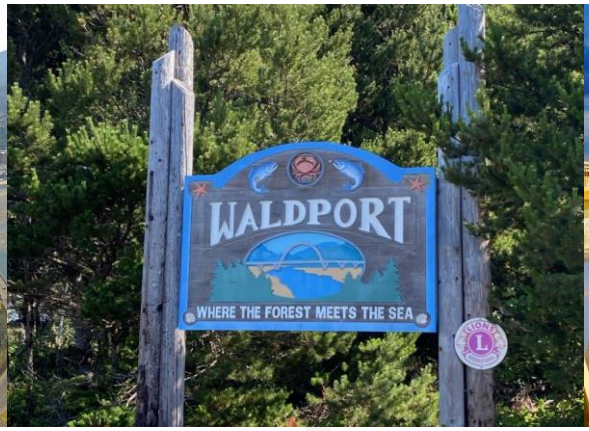
Waldport Addendum

to the Lincoln County Multi-Jurisdictional NHMP



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Introduction

Purpose and Adoption

This is an update of the City of Waldport 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 in Volume I (Basic Plan), which serves as the foundation for this jurisdiction's addendum and Volume II (Appendices), which provides additional information. This addendum meets all the requirements of Title 44 §201.6 including:

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

The City of Waldport's original addendum to Lincoln County's NHMP was completed and approved by FEMA in 2009.

For planning purposes, this addendum provides additional information specific to the jurisdiction, with a focus on providing greater details on the risk assessment and mitigation strategy. A description of the jurisdiction specific planning and adoption process follows, along with detailed community specific action items. Information about the jurisdiction's risk relative to the county's risk to natural hazards is documented in the addendum's Hazard Analysis and Issue Identification section. The section considers how the city's risk differs from or matches that of the county's; additional information on Risk Assessment is provided within the Lincoln County NHMP's Section 2 – Risk Assessment.

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.*

The City of Waldport adopted their addendum to the Lincoln County Multi-jurisdictional NHMP on [Month DAY], 2025. FEMA Region X approved the Lincoln County NHMP on [Month DAY], 2025 and the city's addendum on [Month DAY], 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 [Month DAY], 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 city will remain eligible for pre-, and post-disaster mitigation 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 City of Waldport to update their NHMP. Members of the NHMP steering committee also participated in the County NHMP update process (Attachment B and Volume II, Appendix B).

Convener and Committee
The Waldport Planner serves as the NHMP addendum convener. The convener of the NHMP will take the lead in implementing, maintaining, and updating the addendum to the Lincoln County NHMP in collaboration with the designated convener of the Lincoln County NHMP.

Representatives from the City of Waldport met formally, and informally, to discuss updates to their addendum (Volume II, Appendix B). The steering committee reviewed and revised the city's addendum, with focus on the plan's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings, and during subsequent work, and communication with OPDR. Other documented changes include revisions to the city's risk assessment and mitigation strategies (action items).

The Waldport Steering Committee was comprised of the following representatives:

- Convener, Jaime White, City Planner
- Dann Cutter, City Manager
- Michael Lee, Public Works Operations Superintendent

Implementation and Maintenance

The City Council will be responsible for adopting the addendum to the Lincoln County NHMP. This addendum designates a steering committee and a convener to oversee the development and implementation of action items. Because the city is part of the county's multi-jurisdictional NHMP, the city will look for opportunities to partner with the county. The city's steering committee will convene after re-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 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 city will remain active in the county's implementation and maintenance process and utilize the process internally (Volume I, Section 4).

The city will provide continued public participation during the plan maintenance process through periodic presentations to elected officials, public meetings, postings on social media, and/or through interactive content on the jurisdiction's website.

The city 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 city's existing plans and policies. Where possible, the city 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.

Capability Assessment

The Capability Assessment identifies and describes the ability of Waldport 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.

Existing Authorities

Hazard mitigation can be executed at a local scale through three (3) methods: integrating hazard mitigation actions into other local planning documents (i.e., plan integration), adopting building codes that account for best practices in structural hardening, and codifying land use regulations and zoning designations that prescribe mitigation into development requirements. The extent to which a municipality or multi-jurisdictional effort leverages these approaches is an indicator of that community's capabilities.

Comprehensive Plan

Oregon's Statewide Planning Goal 7 requires comprehensive planning within every jurisdiction that is designed to reduce risks to people and property from natural hazards. The Waldport Comprehensive Plan provides the policy and regulatory foundation for all land use management in the city. It integrates policies and recommendations to meet the Oregon Statewide Planning Goals, including Statewide Planning Goal 7, Natural Hazards.

The Waldport Comprehensive Plan (2013) is the guiding land use plan for the City of Waldport. Chapter 7, Natural Hazards, implements Statewide Planning Goal 7. This chapter outlines the city's goals and policies related to Natural Hazards. The two goals are to mitigate

risks to persons and property with regard to landslides, fires, tsunamis, and floods through regulation. And to maintain a current inventory of natural hazards that will impact land development within the UGB. The policies in support of these goals is the continued use of development regulations to reduce future losses during a disaster.

Land Use Regulations

Existing land use policies that define zoning and address hazardous conditions provide another source of mitigation capability.

Land Use Codes

Chapter 16 of the Waldport Municipal Code is the city's zoning ordinance. Section 16.68 details the city's Flood Hazard Overlay Zone. The purpose of this ordinance is to promote public health, safety, general welfare, and minimal public and private loss due to flooding. Subsection 16.68.050 outlines Provisions for Flood Hazard Reduction. This subsection lists the standards that must be adhered to when developing in the special flood hazard areas. These provisions include requirements for anchoring, materials, water systems, and watercourse alterations. There are also provisions for flood hazard reduction in Riverine Flood Zones. This subsection says the city's freeboard requirements for residential constructions is one (1) foot above the base flood elevation. And there are provisions for flood hazard reduction in Coastal High Hazard Areas and Shallow Flooding Areas (AO Zones).

Section 16.44, Marine Waterway Zone, references the Waldport Estuary Management Plan for information on permitted and conditional uses in these zones.

Waldport has not made a decision on what FEMA Pre-Implementation Compliance Measures (PICM) they will pursue in response to the National Marine Fisheries Service Biologic Opinion (BiOp). FEMA is ensuring that all floodplain development in Special Flood Hazard Areas (SFHA) is compliant with the Endangered Species Act (ESA).

Wildfire Safety

Wildfire measures are not mentioned in the city's zoning ordinance.

New state wildfire defensible space code is scheduled to be completed this December with an effective date announced in 2024. Fire hardening requirements were adopted on October 1, 2022, and effective April 1, 2023.

The Community Wildfire Protection Plan (CWPP, 2024) helps the city communicate its priorities for the protection of life, property, and critical infrastructure in the wildland–urban interface on both public and private land. Local fire service organizations help define issues that may place the county, communities, and/or individual homes at risk. The Central Oregon Coast Fire & Rescue District has their own profile in the CWPP, in which issues of concern, collaboration with other fire districts, and areas of response are addressed.

Structural Building Codes

The Oregon Legislature recently adopted updated building codes for both residential (2021 adoption) and commercial structures (2022) since the last update of the NHMP. These

building codes are based on the 2021 version of the International Building Code, International Fire Code, and International Existing Building Code.

Waldport adopts the State Building Code and the Oregon Fire Code in which all building and related activities shall comply.

Policies and Programs

City Plans

The Waldport Transportation System Plan (TSP, 2019) is a long-range plan that identifies improvements to the city's transportation facilities and services to meet state, regional, and local transportation needs for the next 20 years. Objective 'd' of Goal 1 of the TSP is to plan for efficient and safe emergency response and evacuation needs. Goal 4 of the TSP is to provide a transportation system that ensures the city can respond to and recover from natural hazards and disasters. Objective 4.2 of Goal 4 is to maintain and enhance lifeline and evacuation routes in coordination with local, regional, state, and private entities to prepare for natural disasters. On p. 69 of the TSP there is a tsunami evacuation plan. This evacuation plan is an evaluation of routes conducted by the Oregon Department of Geology and Mineral Industries (DOGAMI). They have identified that the Yaquina John Point Area, downtown Waldport, and the east side of the city is located within walking distance of a safety destination. The evaluation also lists current and future routes that can serve as critical evacuation routes.

The Waldport Evacuation Facilities Improvement Plan (2019) is a comprehensive look at existing and potential evacuation routes and needed improvements for the community. It includes identified facility and infrastructure improvement projects and potential financing strategies. Recommendations for the city are found on p. 16 of the plan. These include recommendations for administration and policy, education and outreach, and overall community preparedness.

The Lincoln County Evacuation Plan (2024) has a priority area plan for Waldport. The purpose of the priority area plan is to help the community prepare for disasters and to help facilitate any needed evacuations. The priority area plan outlines the city's natural disaster risks, the current emergency response system, different evacuation routes, and recommendations

The Waldport Parks, Recreation & Trails Master Plan (2016) provides guidance to future decision making and a basis for measuring progress of the citywide parks system. Chapter 5 of the plan outlines concept plans for improvements. These improvements include wetland restoration and trail construction that will serve the city's evacuation routes. That trail is currently called the Woodland trail, and it begins on the south side of downtown and leads to the junction of Crestline Drive and Range Drive. Chapter 6 of the plan summarizes the potential cost and sources of revenue needed for implementation. The plan states $600,000 is needed for tsunami preparation and evacuation.

The Waldport Estuary Plan (1983) was last reviewed in 1990. The plan protects the estuarine ecosystem, including its natural biological productivity, habitat, diversity, unique features and water quality. When actions are identified to potentially alter the estuarine ecosystem, a

detailed review by the city is required. These activities include dredging, filling, in-water structures, riprap, application of pesticides, and water intake. Pages 50-60 of the plan detail State and Federal programs and responsibilities that relate to estuarine development activities. These programs are used to meet Statewide Planning Goal 16, Estuarine Resources.

National Flood Insurance Program (NFIP)
Waldport participates in the National Flood Insurance Program (NFIP). The program is managed by the Planning and Zoning Department. The program makes flood insurance available to all property owners. To maintain eligibility for the NFIP, Waldport has adopted and enforces special building and development restrictions for lands that are subject to flooding.

Waldport is not a Community Rating System (CRS) community. The CRS system is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the National Flood Insurance Program.

Oregon Department of Transportation (ODOT) Seismic Lifelines
According to the Oregon Department of Transportation, Waldport has one highway that is considered a seismic lifeline. Highway 101 is a tier 1 lifeline. This route is part of the state's overall network of streets, highways, and bridges that will facilitate emergency service response and support in the event of a seismic event.

Government Structure

The City Council is the policy making body for Waldport. As the elected legislative body in Waldport, the City Council has overall responsibility for the scope, direction and financing of city services. Council members serve four-year terms. Additional departments within the city include the following:

City Manager's Office: The city manager is appointed by the City Council and serves as the city administrative officer of the city government. The city manager provides the leadership and direction for the operation and management of all city departments and serves as the city's budget officer.

City Recorder: The city recorder assures the timely presentation of formal communications from the public, other agencies and city staff to the City Council. The recorder prepares city council meeting agendas in coordination with the city manager; maintains official city records which reflect the actions of the governing body; maintains a depository of contracts, agreements and official council actions and ensures the timely availability of these records to the council, public other agencies and staff.

City Planner: The city planner provides service and information to the general public regarding phases of planning and community development. The city planner implements ordinance and plan requirements through a site and land use review process. Specifically, the city planner reviews potential development opportunities to ensure compliance with zoning, setback, parking, landscaping, access and other city requirements.

In addition to oversight of the development process, the city planner advises the City Council, Planning Commission, and city manager on land use and special project matters.

Public Works Department: The Waldport Public Works Department provides responsive community services related to planning, design, construction, operation, maintenance and management of public infrastructure, including streets, sewer, water treatment, wastewater treatment, storm drainage, public buildings and other facilities. Services provided by the department contribute to the public health, safety, economic diversity, environmental quality and citizen convenience.

Finance Department: The Finance Department serves the community by managing utility billing, business licenses, collecting taxes and fees, dealing with city expenditures, monitoring the city's budget, and managing investments. The goal of the finance department staff is to provide services with an emphasis on timelines, accuracy and courteous customer service

Public Library: The Waldport Public Library collects, preserves, and administers organized collections of books, internet communication and related materials.

Community Center: The Waldport Community Center provides a wide array of community services including a Senior Meals Program, a meeting facility for several community organizations, a crafts and farmers market, and other organized activities for the community.

Mitigation Successes

This is a list of funding Waldport has received to make improvements to city infrastructure.

- New 300,000 gallon water tank for the water treatment plant
- Crestline sidewalk upgrades funded by the Safe Routes to School Grant

Existing Mitigation Activities

Existing mitigation activities include current mitigation programs and activities that are being implemented by the community to reduce the community's overall risk to natural hazards. Documenting these efforts can assist participating jurisdictions better understand risk and can assist in documenting successes. The following efforts have occurred or are on-going within Waldport:

- The City of Waldport adopted an emergency operations plan in September 2001. The stated purpose of the plan is:
    - To provide, in cooperation with the Lincoln County Department of Emergency Services, an effective operational capability in order to minimize the results of a natural or manmade disaster.
    - To assist in meeting the above capability, the following requirements should be satisfied:
- The Mission of the Emergency Operations Plan is to safeguard life and property by making maximum use of available manpower, equipment, and other resources in order to minimize the effects of a disaster.

- The City of Waldport supports the Central Oregon Coast Fire & Rescue District (COCFRD). This includes supporting COCFRD in the implementation of the 2006 Emergency Disaster Plan prepared by COCFRD. The objectives of the Emergency Disaster Plan are to incorporate and coordinate all facilities and personnel of the District into an efficient organization capable of reacting adequately and promptly in the face of disaster, and to conduct such operations as the nature of the disaster requires, whether during a local emergency or to assist other jurisdictions should they need help.
- The City of Waldport enforces a setback requirement for all developments located along the coast. The purpose of the setback is to reduce property damages related to coastal erosion, windstorms, and flooding. The setback requirement also serves to meet the city's natural hazard goal, as defined with the Waldport Comprehensive Plan: "To protect life and property from natural disasters and hazards."
- The city Comprehensive Plan and Development Code address natural hazards. Specific hazardous areas have been identified by RNKR Associates in their work Environmental Hazards, Coastal Lincoln County, Oregon, 1979. The city has defined 'hazardous areas' and will allow development in these areas if adequate protective measures can be employed to prevent or minimize damage in accordance with city development code standards.
- The city distributes a Waldport tsunami evacuation map and tsunami safety brochure.
- The Waldport Middle School was moved out of the tsunami zone in 2006. The high school was moved out of the tsunami zone in 2012.

Mitigation Strategy

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

Waldport follows the mission and hazard mitigation goals described in Volume I.

The city's action items were first developed through a two-stage process during the 2009 NHMP development and revised in 2015 and 2020. In stage one, OPDR facilitated a work session with the steering committee to discuss the city's risk and to identify potential issues. In the second stage, OPDR, working with the local steering committee, developed potential actions based on the hazards and the issues identified by the steering committee. During the 2025 update process OPDR re-evaluated the Action Items with the county and local steering committees and updated actions, noting what accomplishments had been made and if the actions were still relevant; any new action items were identified at this time (Table WA-1). For additional information see Attachment B.

The steering committee opted to not include mitigation strategies for low vulnerability and low probability hazards including: Tornado, coastal erosion, crustal earthquake, 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 WA-1 presents a list of mitigation actions. The steering committee decided to modify the prioritization of action items in this update to reflect current conditions (risk assessment), needs, and capacity. High priority actions are shown with orange highlight. The city 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 WA-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	Develop and implement a comprehensive Stormwater Management Plan to reduce flood risk, protect water quality, and support long-term community resilience. This strategy will address the impacts of increased impervious surfaces—such as roads, rooftops, and parking lots—that contribute to higher runoff volumes, stream channel erosion, and diminished groundwater recharge. The plan will identify and prioritize infrastructure improvements, incorporate best management practices (BMPs), and engage community stakeholders.						X		X					Local funding resources, HMA, EPA	Administration	L	L
2	Mitigate the risk of earth movement, including erosion and slow landslides, along Crestline Drive by identifying and analyzing high-risk areas, implementing effective erosion and stormwater control measures during construction, promoting responsible land use that preserves natural contours and vegetation, encouraging property owners to reduce water input into slopes, enforcing grading codes in vulnerable zones, and integrating updated landslide inventory and susceptibility maps into future planning and development regulations.				X		X	X						Local funding resources, HMA	Public Works	L	M
3	Relocate critical emergency facilities, including the fire station and essential equipment, out of the tsunami inundation zone to ensure operational continuity during natural disasters; investigate and evaluate alternative locations for these facilities, and procure a cost-effective, hazard-resilient police communications system capable of maintaining functionality during events such as earthquakes and tsunamis.								X					Local funding resources	Administration/ Central Oregon Coast RFPD	L	H
4	Enhance the resilience and reliability of Crestline Drive as a critical access route to development outside the tsunami inundation zone by addressing threats from earth movement and erosion through potential improvements or relocation; support long-term relocation planning by researching alternative transportation routes, conducting surveys, and exploring land acquisitions or easements—including the potential use of nearby open space such as school property—to improve infrastructure and connectivity to both short-term and long-term evacuation and resettlement areas				X		X	X	X		X	X	X	Local funding resources	Planning	L	M

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
5	Improve tsunami evacuation readiness and post-disaster sheltering capacity for the area east of Lint Slough and Waldport Schools by clearly identifying and marking evacuation zones and routes, including the development of accessible trails for underserved areas; enhance infrastructure with new sidewalks, bike paths, stairs, signage, lighting, and emergency storage facilities; upgrade sheltering capabilities at Waldport Schools to support their role as a regional evacuation hub; and strategically acquire and place community emergency supply pods stocked with essential resources such as food, water, and shelter materials at tsunami assembly areas and other key locations throughout the county.								X					Local funding resources, HMA, OREM	Planning	S	L
6	Develop and adopt a tsunami-resilient land use code tailored to local risk conditions by utilizing the 2015 Preparing for a Cascadia Subduction Zone Tsunami: A Land Use Guide for Oregon Coastal Communities and 2019 Landslide Hazards Land Use Guide to implement effective planning strategies that increase community resilience; incorporate tsunami hazard overlay zones, evacuation facility planning, and zoning code updates into local comprehensive plans; and evaluate options to relocate or retrofit critical facilities housing vulnerable populations—such as schools, hospitals, and nursing homes—currently located within high tsunami hazard zones to ensure safety and continuity of services during and after a Cascadia subduction zone event.								X					Local funding resources, DLCD TA	Planning	S	L
7	Identify, inventory, and retrofit critical facilities for seismic and tsunami rehabilitation (consider both structural and non-structural retrofit options). The city should prioritize seismic retrofitting of City Hall as a critical facility to ensure continuity of government operations during disasters. Integrate resilience measures into existing housing and disaster recovery programs to strengthen overall community preparedness.				X				X					Local funding resources, Business Oregon IFA Seismic Rehabilitation Grant Program	Public Works, City Manager	L	H
8	Acquire generators for City Hall and the old school gym/community center. This will help keep these buildings operational should the power go out. With a generator, the old gym/community center could be used as a warming shelter during storms.				X		X	X	X		X	X	X	Local funding resources (e.g., general fund), OREM	City Manager	M	M

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
9	Expand fuel storage capacity at existing generator-equipped sites to ensure longer operational capability during outages and assess critical facilities to determine where additional generators may be needed to enhance emergency resilience.				X		X	X	X		X	X	X	Local funding resources, OREM	Public Works	S	M
10	Upsize water lines in key areas to meet increased fire flow requirements and ensure adequate pressure during emergencies, while also evaluating other zones where upgrades may be needed to support future fire protection needs.			X							X			Local funding resources, HMA, IFA	City Manager	M	H
11	Develop a resilience plan to ensure continuity of administrative operations during disasters, including deploying a mobile city hall, securing IT system backups, and identifying critical staff and infrastructure needs to maintain essential services		X	X	X		X	X	X	X	X	X	X	Local funding resources, DLCD TA	City Manager	S	L

Source: NHMP 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
* - the windstorm hazard includes tornadoes (water spouts)
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 NHMP steering committee updated the city's previous hazard analysis to reflect current conditions. Where appropriate, changes were made to distinguish the city's risks from those in the County's hazard analysis, as detailed throughout this addendum.

Table WA-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, winter storm (snow/ice), landslide, riverine flood, coastal flood, Cascadia Subduction Zone earthquake, and local tsunami are the **high hazard threats** to the city. Wildfire, drought, and distant tsunami are the **moderate hazard threats**. Tornado, coastal erosion, crustal earthquake, and volcanic events, are the **low hazard threats**.

The city is not affected by air quality and extreme heat hazards, as such the hazards are not profiled and not included in their hazard analysis.

Table WA-2 Hazard Analysis Matrix

Hazard	History	Vulnerability	Maximum Threat	Probability	Total Threat Score	Hazard Rank	Hazard Tiers
Windstorm	20	50	100	70	240	#1	
Winter Storm	18	35	90	70	213	#2	
Landslide	20	40	80	70	210	#3	
Flood (Riverine)	20	45	70	70	205	#4	*Top Tier*
Flood (Coastal)	20	45	70	70	205	#5	
Earthquake (Cascadia)	2	50	100	49	201	#6	
Local Tsunami	2	50	100	49	201	#7	
Wildfire	6	40	80	63	189	#8	
Drought	14	35	80	56	185	#9	*Middle Tier*
Distant Tsunami	10	15	60	35	120	#10	
Tornado	8	10	30	56	104	#11	
Coastal Erosion	16	10	20	56	102	#12	*Bottom Tier*
Earthquake (Crustal)	10	20	40	21	91	#13	
Volcanic Event	2	5	40	7	54	#14	

Source: City of Waldport NHMP Steering Committee (2025)

Community Characteristics

Table WA-3 and the following section provide information on city specific demographics and assets. For additional information on the characteristics of the city, in terms of geography, environment, population, demographics, employment, and economics, as well as housing and transportation, see Volume II, Appendix C. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the city-specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Unless otherwise specified, data in this section comes from: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables.

Location and environment

Located on the Coast of Oregon, Waldport is located along the south side of Alsea Bay. Waldport lies at an average elevation of 12 feet above sea level (climbs from sea level at the Port to about 215 feet at the top of Crestline Drive). Alsea Bay is an active commercial and recreational fishing area with more than 50,000 user days by boaters annually.

The climate in Waldport is moderate. Average monthly temperatures range from lows of 36-40° F (November through April) to highs of 74-76° F (July through September) degrees. The driest months are July and August (average about 0.85-1.15 inches of precipitation per month) the wettest months are November through March (average 11-14 inches of precipitation per month). Waldport has an average annual precipitation of approximately 92 inches (73%, 67 inches fall November through March).

Population, housing, and development

Between 2019 and 2023 the city grew by 240 people (11%). According to the State's official coordinated population forecast (preliminary), between 2023 and 2045 the city's population is forecast to grow by 23% to 2,892. The city has an educated population with 94% of residents 25 years and older holding a high school degree, and 22% have a bachelor's degree or higher. As of 2023-24, Waldport High School and the Lincoln County School District have 77% and 82% graduation rates respectively.[1]

The City of Waldport sits at the mouth of the Alsea Estuary. Development in Waldport spreads mostly north to south along US Highway 101 and east on Highway 34. Waldport includes industrial and commercial development but is zoned primarily residential. Dense commercial areas in Waldport exist along US-Highway 101 centrally located in the downtown area and around the Alsea Bay. Residential development is located north, south, and east of downtown, along US-Highway 101 and 34, and west along the Pacific Ocean. The city's Comprehensive Plan identifies land use needs within the city and its urban growth boundary.

Economy

About 44% of the resident population 16 and over is in the labor force (802 people) and 17% are unemployed. Top occupations include management, professional, and related (40%), sales and office (21%), service (18%), and construction, extraction, and maintenance (13%).

Median household income decreased by 8% between 2017 and 2022.

Most workers residing in the city (89%, 565 people) travel outside of the city for work primarily to Newport and Yachats.[2] A significant population of people travel to the city for work, (83%, 337 people) primarily from Newport, Bayshore, and Lincoln City.

[1] Lincoln Chronicle, Graduation rate for Lincoln County's class of 2024 improves to 82%, reaching state's average, January 30, 2025.

[2] U.S. Census Bureau. LEHD Origin-Destination Employment Statistics (2002-2017). Longitudinal-Employer Household Dynamics Program, accessed on April 25, 2020 at https://onthemap.ces.census.gov.

Table WA-3 Community Characteristics

Population Characteristics		Population Growth
2019 Population Estimate	2,110	
2023 Population Estimate	2,350	11%
2045 Population Forecast*	2,892	23%
Race		
American Indian and Alaska Native		< 1%
Asian		2%
Black/ African American		0%
Native Hawaiian and Other Pacific Islander		< 1%
White		88%
Some Other Race		0%
Two or More Races		4%
Hispanic or Latino/a (of any race)		6%
Limited or No English Spoken	9	1%
Vulnerable Age Groups		
Less than 5 Years	13	1%
Less than 15 Years	121	6%
65 Years and Older	725	37%
85 Years and Older	24	1%
Age Dependency Ratio		0.77
Disability Status (Percent age cohort)		
Total Disabled Population	557	29%
Children (Under 18)	16	1%
Working Age (18 to 64)	248	13%
Seniors (65 and older)	293	40%

Household Characteristics		
Housing Units		
Single-Family (includes duplexes)	805	65%
Multi-Family	169	14%
Mobile Homes (includes RV, Van, etc.)	265	21%
Household Type		
Family Household	76	7%
Married couple (w/ children)	64	6%
Single (w/ children)	12	1%
Living Alone 65+	274	26%
Year Structure Built		
Pre-1970	298	24%
1970-1989	418	34%
1990-2009	396	32%
2010 or later	127	10%
Housing Tenure and Vacancy		
Owner-occupied	714	58%
Renter-occupied	344	28%
Seasonal	109	9%
Vacant	181	15%
Vehicles Available (Occupied Units)		
No Vehicle (owner occupied)	68	6%
Two+ vehicles (owner occupied)	470	44%
No Vehicle (renter occupied)	68	20%
Two+ vehicles (renter occupied)	81	24%

Income Characteristics		
Households by Income Category		
Less than $15,000	88	9%
$15,000-$29,999	142	15%
$30,000-$44,999	152	16%
$45,000-$59,999	170	18%
$60,000-$74,999	96	10%
$75,000-$99,999	121	13%
$100,000-$199,999	188	19%
$200,000 or more	14	1%
Median Household Income		$49,659
Gini Index of Income Inequality		0.48
Poverty Rates (Percent age cohort)		
Total Population	238	12%
Children (Under 18)	11	7%
Working Age (18 to 64)	129	12%
Seniors (65 and older)	98	14%
Housing Cost Burden (Cost > 30% of household income)		
Owners with a Mortgage		23%
Owners without a Mortgage		5%
Renters		20%

Employment Characteristics		
Labor Force (Population 16+)		
In labor Force (% Total Population)	802	44%
Unemployed (% Labor Force)	139	17%
Occupation (Top 5) (Employed 16+)		
Management, Professional, and	268	40%
Sales and Office	137	21%
Service	121	18%
Constr., Extraction, and Maintenance	88	13%
Product., Transport., & Material	49	7%
Health Insurance		
No Health Insurance	180	9%
Public Health Insurance	1,145	59%
Private Health Insurance	1,138	58%
Transportation to Work (Workers 16+)		
Drove Alone	451	70%
Carpooled	79	12%
Public Transit	0	0%
Motorcycle	0	0%
Bicycle/Walk	26	4%
Worked at Home	92	14%

Source: Social Explorer: American Community Survey 5-Year Estimates (2018-2022). U.S. Census Bureau. https://www.socialexplorer.com/explore-tables; Population Research Center. (2023, April). *Annual Population Estimates.* Portland State University. https://www.pdx.edu/population-research/.

*Source for 2045 Population Estimate: Population Research Center. (2025, March 15). *Region 3: Central Coast Oregon Results (Proposed) – Lincoln County.* Portland State University Oregon Population Forecast Program. https://www.pdx.edu/population-research/population-forecasts.

Note: The U.S. Census Bureau American Community Survey 2018-2022 data used for this analysis has varying levels of reliability depending on geographic area, demographic group, and types of data. These figures are primarily used for estimation and to develop a general understanding of the demographics of a location and should not be mistaken for precise figures.

Community Assets

This section outlines the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of the city (cite map). Mitigating risk to these facilities will increase the community's resilience.

Critical Facilities & Infrastructure

Critical facilities are those that support government and first responders' ability to act in an emergency. They are a top priority in any comprehensive hazard mitigation plan. Individual communities should inventory their critical facilities to include locally designated shelters and other essential assets, such as fire stations, and water and wastewater treatment facilities.

Waldport has the following critical facilities (**bold** indicates facility was included in the Risk Report (DOGAMI, O-20-11):

- City Hall: 125 NW Alsea Hwy
- **Central Oregon Coast Rural Fire Protection District Station 7200**: 145 NW Alsea Hwy
- **Public Works Shop**: 4028 SW Ann St
- Public Library
- Water treatment plant: 3770 SE Nelson Wayside Dr
    - water tanks
    - water lines
- Wastewater treatment plant: 390 NE Lint Slough Rd
    - sewer lines
- Power lines
- **Waldport High School:** 3000 S Crestline Dr
- **Crestview Heights Elementary/ Middle School:** 2750 S Crestline Dr
- Waldport Heritage Museum: 320 NW Hwy 101
- Post Office: 165 NW John St
- Waldport Community Center: 265 NW Hemlock St
- Oregon Community Coast College: 3120 S Crestline Dr
- Rays Food Place: 580 NE Broadway
- Chevron: 245 NW Hwy 101
- Town Pump: 230 Oregon Coast Hwy 101
- Hi-School Pharmacy" 110 SW Hwy 101

Transportation

Mobility plays an important role in Waldport, and the daily experience of its residents, and businesses. Motor vehicles represent the dominant mode of travel through, and within the city. Waldport is also served by Lincoln County Transit Routes 497 with service running six days a week with stops in Waldport.

Roads/Seismic lifelines

Seismic lifeline routes help maintain transportation facilities for public safety and resilience in the case of natural disasters. Following a major earthquake, it is important for response and recovery agencies to know which roadways are most prepared for a major seismic event. The Oregon Department of Transportation has identified lifeline routes to provide a secure lifeline network of streets, highways, and bridges to facilitate emergency services response after a disaster.[3]

System connectivity and key geographical features were used to identify a three-tiered seismic lifeline system. Routes identified as Tier 1 are considered the most significant and necessary to ensure a functioning statewide transportation network. The Tier 2 system provides additional connectivity to the Tier 1 system, it allows for direct access to more locations and increased traffic volume capacity. The Tier 3 lifeline routes provide additional connectivity to the systems provided by Tiers 1 and 2.

Highway 101 (Tier I) is the major north-south transportation route through the city (ODOT Map). Highway 18 (Tier I, north of Lincoln City), and Highway 20 (Tier III, Newport) are the major east-west transportation routes connecting the coast to the Willamette Valley.

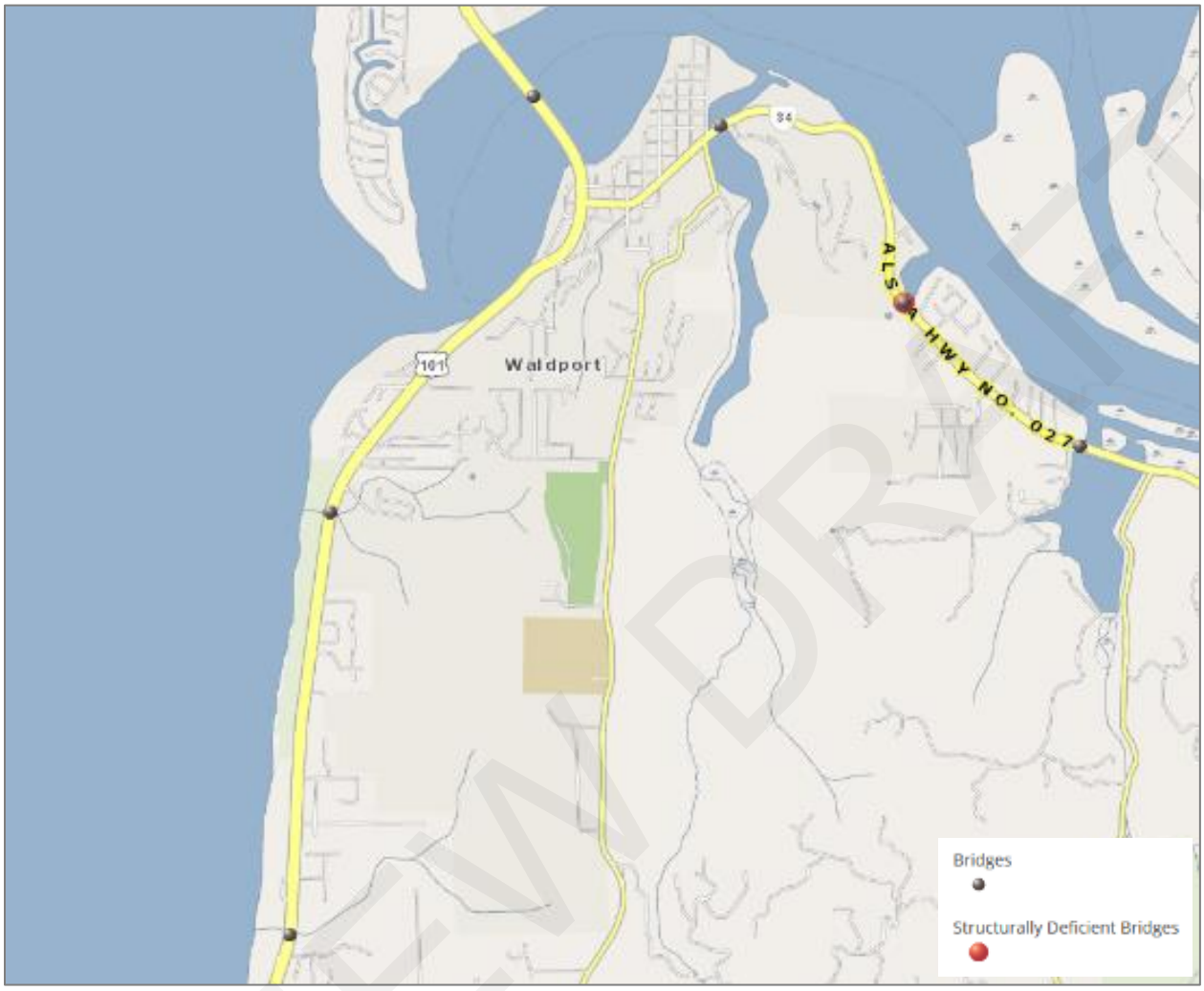
Bridges

Because of earthquake risk, the seismic vulnerability of the city's bridges is an important issue. Non-functional bridges can disrupt emergency operations, sever lifelines, and disrupt local and freight traffic. These disruptions may exacerbate local economic losses if industries are unable to transport goods. Bridges and culverts within the city that are critical or essential include (see Figure WA-1):

- McKinney Slough, OR 34 (1957), (Bridge ID 04167) – Structurally Deficient
- (culvert) US 101 at MP 157.24 (1930), (Bridge ID 01447)
- (culvert) Little Creek, US 101 at MP 158.64 (1929), (Bridge ID 01449)
- (culvert) Eckman Slough, OR 34 (1900), (Bridge ID 04168)

[3] Oregon Department of Transportation. Oregon Seismic Lifeline Evaluation, Vulnerability Synthesis, and Identification, *Oregon Seismic Lifeline Routes,* May 15 2012.

Figure WA-1 Oregon Bridges and Structurally Deficient Bridges



Source: Oregon Department of Transportation, ODOT TransGIS, accessed June 11, 2025
More information on Seismic Design of bridges is on the ODOT website:
https://www.oregon.gov/odot/Bridge/Pages/Seismic.aspx

Railroads

There are no railroads in Waldport.

Airports

The Wakonda Beach State Airport is located south of the city on the east side of Hwy 101 at Wakonda Beach. The Newport Municipal Airport is approximately 11 miles north in the South Beach area of Newport. The city has no commercial service airports. The nearest commercial airports are in Eugene and Portland.

Ports

The Port of Alsea accommodates a wide variety of users to retain and create jobs and increase economic development. The Port office is located at 365 Port Street. Public facilities include a watercraft launch ramp, boat moorage, and a picnic area. The Port includes commercial docks.

Utility Lifelines

Utility lifelines are the resources that the public relies on daily such as, electricity, fuel and communication lines. If these lines fail or are disrupted, the essential functions of the community can become severely impaired. Utility lifelines are closely related to physical infrastructures, like dams and power plants, as they transmit the power generated from these facilities.

Generally, the network of electricity transmission lines running throughout the city is operated by Central Lincoln PUD (see their addendum for more information). The Williams Gas Pipeline provides natural gas that is delivered to customers in the city by Northwest Natural Gas. These lines may be vulnerable as infrequent natural hazards, like earthquakes, could disrupt service to natural gas consumers across the region.

The city water, wastewater, and stormwater (culvert) systems include the following:

Water Infrastructure

- Water Treatment Plant 3770 SE Nelson Wayside Dr
- Reservoirs/storage tanks (3):
    - 2 MG- 3770 SE Nelson Wayside Dr
    - 0.3 MG – 3770 SE Nelson Wayside Dr
    - 0.3 MG- 3170 SE NELSON WAYSIDE DR
    - 15,000 Gallon - MAP & Taxlot 13-11-29-00-00500-00
- Pump stations:
    - Pumps from 2 MG to 15,000 Gallon Reservoir: 3770 SE Nelson Wayside Drive

Wastewater Infrastructure

- Wastewater Treatment Plant: 390 NE Lint Slough Rd

Stormwater Infrastructure (e.g. Culverts)

- Critical or Essential culverts (listed under bridges above)

Cultural and Historic Resources

The first settlers in the area floated down the Alsea River in the late 1870's, and the townsite is known to have an old Indian burial ground. Until the last two decades, Waldport's history was based on forest products, fishing, and dairy industries. The original Alsea Bay Bridge was built in the 1930's and was replaced in 1994 with a new bridge designed to resemble the old bridge. Tourism now plays a large role in the local economy. The Port of Alsea promotes business development of Port District assets, and serves to preserve, protect, and promote the ecological, aesthetic and economic resources of the Alsea Estuary and river. The Port has been working with a local oyster grower to develop a small oyster farm in the estuary.

The City of Waldport has many community events throughout the year, including, but not limited to: Beachcomber's Days, Christmas in Waldport, Candle Lighted Bridge Walk, and 4th of July Fireworks. Other local attractions include clamming, crabbing, fishing, beachcombing and exploring tide pools. Recreational amenities include the William Keady Wayside, ALSI Historical and Genealogical Society, the Alsea Bridge Visitor and Interpretive Center, and a wide range of restaurants, galleries and shops.

Historic and cultural resources such as historic structures and landmarks can help to define a community and may also be sources of tourism dollars. Because of their role in defining and supporting the community, protecting these resources from the impact of disasters is important. The National Register of Historic Places and the State Historic Preservation Office indicates that there are no historic sites or properties within the city.[4]

Community Organizations and Programs

Social systems can be defined as community organizations and programs that provide social and community-based services, such as health care or housing assistance, to the public. In planning for natural hazard mitigation, it is important to know what social systems exist within the community because of their existing connections to the public. Often, actions identified by the plan involve communicating with the public or specific subgroups within the population (e.g. elderly, children, low income). The county and cities can use existing social systems as resources for implementing such communication-related activities because these service providers already work directly with the public on several issues, one of which could be natural hazard preparedness and mitigation. The countywide community organizations that are active within the city and county and may be potential partners for implementing mitigation actions can be found in Appendix C: Community Profile.

Lincoln County School District

The Lincoln County School District has two schools in Waldport including Crestview Heights Elementary and Waldport Middle and High School. For more information on School District assets see their addendum in Volume II.

[4] Oregon Historic Sites Database, http://heritagedata.prd.state.or.us/historic/, accessed July 17, 2020.

Hazard Profiles

The following sections briefly describe relevant information for each profiled hazard. More information on Lincoln County hazards can be found in Volume I, Section 2 *Risk Assessment* and in the Risk Assessment for Region 1, Oregon Coast, Oregon SNHMP (2020).https://www.oregon.gov/lcd/NH/Pages/Mitigation-Planning.aspx

In addition, the Oregon Department of Geology and Mineral Industries (DOGAMI) conducted a multi-hazard risk assessment (Risk Report) for Lincoln County, including the City of Waldport. The study was funded through the FEMA Risk MAP program and was completed in 2020. The Risk Report provides a quantitative risk assessment that informs communities of their risk related to the following natural hazards: coastal erosion, Cascadia Subduction Zone earthquake and tsunami, flood, landslide, and wildfire (summarized herein). The city hereby incorporates the Risk Report into this NHMP addendum by reference (DOGAMI, O-20-11).

Development forecasts are not expected to increase or decrease the impact of the profiled hazards.

Air Quality

The city experiences predominate westerly winds, as such, air quality is not considered to be a hazard within the community.

Coastal Erosion

The Steering Committee rated the city's **probability of occurrence for coastal erosion events as "high" and their vulnerability as "low"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 describes the characteristics of coastal erosion hazards, as well as the history, location, extent, and probability of a potential event. Coastal erosion is a natural process that continually affects coastal areas; in Waldport and elsewhere along the Pacific, coastal erosion becomes a hazard when lives and properties are at risk of death, injury, or damage. Coastal erosion is typically a gradual process, which can be greatly accelerated in the event of a storm or climate factors that increase the potential for coastal erosion.

Future Climate Projection:
According to OCCRI report "*Future Climate Projections: Lincoln County"* (Link) the risk of coastal erosion is expected to increase due to sea level rise and changing wave dynamics.

Vulnerability Assessment

The city can be characterized as consisting of uplifted marine terrace deposits particularly on high cliffs along the north side of the Alsea Bay and south of downtown along the oceanfront. There are also low-lying sand dunes along the bayfront, downtown and south of town, and east of Highway 101. Concentrations of development exist along the high cliffs on the north side of the bay, as well as along the oceanfront. Aside from oceanfront properties, one area that's

particularly vulnerable to coastal erosion is inside the Alsea Bay, along the waterfront facing west. This area experienced rapid erosion in the early 1980's as a result of an "El Nino" event. Homes and commercial buildings were threatened when erosion at the distal tip of the Alsea Spit opened the Alsea Bay to increased wave action. Since then, accretion restored the distal tip and reduced the threat. Additionally, structural shoreline stabilization using "riprap" - large boulders imbedded in the sand - was installed to mitigate for future events. The county identified areas along Highway 101 that have sustained erosion-induced damages. Within the City of Waldport, during this same El Nino event, a portion of Highway 101 along the waterfront was threatened. This event resulted in a seawall being constructed to protect the Highway. Records of other specific events are not available at this time; however, events may have occurred in tandem with previous storms.

Potential community-related impacts, including shoreline reduction, economic (tourism-related) impacts, and property/infrastructural damage, are adequately described within the county's Coastal Erosion Hazard Annex. See Map WA-1 for locations of the city's coastal erosion hazard along Alsea Bay (particularly at the Alsea Highlands) and coastal bluffs on the city's western edge. Left unmitigated the city is concerned that coastal erosion will impact Old Town Waldport.

The City of Waldport uses the RNKR Environmental Hazards Inventory of Coastal Lincoln County, Oregon as a mapping and reporting tool for coastal erosion. Although not included within this addendum, the coastal erosion hazards map can be obtained through the Planning and Community Development Department at City Hall.

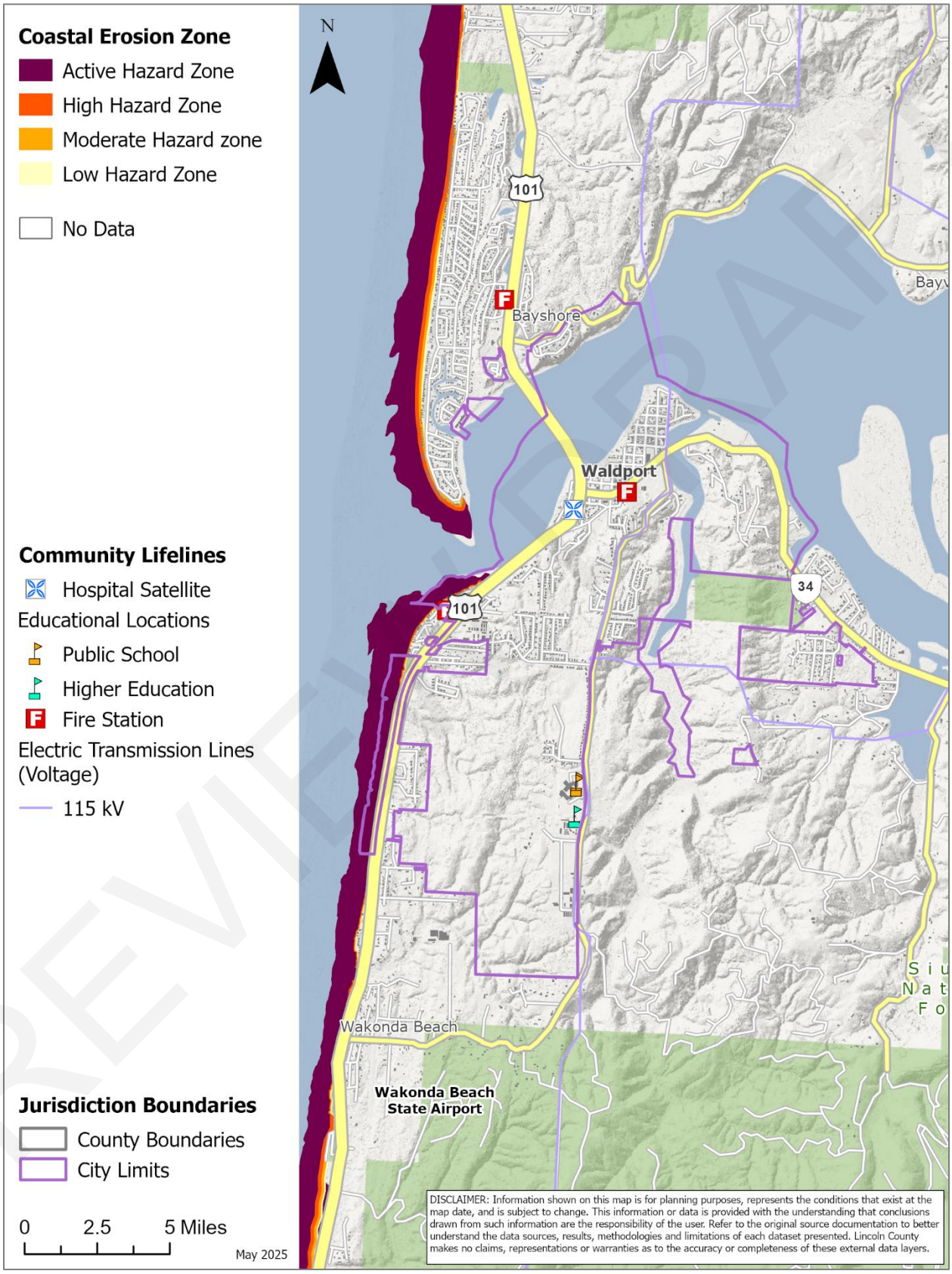
Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to coastal erosion. The Risk Report provides a distinct profile for Waldport.

The Risk Report provides an analysis of dune-backed beaches and bluff-backed shorelines to identify the general level of susceptibility due to storm-induced erosion, sea level rise, and subsidence due to CSZ earthquake event. The Risk Report performed an analysis of buildings, including critical facilities, to determine exposure for each community. According to the Risk Report the following resident population and property (public and private) within Waldport may be impacted by profiled coastal erosion scenario (Table WA-4).

Almost none of the city's population may be displaced by coastal erosion. These people are expected to have mobility or access issues and/or may have their residences impacted by coastal erosion. Properties that are most vulnerable to the coastal erosion hazard are those that are developed in an area of steep dunes or cliffs. Only a couple buildings (residential, commercial, industrial) are exposed to the high coastal erosion hazard zone. The value of exposed buildings is $121,000. It is important to note that impact from coastal erosion may vary depending on areas that are impacted during an event.

Map WA-1 Coastal Erosion Hazard



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

Table WA-4 Potentially Displaced Residents and Exposed Buildings, Coastal Erosion

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Coastal Erosion High Hazard Scenario						
Potentially Displaced Residents		Exposed Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Value ($)	Percent
1	0.0%	2	0.1%	0	121,000	0.1%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

Critical Facility Vulnerability[5]

There are no critical facilities exposed to the profiled coastal erosion scenario.

Drought

The Steering Committee rated the city's **probability of occurrence for drought events as "high" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of drought hazards, as well as the history, location, extent, and probability of a potential event. Due to a cool, wet climate, past and present weather conditions have generally spared coastal communities from the effects of drought.

The city currently receives water from three (3) surface water sources: North and South Weist Creeks and Eckman Creek.[6] The city has a Water Management and Conservation Plan (2012) that includes a water curtailment plan for times of drought. The city currently draws about 0.260 mgd on an average annual day, and its peak demand is about 0.649 mgd; by 2031 the average demand is projected to increase to 0.321 mgd with a peak demand of 0.802 mgd.[7] Increases in demand are not expected to outpace supply. However, while existing water rights are adequate, due to lack of a predictable water supply, which may be impacted by drought, the Waldport Steering Committee believes that the impacts of a potential event are much greater for the city than for the county. For more information see the Waldport Water Management and Conservation Plan (2012). In addition to reduced water supplies, a drought will increase the chances of wildfire.

[5] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-19.

[6] City of Waldport Annual Drinking Water Quality Report, accessed July 2015 http://www.waldport.org/Documents/pdf%20files/DRINWAT2015.pdf

[7] Waldport Water Management and Conservation Plan (2012)

Table ES-2 of the Water System Master Plan includes several mitigation actions including an action for seismic retrofit of the 2 MG ($1.2 million) tank and building a new 300,000 gallon tank ($1.0 million). See Waldport Action #10 (Attachment A).

Future Climate Projection:
According to OCCRI report "*Future Climate Projections: Lincoln County*" (Link) the probability of future drought conditions (low summer soil moisture, low spring snowpack, low summer runoff, low summer precipitation, and high summer evaporation) is expected to be more frequent by the 2050s.

Vulnerability Assessment

Due to insufficient data and resources, a quantitative risk assessment or exposure analysis for this hazard cannot currently be performed. State-wide droughts have historically occurred in Oregon, and as it is a region-wide phenomenon, all residents are equally at risk. Structural damage from drought is not expected; rather the risks apply to humans and resources. Industries important to the City of Waldport's local economy such as fishing have historically been affected, and any future droughts would have tangible economic and potentially human impacts.

In addition to reduced water supplies, a drought will increase the chances of wildfire and significantly reduce tourism activities. If hotels, for example, are unable to accommodate guests, the city's economy would greatly suffer. Currently, the city has a Water Management and Conservation Plan that includes a conservation plan that will go into effect in the event of a drought.

Earthquake

The Steering Committee rated the city's **probability of occurrence for Cascadia Subduction Zone (CSZ) Earthquake events as "moderate" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

The Steering Committee rated the city's **probability of occurrence for crustal earthquake events as "low" and their vulnerability as "moderate"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of earthquake hazards, as well as the history, location, extent, and probability of a potential event. Earthquake-induced damages are difficult to predict, and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any site. In many major earthquakes, damages have primarily been caused by the behavior of the soil.

Additional information can be found on the Lincoln County website:
https://www.co.lincoln.or.us/749/Hazards-Earthquake

The Pacific Northwest experienced a subduction zone earthquake estimated at magnitude 9 on January 26, 1700. The earthquake generated a tsunami that caused damage as far away as

Japan. Cascadia subduction zone earthquakes and associated tsunamis have occurred on average every 500 years over the last 3,500 years in the Pacific Northwest. The time between events has been as short as 100 to 200 years and as long as 1,000 years. The geologic record indicates that over the last 10,000 years approximately 42 tsunamis have been generated off the Oregon Coast in connection to ruptures of the CSZ (19 of the events were full-margin ruptures and arrived approximately 15-20 minutes after the earthquake).[8]

The Oregon Department of Geology and Mineral Industries (DOGAMI), in partnership with other state and federal agencies, has undertaken a rigorous program in Oregon to identify seismic hazards, including active fault identification, bedrock shaking, tsunami inundation zones, ground motion amplification, liquefaction, and earthquake induced landslides.

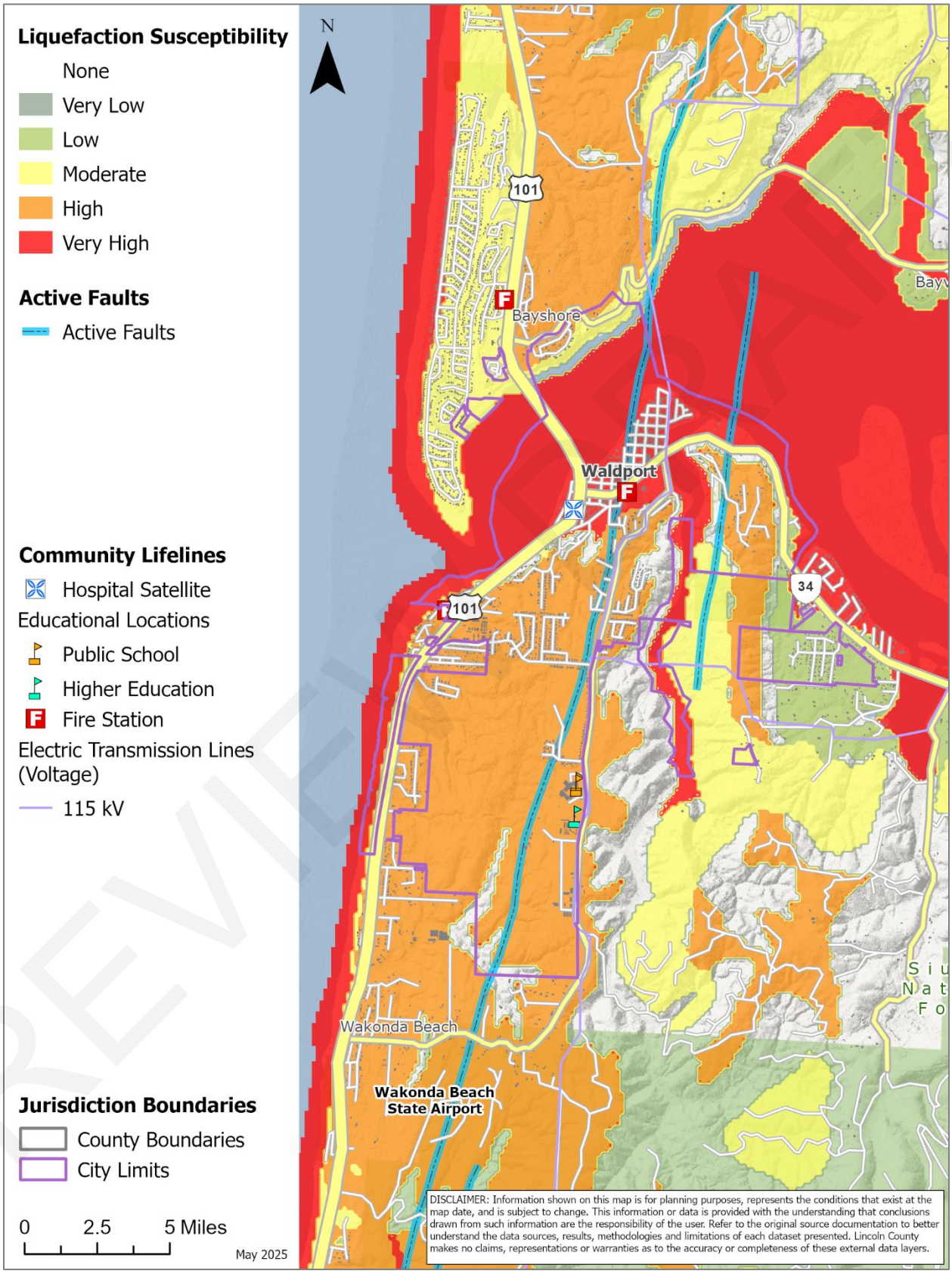
The city faces several earthquake-related risks, including soft soil and liquefaction hazards (Map WA-2) and a moderate to very high probability over the next 50 years of experiencing shaking strong enough to damage weak buildings (Map WA-3).

- Liquefaction risk is highest along the waterfront and ocean cliffs, where soft, wet soils can lose strength during shaking.
- Damaging shaking—strong enough to affect weak buildings—is more likely near the coast and river areas.
- Inland areas generally face lower liquefaction risk.

The figure also shows two historically active faults underneath the city.

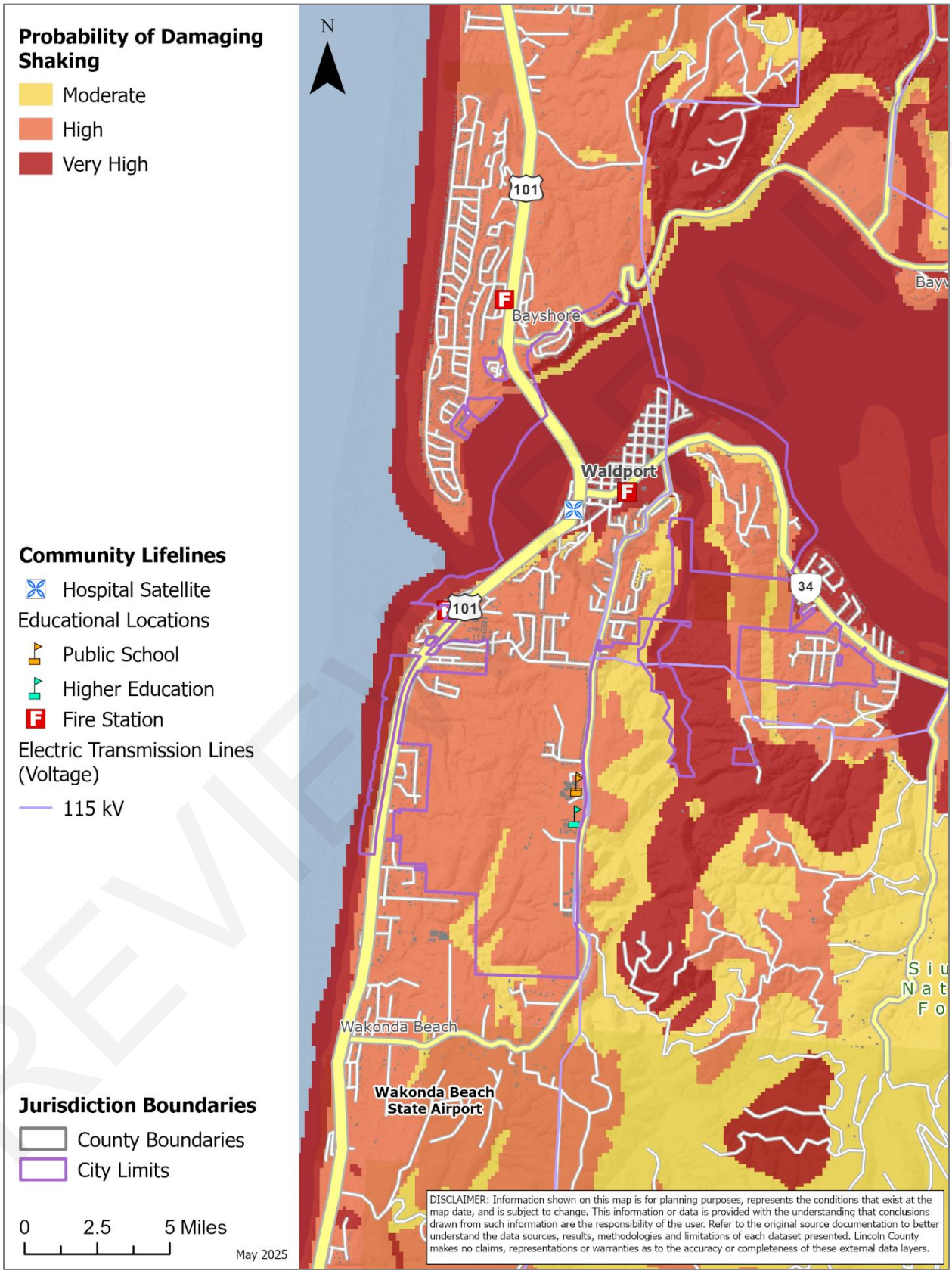
[8] DLCD. *Oregon State Natural Hazard Mitigation Plan*. 2020 (Draft).

Map WA-2 Earthquake Liquefaction (Soft Soil) Hazard



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

Map WA-3 Combined Earthquake Events Expected Shaking and Active Faults



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

Vulnerability Assessment

See *Earthquake and tsunami impact analysis for coastal Lincoln County, Oregon* (2021, O-21-02) and *Earthquake and tsunami impact analysis for the Oregon* coast (2025, O-25-01) for additional information.

The city's concentrated population and resources, as well as the soil characteristics and relative earthquake hazards described above are cause for significant effort toward mitigating the earthquake hazard. The city's infrastructure is highly vulnerable to a severe earthquake event. Sewer lines, water lines, power lines, water tanks, reservoirs, cell towers, the Samaritan North Lincoln Hospital, and City Hall were identified by the Steering Committee as vulnerable assets. The city would expect significant damage to roads and bridges following a Cascadia Subduction Zone event, as well as deaths and severe injuries region wide. Education and outreach regarding earthquakes (and resultant tsunami) is an ongoing endeavor in Waldport.

To help communities better prepare for earthquakes, DOGAMI released the Oregon Seismic Hazard Database in 2021.[9] This resource includes maps showing where earthquake-related hazards like ground shaking and ground movement are most likely. The data includes representations of the strongest shaking and damage that could happen in rare (1-in-2,475-year event) but severe earthquakes (Map WA-4), expected shaking and damage from large Cascadia subduction zone earthquakes (Map WA-5) and the chance of experiencing shaking strong enough to damage buildings (Map WA-3). The extent of the damage to structures and injury and death to people will depend upon the type of earthquake, proximity to the epicenter and the magnitude and duration of the event.

2007 Rapid Visual Survey

Building codes were implemented in Oregon in the 1970s, however, stricter standards did not take effect until 1991 and early 2000s. As noted in the community characteristics section (Table WA-3), approximately 58% of residential buildings were built prior to 1990, which increases the city's vulnerability to the earthquake hazard. Information on specific public buildings' (schools and public safety) estimated seismic resistance was determined for Lincoln County by DOGAMI in 2007. For more information click this link O-07-02.

A primary mitigation objective of the city is to construct or upgrade critical and essential facilities and infrastructure to withstand future earthquake events. Although seismic retrofit grant awards per the Seismic Rehabilitation Grant Program[10] the School District has retrofitted at risk schools in the city through local resources (see the Lincoln County School District addendum for more information).

[9]Oregon Department of Geology and Mineral Industries (DOGAMI). (2021). Oregon Seismic Hazard Database, Release 1.0 (OSHD-1). By Ian P. Madin, Jon J. Franczyk, John M. Bauer, and Carlie J.M. Azzopardi. Available at: https://pubs.oregon.gov/dogami/dds/p-OSHD-1.htm

[10] The Seismic Rehabilitation Grant Program (SRGP) is a state of Oregon competitive grant program that provides funding for the seismic rehabilitation of critical public buildings, particularly public schools and emergency services facilities.

Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to earthquake. The Risk Report provides a distinct profile for Waldport.

According to the Risk Report the following resident population and property (public and private) within the study area may be impacted by the profiled magnitude 9.0 Cascadia Subduction Zone (CSZ) event. *Note: Due to the simultaneous nature of a CSZ earthquake and tsunami, loss estimates have been separated in the following tables to avoid double counting. Building losses within the tsunami zone are considered total. See the tsunami section for additional information.*

The Risk Report performed an analysis of buildings, including critical facilities, to determine exposure for each community. According to the Risk Report the following resident population and property (public and private) within Waldport may be impacted by the profiled earthquake scenarios (Table WA-5). *Note: Due to the simultaneous nature of a CSZ earthquake and tsunami, loss estimates have been separated in the following tables to avoid double counting. Building losses within the tsunami zone are considered total. See the tsunami section for additional information.* [11]

Approximately 29% of the city's population (586 people) may be displaced by a magnitude 9.0 CSZ earthquake and tsunami event. Of those, approximately 10% will be impacted by the accompanying tsunami. *Note: The data does not include potentially impacted visitor populations that may be lodging or at a public venue during a CSZ earthquake and tsunami event.* Earthquakes will impact every building in the city, to some degree, by a CSZ magnitude 9.0 earthquake and tsunami. Building damage (loss) estimates are reported for buildings expected to be damaged by the earthquake outside of the tsunami inundation zone (medium-sized). Additional exposure information is provided for buildings within the tsunami inundation zone to obtain the combined total damage (loss) estimate. Buildings reported as "damaged" in the area *outside* the tsunami zone include yellow tagged (extensive, limited habitability) and red tagged (complete, uninhabitable) buildings, while 100% of buildings exposed *inside* the tsunami inundation area are considered "damaged" (complete, uninhabitable). The city has 727 buildings that are expected to be damaged by the CSZ earthquake and tsunami event. The combined (earthquake and tsunami) value of building damage losses are $47.3 million.

The Risk Report estimated losses show that the age of the building stock is the primary metric of earthquake vulnerability. Communities with older building stock are expected to have higher losses. However, if buildings were retrofitted to at least "moderate code" standards the impact of the event would be reduced. The Risk Report concludes that loss estimates for the city drop from 19% to 13% ($9.6 million decrease in loss) when all buildings are upgraded to at least moderate code level.[12] *Note: earthquake vulnerability retrofit benefits are minimized in areas of liquefaction and landslide where additional geotechnical mitigation would be needed.*

[11] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Tables A-18.

[12] Ibid, Table B-2.

Table WA-5 Potentially Displaced Residents and Exposed Buildings, Earthquake

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Earthquake CSZ M9.0 (Deterministic) Scenario						
Potentially Displaced Residents		Damaged Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Loss Estimate ($)	Loss Ratio
381	18.7%	421	24.8%	1	31,228,000	19.4%
Exposure Analysis (within Tsunami Zone - Medium)						
205	10.1%	306	18.0%	1	16,078,000	10.0%
Total Exposure						
586	28.8%	727	42.8%	2	47,306,000	29.3%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

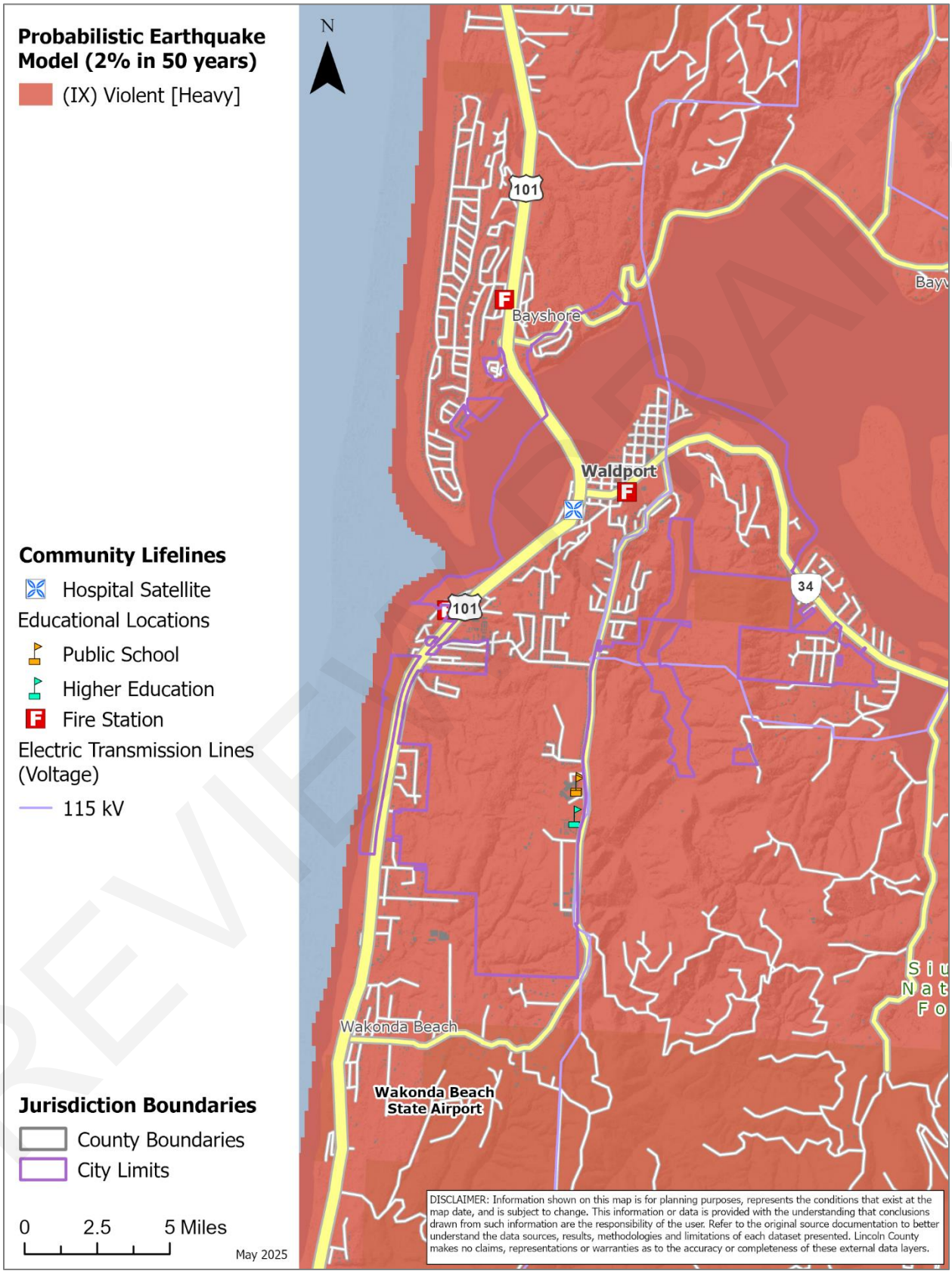
Critical Facility Vulnerability[13]

- Central Oregon Coast Fire Station 7200 (also impacted by tsunami)
- Crestview Heights Elementary School (Lincoln County School District)

Note: It is expected that bridges in the area may be impassable by vehicles for over 24 months. As such bringing resources into Waldport by sea and air will be necessary.

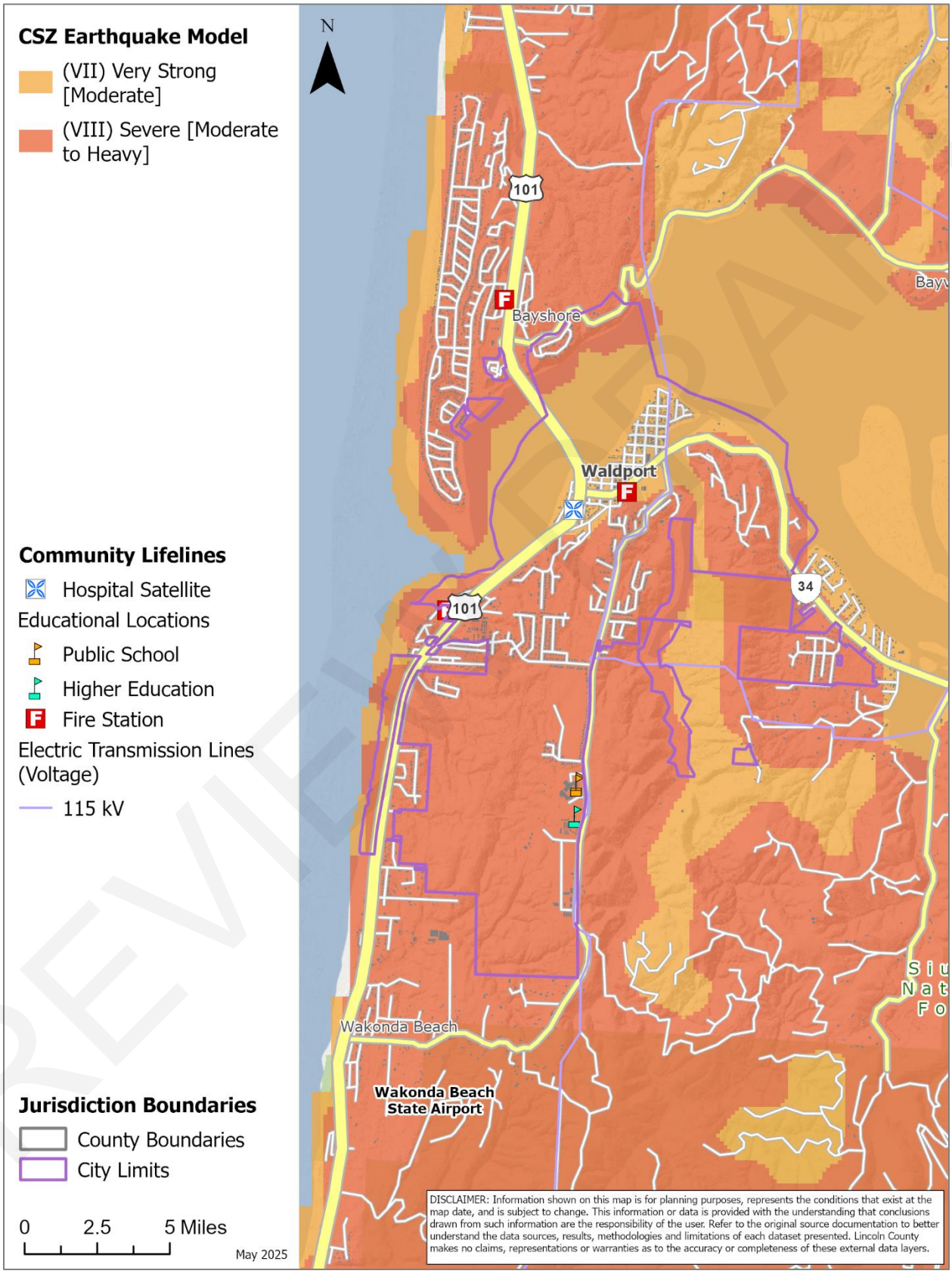
[13] Ibid, Table A-19.

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



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

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



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

Tsunami

The Steering Committee rated the city's **probability of occurrence for a local tsunami events as "moderate" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

The Steering Committee rated the city's **probability of occurrence for distant tsunami events as "moderate" and their vulnerability as "low"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of tsunami hazards, as well as the history, location, extent, and probability of a potential event. The Pacific Northwest experienced a subduction zone earthquake estimated at magnitude 9 on January 26, 1700. The earthquake generated a tsunami that caused damage as far away as Japan. Cascadia subduction zone earthquakes and associated tsunamis have occurred on average every 500 years over the last 3,500 years in the Pacific Northwest. The time between events has been as short as 100 to 200 years and as long as 1,000 years. The geologic record indicates that over the last 10,000 years approximately 42 tsunamis have been generated off the Oregon Coast in connection to ruptures of the CSZ (19 of the events were full-margin ruptures and arrived approximately 15-20 minutes after the earthquake).[14] Distant tsunamis happen more regularly that CSZ related local tsunamis.

Additional information can be found on the Lincoln County website:
https://www.co.lincoln.or.us/772/Hazards-Tsunamis

It is difficult to predict when the next tsunami will occur. According to the Oregon NHMP the coast has experienced 25 distant tsunamis in the last 145 years with only three causing measurable damage. Thus, the average recurrence interval for tsunamis on the Oregon coast from distant sources would be about six (6) years. However, the time interval between events has been as little as one year and as much as 73 years. Since only a few tsunamis caused measurable damage, a recurrence interval for distant tsunamis does not have much meaning for the city.

A 9.0 magnitude earthquake originating from Japan caused approximately $7.1 million worth of damages along the Oregon Coast. Particularly, there was extensive damage to the Port of Brookings (Curry County; $6.7 million), as well as the Port of Depoe Bay (Lincoln County; $182,000), and Charleston Harbor (Coos County; $200,000); Salmon Harbor on Winchester Bay (Douglas County) and the South Beach Marina in Newport (Lincoln County) were also affected. On March 15, 2011 Governor Kitzhaber declared a State of Emergency was declared by Executive Order in Curry County. Approximately 40% of all docks at the Port of Brookings were destroyed or rendered unusable (including a dock leased by the U.S. Coast Guard) compromising commercial fishing and U.S. Coast Guard operations. Along the Oregon Coast local official activated the Emergency Alert System and sirens, implemented "reverse 9-1-1" and conducted door-to-door notices in order to evacuate people form the tsunami inundation zone. Local

[14] Oregon Natural Hazard Mitigation Plan. Department of Land Conservation and Development. 2015

governments activate their Emergency Operations Centers and the state activated its Emergency Coordination Center. For more information view Volume I, Section 2.

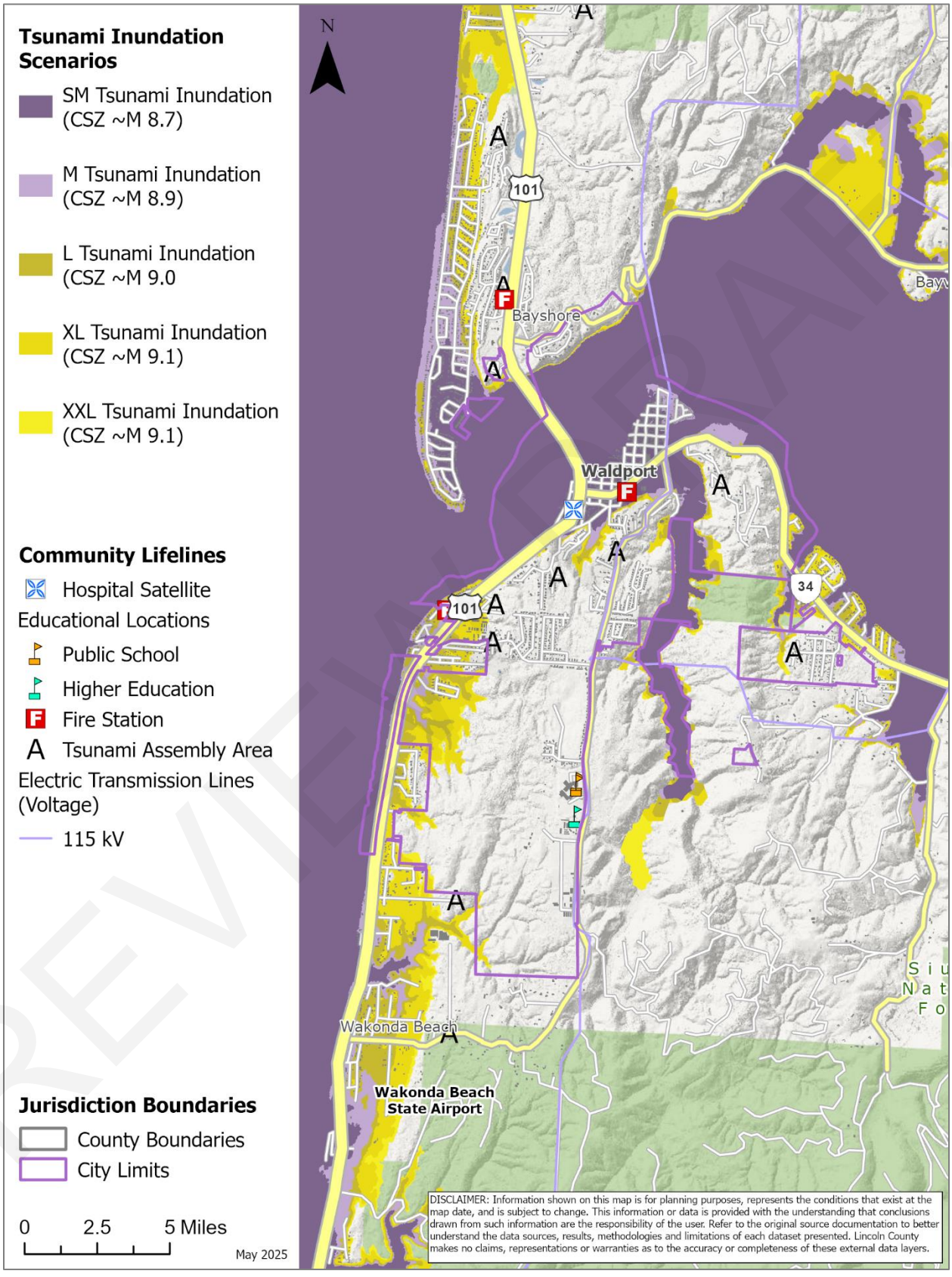
In 1995, the Department of Geology and Mineral Industries (DOGAMI) conducted an analysis resulting in extensive mapping along the Oregon Coast. The maps depict the expected inundation for tsunamis produced by a magnitude 8.8 to 8.9 undersea earthquake. The tsunami maps were produced to help implement Senate Bill 379 (SB 379); digitized in 2014 (O-14-09). SB 379, implemented as Oregon Revised Statutes (ORS) 455.446 and 455.447, and Oregon Administrative Rules (OAR) 632-005, limit construction of new essential facilities and special occupancy structures in tsunami flooding zones. Map WA-6 shows the tsunami inundation indicating that much of the residential development west of Highway 101, Old Town, and other areas adjacent to the Alsea Bay are vulnerable to tsunami. Note: HB 3309 (2019) effective January 1, 2020 repealed the ban on building "new essential facilities, hazardous facilities, major structures, and special occupancy structures" inside the tsunami inundation zone (SB 379 line):[15]

Waldport has put forth much effort to educate and inform citizens of tsunami hazards found within the city. The city obtained a reverse 911 system; hotels are encouraged to post evacuation signs in private rooms; evacuation signs are posted throughout the city; evacuation maps are posted on the city's website; and Waldport High School was moved away from the inundation zone. Severe damage is expected to occur on various properties, roads, bridges, communication systems, and critical infrastructure within Waldport, among other assets described in the county's plan. Waldport recognizes the importance of continuing education and outreach, especially to the transient populations (i.e., tourists), and plans to implement greater outreach in the future.

Tsunami inundation maps were created by the Department of Geology and Mineral Industries (DOGAMI) to be used for emergency response planning for coastal communities. Maps were created for local and distant source tsunami events. The local source tsunami inundation maps display the output of computer modeling showing five tsunami event scenarios shown as "T-shirt" sizes S, M, L, XL, and XXL (Map WA-6). The distant source tsunami inundation maps show the potential impacts of tsunamis generated by earthquakes along the "Ring of Fire" (the Circum-Pacific belt, the zone of earthquake activity surrounding the Pacific Ocean). The distant tsunami inundation maps model the 1964 Prince William Sound event (Alaska M9.2) and a hypothetical Alaska Maximum event scenario; only the Alaska Maximum Wet/ Dry Zone is shown on the map. Both the local and distant source tsunami inundation maps show simulated wave heights and inundation extents for the various scenarios.

[15] Oregon Legislature. HB 3309 (2019). https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB3309

Map WA-6 Tsunami Inundation Scenarios



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

For more information on the regulatory and non-regulatory maps visit the Oregon Tsunami Clearinghouse resource library:

Regulatory (SB 379) - http://www.oregongeology.org/tsuclearinghouse/pubs-regmaps.htm (Note: HB 3309, effective January 1, 2020, repealed ban on building essential facilities within the tsunami inundation zone, SB 379 line.)

Non-Regulatory Tsunami-Inundation Maps:
http://www.oregongeology.org/tsuclearinghouse/pubs-inumaps.htm

Evacuation maps (brochures) are available for the populated areas of Lincoln County. The Department of Geology and Mineral Industries (DOGAMI) developed the evacuation zones in consultation with local officials; local officials developed the routes that were reviewed by the Oregon Department of Emergency Management (OEM). The maps show the worst-case scenario for a local source and distant source tsunami event and are not intended for land-use planning or engineering purposes.

For more information on the evacuation brochures visit the Oregon Tsunami Clearinghouse resource library:

http://www.oregongeology.org/tsuclearinghouse/pubs-evacbro.htm

A free application is also available that displays the evacuation routes in coastal areas of Oregon:
http://www.nanoos.org/mobile/tsunami_evac_app.php

Vulnerability Assessment

See *Earthquake and tsunami impact analysis for coastal Lincoln County, Oregon* (2021, O-21-02) and *Earthquake and tsunami impact analysis for the Oregon* coast (2025, O-25-01) for additional information.

In 2013, DOGAMI produced new Tsunami Inundation Maps (TIMs) for the entire Oregon coast. The TIMs identify both local and distant Tsunami Inundation Zones (TIZs) by event size. The maps also tabulate the affected buildings located within the local and distant source tsunami inundation zones. The Risk Report section below provides detailed information on the impact to the city from a CSZ earthquake and medium tsunami.

Severe damage could occur to low-lying areas of the city in a local source tsunami event, including roads, bridges, communication systems, and infrastructure within Waldport, particularly structures within the business district, Old Town neighborhood, Port of Alsea, and the Central Coast Fire District Station. Some damage is also expected in a large distant source tsunami event (such as the 2011 Tohoku tsunami). The City of Waldport recognizes the importance of continuing education and outreach, especially to the transient populations (i.e., tourists), and plans to implement greater outreach in the future.

As shown in

Table WA-3 there are about 128 manufactured housing units (mobile homes) in Waldport. Manufactured homes built prior to 2003 are subject to slipping off their foundations potentially compromising the occupants' ability to exit. The compromised egress may hinder timely evacuation.

Population vulnerability is characterized in terms of exposure, demographic sensitivity, and short-term resilience of at-risk individuals. Nate Wood, et al. (USGS) performed a cluster analysis of the data for coastal communities in the Pacific Northwest to identify the most vulnerable communities in the region.[16] Wood, et al. conducted a comprehensive analysis to derive overall community clusters based on (1) the number of people and businesses in the tsunami hazard zone, (2) the demographic characteristics of residents in the zone, and (3) the number of people and businesses that may have insufficient time to evacuate based on slow and fast walking speeds. According to the study Lincoln County (including Waldport) has relatively low numbers of "residents, employees, or customer-heavy businesses" inside the tsunami hazard zones and will likely have enough time to reach high ground before a tsunami wave arrives.

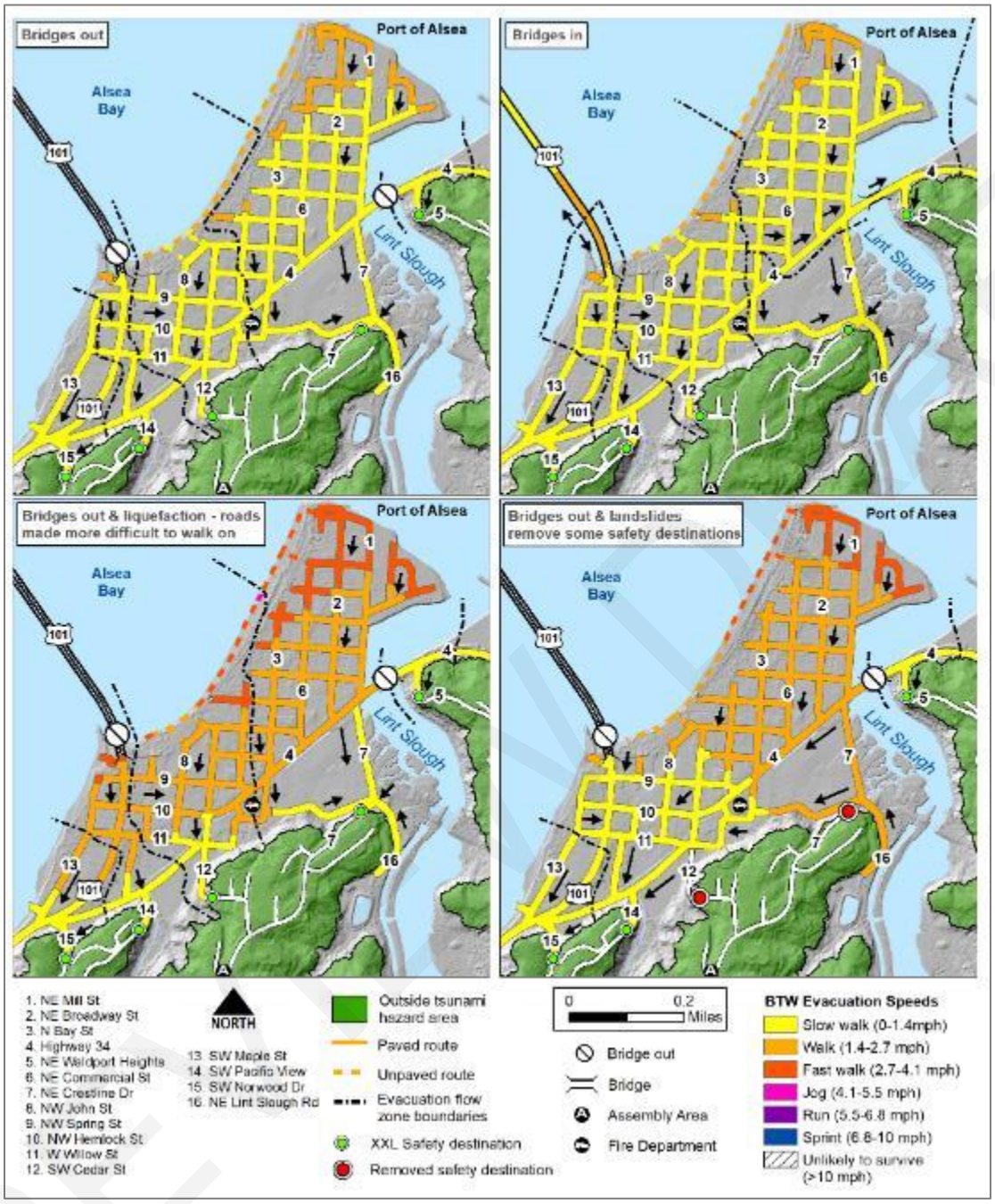
Since 2020 there have been two developments in the tsunami inundation zone. The Bayview townhomes and the Treasure Bay resort will expose more people to tsunami risks.

In 2019, DOGAMI published a tsunami evacuation analysis using the XXL inundation zone which covers the largest CSZ event likely to occur based on the historical record. [17] Safety is reached when evacuees have reached "high ground", or 20 feet beyond the limit of tsunami inundation. An analysis was conducted for Waldport. According to the model the first waves arrive along the open coast 30 minutes after the start of earthquake shaking with most of Waldport inundated about 4 to 6 minutes later. The Old Town neighborhood, Port of Alsea, and the business district are the most vulnerable areas of the city. It is expected that the Alsea Bay Bridge (Hwy 101) and Lint Slough (Hwy34) bridges will not survive the shaking from the expected earthquake event. As such, high ground is located to the south along Crestline Drive. Most people located in vulnerable areas can be evacuated to high ground if traveling at a moderate walking speed of 4 feet per second (fps) or less (2.7 mph). Evacuees closer to the Port of Alsea will need to move faster to beat the wave and make it to high ground (Map WA-7). Note: the figure includes a hypothetical "bridges in" scenario, in which the bridges do not fall and/or are seismically retrofitted to withstand the expected earthquake shaking. Prompt evacuation, knowledge of the route, signage, and alternative route designation due landslide activity is necessary to improve evacuation speeds. For details see *Tsunami evacuation analysis of Lincoln City and unincorporated Lincoln County: Building community resilience on the Oregon coast* (DOGAMI, 2019, O-19-06).

[16] Nathan J. Wood, Jeanne Jones, Seth Spielman, and Mathew C. Schmidtlein. "Community clusters of tsunami vulnerability in the US Pacific Northwest", PNAS 2015 112 (17) 5354-5359.

[17] DOGAMI, Open-Fire Report O-19-06.

Map WA-7 Beat the Wave modeling (CSZ earthquake XXL inundation zone)



Source: DOGAMI, Open-File Report O-19-06.

Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to tsunami. The Risk Report provides a distinct profile for Waldport.

The Risk Report performed an analysis of buildings, including critical facilities, to determine exposure for each community. According to the Risk Report the following resident population and property (public and private) within Waldport may be impacted by the profiled tsunami scenario (Table WA-6).

About 25% the city's population (508 people) may be displaced by a magnitude 9.0 CSZ tsunami event (note there are additional people that will be displaced by the earthquake). This is slightly fewer people than those exposed within the Senate Bill 379 line (526 people). *Note: The data does not include potentially impacted visitor populations that may be lodging or at a public venue during a CSZ earthquake and tsunami event.* Building damage (loss) estimates are reported for buildings expected to be damaged by the tsunami inundation zone (medium-sized and SB 379). All 520 buildings exposed *inside* the tsunami inundation area are considered "damaged" (complete, uninhabitable); the number of buildings damaged is slightly higher under the SB 379 scenario (526 buildings). One critical facility is expected to be damaged under the CSZ M9.0 scenario and the SB 379 scenario.

Table WA-6 Potentially Displaced Residents and Exposed Buildings, Tsunami

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Tsunami CSZ M9.0 (Deterministic) Scenario						
Potentially Displaced Residents		Exposed Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Value ($)	Percent
508	25.0%	520	30.6%	1	36,666,000	22.7%
Exposure Analysis: Tsunami SB 379 Regulatory Line						
518	25.5%	526	31.0%	1	37,495,000	23.2%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

Critical Facility Vulnerability[18]

- Central Oregon Coast Fire Station 7200

Note: Although critical facilities are not exposed to the profiled tsunami scenarios it is expected that bridges in the area may be impassable by vehicles for over 24 months. As such bringing resources into Waldport by sea and air will be necessary.

[18] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-19.

Earthquake and Tsunami Impact Analysis

DOGAMI developed two Earthquake and Tsunami Impact Analysis for Coastal Lincoln County, Oregon (O-21-02) and Earthquake and Tsunami Impact Analysis for the Oregon Coast (O-25-01) include economic and population impact assessments for the city. The model's results show the following building loss estimates from a Cascadia Subduction Zone (deterministic) magnitude 9.0 earthquake:

Table WA-7 Earthquake and Tsunami Impact Analysis

Resident Population (Total)	2,043		
Temporary Population (Total)*	1,355		
	M1	L1	XXL1
Earthquake Injuries:	60	60	60
Tsunami injuries (Permanent + Temporary):			
Tsunami fatalities (Permanent):			
Tsunami fatalities (Temporary @ 100% occupancy):			10
Displaced population (P):	840	940	1,120
Displaced population (P+T):	1,540	1,760	2,120
Numbers of buildings in tsunami zone	495	598	807
Building replacement cost (millions)	$132.1	$148.3	$188
Debris weight (tons)	42,797	53,154	67,070

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-25-01, Earthquake and Tsunami Impact Analysis for the Oregon Coast (2025). Note: Estimates of the permanent population in the tsunami inundation zone are derived from U.S. Census data collected in 2020 and ACS data maintained by the U.S. Census Bureau .* - Assumes 100% occupancy of second homes, vacation rentals, condominium units, bed and breakfast facilities, hotels, motels, and campgrounds.

Flood

The Steering Committee rated the city's **probability of occurrence for riverine flood events as "high" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

The Steering Committee rated the city's **probability of occurrence for coastal flood events as "high" and their vulnerability as "high".** *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of coastal and riverine flood hazards, as well as the history, location, extent, and probability of a potential event. The Waldport Steering Committee notes that flooding occurred on city streets in the low-lying areas of Waldport in 1996. Otherwise, there are no records of sustained damage or serious impacts associated with major flood events. See city action items (Attachment 1) for additional detail on vulnerable areas.

Additional information can be found on the Lincoln County website: https://www.co.lincoln.or.us/757/Hazards-Flooding-River-Levels

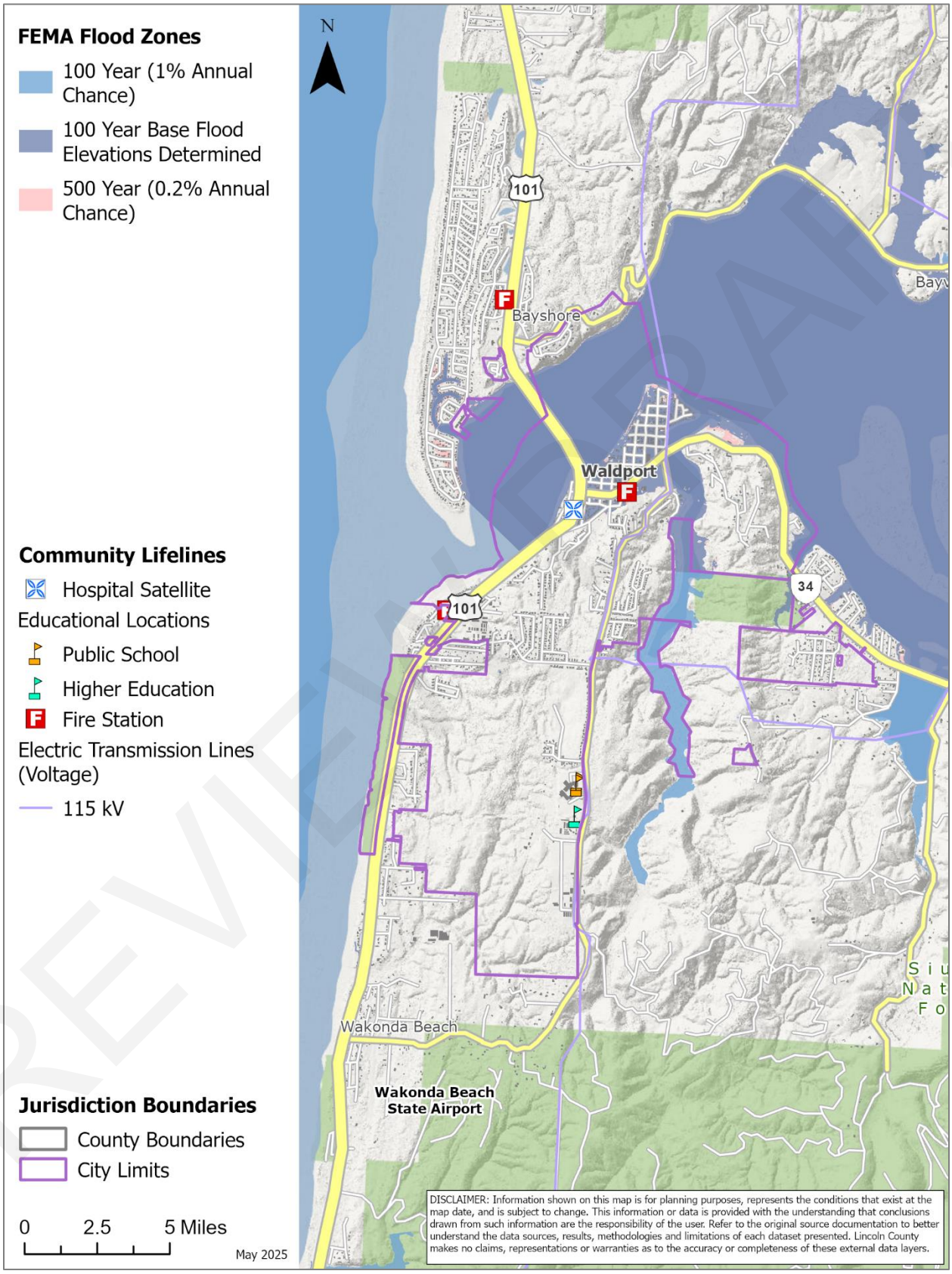
The Alsea River, Lint Slough (Creek), and Eckman Creek are the city's primary sources of flooding– typically due to coastal flood and rain and occasionally snowmelt. The extent of flooding varies depending on height of tides, rainfall, and/or precipitation levels throughout the year.

FEMA has mapped most of the flood-prone streams in Oregon for 100- and 500-year flood events. A 100-year flood (a flood with a one percent probability of occurring within any given year) is used as the standard for floodplain management in the United States and is referred to as a base flood; also known as the Special Flood Hazard Area (SFHA). The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. Flood Insurance Rate Maps (FIRMs) prepared by FEMA provide the most readily available source of information for 100-year floods (Map WA-8). These maps are used to support the NFIP. FIRMs delineate 100- and 500-year (a flood with a 0.2-percent probability of occurring within any given year) floodplain boundaries for identified flood hazards. These maps represent a snapshot in time, and do not account for later changes which occurred in the floodplains. According to Oregon Explorer about 23% of the city is within the 100-year floodplain, and an additional 4% is within the 500-year floodplain.

Future Climate Projection:

According to OCCRI report "*Future Climate Projections: Lincoln County"* (Link) the intensity of extreme precipitation is expected to increase as the atmosphere warms. The magnitude of the wettest days and the wettest consecutive five days is expected to increase by about 13% (range 4% to 28%) by the 2050s under the higher emissions scenario relative to historical baselines. The probability of winter flood risk will increase within coastal rain-dominated watersheds (such as the Siletz River) due to projected greater winter precipitation and warmer winter temperatures that will cause precipitation to fall more as rain than snow. There will also be an increase in atmospheric river events. Additionally, coastal flooding is expected to increase due to sea level rise (SLR) and changing wave dynamics. Sea level is projected to rise by 1.7 to 5.7 feet by 2100. Tidal wetlands and estuaries throughout the county are also expected to experience changes to their composition and area, thereby impacting their ability to naturally mitigate flood events.

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



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

Vulnerability Assessment

A floodplain vulnerability assessment combines the floodplain boundary, generated through hazard identification, with an inventory of the property within the floodplain. Understanding the population and property exposed to natural hazards will assist in reducing risk and preventing loss from future events.

Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11)) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to flood. The Risk Report provides a distinct profile for Waldport.

The Risk Report provides a flood analysis for four flood scenarios (10-, 50-, 100-, and 500-year). The 100-year flood scenario is used for reporting since it is commonly used as a reference level for flooding and is the standard FEMA uses for regulatory purposes. In addition to the riverine flood scenarios coastal flooding information is available for the 100-year flood scenario for the city. The Risk Report only analyzed buildings within a flood zone, or within 500 feet of a flood zone. First-floor building height and presence of basements was also considered. Buildings with a first-floor height above the flood level were not included in the flood loss estimate, however, their assumed building occupants (residents) were counted as potentially displaced. According to the Risk Report the following resident population and property (public and private) within Waldport may be impacted by the profiled flood scenario (Table WA-8).

More than 22% of the city's population (452 people) may be displaced by flooding. These people are expected to have mobility or access issues due to surrounding water. About 15% of the city's buildings (251 buildings) are exposed to the flood hazard and may be damaged. The loss estimate for exposed buildings is $1.4 million (less than one percent of total building value). No critical facilities are vulnerable to the flood hazard.

Table WA-8 Potentially Displaced Residents and Exposed Buildings, Flood

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Flood (1% Annual Chance)						
Potentially Displaced Residents		Damaged Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Loss Estimate ($)	Loss Ratio
452	22.2%	251	14.8%	0	1,438,000	0.9%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

Critical Facility Vulnerability[19]

There are no critical facilities exposed to the profiled flood scenario.

National Flood Insurance Program (NFIP)

FEMA updated the Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) in 2019 (effective October 10, 2019). The city does not participate in the CRS and, therefore, does not receive discounted flood insurance premiums for residents in a special flood hazard zone.

The city complies with the NFIP through enforcement of their flood damage prevention ordinance and their floodplain management program. Their flood prevention code section is based on the Oregon Model Flood Hazard Prevention code, which includes provisions addressing substantial improvement/substantial damage.

The city has 64 National Flood Insurance Program (NFIP) policies in force, representing almost $19.2 million in coverage. The Community Repetitive Loss record for the city identifies two (2) Repetitive Loss Properties[20] and zero (0) Severe Repetitive Loss Properties[21]. Both repetitive loss properties are single-family residential.

No development or population changes affected the jurisdiction's overall vulnerability to this hazard. In addition, development and population forecasts are not expected to increase or decrease the impact of this hazard.

Landslide

The Steering Committee rated the city's **probability of occurrence for landslide events as "high" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of landslide hazards, as well as the history, location, extent, and probability of a potential event.

Additional information can be found on the Lincoln County website:
https://www.co.lincoln.or.us/762/Hazards-Landslides

The severity or extent of landslides is typically a function of geology and the landslide triggering mechanism. Rainfall initiated landslides tend to be smaller and earthquake induced landslides

[19] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-19.

[20] A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than $1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling ten-year period, since 1978. A RL property may or may not be currently insured by the NFIP.

[21] A Severe Repetitive Loss (SRL) property is a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property. Repetitive Flood Loss information provided by FEMA correspondence on September 10, 2020.

may be very large. Even small slides can cause property damage, result in injuries or take lives. Landslide susceptibility exposure for Waldport is shown in Map WA-9. Approximately 33% of the city has very high or high, and 27% moderate, landslide susceptibility exposure.[22] In general, the areas of greater risk are located adjacent to rivers and creeks and indicate potential areas of erosion. *Note that even if a city has a high percentage of area in a high or very high landslide exposure susceptibility zone, this does not mean there is a high risk, because risk is the intersection of hazard and assets.*

Future Climate Projection:

According to OCCRI report "*Future Climate Projections: Lincoln County"* (Link) the intensity of extreme precipitation is expected to increase as the atmosphere warms. The magnitude of the wettest days and the wettest consecutive five days is expected to increase by about 13% (range 4% to 28%) by the 2050s under the higher emissions scenario relative to historical baselines. Landslide risk is not expected to change significantly.

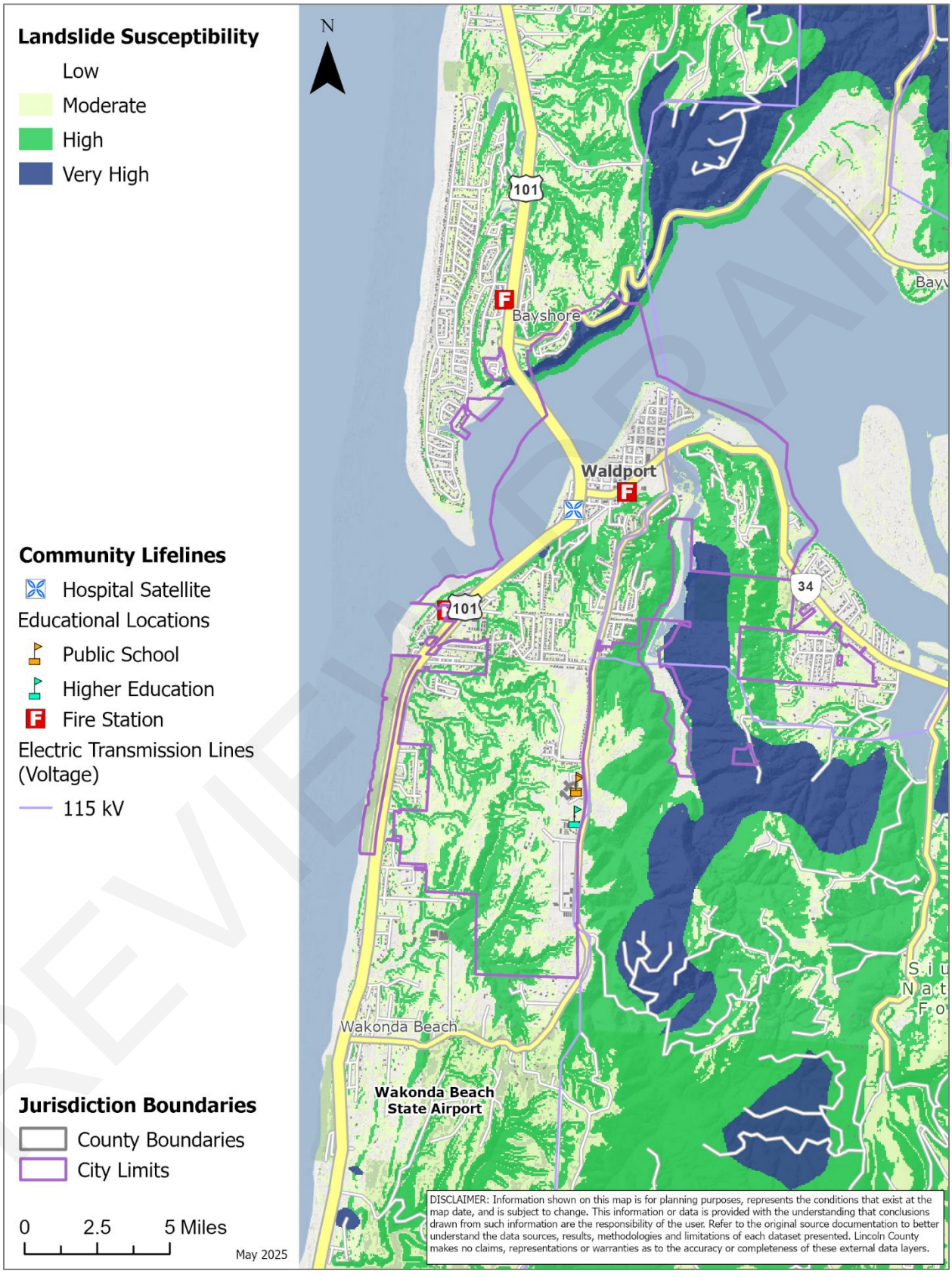
Vulnerability Assessment

Development pressure on steep slopes is an issue that Waldport is facing. In general, waterfront property along the north side of the Alsea Bay and areas east/ southeast along ridgelines may be vulnerable to landslides. Map WA-9 shows that the location of landslide hazard is highest at Crestline Drive and north of Alsea Bay (outside of the city).

Potential landslide-related impacts are adequately described within the county's plan, and include infrastructure damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Lincoln County, and thoroughfares beyond city limits are susceptible to obstruction as well. As such, Waldport is vulnerable to isolation for an extended period.

[22] DOGAMI. Open-File Report, O-16-02, *Landslide Susceptibility Overview Map of Oregon* (2016)

Map WA-9 Landslide Susceptibility Exposure



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

As shown in the images below, in 1996, two houses were destroyed by a landslide which was potentially caused by poor drainage related to man-made ponds. Another landslide occurred in 2009 which may have been caused by subsurface drainage issues.

Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to landslide. The Risk Report provides a distinct profile for Waldport.

The Risk Report provides an analysis of landslide susceptibility to identify the general level of susceptibility to landslide hazards, primarily shallow and deep landslides. The Risk Report performed an analysis of buildings, including critical facilities, to determine exposure for the city. According to the Risk Report the following resident population and property (public and private) within the city may be impacted by the profiled landslide scenario (Table WA-9).

Approximately 13% of the city's population (260 people) may be displaced by landslides. These people are expected to have mobility or access issues and/or may have their residences impacted by a landslide. It is important to note that impact from landslides may vary depending on the specific area that experiences landslides during an event. Properties that are most vulnerable to the landslide hazard are those that are developed in an area of, or at the base of,

moderate to steep slopes. Approximately 13% of all buildings (224 buildings) within the city are exposed to the High or Very High landslide susceptibility zones (Table WA-9). The value of exposed buildings is just over $21.6 million (about 13% of total building value).

Table WA-9 Potentially Displaced Residents and Exposed Buildings, Landslide

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Landslide High & Very High Susceptibility						
Potentially Displaced Residents		Exposed Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Value ($)	Percent
260	12.8%	224	13.2%	0	21,613,000	13.4%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

Critical Facility Vulnerability[23]

There are no critical facilities exposed to the profiled landslide scenario.

Severe Weather

Severe wind events may occur throughout Oregon during all seasons. Often originating in the Pacific Ocean, westerly winds pummel the coast, slowing as they cross the Coastal mountain range and head into the inland valleys.[24] Similarly, severe winter storms consisting of rain, freezing rain, ice, snow, cold temperatures, and wind originate from troughs of low pressure offshore in the Gulf of Alaska or in the central Pacific Ocean that ride along the jet stream during fall, winter, and early spring months. [25] In summer, the most common wind directions are from the west or northwest; in winter, they are from the south and east. Local topography, however, plays a major role in affecting wind direction.

Additional information can be found on the Lincoln County website: https://www.co.lincoln.or.us/765/Hazards-Severe-Weather

Future Climate Projections

Oregon and the Pacific Northwest experience a variety of extreme weather incidents ranging from severe winter storms and floods to drought and dust storms, often resulting in morbidity and mortality among people living in the impacted regions. According to the Oregon Climate

[23] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-19.

[24] US Department of Agriculture. http://www.fsa.usda.gov/or/Notice/Flp104.pdf.

[25] Interagency Hazard Mitigation Team. 2000. State Hazard Mitigation Plan. Salem, OR: Oregon Office of Emergency Management.

Change Research Institute, climate change is expected to increase the frequency and intensity of some weather incidents.[26]

Climate change poses risks for increased injuries, illnesses and deaths from both direct and indirect effects. Incidents of extreme weather (such as floods, droughts, severe storms, heat waves and fires) can directly affect human health as well as cause serious environmental and economic impacts. Indirect impacts can occur when climate change alters or disrupts natural systems.

According to OCCRI report "*Future Climate Projections: Lincoln County"* (Link) windstorm events are not expected to increase, however, air temperatures on the coldest day of the year will increase by about 5°F by the 2050s under the higher emissions scenario relative to historical baselines.

Extreme Heat

The city experiences milder temperatures compared to inland areas, as such, extreme heat is not considered to be a hazard within the community.

Windstorm

The Steering Committee rated the city's **probability of occurrence for windstorm events as "high" and their vulnerability as "high"**. *These ratings have not changed since the previous NHMP.*

The Steering Committee rated the city's **probability of occurrence for tornado events as "high" and their vulnerability as "low"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of windstorm hazards, as well as the history, location, extent, and probability of a potential event. Because coastal windstorms typically occur during winter months, ice, freezing rain, flooding, and very rarely, snow sometimes accompany them. More than likely, however, the coast's winter will just be windy, cold, and wet.

Vulnerability Assessment

Due to insufficient data and resources, a quantitative risk assessment or exposure analysis for this hazard cannot currently be performed. In Waldport, power outages are the greatest concern during windstorms. Building codes require new developments to place power lines below ground. Without power, communication is lost, and fuel and food stores shut down. The city underwent a project to install the overhead power lines in downtown underground. In the December 2007 windstorm, the city lost power and some residents were unable to access 911. Also, of concern are downed trees and damage to buildings. The city, in conjunction with some

[26] Oregon Climate Change Research Institute http://occri.net/wp-content/uploads/2011/04/chapter9ocar.pdf Page 412.

private utility companies, works to remove hazardous trees where possible. The county's plan adequately identifies the remaining impacts and damages that can occur with windstorm events.

Winter Storm (Snow/ Ice)

The Steering Committee rated the city's **probability of occurrence for winter storm events as "high" and their vulnerability as "moderate"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of winter storm hazards, as well as the history, location, extent, and probability of a potential event. Severe winter storms can consist of rain, freezing rain, ice, snow, cold temperatures, and wind. They originate from troughs of low pressure offshore that ride along the jet stream during fall, winter, and early spring months. Severe winter storms affecting the city typically originate in the Gulf of Alaska or in the central Pacific Ocean. These storms are most common from October through March. More than likely, however, the coast's winter will just be windy, cold, and wet.

Vulnerability Assessment

Due to insufficient data and resources, a quantitative risk assessment or exposure analysis for this hazard cannot currently be performed. Major winter storms can and have occurred in the Waldport area, and while they typically do not cause significant damage; they are frequent and have the potential to impact economic activity. Road closures on Highway 101, or the passes to the Willamette Valley (Hwy 34, 20, and 18), due to winter weather are an uncommon occurrence, but can interrupt commuter and large truck traffic.

Volcanic Event

The Steering Committee rated the city's **probability of occurrence for volcanic events as "low" and their vulnerability as "low"**. *These ratings have not changed since the previous NHMP.*

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of volcanic event hazards, as well as the history, location, extent, and probability of a potential event. Generally, an event that affects the county is likely to affect Waldport as well.

Vulnerability Assessment

Due to insufficient data and resources, a quantitative risk assessment or exposure analysis for this hazard cannot currently be performed. Waldport is very unlikely to experience anything more than volcanic ash during a volcanic event. When Mt. Saint Helens erupted in 1980, the city received small amounts of ashfall, but not enough to cause significant health and/or economic damages.

Wildfire

The Steering Committee rated the city's **probability of occurrence for wildfire as "high" and their vulnerability as "high"**. *The probability rating increased since the previous NHMP.*

The Lincoln County Community Wildfire Protection Plan (CWPP) was last completed in 2024. The CWPP is hereby incorporated into this NHMP addendum by reference, and it will serve to supplement the wildfire section in this addendum.

Volume I, Section 2 of Lincoln County's NHMP adequately describes the causes and characteristics of wildfire hazards, as well as the history, location, extent, and probability of a potential event. The location and extent of a wildfire vary depending on fuel, topography, and weather conditions. Wildfires in 1849 and 1936 were particularly devastating in Lincoln County, but since then, there have been few large events. The burn probability and wildfire history (1992-2022) for the city is shown in Map WA-10. The city has mostly low, with some moderate, overall wildfire risk. Areas of concern include the eastern side of the city (where forestland borders development), and some of the open spaces within the city's limits. Due to the prevailing wind patterns (i.e., from the north or south), the city's steering committee felt that the east and south ends of the city might be the most vulnerable. Power, natural gas, and phone lines run through the forest to the east of the city and would be affected in the event of a wildfire. Likewise, active commercial logging occurs just outside the city, and slash burns are a potential wildfire concern.

Additional information can be found on the Lincoln County website:
https://www.co.lincoln.or.us/770/Hazards-Wildfire

Future Climate Projection:
According to OCCRI report "*Future Climate Projections: Lincoln County*" (Link) wildfire risk is expected to increase as the frequency of higher fire danger days per year increases by 37% by the 2050s under the higher emissions scenario compared with the historical baseline.

Vulnerability Assessment

Potential wildfire impact is shown using integrated conditional net value change from the Pacific Northwest Quantitative Wildfire Risk Assessment (2023, Map WA-11).[27] Overall Potential Impact measures the potential consequences of wildfire on valuable assets and resources—such as infrastructure, housing, forests, and wildlife habitat—without considering the likelihood (probability) of fire occurring. It reflects a spectrum from very negative impacts (e.g., damage to structures or sensitive ecosystems) to positive impacts (e.g., ecological benefits like improved vegetation or habitat conditions). Not all resources are present everywhere, so the map displays risk only for what's within the mapped area. Most of the city lies within "neutral" to "very high" loss areas.

[27] Full documentation of methods for the 2023 update to the Pacific Northwest QWRA can be found here: https://oe.oregonexplorer.info/externalcontent/wildfire/PNW_QWRA_2023Methods.pdf

Overall, the city, and its watershed, has low to moderate overall wildfire risk, however, the forested areas have the potential for large wildfires and a wildfire within the watershed could impact the city's water supply and quality. The city has current fire storage for structural fires but does not have adequate fire storage/ or water rights for wildfire protection. The city water intakes are located on Forest Service land and are vulnerable to wildfire. The city has storage to maintain water service for approximately one week for residential service connections only.

Property can be damaged or destroyed with one fire as structures, vegetation, and other flammables easily merge to become unpredictable, and hard to manage. Other factors that affect ability to effectively respond to a wildfire include access to the location, and to water, response time from the fire station, availability of personnel, and equipment, and weather (e.g., heat, low humidity, high winds, and drought).

Exposed infrastructure including wastewater main lines, major water lines, natural gas pipeline and fiber optic lines are buried, decreasing their vulnerability to damage from wildfire hazards. However, wildfire conditions could potentially limit or delay access for the purposes of operation or repair.

Natural Hazard Risk Report for Lincoln County

The Risk Report (DOGAMI, O-20-11) provides hazard analysis summary tables that identify populations and property within Lincoln County that are vulnerable to wildfire. The Risk Report provides a distinct profile for Waldport.

The Risk Report provides an analysis of the West Wide Wildfire Risk Assessment's Fire Risk Index (FRI) High Hazard category to identify the general level of susceptibility to the wildfire hazard. The Risk Report performed an analysis of buildings, including critical facilities, to determine exposure for the city. According to the Risk Report the following resident population and property (public and private) within the city may be impacted by the profiled wildfire scenario (Table WA-10).

Approximately three percent of the city's population (67 people) may be displaced by wildfires. These people are expected to have mobility or access issues and/or may have their residences impacted by a wildfire (more people may also be impacted by smoke and traffic disruptions that are not accounted for within this analysis). It is important to note that impact from wildfires may vary depending on the specific area that experiences a wildfire. The value of exposed buildings (76 buildings) is just over $5 million (about three percent of total building value).

Table WA-10 Potentially Displaced Residents and Exposed Buildings, Wildfire

Community Overview: Waldport						
Population		Buildings		Critical Facilities	Total Building Value ($)	
2,033		1,698		4	161,309,000	
Exposure Analysis: Wildfire High-Hazard						
Potentially Displaced Residents		Exposed Buildings			Exposed Building Value	
Number	Percent	Number	Percent	Critical Facilities	Value ($)	Percent
67	3.3%	76	4.5%	0	5,243,000	3.3%

Source: IPRE. Data adapted from DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-18. Note: city population based on the 2010 Census population.

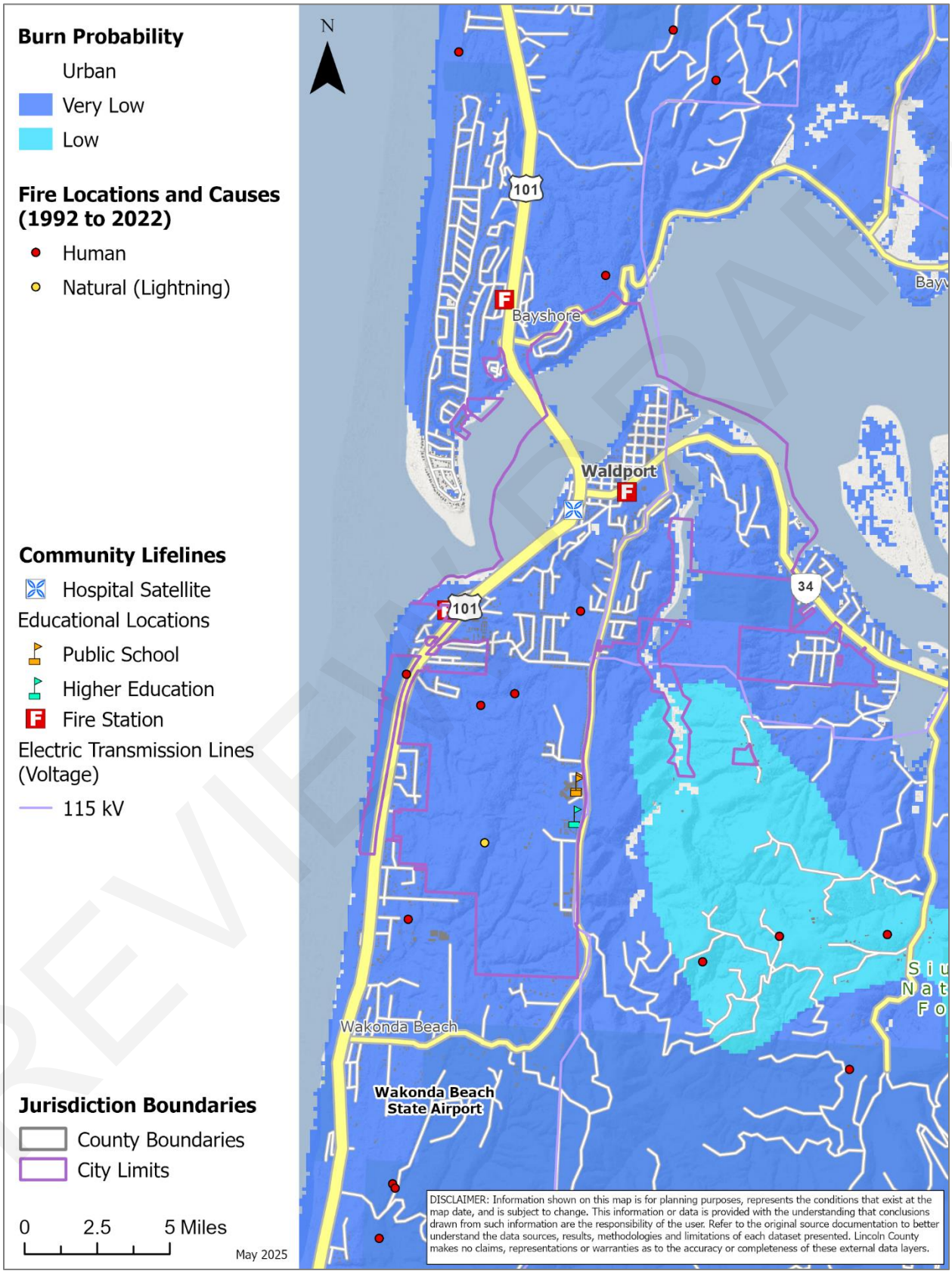
Critical Facility Vulnerability[28]

There are no critical facilities exposed to the profiled wildfire scenario.

Note: The city is concerned that their Public Works Shop (4028 SW Ann St) and water intake is at risk to wildfire.

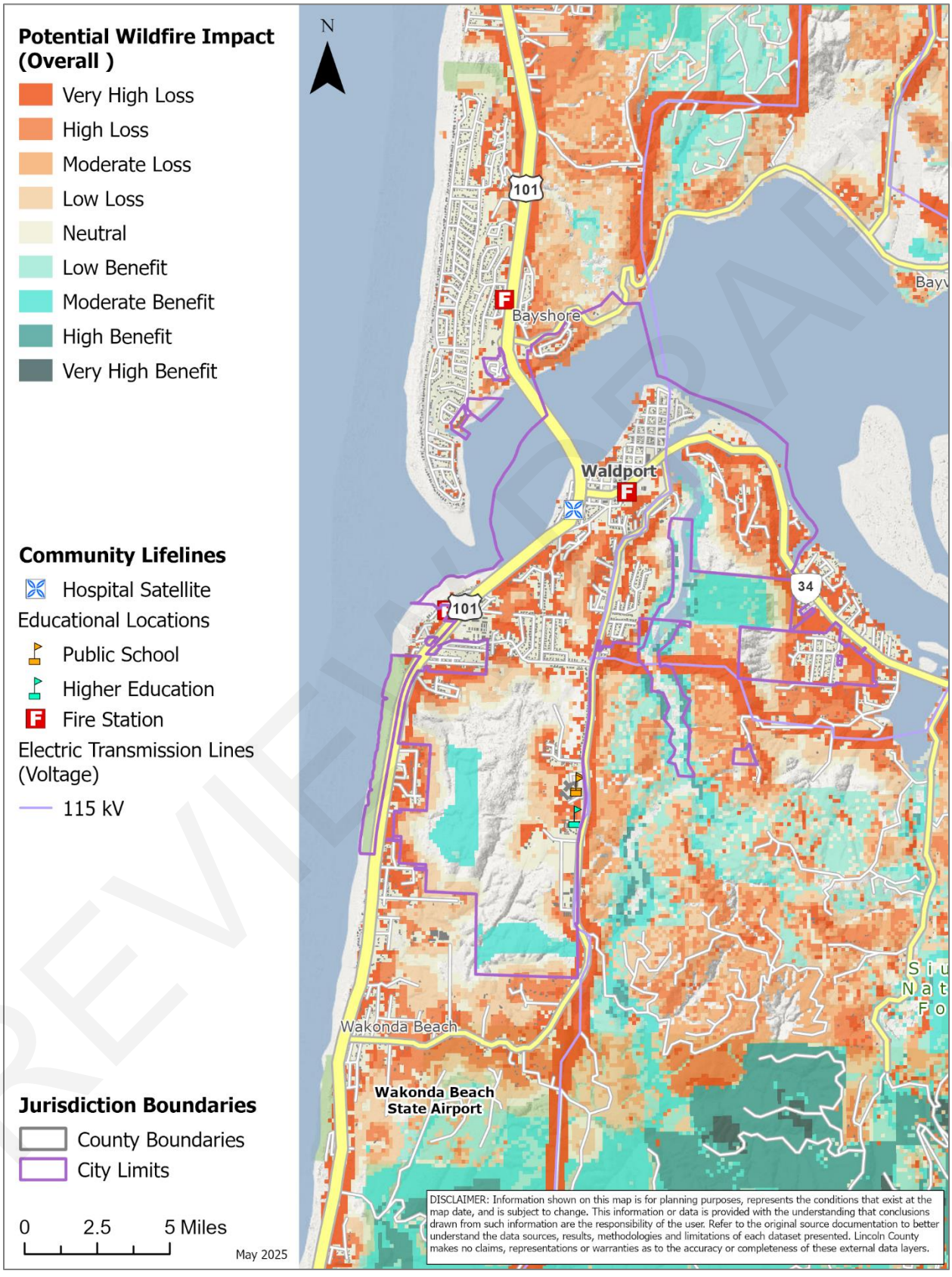
[28] DOGAMI, Open-File Report O-20-11, Lincoln County Natural Hazard Risk Report (2020), Table A-19.

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



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

Map WA-11 Potential Wildfire Impact (Overall)



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

Attachment A: Action Items

Table WA-11 is an accounting of the status (complete or not complete) and major changes to actions since the previous NHMP. All actions were renumbered in this update to be consistent with other jurisdictions that are participating in the multi-jurisdictional NHMP. Actions identified as still relevant are included in the updated action plan (Table WA-1).

Previous NHMP Actions that are Complete:
Waldport #1: *Continue to educate citizens about earthquake and tsunami preparedness*. This is part of normal operations.

Waldport #3: Encourage emergency related intergovernmental planning. This is part of normal operations.

Waldport #9: *Evaluate and implement erosion control mitigation projects for Alsea Bay.* This is part of normal operations.

Waldport #10: Seismically retrofit the 2 MG water storage tank and build a new 300,000-gallon tank.

Previous NHMP Actions that are Not Complete and No Longer Relevant:
Waldport #8: *Assess and implement water/ wastewater intertie options between Waldport and Seal Rock.* Not feasible currently.

Table WA-11 Status of All Hazard Mitigation Actions in the Previous Plan

2020 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Waldport #1	-	Complete	-
Waldport #2	Waldport #1	Not Complete	Yes
Waldport #3	-	Complete	-
Waldport #4	Waldport #2	Not Complete	Yes
Waldport #5	Waldport #3	Not Complete	Yes
Waldport #6	Waldport #4	Not Complete	Yes
Waldport #7	Waldport #5	Not Complete	Yes
Waldport #8	-	Not Complete	No
Waldport #9	-	Complete	-
Waldport #10	-	Complete	-

2020 Action Item	2025 Action Item	Status	Still Relevant? (Yes/No)
Waldport #11	Waldport #6	Not Complete	Yes
Waldport #12	Waldport #7	Not Complete	Yes
-	Waldport #8	New	-
-	Waldport #9	New	-
-	Waldport #10	New	-
-	Waldport #11	New	-

Attachment B: 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 provided from August 7 through 21, 2025 on the County's website and publicized by the city. 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.

A diverse array of agencies and organizations were provided an opportunity to provide input to inform the plan's content through a variety of mechanisms including the opportunity for comment on the draft plan. The agencies and organizations represent local and regional agencies involved in hazard mitigation activities, those that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, and representatives of nonprofit organizations, including community-based organizations, that work directly with and/or provide support to underserved communities and socially vulnerable populations. For more information on the engagement strategy see Volume II, Appendix B.

Steering Committee

Steering Committee members possessed familiarity with the city 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 7, 2025 (virtually via Zoom)
During this meeting, the Steering Committee reviewed the previous NHMP, and were provided updates on hazard mitigation planning, the NHMP update process, and project timeline. The Steering Committee:

- Updated recent history of hazard events in the city.
- 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 update including community vulnerabilities and hazard information.

- Reviewed and updated their existing mitigation strategy (actions).
- Reviewed and updated their implementation and maintenance program.

Meeting Attendees:

- Convener, Jaime White, City Planner