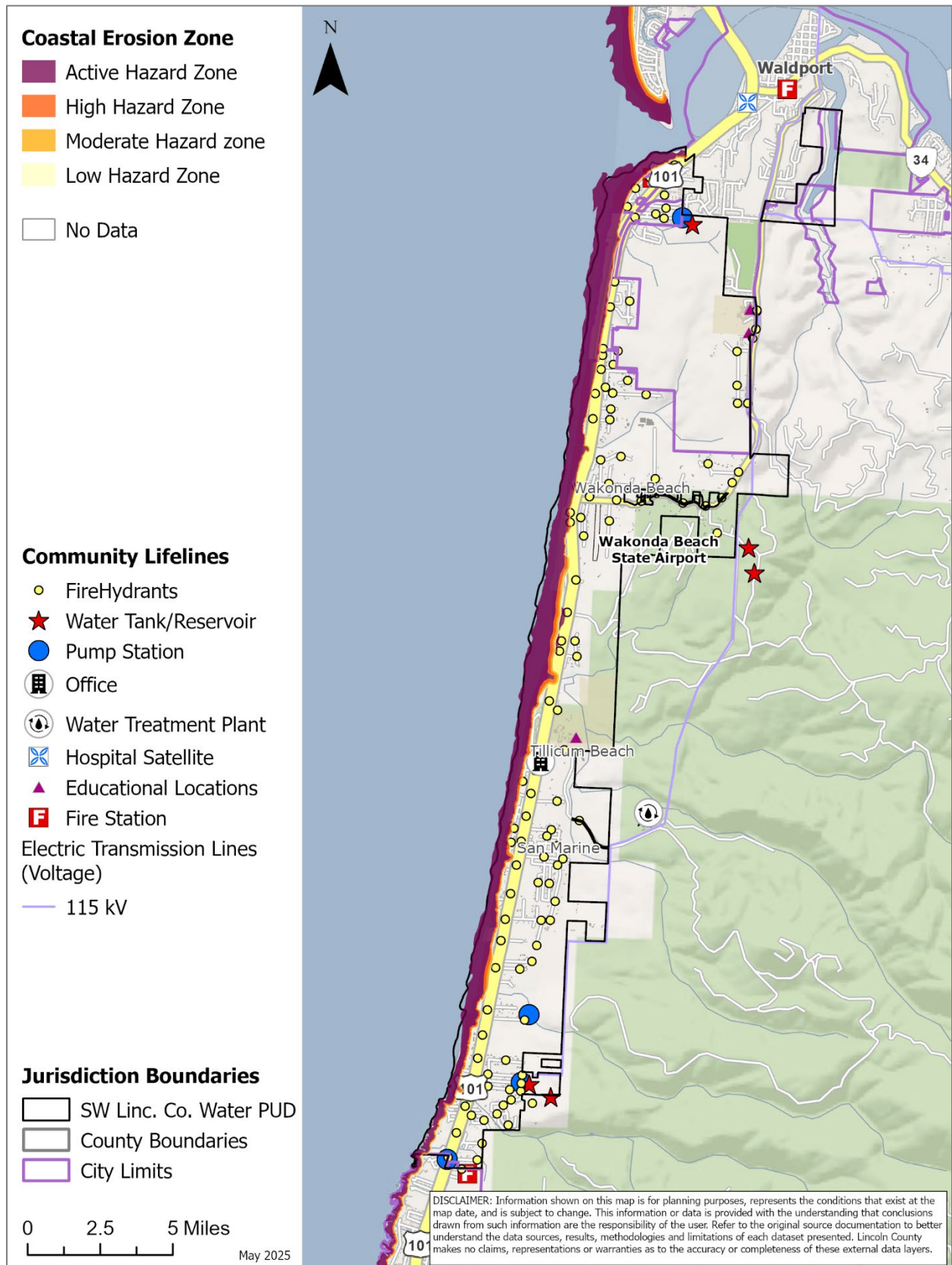
The meeting focused on evaluating the district’s vulnerability to natural hazards and refining its mitigation strategies. Key findings highlighted the district’s exposure to earthquakes, windstorms, wildfires, and tsunamis, with particular concern over power outages that disrupt water treatment operations. The district’s infrastructure, including two treatment plants and multiple storage tanks, is undergoing upgrades, such as a \$6 million water line replacement and plans for seismic-resilient tank replacements. Communication and monitoring improvements, like installing Starlink and SCADA systems, were also prioritized to enhance operational resilience during emergencies.

Additionally, the district is planning for modest population growth and future development, supported by a recent buildout study. This proactive planning includes updating the Water System Master Plan and ensuring that infrastructure can meet future demand. The meeting also emphasized the importance of aligning mitigation actions with identified hazards, such as wildfire fuel reduction near facilities and tsunami response planning.

Attachment B: Hazard Maps

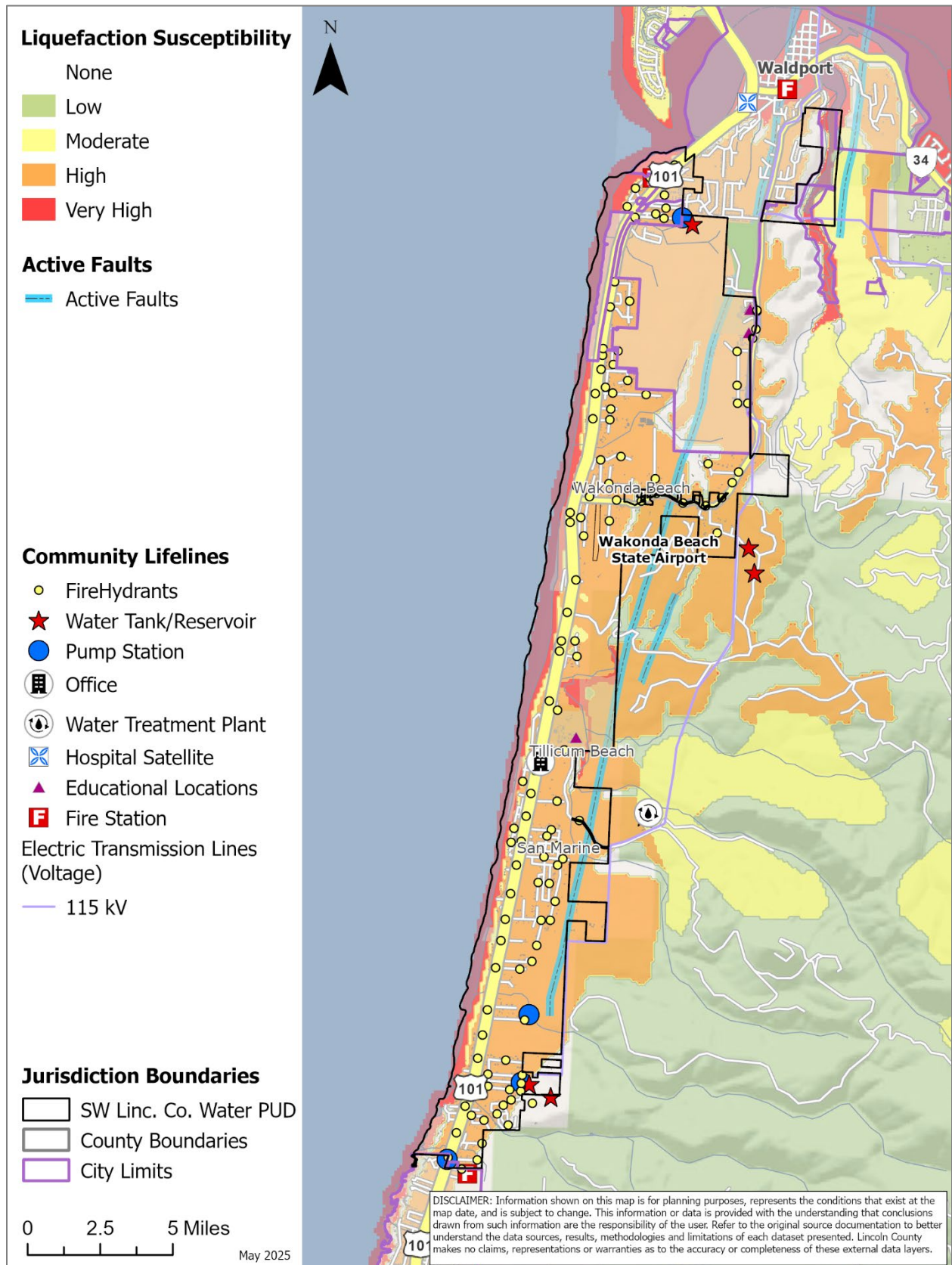
MAP PUD-2 COASTAL EROSION HAZARD	18
MAP PUD-3 EARTHQUAKE LIQUEFACTION (SOFT SOIL) HAZARD AND ACTIVE FAULTS	19
MAP PUD-4 PROBABILITY OF DAMAGING SHAKING.....	20
MAP PUD-5 PERCEIVED SHAKING AND DAMAGE POTENTIAL, PROBABILISTIC EARTHQUAKE MODEL	21
MAP PUD-6 PERCEIVED SHAKING AND DAMAGE POTENTIAL, CSZ EARTHQUAKE MODEL	22
MAP PUD-7 TSUNAMI INUNDATION SCENARIOS	23
MAP PUD-8 FLOOD HAZARD ZONES (100- AND 500-YEAR FLOODPLAINS)	24
MAP PUD-9 LANDSLIDE SUSCEPTIBILITY EXPOSURE	25
MAP PUD-10 BURN PROBABILITY AND FIRE HISTORY (1992-2022).....	26
MAP PUD-11 POTENTIAL WILDFIRE IMPACT (OVERALL)	27

Map PUD-2 Coastal Erosion Hazard



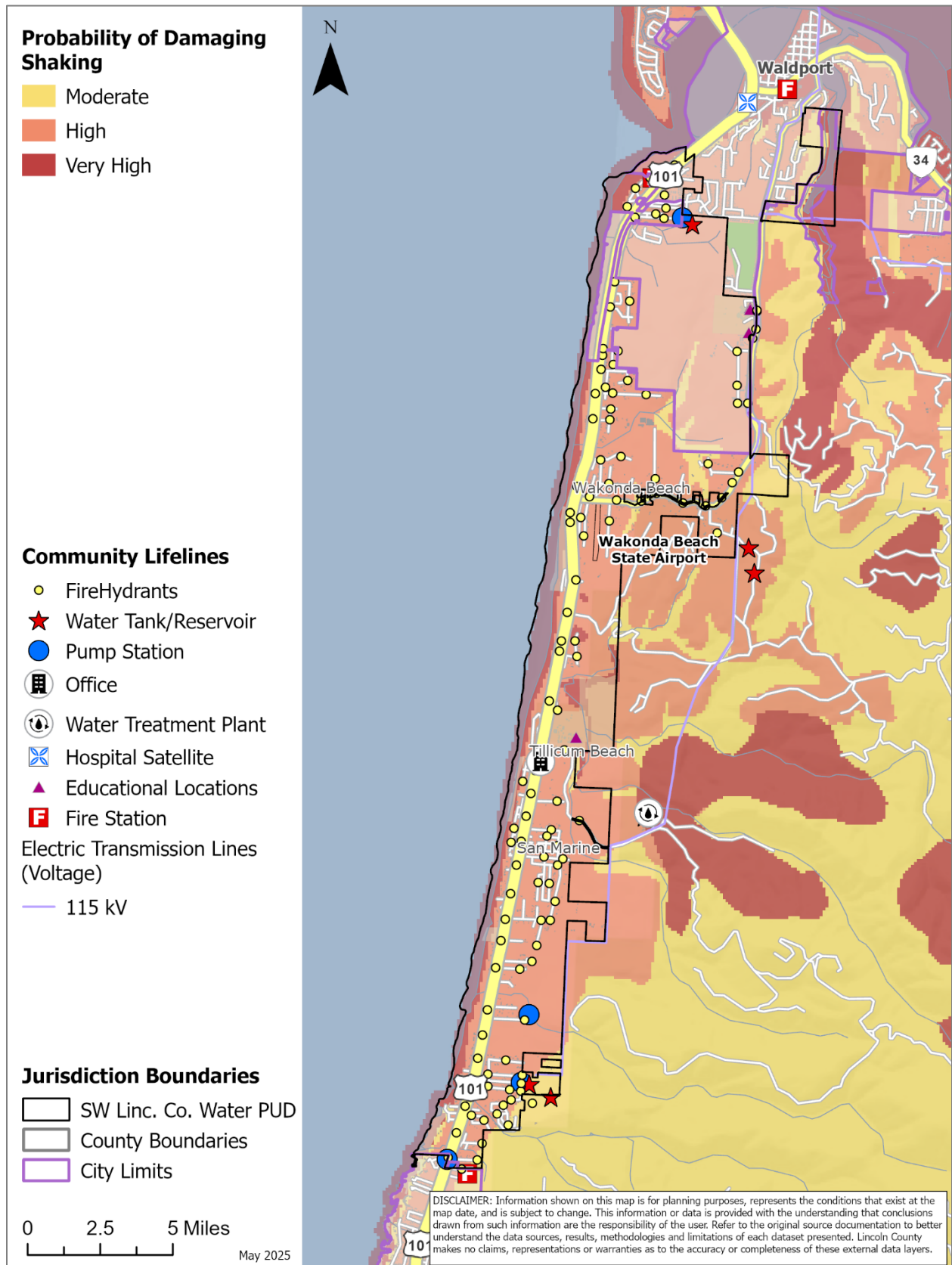
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-3 Earthquake Liquefaction (Soft Soil) Hazard and Active Faults



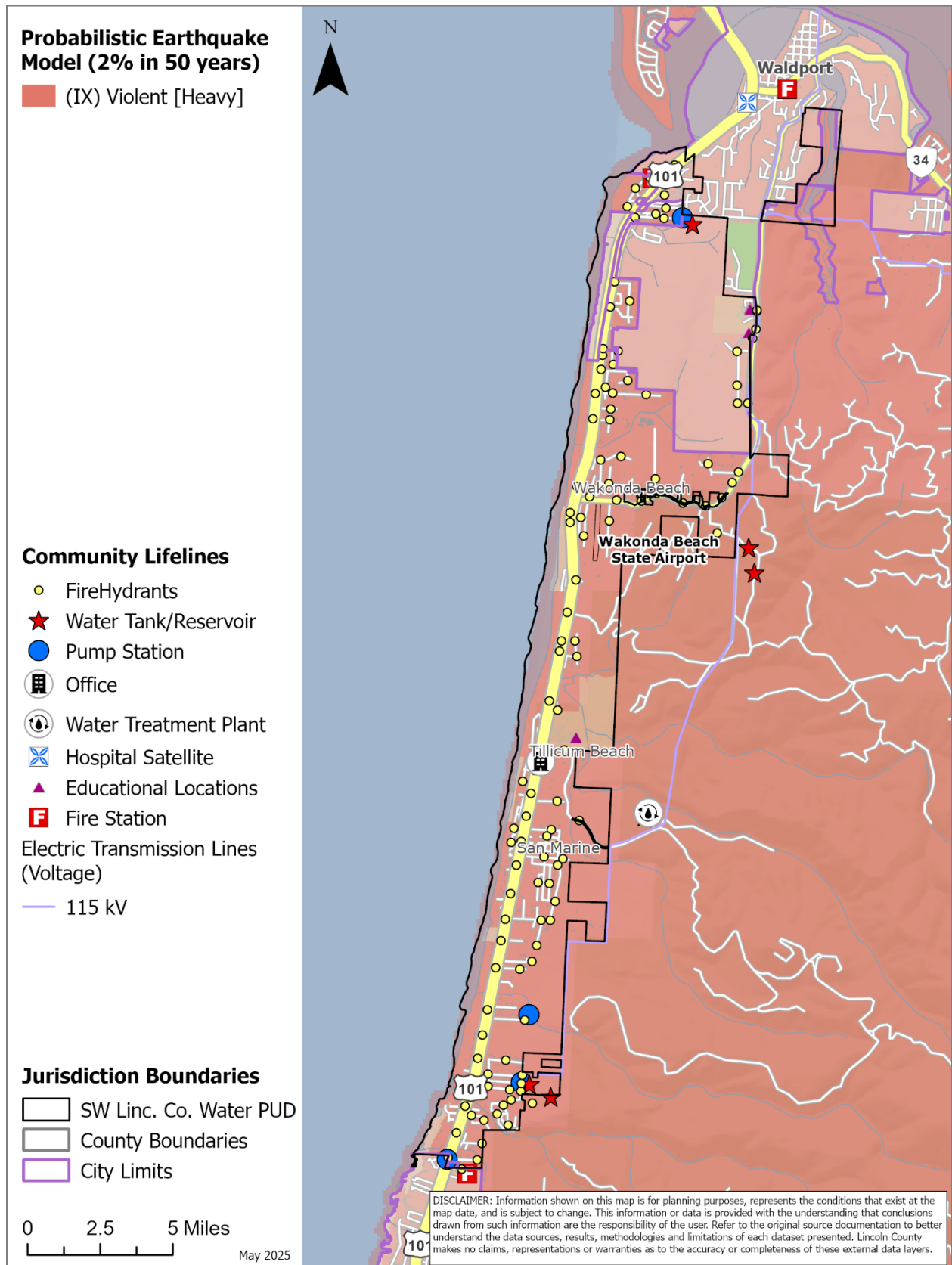
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-4 Probability of Damaging Shaking



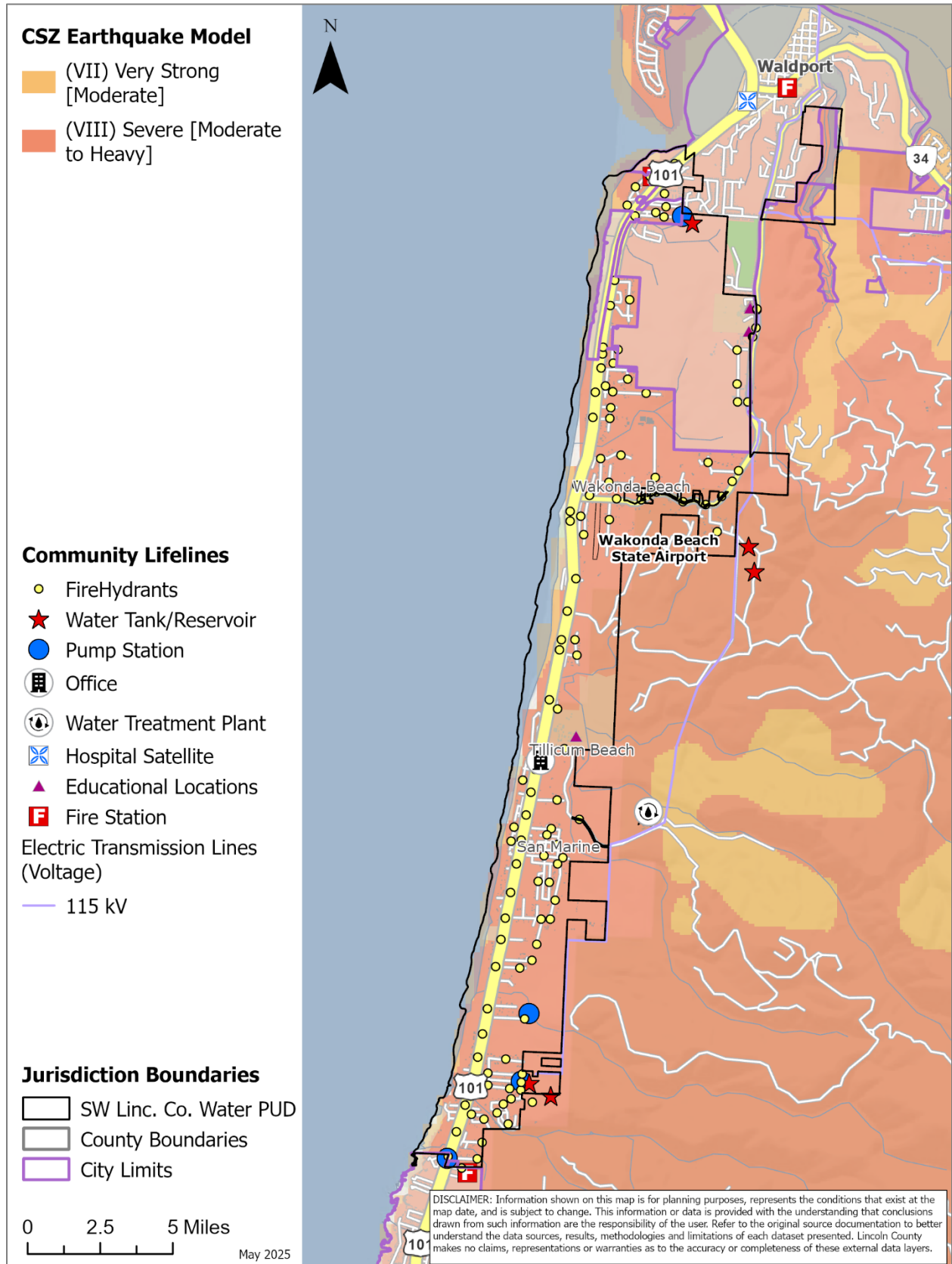
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-5 Perceived Shaking and Damage Potential, Probabilistic Earthquake Model



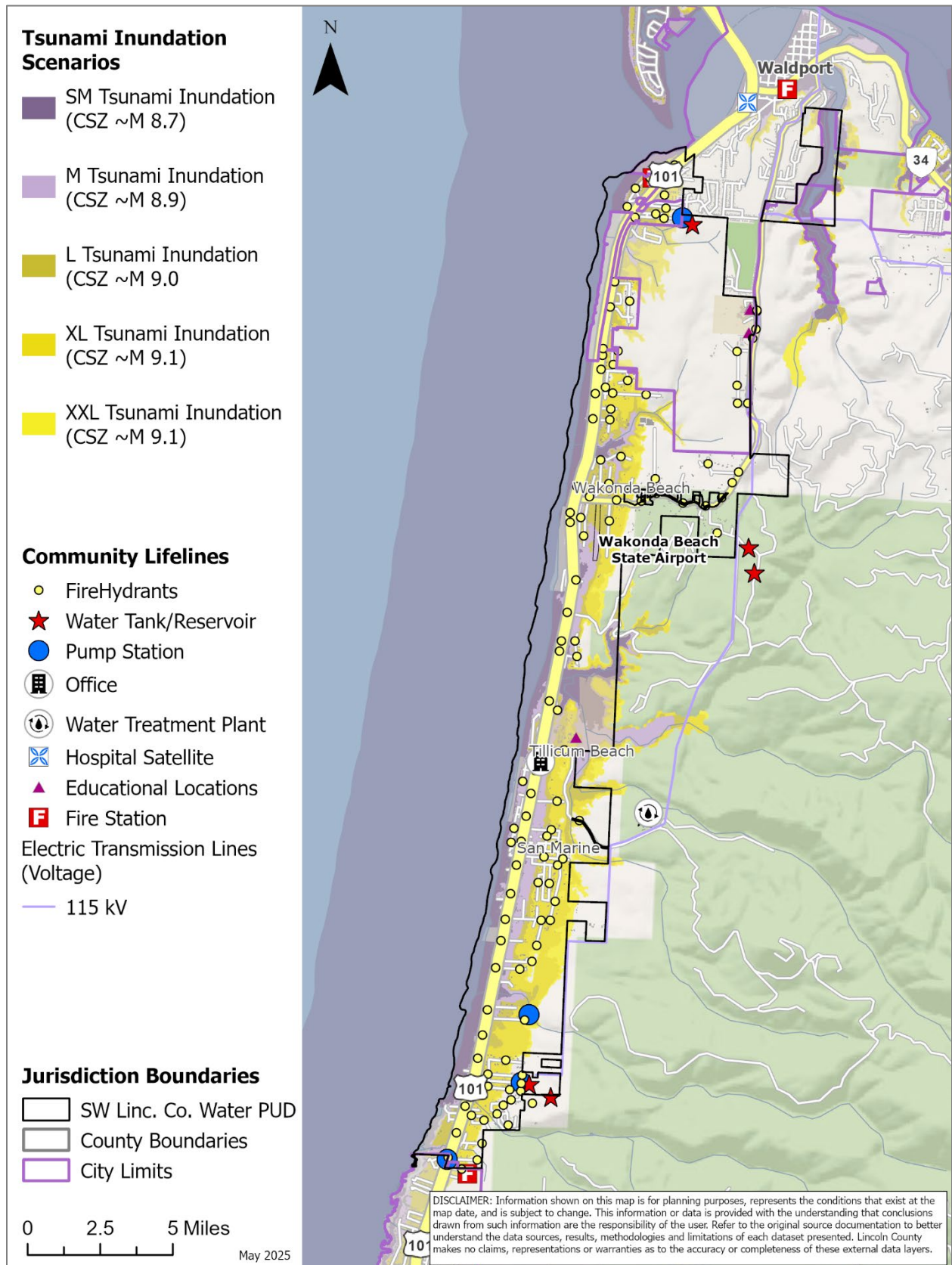
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-6 Perceived Shaking and Damage Potential, CSZ Earthquake Model



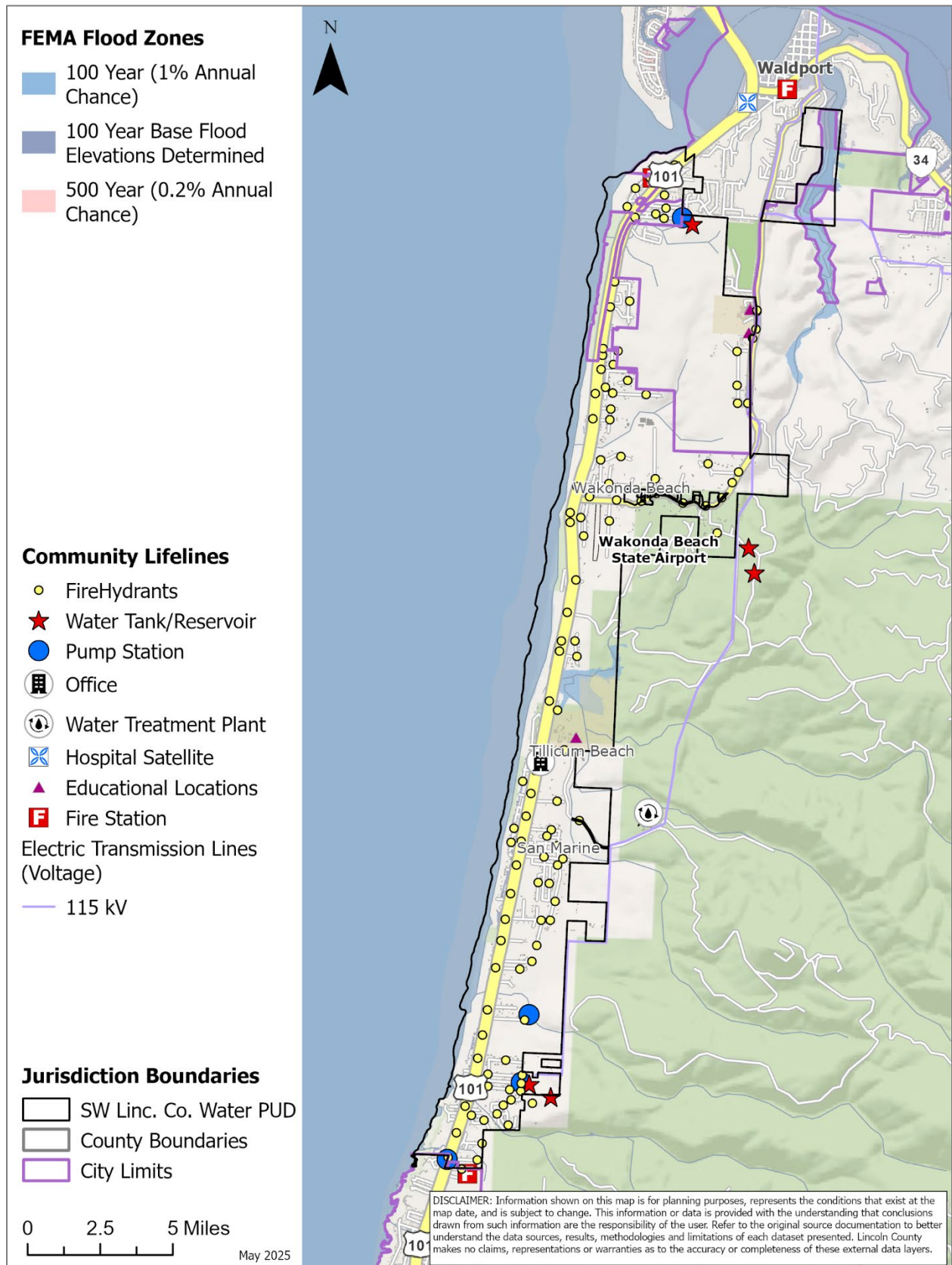
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-7 Tsunami Inundation Scenarios



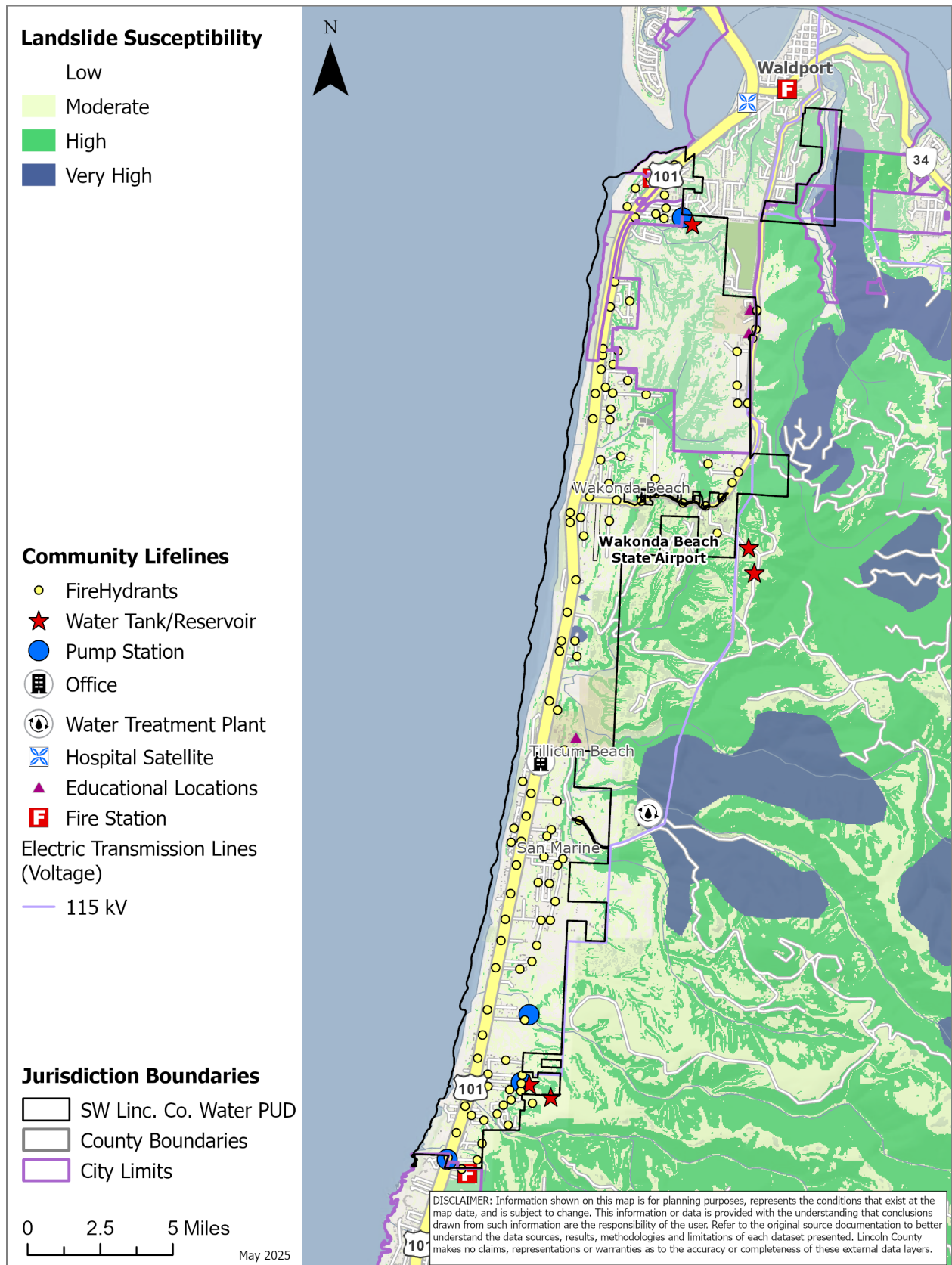
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-8 Flood Hazard Zones (100- and 500-year floodplains)



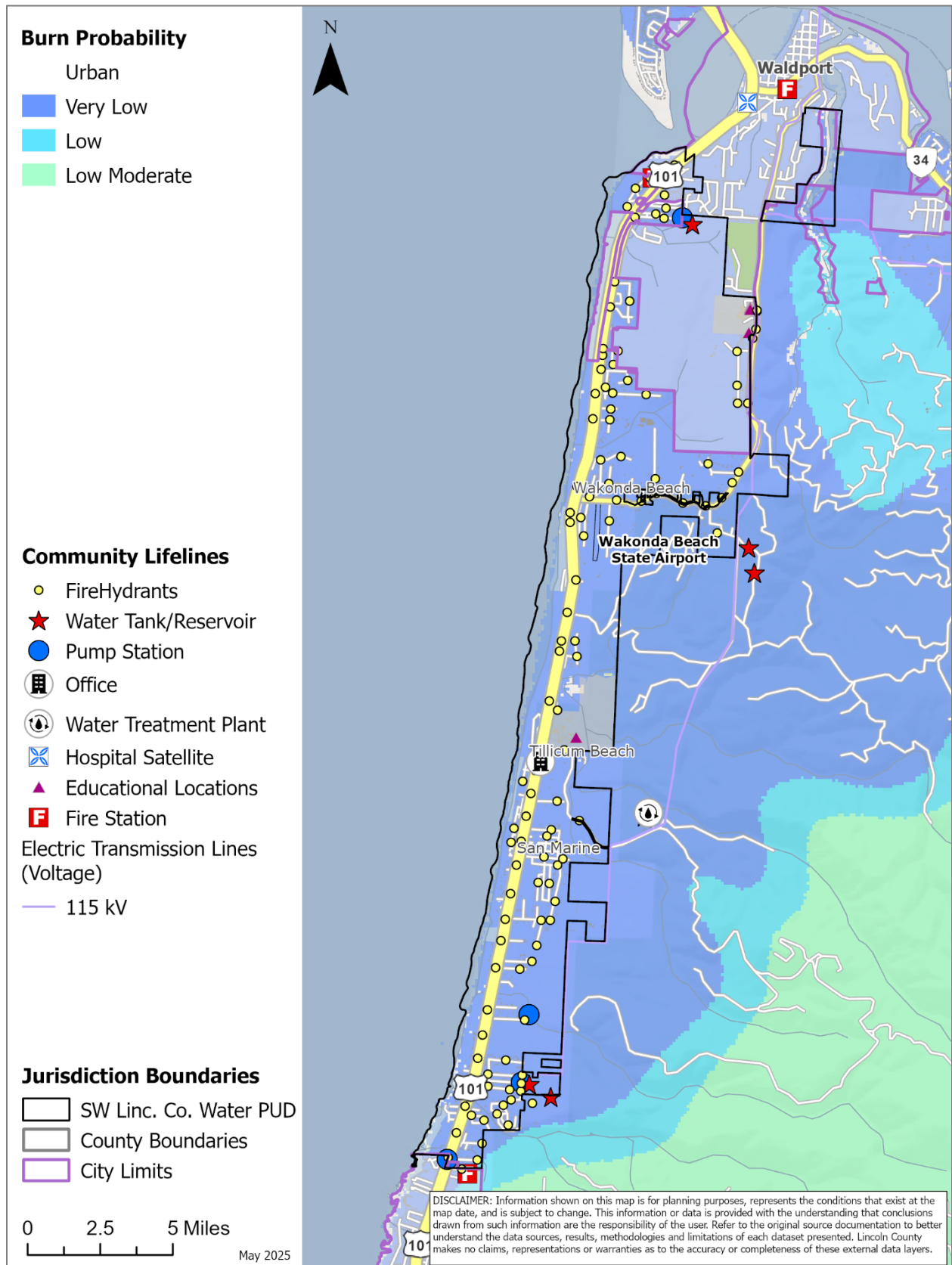
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-9 Landslide Susceptibility Exposure



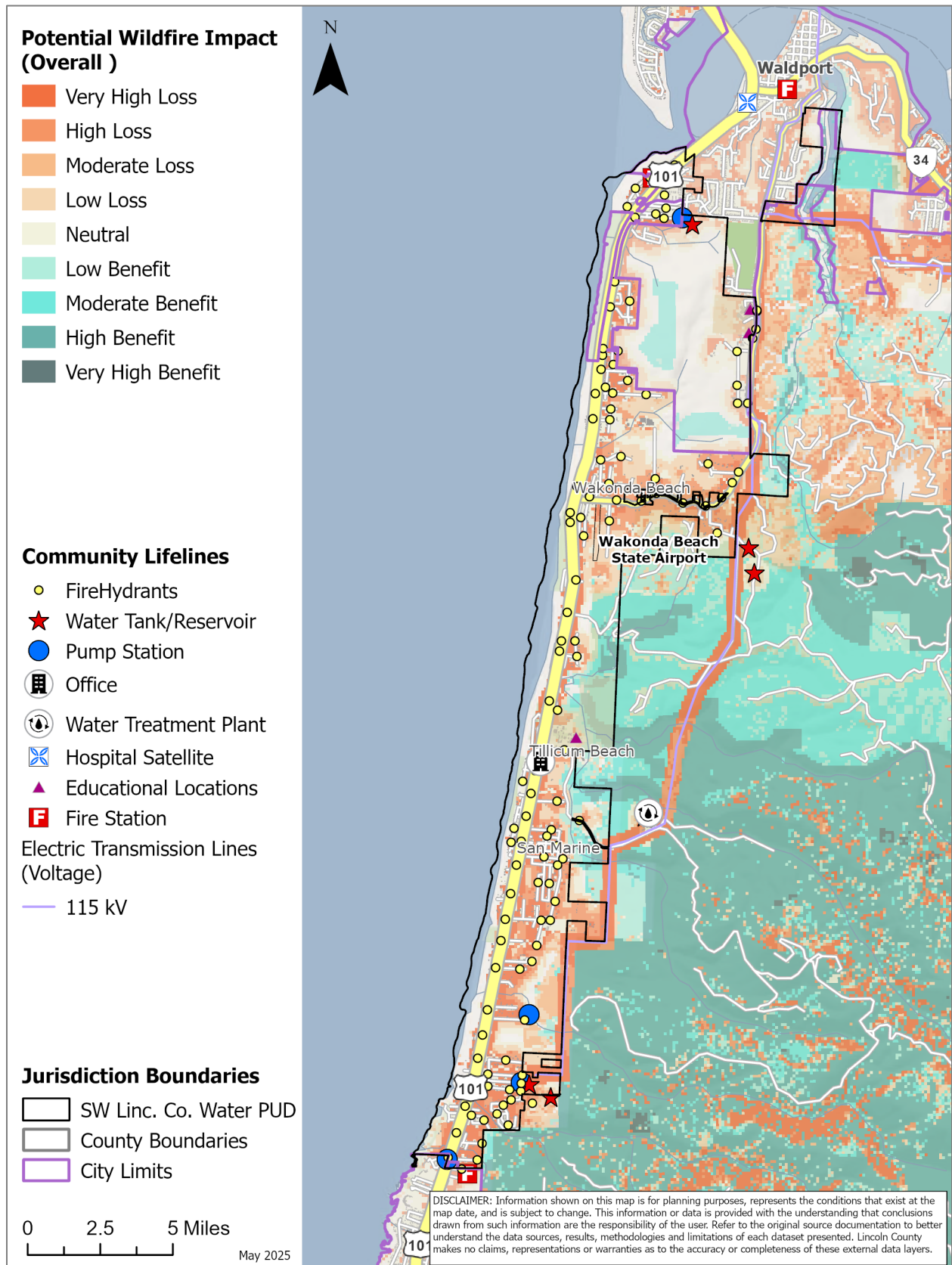
Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-10 Burn Probability and Fire History (1992-2022)



Source: [Oregon Explorer: Map Viewer](#) – To view map detail click hyperlink to left.

Map PUD-11 Potential Wildfire Impact (Overall)



Source: [PNW Quantitative Wildfire Risk Assessment](#) (2023, layer name = icNVC), To view map detail click hyperlink to left..