Kernville-Gleneden Beach-Lincoln Beach Water District Addendum

to the Lincoln County Multi-Jurisdictional NHMP

Photos courtesy of Explore Lincoln City

Effective: December 17, 2025 through December 16, 2030

K-GB-LB WATER DISTRICT

Prepared for
Kernville-Gleneden Beach-Lincoln Beach Water District
6595 Gleneden Beach Loop
Gleneden Beach, OR 97388

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

UNIVERSITY OF OREGON | Institute for Policy Research and Engagement

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

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OEM

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 10

130 228th St SW
Bothell, WA 98021

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 applicable[1] 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

KERNVILLE-GLENEDEN BEACH-LINCOLN BEACH WATER DISTRICT
RESOLUTION No. 25-03

A Resolution Adopting the Kernville-Gleneden Beach-Lincoln Beach Water District Representation in the Updates to the Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan

Whereas, the **Kernville-Gleneden Beach-Lincoln Beach Water District** 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, the **Kernville-Gleneden Beach-Lincoln Beach Water District** 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, the **Kernville-Gleneden Beach-Lincoln Beach Water District** has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the **Kernville-Gleneden Beach-Lincoln Beach Water District** 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 its effectiveness; and

Whereas, Kernville-Gleneden Beach-Lincoln Beach Water District adopts the NHMP and directs the **District Superintendent** to develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

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

Be it further resolved, that the **Kernville-Gleneden Beach-Lincoln Beach Water District** 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 13th day of November, 2025

President

Secretary

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Introduction

Purpose and Adoption

This is the Kernville-Gleneden Beach-Lincoln Beach Water District Water District (K-GB-LB WD) addendum to the Lincoln County Multi-Jurisdiction 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 K-GB-LB WD.

K-GB-LB WD adopted their addendum to the Lincoln County Multi-jurisdictional NHMP on November 13, 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.

Process and Participation

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

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 K-GB-LB WD 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 K-GB-LB WD to develop this addendum. Members of K-GB-LB WD participated in the County NHMP update process (Attachment A and Volume II, Appendix B).

Convener and Committee

The district's Finance Manager 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 K-GB-LB WD steering committee was comprised of the following representatives:

- Convener, Danielle Eisenbarth, Finance Manager
- Jeramy Price, Superintendent

Implementation and Maintenance

The K-GB-LB WD 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 K-GB-LB WD 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 K-GB-LB WD currently has the following plan that relates to natural hazard mitigation. For a complete list visit the district's website.

- Water System Master Plan (2017)

Capability Assessment

The Capability Assessment identifies and describes the ability of the K-GB-LB WD 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 K-GB-LB WD to explore integration into other planning documents and processes.

Water System Master Plan, 2017
This plan examines the existing and future needs of the district and recommends improvements for the entire water system. The following topics are covered in detail in the plan: Historical and projected water use, water quality and regulations, service goals and policies, intake and treatment evaluation, distribution system evaluation, and seismic needs evaluation.

The seismic evaluation chapter says there are many vulnerabilities associated with the intake, treatment, and pumping facilities that are integral to the water supply system. Furthermore, a major earthquake and the possible resulting tsunami will cause multiple failures in the District's distribution system. Therefore, the District should develop an emergency water supply plan. The goal is to make available 1 to 1.5 gallons of potable water per person per day in the aftermath of an earthquake.

Personnel

The following K-GB-LB WD personnel have assignments that correspond to natural hazard mitigation.

- Board of Commissioners
- Finance Manager
- Superintendent

Mitigation Successes

This is a list of funding that K-GB-LB WD has sought out or received, as well as recently completed projects to improve mitigation.

- Installation of alternative access route and new bridge to the water treatment plant
- $50,000 planning grant for the district's water conservation plan update
- FEMA HMGP 4562 application to replace asbestos concrete waterlines (Pending)

Mitigation Strategy

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

The K-GB-LB WD 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.

The steering committee opted to not include mitigation strategies for low vulnerability and low probability hazards including: coastal erosion, winter storm, and volcanic event. The steering committee will study these hazard further during the implementation and maintenance phase of this NHMP, seeking to identify cost effective actions that might be implemented to reduce community vulnerability.

Priority Action Items

Table WD-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 WD-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 all remaining asbestos concrete (AC) water lines and aging transmission mains within the service area with seismically resilient high-density polyethylene (HDPE) piping, prioritizing critical segments such as the main line to the Salishan Spit and lines serving the water treatment plant, to reduce vulnerability to earthquake and landslide damage.				X			X	X					HMGP, USDA grant, Local Funds, Revenue Bond	Board of Commissioners	M	H
2	Upgrade the existing generator at the water treatment plant to a model capable of operating multiple raw water pumps simultaneously, ensuring uninterrupted water supply during power outages caused by winter storms, wildfires, or seismic events.				X						X		X	Local Funds, Revenue Bond	Board of Commissioners	M	M
3	Modernize the raw water intake station—including pumps, controls, and seismic retrofitting—and construct a new supplemental well to enhance drought resilience and reduce flood and landslide vulnerability at the existing intake site located in a canyon.				X		X	X	X					USDA grant, Local Funds, Revenue Bond	Board of Commissioners	L	VH
4	Install protective covers over the slow sand filtration units at the water treatment plant to prevent contamination from ashfall during volcanic events and reduce maintenance disruptions from debris and storm-related impacts.									X	X			Local Funds	Board of Commissioners	S	M
5	Design and construct an intertie between the district and the Lincoln City water system to provide mutual aid capacity during emergencies, improve regional water supply resilience, and support continuity of service in the event of infrastructure failure or natural disaster.				X			X	X					HMGP, USDA grant, Local Funds, Revenue Bond	Board of Commissioners	L	H
6	Initiate annual monitoring of shoreline changes near the Salishan Spit and other vulnerable areas, using drone imagery or GIS tools to inform long-term infrastructure planning.		X											Local Funds, Revenue Bond	Board of Commissioners	M	L
7	Expand generator coverage to all critical pump stations to ensure 24-hour operational capacity during extended power outages caused by winter storms or seismic events.				X						X		X	Local Funds, Revenue Bond	Board of Commissioners	M	M

Source: K-GB-LB WD 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(c)(2)(iii) - Risk Assessment.

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 characteristics, 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 WD-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.

Riverine flood, wildfire, landslide, Cascadia Subduction Zone earthquake, and local tsunami are the high hazard threats to the city. Coastal erosion, winter storm, and volcanic events are the low hazard threats.

The water district's primary responsibilities focus on the management, protection, and operation of water-related infrastructure. While the safety of people is important to the district's mission, it does not serve as the lead agency for emergency response or public safety during hazard events.

Instead, the district works in close collaboration with county and city agencies that have broader responsibilities for managing community-wide impacts. The district provides technical expertise and support related to water infrastructure, while local jurisdictions lead efforts in emergency response, public safety, and disaster recovery.

Given this operational scope, the district is not directly affected by the following hazards and does not have infrastructure or responsibilities that warrant profiling them in its hazard analysis: air quality, coastal flood, drought, extreme heat, crustal earthquake, distant

tsunami, tornado, and windstorm. These hazards fall outside the district's direct impact zone or operational purview and are more appropriately addressed by other agencies within the broader emergency management framework.

In addition, hazards identified within the "bottom tier" have low vulnerability and/or low probability to the district. as such the district has elected to not include mitigation strategies. Instead. the district will collaborate with the County and applicable cities to implement mitigation strategies related to these hazards.

Table WD-2 Hazard Analysis Matrix

Hazard	History	Vulnerability	Maximum Threat	Probability	Total Threat Score	Hazard Rank	Hazard Tiers
Flood (Riverine)	14	35	90	70	209	#1	Top Tier
Wildfire	14	35	90	70	209	#2	
Landslide	18	40	80	70	208	#3	
Earthquake (Cascadia)	2	50	100	49	201	#4	
Local Tsunami	2	50	100	49	201	#5	
Coastal Erosion	18	20	50	70	158	#6	Bottom Tier
Winter Storm	18	20	50	70	158	#7	
Volcanic Event	2	10	40	7	59	#8	

Source: K-GB-LB WD steering committee, 2025.

Community Characteristics and Assets

The following section provides information on K-GB-LB WD specific demographics and assets (see Table WD-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 Kernville-Gleneden Beach-Lincoln Beach Water District (K-GB-LB WD) provides water service to approximately 2,447 customer connections across a coastal stretch from Depoe Bay to just south of Lincoln City, Oregon. The District also supplies treated water to the Lower Siletz Water District (LSWD) as a wholesale customer. Water is sourced from Drift Creek and treated at the District's slow sand filtration plant, located near Kernville. From there, it is pumped to the North Reservoir, with gravity-fed distribution to most of the service area, including the Central and South Reservoirs. Higher elevation areas, such as the Salishan Hills development, are served via booster pumps. The District's infrastructure includes four storage reservoirs and a network of water mains, with ongoing efforts to replace aging asbestos concrete lines with seismically resilient HDPE piping. K-GB-LB WD is recognized for its commitment to water quality and resilience, having received accolades for its surface water and invested in mitigation projects to address natural hazards like flooding, wildfires, and earthquakes

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 WD-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 WD-1) which includes the Lincoln County unincorporated communities of Kernville, Gleneden Beach, and Lincoln Beach. Additional infrastructure, including the main water transmission line, is in Lincoln County. The service area extends from nearly Depoe Bay to the south, to nearly Lincoln City to the north.

Hazard Identification

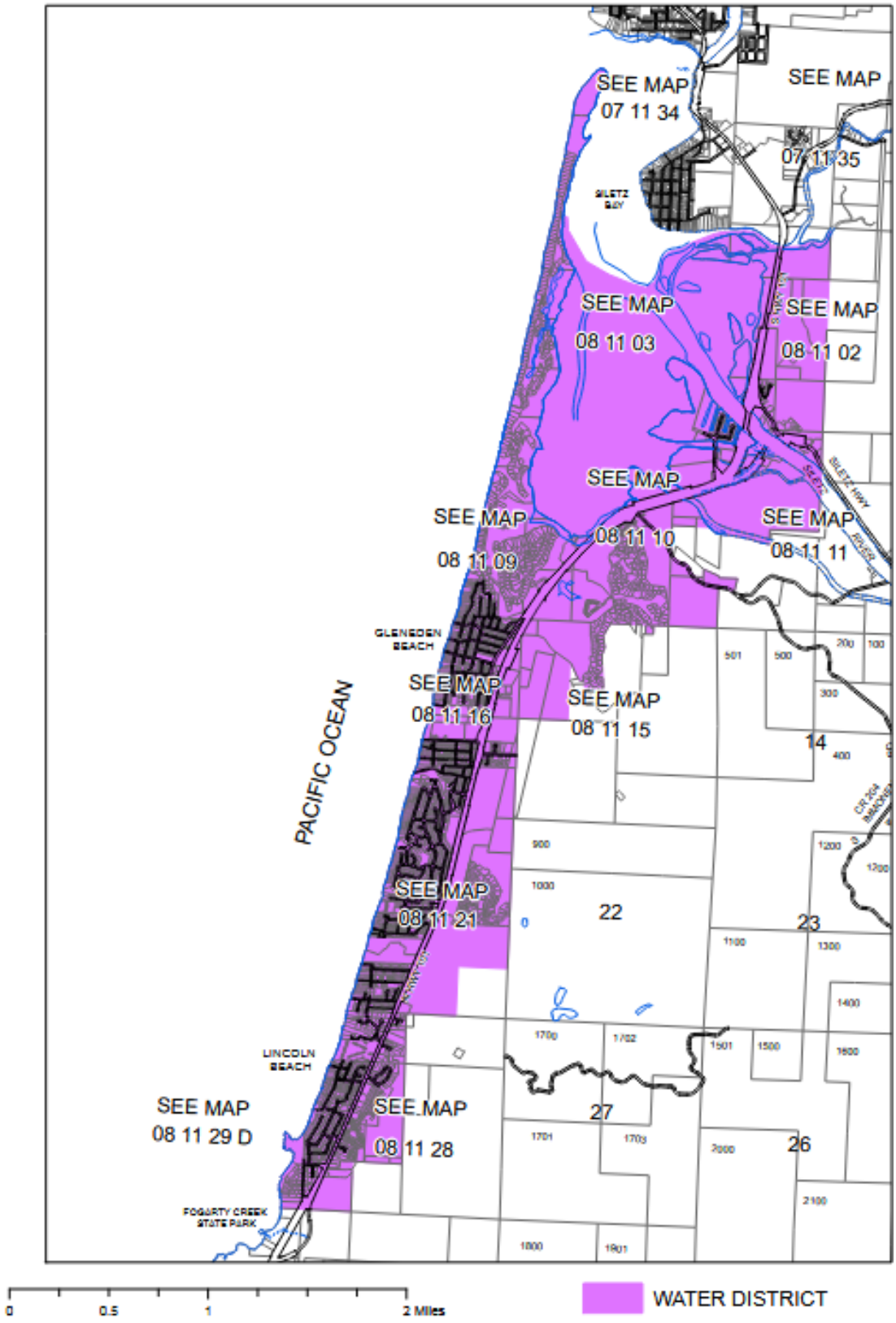
This section profiles the district's hazards and assesses their vulnerabilities, distinct from the countywide planning area. Detailed hazard profiles of the most significant countywide hazards are described in Volume I, Section 2. The detailed profiles include hazard characteristics, history, location, extent, previous occurrences, and probability of future occurrences. An event that affects the County, or applicable cities where district assets are located, 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 WD-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 County plan (Volume I).

Map WD-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 their profiled hazards.

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 WD-3 provides the ranking of hazards of concern based on total threat score and Table WD-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 WD-3 Hazard Risk and Description of Impact

Hazard	Description of Impact	Total Threat Score
Flood (Riverine)	Flooding is a significant concern, particularly near Drift Creek, which supplies the district's surface water. The water treatment plant (WTP) and key infrastructure, including the bridge that carries water lines to the Salishan Spit, are vulnerable during heavy rain events. Past flooding has necessitated the construction of an alternative access route and bridge to the WTP.	209
Wildfire	Wildfire poses a notable risk to the district, especially given the 2020 event that temporarily shut down the WTP and six sanitary pump stations. The WTP, located in a forested area near Kernville, is susceptible to fire and smoke impacts, which can degrade water quality and disrupt operations. Creating defensible space and upgrading infrastructure resilience are key mitigation strategies.	209
Landslide	Landslide risk is present, particularly around the raw water intake station, which is in a canyon and accessed via a pipeline that ascends a hillside. This area is vulnerable to slope instability, especially during seismic events or prolonged rainfall, potentially disrupting water supply.	208

Hazard	Description of Impact	Total Threat Score
Earthquake (CSZ Event)	A Cascadia Subduction Zone earthquake could severely impact the district's infrastructure, including the WTP, pump stations, and aging asbestos concrete water mains. The district's reliance on gravity-fed systems and limited generator capacity for pumping raw water increases vulnerability to long-term service interruptions.	201
Local Tsunami	Although the WTP is located inland, parts of the distribution system, including the Salishan Spit and low-lying coastal areas, fall within the tsunami inundation zone. A local tsunami could damage pipelines and isolate portions of the district, complicating emergency response and recovery.	201
Coastal Erosion	Coastal erosion is a growing concern near the Salishan Spit, where infrastructure such as water mains and access roads are increasingly threatened by rising sea levels and wave action. While core facilities are currently safe, future erosion could compromise service to outlying areas.	158
Winter Storm	Winter storms bring heavy rain, wind, and occasional ice, which can lead to power outages and strain on overhead transmission lines. Ice accumulation on lines and saturated soils increase the risk of infrastructure damage and access issues, particularly in higher elevation zones like Salishan Hills.	158
Volcanic Event	Ashfall from a volcanic eruption could severely impact the district's slow sand filtration system, which is exposed and vulnerable to clogging. Ash can alter water chemistry and overwhelm treatment capacity, potentially leaving the district without potable water for extended periods.	59

Source: K-GB-LB WD steering committee, 2025.

Table WD-4 Facilities Summary

Name/Number	Address	Identified Hazard Exposure											
		AQ	CE	DR	EQ	EH	FL	LS	TS	VE	WF	WS	WT
Water Treatment													
Slow sand filtration plant – 1.2 mgd	3027 S Drift Creek Road, Lincoln City, OR				X		X			X	X		
Surface water supply										X			
Storage Tanks													
North – 300,000 gal					X								
Salishan Standpipe – 150,00 gal					X								
Central – 1,000,000 gal					X								
South – 1,000,000 gal					X								
Pump Stations													
Two raw water pumps – ea. 420 gpm					X		X	X	X		X		X
Piping, Hydrants, Generators, and other infrastructure													
Interconnect with the Lower Siletz Water District					X								
PVC water lines – 106,000 ft			X		X			X	X				
AC water lines – 102,000 ft			X		X			X	X				

Source: Information provided by K-GB-LB WD

Dark 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
CE = Coastal Erosion
DR = Drought
EH = Extreme Heat
EQ = Earthquake
FL = Flood
LS = Landslide
TS = Tsunami
VE = Volcanic Event
WF = Wildfire
WS = Windstorm/Tornado
WT = Winter Storm

Attachment A: Public Involvement Summary

Members of the Steering Committee provided edits and updates 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 F).

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement was 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 update process through several steps including goal confirmation and prioritization, action item review and development, and information sharing, to update the NHMP and to make the NHMP as comprehensive as possible. The Steering Committee met formally on the following dates:

Meeting #1: April 14, 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:

- Convener, Danielle Eisenbarth, Finance Manager
- Jeramy Price, Superintendent

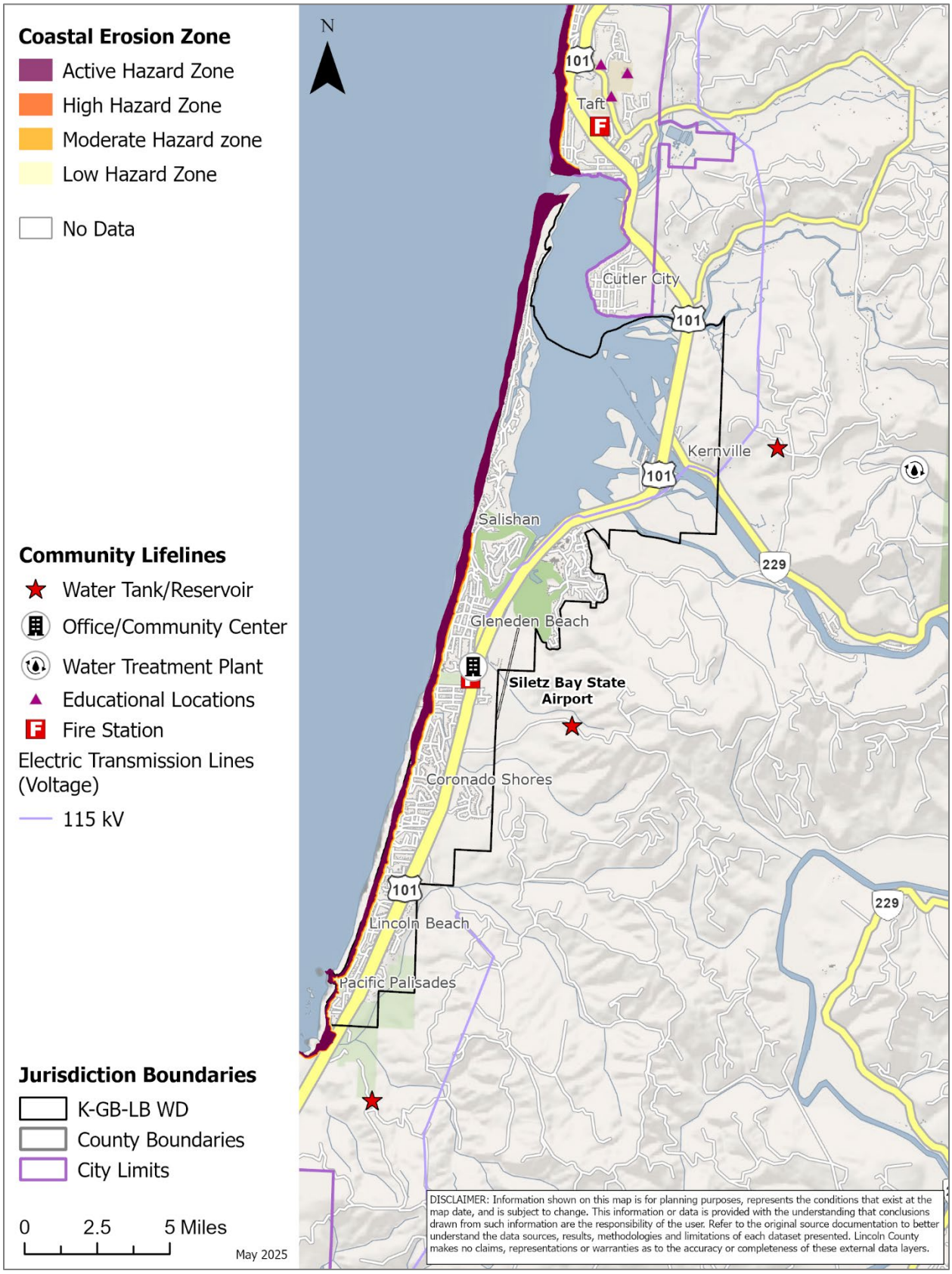
Meeting Summary:

The agenda included reviewing jurisdiction-specific hazard vulnerabilities, assessing capabilities and assets, and developing new mitigation strategies. Key risks identified for K-GB-LB WD included flooding, landslides, wildfires, and tsunamis, with infrastructure concerns such as aging asbestos concrete water mains and vulnerability of the water treatment plant. Concerns centered on tidal flooding and the proximity of pump stations to coastal erosion zones.

The meeting also emphasized the importance of aligning mitigation actions with identified hazards, reviewing existing plans and physical assets, and planning for future improvements. Action items included infrastructure upgrades like replacing vulnerable pipelines, enhancing generator capacity, and improving raw water intake systems. The session concluded with next steps for reviewing the addendum, preparing for the county steering committee meeting, and integrating feedback into the final NHMP update.

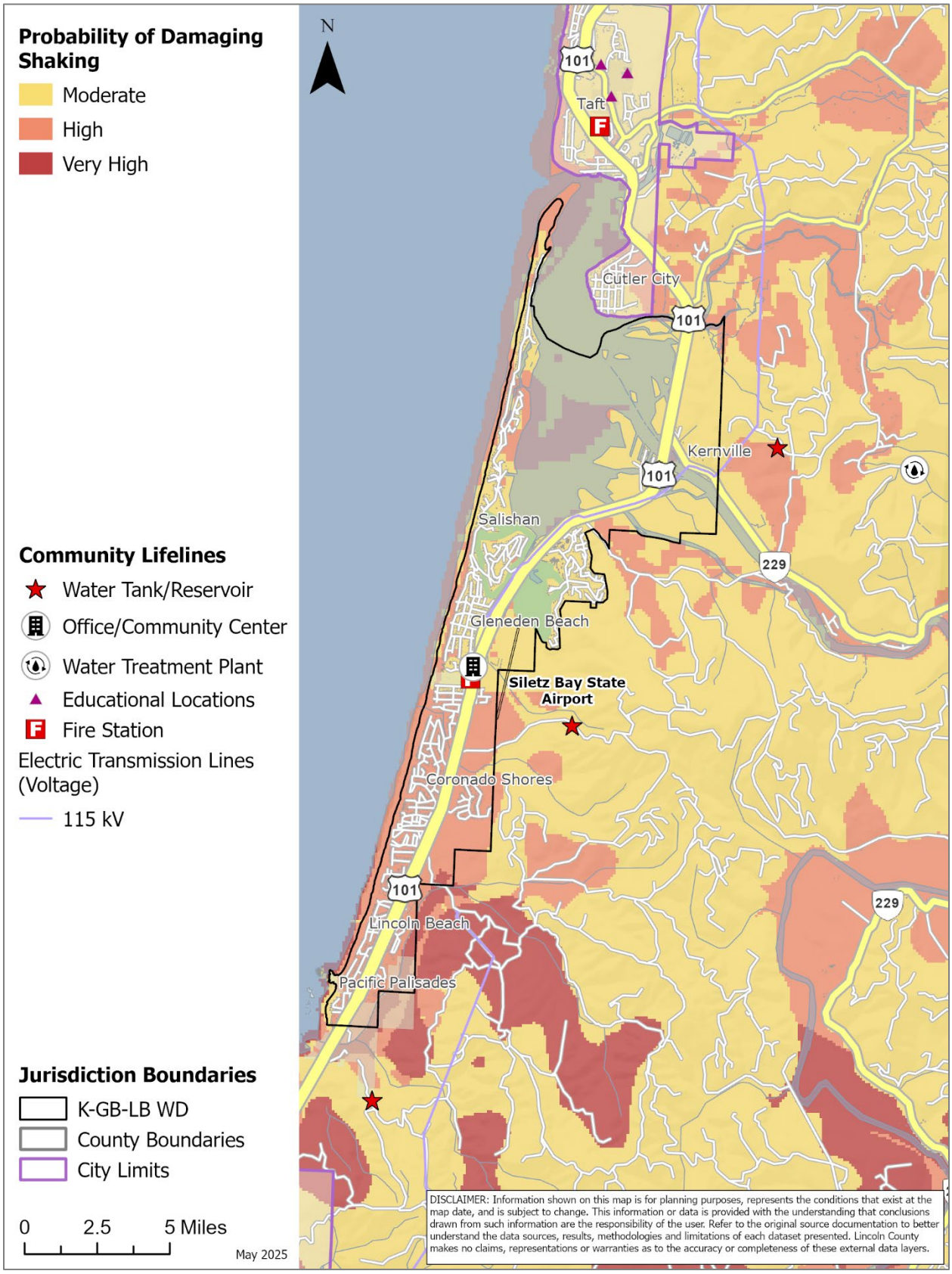
Attachment B: Hazard Maps

Map WD-2 Coastal Erosion Hazard



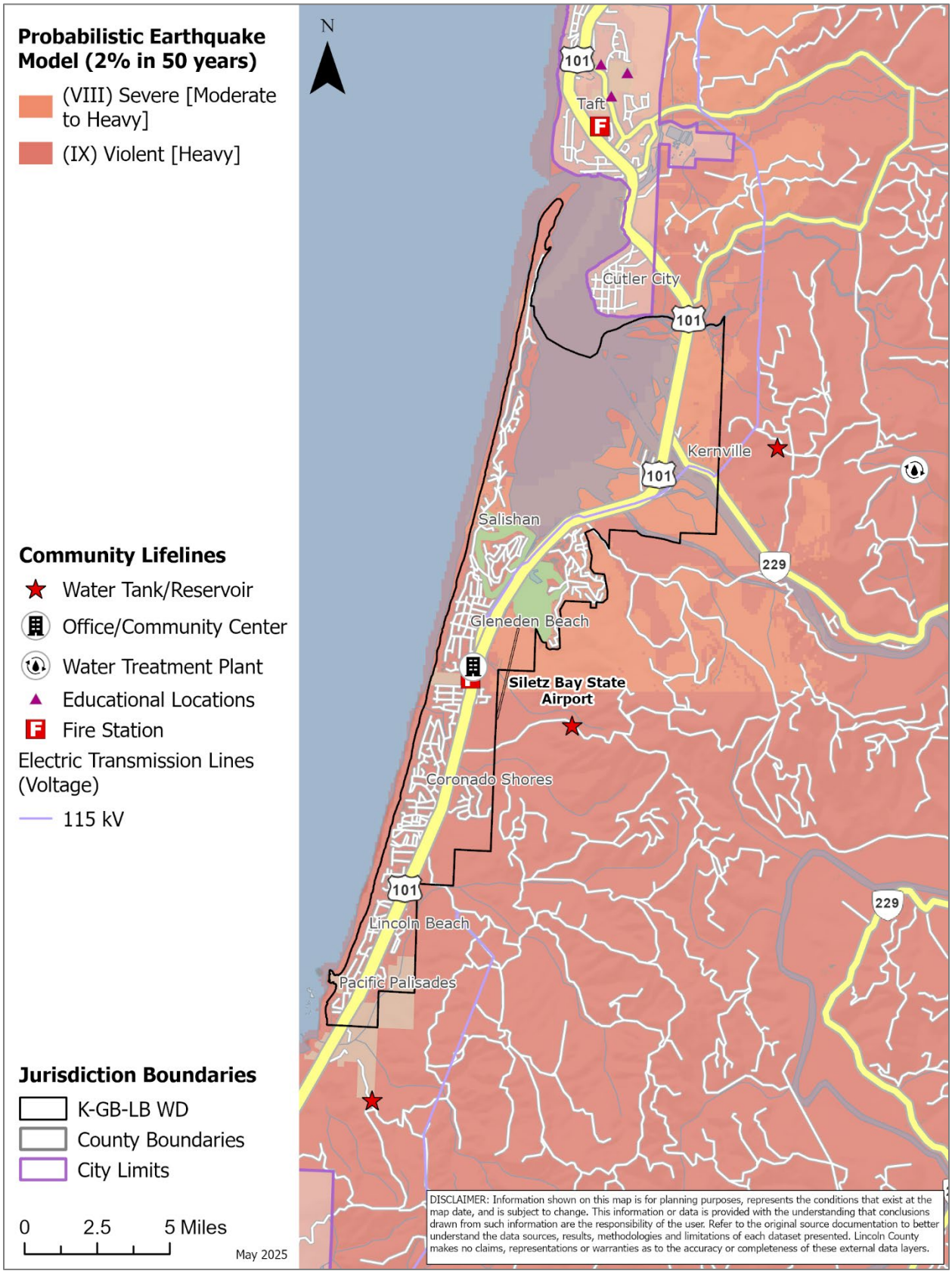
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-3 Probability of Damaging Shaking



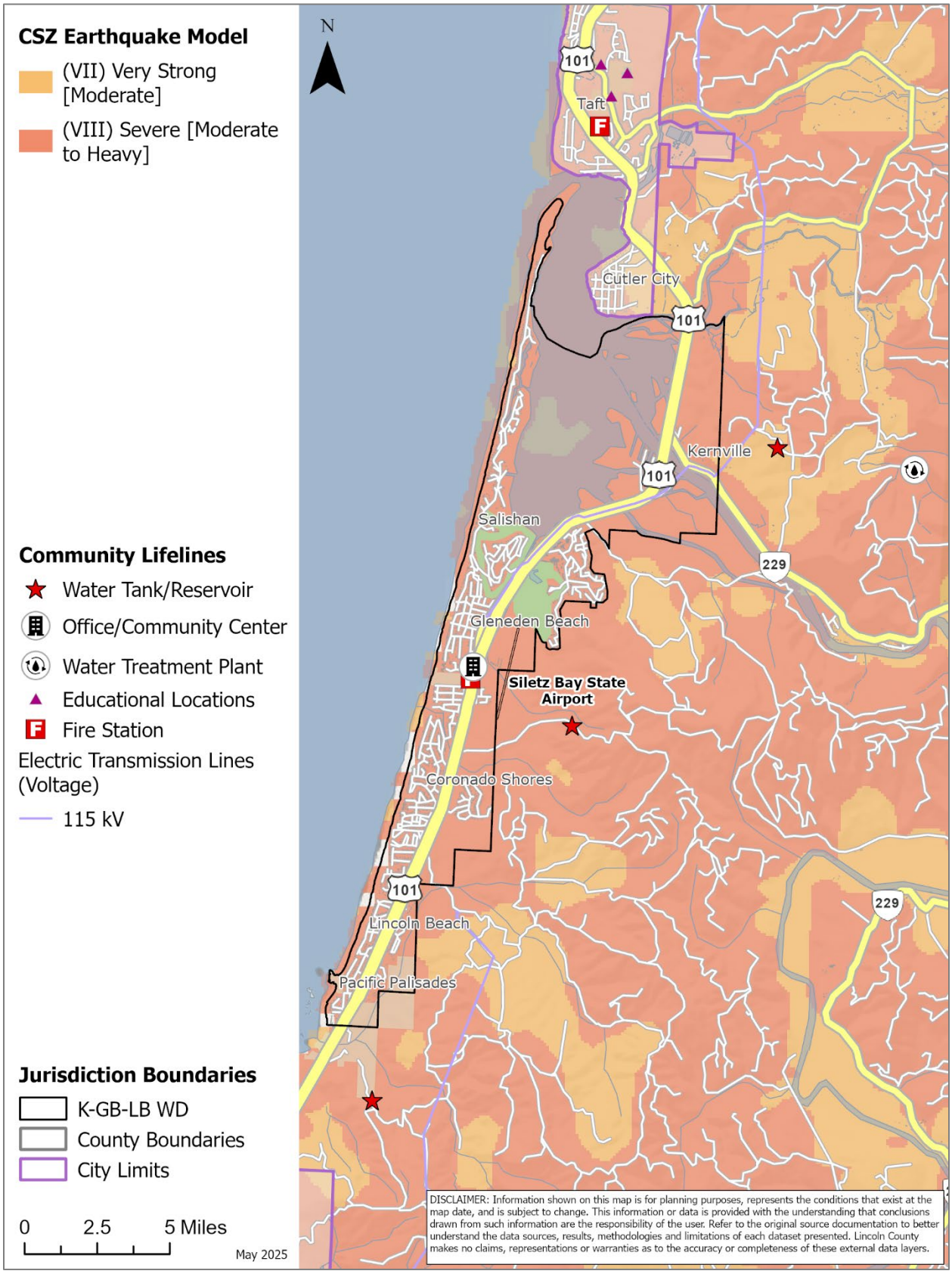
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-4 Perceived Shaking and Damage Potential, Probabilistic Earthquake Model



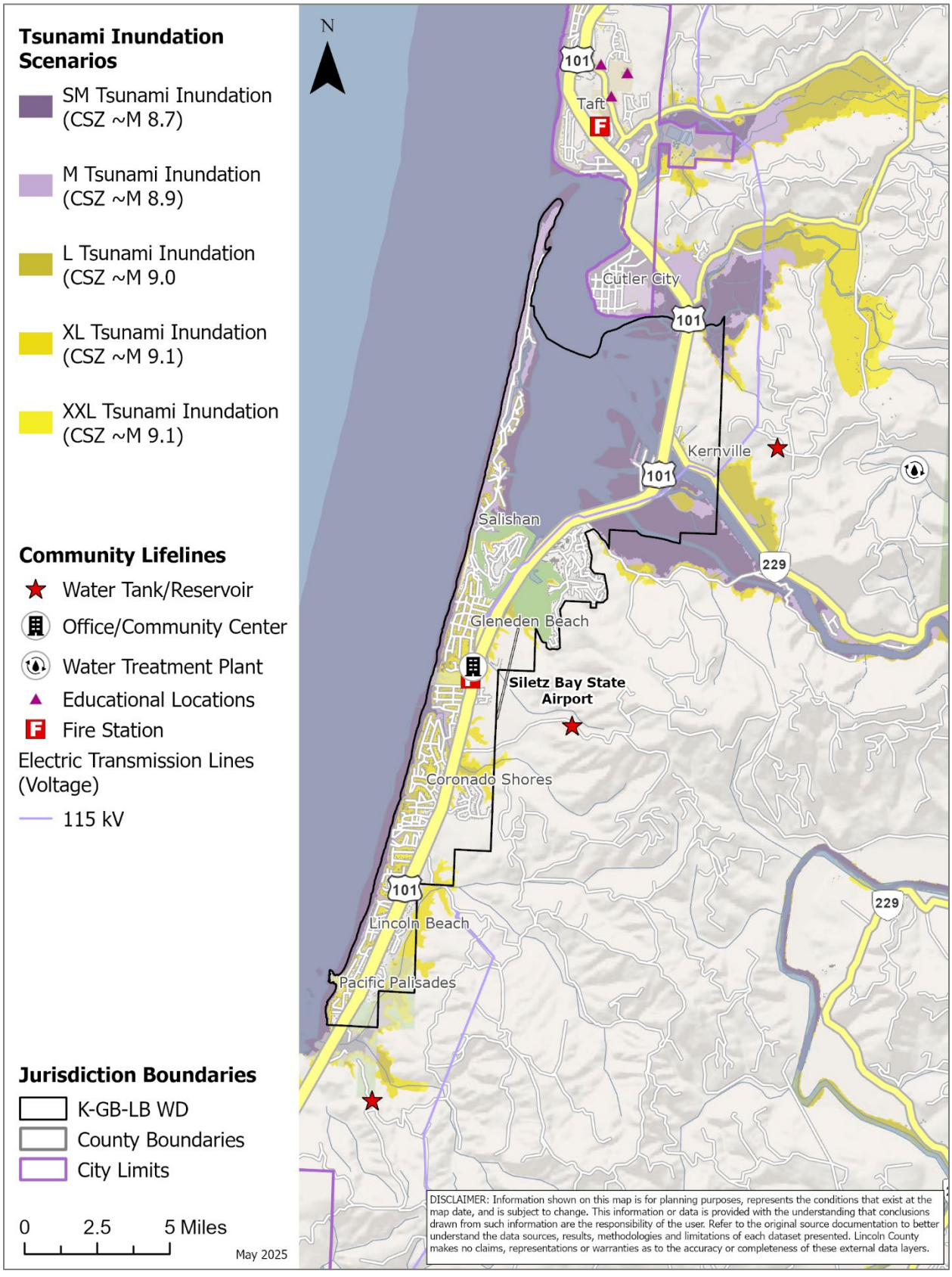
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-5 Perceived Shaking and Damage Potential, CSZ Earthquake Model



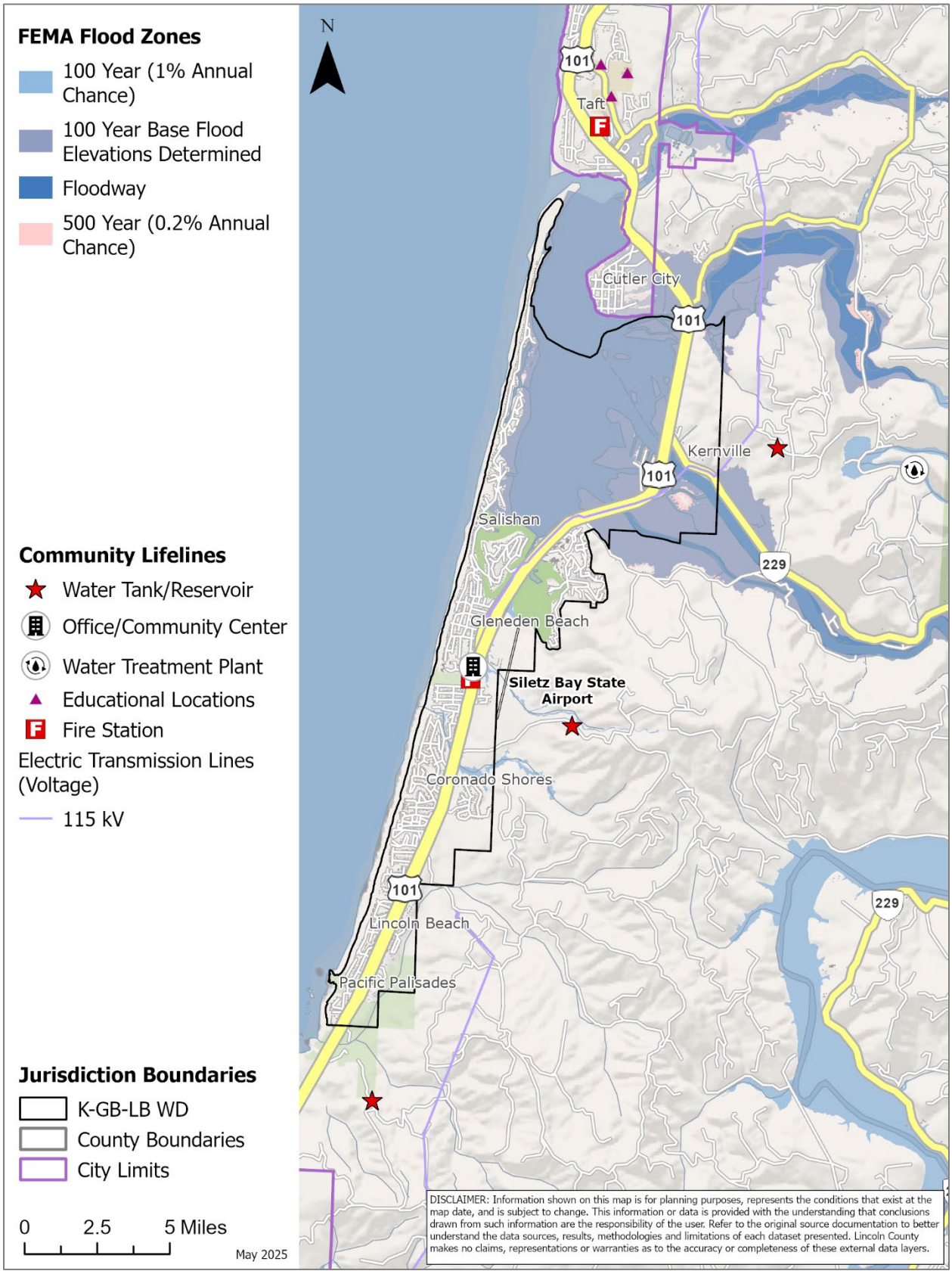
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-6 Tsunami Inundation Scenarios



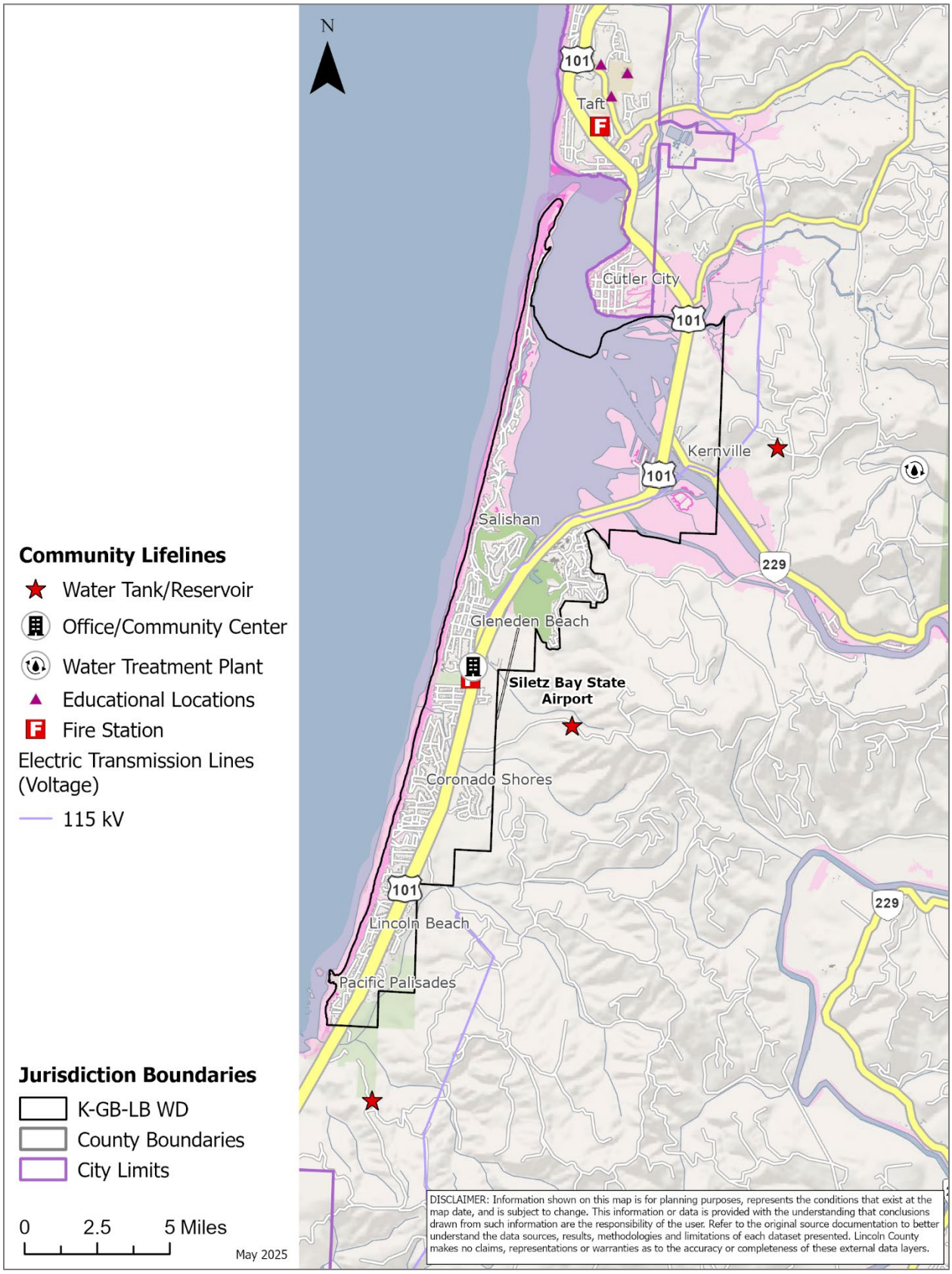
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-7 Flood Hazard Zones (100- and 500-year floodplains)



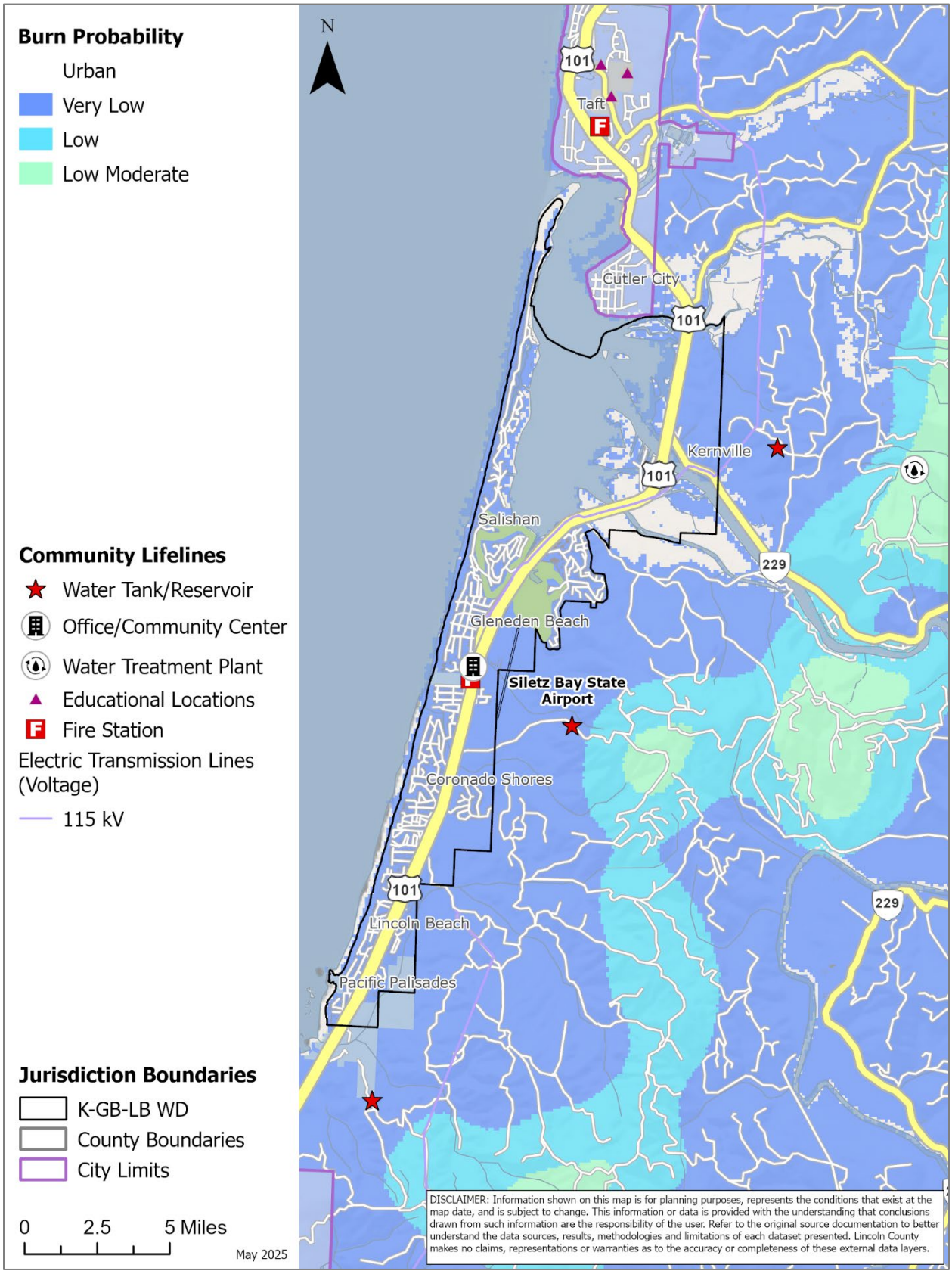
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-8 Sea Level Rise



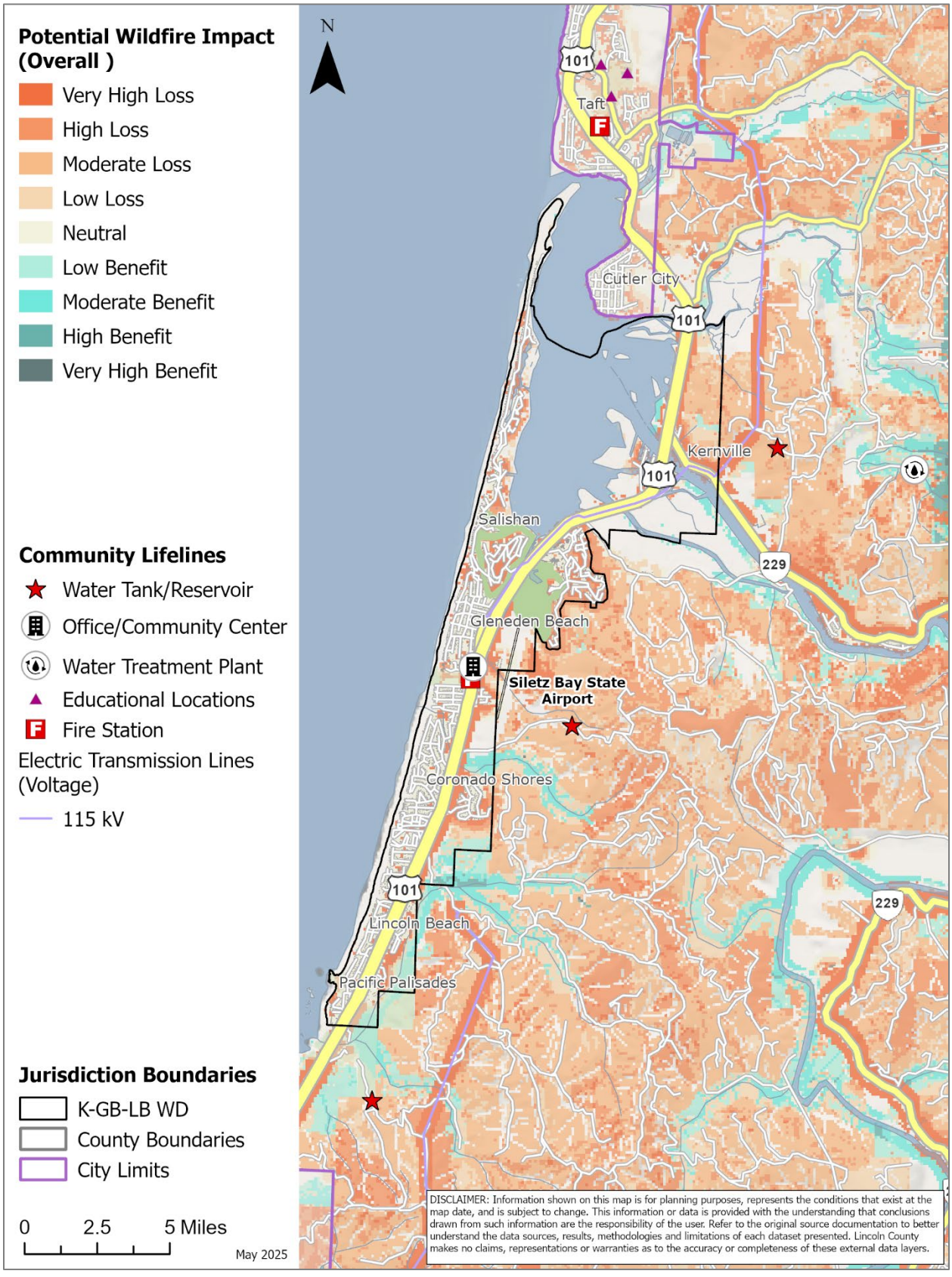
Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-9 Burn Probability and Fire History (1992-2022)



Source: Oregon Explorer: Map Viewer – To view map detail click hyperlink to left.

Map WD-10 Potential Wildfire Impact (Overall)



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