Annexes

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City of Forks

Section 1.0: Introduction

1.1 City of Forks Hazard Mitigation Program

The City of Forks (referred to herein as 'City' or 'Forks') participated in the 2019 Clallam County Multi-Jurisdictional Hazard Mitigation Plan and is a participating jurisdiction in this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan").

The following representatives from the City of Forks served on the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and were present at one or more HMCR Steering Committee meetings:

- Rod Fleck, City Planner/City Attorney
- Brian Weekes, Planning Commission Member

In addition, the HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including the City of Forks. Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with the City of Forks. Coordination between representatives of City of Forks and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Representatives from the City coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

1.1.1 Public Outreach

All jurisdictions, including the City of Forks, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on its public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the public. The City was also responsible for distributing components of the Forks public outreach campaign, including the community survey link and invitation for the HMCR

Workshop. This distribution was to ensure members of the public within the Forks jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S'Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. This workshop was open to members of the public, including City of Forks citizens. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the City of Forks served on the HMCR Steering Committee and helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.6 of this MJHMP.

As noted above, representatives from the City coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Forks jurisdictional annex:

- The City reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of the City of Forks. Updated list of hazards and hazard rankings are included in Section 3.0, *Risk and Vulnerability Assessment* below. This process included a meeting in Forks about wildfire preparedness and response, with some emphasis on the July 4th 2023 fire.

- Critical facilities were reviewed and updated by the City and were incorporated into the vulnerability and risk assessment of the MJHMP. Critical facilities essential to the City of Forks are identified in in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*.

- Updated information on past and future development and growth was provided and incorporated into the Forks jurisdiction-specific vulnerability assessment of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.4, *Land Use and Development Trends* below.

- Forks capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capabilities Assessment* below.

- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an

updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for the City of Forks are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the City and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0: Community Profile

2.1 Governance

The City of Forks was incorporated in 1945. The City Council is comprised of elected officials who serve as the governing body alongside an elected mayor. The following is excerpted from the City of Forks 2016 – 2035 Comprehensive Plan:

> "Forks utilizes the 'strong mayor' form of government with the Mayor having the supervision of all executive and administrative aspects of the City. Day to day operations are undertaken by the City's department managers in consultation with the Mayor. The elected City Council positions are unpaid and consist of 4-year terms. All council positions are at-large and, along with the major position, require residency within city limits." [1]

The City Government includes the following departments and divisions:

- City Clerk/Treasurer
- Public Works
- Legal & Planning
- Human Resources

In addition, the City operates a full-service police department with patrol and administrative positions. The Forks Police Department also includes corrections services, a jail and 24-hour dispatch services.

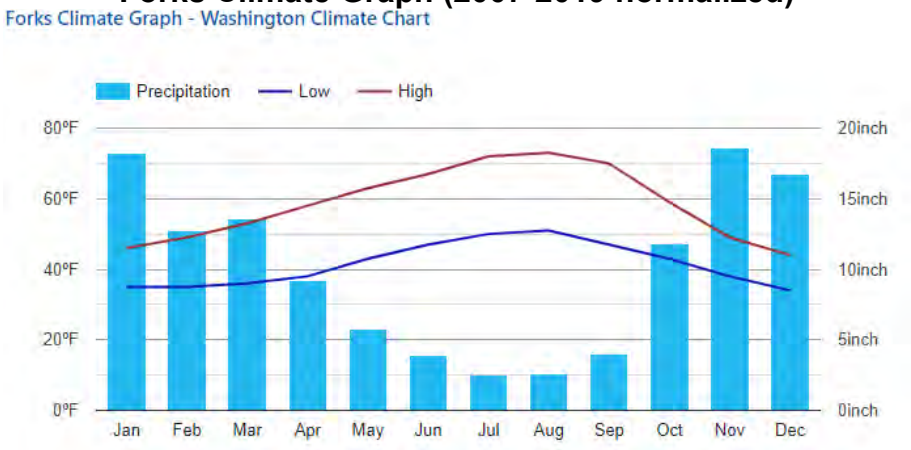
2.2 Geography and Climate

Forks is located in the western Olympic Peninsula, or "West End," at the base of the flanks of the Olympic Mountains in the relatively flat Forks Prairie.[2] The town lies between the Bogachiel, Sol Duc, and Calawah Rivers before they join to flow west to the Pacific Ocean. The average high annual temperature is 59 degrees Fahrenheit, and the average

[1] City of Forks, *2016-2035 Comprehensive Plan*, https://www.ezview.wa.gov/Portals/_1976/Documents/ElementExamples/Forks%20Comprehensive%20Plan.pdf, accessed June 5, 2024.
[2] City of Forks, *2016-2035 Comprehensive Plan*, https://www.ezview.wa.gov/Portals/_1976/Documents/ElementExamples/Forks%20Comprehensive%20Plan.pdf, accessed June 5, 2024.

low annual temperature is 41 degrees Fahrenheit.[3] The average annual rainfall is 119.72 inches, with the maximum rainfall occurring in the months of November, December, and January.[4]

Exhibit 2-1
Forks Climate Graph (2007-2019 normalized)



Source: U.S Climate Data, Climate in Forks, Washington, https://www.usclimatedata.com/climate/forks/washington/united-states/uswa0149, accessed June 5, 2024.

2.3 Population and Demographics

As of 2022, the U.S. Census American Community Survey (ACS) 5-Year estimated population for Forks was 3,380 individuals, which is an 10.6 percent decrease from 2018. According to the 2022 ACS, approximately 8.3 percent of the City population is younger than 5 years of age and 25.8 percent is younger than 18 years of age. Approximately 15.6 percent of the City population is 62 years of age and older.[5]

Additionally, 65.9 percent of the City's population is white alone, 1.3 percent of the City is Black or African American, and 2.1 percent of the City's population is American Indian or Alaska Native. Also, 22.9 percent of the City's population is two or more races and 32 percent of the population is Hispanic or Latino.[6]

2.4 Economy

The following is excerpted from the City of Forks 2016 – 2035 Comprehensive Plan:

[3] U.S Climate Data, *Climate in Forks, Washington*, https://www.usclimatedata.com/climate/forks/washington/united-states/uswa0149, accessed June 5, 2024.
[4] U.S Climate Data, *Climate in Forks, Washington*, https://www.usclimatedata.com/climate/forks/washington/united-states/uswa0149, accessed June 5, 2024.
[5] U.S. Census Bureau, *Forks City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Forks%20city,%20Washington, accessed June 5, 2024.
[6] U.S. Census Bureau, *Forks City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Forks%20city,%20Washington, accessed June 5, 2024.

> "Forks' traditional economic base of timber harvesting was seriously undermined in the late 1980s due to judicial and executive actions concerning the Endangered Species Act (ESA). The Forks Economic Development Steering Committee (FEDSC) proposed creation of industrial park centered around timber products and actively marketing the industrial park to other manufacturers.
>
> The U.S. Forest Service, Washington State Department of Natural Resources (DNR), Quillayute School District, Olympic Corrections Center (OCC), and the Clallam Bay Correctional Center (CBCC) are major employers of hundreds of people from Forks. The Forest Service, Quillayute School District, and the Department of Natural Resources (DNR) reduced staff in recent decades due to declining state and federal budgets. Pressure on state budgets continues to require Forks to spend significant political efforts to maintain both services and jobs associated with those state-funded agencies. The Olympic Corrections Center (OCC) and Clallam Bay Correctional Center (CBCC), however, have increased staff and expect this trend will continue for the foreseeable future."[7]

2.5 Land Use and Ownership

The Land Use Element of the City of Forks Comprehensive Plan considers the general distribution and location of land uses, the appropriate intensity and density of land uses given current development trends. The Forks Comprehensive Plan complies with the requirements of the Growth Management Act and Urban Growth Areas (UGA), where land development and public infrastructure improvements are concurrently programmed. The Land Use Element identifies the following types of land uses within the City:

- Residential Land Use
- Commercial Land Use
- Industrial Land Use
- Mixed Use
- Public Land Use
- Open Space
- Vacant Land

2.6 Transportation and Commuting

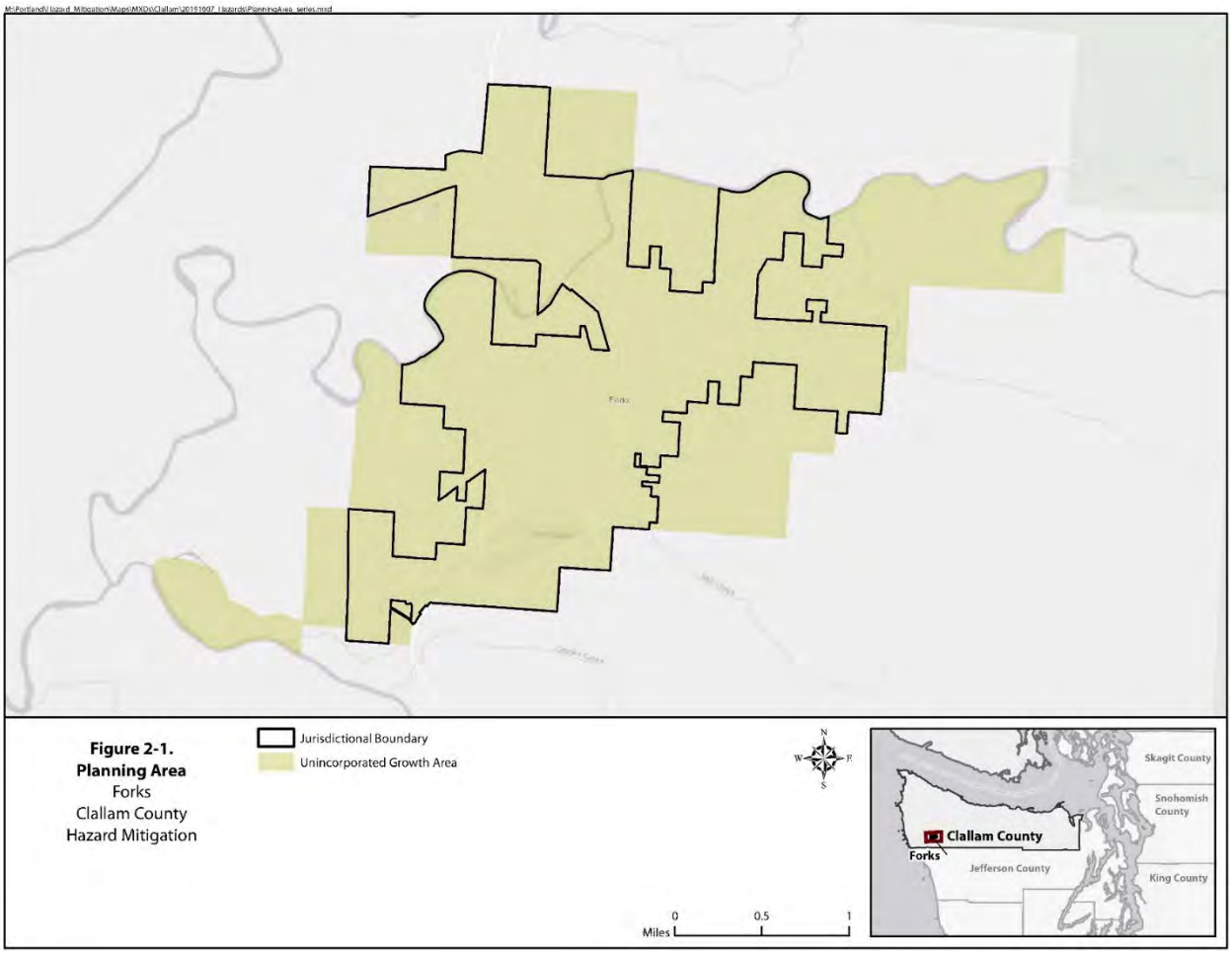
According to the City of Forks Comprehensive Plan, "[the] City of Forks lies on the relatively flat Quillayute Prairie running generally west and east of US-101, which is called

[7] City of Forks, *2016-2035 Comprehensive Plan*, https://www.ezview.wa.gov/Portals/_1976/Documents/ElementExamples/Forks%20Comprehensive%20Plan.pdf, accessed June 5, 2024.

South Forks Avenue within Forks city limits. In 1992, the City had 15.3 miles of roadway, with 2.8 miles classified as arterial streets".[8]

US-101 is the only regional highway with access directly to the City. SR-110/La Push Road runs from US 101 at the northern end of the City to the Quileute Reservation at La Push and the confluence of the Quillayute River.

Exhibit 2-2
City of Forks



[8] City of Forks, *2016-2035 Comprehensive Plan*, https://www.ezview.wa.gov/Portals/_1976/Documents/ElementExamples/Forks%20Comprehensive%20Plan.pdf, accessed June 5, 2024.

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History.

Clallam County has encountered several major disaster declarations that have affected the City of Forks. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the jurisdictional annex and HMCR Steering Committee. The jurisdictional annex and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked by Forks HMCR Steering Committee members.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with City vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)

- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the jurisdictional annex and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:

Probability = (Probability Score x Importance)

Impact = (Affected Area + Primary Impact + Secondary Impacts), where:

Affected Area = Affected Area Score x Importance

Primary Impact = Primary Impact Score x Importance

Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration

Total Score	Range	Distribution	Hazard Level
0.0	20.0	2	Low
20.1	42.0	4	Medium
42.1	64.0	1	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Human-Caused - Utility Failure/Power Outage	4.00	4.00	2.00	2.00	44.80	High
Wildfire (wildfire smoke)	2.00	4.00	2.00	2.00	22.40	Medium
Drought	2.00	4.00	2.00	2.00	22.40	Medium
Seismic - Cascadia Earthquake	1.00	4.00	4.00	4.00	16.00	Medium
Severe Weather - Windstorm	1.50	2.50	2.50	3.00	15.75	Medium
Severe Weather - Extreme Heat	1.00	4.00	2.00	2.00	11.20	Low
Flood	1.00	3.00	2.50	2.00	10.30	Low
Landslides	1.00	1.00	1.00	2.00	5.00	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, the jurisdictional annex and HMCR Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

The following hazards are discussed in Section 3.3 below:

- Drought
- Flood
- Human-Caused Hazards – Utility Failure/Power Outage
- Landslides
- Seismic Hazards (Cascadia Subduction Zone Earthquake)
- Severe Weather (Extreme Heat and Windstorms)
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

The City of Forks is not vulnerable to dam failure, coastal hazards, tsunami or sea level rise and has affirmatively omitted these hazards in the City of Forks Plan.

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Table 3-4
City of Forks Vulnerability Assessment

Hazard	Assets Located within Mapped Hazard Zones		
	Residential Units	Population Estimate	Non-Residential Parcels (Acre)
Flood	53 Units	118 individuals	113 acres
Landslides	8 Units	14 individuals	25 acres
Wildfire	1,138 Units	2,538 individuals	1,693 acres

As the City of Forks is a city located within Clallam County, the number of residential units, population estimates, and non-residential parcels (acres) is a subset of the larger Clallam County vulnerability assessment findings outlined in MJHMP Volume 1, Section 4.0.

For non-mapped hazards identified in this jurisdictional annex (including drought, human-caused hazards, seismic hazards, severe weather, and climate change), this jurisdictional annex considers the entire City of Forks to be vulnerable. This includes the entire City population (estimated 3,380 individuals per 2022 ACS findings) and all residential and non-residential development within the City's jurisdiction.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines methodology for identifying critical facilities within the planning area. The City of Forks identified relevant critical facilities for the jurisdiction. As the City of Forks is a jurisdiction within larger Clallam County, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D-2. Appendix D-2 includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

The Forks Municipal Code Chapter 14.05, *Flood Hazard Management*, designates the City Building Inspector as the Floodplain Administrator responsible for administering and implementing the provisions of the National Flood Insurance Program (NFIP). All development, including substantial improvement, within designated special flood hazards must be in full compliance with Forks Municipal Code Chapter 14.05. These standards

are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

As outlined in the MJHMP Volume 1, Section 5.1.1, *FEMA's National Flood Insurance Program*, two NFIP-identified repetitive loss structures (residential) are located within the City of Forks; refer to Table 3-5 below.

Table 3-5
NFIP Severe Repetitive Loss Properties

Census Block Group	City	Zip Code	Flood Zone	Total Losses	Repetitive Loss	Severe Repetitive Loss
530090024002	FORKS	98331	A	3	✓	✓
530090024001	FORKS	98331	A07	3	✓	

Source: FEMA, *OpenFEMA Dataset: NFIP Multiple Loss Properties - v1*, https://www.fema.gov/openfema-data-page/nfip-multiple-loss-properties-v1, accessed August 27, 2024.

3.4 Land Use and Development Trends

The City of Forks is currently in the process of updating the Comprehensive Plan to comply with the periodic review requirement outlined in Washington State's Growth Management Act. Changes in land use policy over the past five years include minor zoning code amendments and an accessory dwelling ordinance for those properties with both water and sewer services. These changes in land use and zoning are intended to benefit the development of 'in-fill' residential housing. Since the previous MJHMP was developed, the City has seen a 10.6 percent decrease in population from 3,782 in 2018 to 3,380 in 2022 as reported by the United States Census Bureau.[9] It is believed that this represents a significant undercount of the Latino population within the City of Forks due to the manner in which Census 2020 was conducted at the outset of the Covid-19 pandemic. Additionally, over the last decade Interfor permanently closed its Beaver-Forks Mill operations. Interfor is one of the world's largest high-quality forest products companies with operations across North America. It is reasonable to assume that the closure of the Beaver-Forks Mill contributed to the population decrease of the City.

The City of Forks is an identified Urban Growth Area (UGA) within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature. Growth Management Act population projections for Clallam County show a projected population increase of 5.37 percent from 2022 to 2030. By applying that growth percentage to the Forks population of 3,380 in 2022 as reported by the United States Census Bureau, it is estimated that the City will have a population of 3,562 by 2030. The City continues to explore and pursue means of (re)developing the Forks Industrial Park with the goal of recreating in that area the roughly 80-120 manufacturing and trucking

[9] U.S. Census Bureau, *Forks City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Forks%20city,%20Washington, accessed June 5, 2024.

jobs associated with the former Interfor mill site. Such a development would potentially contribute to population growth in Forks.

Past population trends indicate that vulnerability may have decreased for the City of Forks since the previously prepared 2019 MJHMP. However, expected population growth, and continued development in the City indicates that vulnerability for each hazard will likely increase as shown in Table 3-6 below.

Table 3-6
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Human-Caused - Utility Failure/Power Outage	+
Landslides	+
Wildfire (wildfire smoke)	+
Drought	+
Seismic - Cascadia Earthquake	+
Severe Weather - Windstorm	+
Severe Weather - Extreme Heat	+
Flood	+
Key: + Increased vulnerability - Decreased vulnerability = Unchanged vulnerability	

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including the City of Forks. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*.

The census tract that makes up the City of Forks (Census Tract 3) has a high social vulnerability score as reported by the Center for Disease Control and Prevention (CDC) and Washington State Department of Health. Census Tract 3 is among the highest socially vulnerability scores for census tracts in Clallam County. This census tract generally included concentrations for the following indicators of social vulnerability:

- Persons with income below 150 percent of the poverty rate
- Persons aged 65 and older
- Civilian noninstitutionalized population with a disability
- Persons reporting minority status
- Persons living in mobile homes

Refer to Volume 1, Section 3.8.1, *SVP Research and Methodology* for a detailed analysis of SVPs in the planning area.

Based on the CDC Social Vulnerability Index (SVI) data, the HMCR Steering Committee determined that Census Tract 3 (City of Forks) is formally established as an SVP. However, SVPs are understood to exist throughout the entire county planning area despite the CDC Social Vulnerability Index. The SVP analysis identified the following groups as vulnerable throughout the county planning area despite SVI scores: individuals below the 150-percent poverty rate; aged 65 or older; disabled persons; persons reporting minority status; persons living within a mobile home; populations of the Quileute Tribe, Hoh Tribe, Quinault Tribe, Makah Tribe, Lower Elwha Tribe, the Jamestown S'Klallam Tribe; and tourists, seasonal visitors, and transient populations visiting for special events. These populations exist throughout the County and within the City of Forks. It is acknowledged that regardless of specific location within the county planning area, members of these groups are more likely to experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8.

Considerations for SVPs have been incorporated into the City of Forks mitigation strategy in Section 5.0 below. Refer to Table 5-1, *City of Forks Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the City of Forks. The City reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Forks.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**City of Forks Capital Improvement Plan (2025-2030)**	Identifies capital improvement projects to be undertaken by the City over the next seven-year period. Includes water systems, sewer treatment systems, flood management, city structures, parks & recreation, airports, technology center, transit center, collaboration with other agencies.	▪ Updated plan for 2025 – 2030, including flood management projects.	Flooding
	2016 – 2035 Forks Comprehensive Plan	The City's Comprehensive Plan establishes Urban Growth Areas, natural resource lands, rural lands, and public lands.	▪ Updated plan for 2016 – 2035 ▪ Comprehensive Plan update is expected for adoption in June 2025	All
	Transportation Improvement Plan (Six-Year Street Plan 2023 – 2028)	Lists transportation projects for a six-year period.	▪ Updated for 2023 to 2028.	All
	Forks Comprehensive Flood Management Program	Conducted in tandem with capital improvements planning	▪ N/A	Flooding

Table 4-1 (continued)
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Policies	**Forks Municipal Code**	Title 14 and 15 relate to Environment (including flood management) and Buildings and Construction (fire district).	▪ Flood Hazard Chapter was completely updated taking effect 15 May 2024 per Ordinance 673.	Flood, Wildfire
	Zoning Ordinance	Provides land use regulation in the City of Forks – Title 17 of FMC.	▪ Current code through Ordinance 634, passed 12 Mar 2018	All
	National Flood Insurance Program (NFIP)	NFIP aims to reduce the impact of flooding on private and public structures.	▪ All participating jurisdictions currently participating in NFIP. ▪ Forks adopted a new flood management ordinance in April 2024, with new maps approved to take effect in April 2025.	Flooding

4.2 Administrative and Technical Capabilities

Table 4-2 describes the City's administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Public Works Director	Public Works & Utilities	Management of water and sewer infrastructure to include emergency repairs, usage monitoring, etc. Traffic management and roadway repair.
Building Inspector	Buildings & Permits Department	Professionals trained in construction practices relate to buildings and/or infrastructure
City Attorney/Planner	Legal & Planning Department	Ongoing participation in hazard mitigation planning process. Planner with knowledge of land development, land management, and environmental impact analysis.

4.3 Financial Resources

The City maintains many fiscal and financial resources to support its mitigation program. Table 4-3 identifies specific resources accessible for use. In addition to these financial resources, the financial resources identified in MJHMP Volume 1, Section 5.5 would potentially be available to the City of Forks and all participating jurisdictions.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?
Community Development Block Grants	Yes
Capital Improvement Funding	Yes
Insurance	Yes
User Fees for Utility Services	Yes, Water & Sewer inside the Forks Urban Growth Area
Incur Debt	Yes
State Sponsored Grant Programs	Yes

4.4 Education and Outreach Capabilities

Table 4-4 describes the City's education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Forks.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
Clallam County Emergency Management Emergency Preparedness Programs, Outreach and Materials	City of Forks helps to distribute County-produced hazard mitigation and emergency preparedness materials, outreach and programming to constituents.
City of Forks Comprehensive Emergency Management Plan	Use by officials to provide emergency management preceding, during and following disasters; the policies, information, recommendations and guidance necessary for the officials making operational decisions

4.5 National Flood Insurance Program Participation

The City maintains an active NFIP policy which is regulated in the Forks Municipal Code Chapter 14.05, *Flood Hazard Management*. Flood Hazard Management and the requirements of the NFIP is administered by the Public Works Department and the Building Inspector. Development regulations for flood zones and floodways are provided in Municipal Code Chapter 14.05. The City is working with the Quileute Tribe and FEMA to update the FIRM mapping. The City developed a Flood Management Plan in 1996 to assist in the prioritization of flood management projects in tandem with capital improvements planning.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. No mitigation actions for the City of Forks were removed from the previous list of mitigation actions. These updates are reflected in the MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, the City has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
City of Forks Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	FR02, FR06
Expanding Administrative and Technical Capabilities	FR07, FR10
Expanding Financial Capabilities	FR10, FR11, FR12
Expanding Education and Awareness	FR07, FR10
Infrastructure/Capital Project	FR01, FR03
Natural System Protection/Nature-Based Solutions	FR09
Socially Vulnerable Populations	FR10, FR12

All mitigation actions identified in the plan are addressed in the mitigation implementation plan provided in Section 5.3 below. The actions include both interim- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into planning mechanisms and how the mitigation actions will be prioritized, implemented, and administered by the City. The implementation plan includes

both short-term strategies that focus on planning and assessment activities, and long-term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. The City of Forks reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. The City and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, *City of Forks Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for the City of Forks were ultimately included in the MJHMP and Table 5-2, *City of Forks Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and the City of Forks regarding mitigation actions.

Table 5-2
City of Forks Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
FR01	City of Forks Culvert Assessment Study/Report	2019 Mitigation Action	**Internal:** City of Forks Public Works and Planning Departments	Short-term	Flooding	Grant funding, Street Department funding
FR02	Storm-related Roof Damage Mitigation Assessment	2019 Mitigation Action	**Internal:** City of Forks Planning Department	Medium-term	Flooding, Winter Storms, Windstorms	FEMA Hazard Mitigation Assistance (HMA) program, CDBG, Energy conservation dollars
FR03	Palmer Road Stormwater Detention Pond and Conveyance System	2019 Mitigation Action	**Internal:** City of Forks Utilities Department	Medium-term	Flooding	City of Forks, Clallam County Public Works, FCAAP (Ecology)
FR04	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Community Development Department	Short-Term	Wildfire (and wildfire smoke)	Staff time
FR05	Identify and prioritize critical facilities within Forks in need of back-up generators. Establish a procurement plan and seek grant funding.	New Mitigation Action	**Internal:** Public Works Department	Long-Term	Severe Weather, Seismic, Human-Caused – Utility Failure/Power Outage	FEMA Hazard Mitigation Assistance (HMA) program
FR06	As part of the ongoing Forks Comprehensive Plan update and related climate resilience planning, evaluate policies related to climate change and related hazards. Evaluate housing and other land uses, and consider additional land use/zoning regulations in hazard areas and environmentally sensitive areas. Consider the findings of this MJHMP and the Comprehensive Plan climate resilience planning to develop ongoing policies to mitigate climate impacts. Evaluate land use and critical area requirements in undeveloped areas that are prone to landslides near the Olympic Resources Center.	New Mitigation Action	**Internal:** Community Development Department	Medium-Term	Wildfire, Drought, Seismic, Severe Weather – Windstorm, Extreme Heat, Flood, Climate Change, Landslides	Staff time, existing budget
FR07	Continue to promote a culture of emergency preparedness and hazard mitigation by distributing and promoting outreach materials/programs produced by Clallam County Emergency Management Department.	New Mitigation Action	**Internal:** Community Development Department	Ongoing	Wildfire, Drought, Seismic, Severe Weather – Windstorm, Extreme Heat, Flood	Staff time
FR08	Work with the Washington Department of Natural Resources (DNR) to identify and mitigate wildfire and burn risk on permitted timber harvest and debris storage areas on both DNR and private forest land where it is within the City of Forks' UGA or immediately adjacent. Identify opportunities to educate the public on ways to reduce wildfire risk and vulnerability to the City of Forks and Forks Urban Growth Area.	New Mitigation Action	**Internal:** Community Development Department	Ongoing	Wildfire (and wildfire smoke)	Staff time
FR09	Conduct periodic assessments and maintenance of drainages, ditches and outfalls to ensure adequate drainage capacity for both current and future use.	New Mitigation Action	**Internal:** Public Works	Ongoing	Flood	Staff time, City General Fund
FR10	Work with local community groups and NGOs to determine adequate locations throughout the City to serve as both warming and cooling centers. Establish a plan to coordinate services, volunteers and other resources required to facilitate warming and cooling centers.	New Mitigation Action	**Internal:** Community Development Department	Short-Term	Severe Weather	FEMA Hazard Mitigation Assistance (HMA) program
FR11	Evaluate back-up power capacity for the local potable water system; identify any gaps and establish a method to prioritize existing needs. Establish a procurement plan and seek grant funding.	New Mitigation Action	**Internal:** Public Works	Long-Term	Severe Weather, Seismic, Human-Caused – Utility Failure/Power Outage	FEMA Hazard Mitigation Assistance (HMA) program
FR12	Evaluate microgrid concepts such as solar arrays and battery energy storage systems (BESS) to offer alternative power sources at the Quillayute Airport.	New Mitigation Action	**Internal:** City of Forks Utilities Department	Long-Term	Severe Weather, Seismic, Human-Caused – Utility Failure/Power Outage	FEMA Hazard Mitigation Assistance (HMA) program
FR 13	Quillayute Airport Utility System Upgrade to include new water main from well house, electrical system upgrade, installation of on-site commercial septic system, and development of a site specific energy generating and storage microgrid system.	New Mitigation Action	**Internal:** City of Forks Planning Department **External:** Coordination with CC Fire District 6	Medium-Term	Severe Weather, Coastal Hazards, Wildfire, Earthquake	Potential FAA BIL or AIP, Hazard Mitigation Assistance (HMA) Program, other sources.
Adopt the 2024 MJHMP	Adopt the MJHMP after approval.	New Mitigation Action	All Participating Jurisdictions	Short-term	All hazards	N/A

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for the City of Forks. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Forks will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how the City intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including the City of Forks. Specific information related to Forks is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team (comprised of representatives from (Clallam County Emergency Management) CCEM and (Community Development Department) DCD, the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Forks are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Forks City Planner is responsible for coordinating annual review of the Forks annex and making appropriate revisions. On an annual basis, the HMCR Steering Committee including representatives from Forks will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The HMCR Steering Committee will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The HMCR Steering Committee will request input from other City departments and outside entities on issues listed above. A special effort will be made to gather information

on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from Forks are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Forks HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The Forks City Council is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into existing City plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the City of Forks. Together, the mitigation actions in the MJHMP provide the framework for activities that the City may choose to implement over the next five years. Forks HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

Participating Forks HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, the City of Forks agree to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

The City is dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable

populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

References

City of Forks, 2016-2035 Comprehensive Plan, https://www.ezview.wa.gov/Portals/_1976/Documents/ElementExamples/Forks%20Comprehensive%20Plan.pdf, accessed June 5, 2024.

FEMA, OpenFEMA Dataset: NFIP Multiple Loss Properties - v1, https://www.fema.gov/openfema-data-page/nfip-multiple-loss-properties-v1, accessed August 27, 2024.

FEMA, Washington Disaster History, Major Disaster Declarations, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

U.S Climate Data, Climate in Forks, Washington, https://www.usclimatedata.com/climate/forks/washington/united-states/uswa0149, accessed June 5, 2024.

U.S. Census Bureau, Forks City, WA, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Forks%20city,%20Washington, accessed June 5, 2024.

City of Port Angeles

Section 1.0: Introduction

1.1 City of Port Angeles Hazard Mitigation Program

The City of Port Angeles (referred to herein as 'City' or 'Port Angeles') participated in the 2019 Clallam County Multi-Jurisdictional Hazard Mitigation Plan and is a participating jurisdiction in this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan").

The following representatives from the City of Port Angeles served on the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and were present at multiple HMCR Steering Committee meetings:

- Will Habel, Environmental Planner
- Derrell Sharp, City of Port Angeles Fire Chief

In addition, the HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including the City of Port Angeles. Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with the City of Port Angeles. Coordination between representatives of City of Port Angeles and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Representatives from the City coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

1.1.2 Public Outreach

All jurisdictions, including City of Port Angeles, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on its public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the public. The City was also responsible for distributing components of the Port Angeles public outreach campaign, including the community survey link and invitation for the HMCR Workshop. This distribution was to ensure members of the public within the Port

Angeles jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S'Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. Representatives from the City of Port Angeles attended the workshop including HMCR Steering Committee members Will Habel (Environmental Planner) and Derrell Sharp (Fire Chief). This workshop was open to members of the public, including City of Port Angeles citizens. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the City of Port Angeles served on the HMCR Steering Committee and helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.6 of this MJHMP.

As noted above, representatives from the City coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Port Angeles jurisdictional annex:

- The City reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of the City of Port Angeles. Updated list of hazards and hazard rankings are included in Section 3.0, *Risk and Vulnerability Assessment* below.

- Critical facilities were reviewed and updated by the City and were incorporated into the vulnerability and risk assessment of the MJHMP. Critical facilities essential to the City of Port Angeles are identified in in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*.

- Updated information on past and future development and growth was provided and incorporated into the Port Angeles jurisdiction-specific vulnerability assessment of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.4, *Land Use and Development Trends* below.

- Port Angeles capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capabilities Assessment* below.

- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an

updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for the City of Port Angeles are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the City and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0 Community Profile

2.1 Governance

The City of Port Angeles has a long history as the county seat of Clallam County. The City was incorporated in June, 1890 and in December 1890, the first regular election was held.[10] Port Angeles is governed by a seven-member City Council, the membership of which includes the mayor, deputy mayor, and five councilmembers. The City Council holds regular meetings on the first and third Tuesday of each month in the City Council Chambers. The City Manager operates as the chief executive officer of the City and is responsible to the City Council for the administration of municipal functions. The City departments are as follows:

- City Clerk
- City Manager
- Community & Economic Development
- Finance
- Fire Department
- Human Resources
- Legal Department
- Parks & Recreation
- Peninsula Communications
- Police Department
- Public Works & Utilities

2.2 Geography and Climate

The City of Port Angeles is in Clallam County on the northern coast of Washington's Olympic Peninsula. It is less than a three-hour drive (including a ferry ride) from Seattle and Olympia. Immediately to the north is the coastal marine environment of the Port Angeles Harbor, one of the deepest naturally protected harbors on the West Coast, and the Strait of Juan de Fuca. To the south are the alpine wilderness areas of the Olympic National Park, to the east is the semi-arid climate of the Sequim-Dungeness Valley, and a two-hour drive to the west is the Hoh Rain Forests and the Pacific Coast.[11]

Port Angeles is located in the leeward side of the Olympic Mountains, which is also known as a "rainshadow." As a result, metrological conditions in Port Angeles are relatively mild year-round, with dramatically less precipitation than interior Clallam County, or in areas along the western coast of the Olympic Peninsula. The average precipitation and temperature trends from 2007-2019 in Port Angeles are displayed in Table 2-1 below:[12]

[10] City of Port Angeles, *History*, https://www.cityofpa.us/399/History, accessed June 6, 2024.
[11] City of Port Angeles, *2023 Comprehensive Plan Amendment*, https://www.cityofpa.us/DocumentCenter/View/13310/2023-Amended-Comprehensive-Plan-, accessed June 6, 2024
[12] U.S. Climate Data, *Climate in Port Angeles, WA*, https://www.usclimatedata.com/climate/port-angeles/washington/united-states/uswa0346#google_vignette, accessed June 6, 2024.

Table 2-1
Average Precipitation and Temperatures (2007-2019)

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Total Precip. (inches)	.86	2.80	2.13	1.30	1.06	0.87	0.59	0.75	1.06	2.44	4.41	4.41	25.68
Avg. Max. Temp. (F°)	46	48	51	56	61	65	69	69	66	58	50	46	57
Avg. Min. Temp. (F°)	34	35	37	40	45	49	52	52	49	43	38	35	43

Source: U.S. Climate Data, *Climate in Port Angeles, WA*, https://www.usclimatedata.com/climate/port-angeles/washington/united-states/uswa0346, accessed June 6, 2024.

Port Angeles terrain is a gradually descending slope from the Olympic Mountains to the south to the Strait of Juan de Fuca in the north.. The region is bisected by streams, which flow form the mountains towards the Strait and have eroded V-shaped ravines that are much lower in elevation than the surrounding areas.[13]

2.3 Population and Demographics

As of 2022, the U.S. Census American Community Survey (ACS) 5-Year estimated population for Port Angeles was 20,007 individuals, which is a 2 percent increase from 2018.[14] Data from the 2022 ACS 5-year estimates indicate that 4.7 percent of the City's population is younger than 5 years of age and 18.6 percent of the City's population is younger than 18 years of age. Approximately 22.4 percent of the City's population is 65 years of age and older.[15]

According to the 2022 ACS, 0.6 percent of the City's population is black or African American alone; 2.2 percent of the City's population is American Indian or Alaska Native alone; 1.5 percent of the City's population is Asian alone, and 8.6 percent is Hispanic or Latino. Approximately 91.9 percent of the City's population is white alone and 8.4 percent is two or more races.[16]

In 2022, an estimated 47 percent of the City's population lived in poverty and the median population income was $33,628. An estimated 45.2 percent of the population over age 75 live with a disability.

[13] U.S. Climate Data, *Climate in Port Angeles, WA*, https://www.usclimatedata.com/climate/port-angeles/washington/united-states/uswa0346#google_vignette, accessed June 6, 2024.
[14] U.S. Census, *Port Angeles City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Port%20Angeles%20city,%20Washington, accessed June 5, 2024.
[15] U.S. Census, *Port Angeles City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Port%20Angeles%20city,%20Washington, accessed June 5, 2024.
[16] U.S. Census, *Port Angeles City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Port%20Angeles%20city,%20Washington, accessed June 5, 2024.

2.4 Economy

Overall, the Port Angeles economy employs 8,699 individuals.[17] According to the U.S. Census, the largest industries in Port Angeles are educational services, health care, social assistance, and retail trade. Advanced composites manufacturing has been established in Port Angeles area, supplying manufactured parts to the aerospace and marine industries.

The Port of Port Angeles, the Olympic Peninsula's only deep-water port, is a major economic asset located in the City of Port Angeles. The Port of Port Angeles operates two marinas including Port Angeles Boat Haven and John Wayne Marina. The Port Angeles Boat Haven, located in the City of Port Angeles, is the larger of the two marinas and accounts for the majority of the Port's assets. The operations and economy of the Port of Port Angeles is a major industry in the County and the City of Port Angeles

Peninsula College offers programs including advanced manufacturing, community education and worker retraining. There are three campus locations; the main campus is 75 acres located in the City of Port Angeles.[18] The college is a major part of the economy of Port Angeles and the region. Peninsula College serves both Clallam and Jefferson County and has a total reported enrollment of over 4,000 students and 461 faculty/staff.

2.5 Land Use

The City is currently preparing an update to the Port Angeles Comprehensive Plan which will outline the community's vision and development strategies for the next 20 years. In 2023 the City prepared an amendment to the Comprehensive Plan which was last updated in 2019. Appendix A of the 2023-Amended Comprehensive Plan provides an overview of historic and present-day land use trends and challenges:

> "Patterned after the plan of Cincinnati, Ohio (substituting the Harbor for the Ohio River), the streets are arranged and named the same: Front, First, Second, etc.; at right angles to these are Tumwater, Cedar, Pine, Valley, Cherry, Oak, Laurel, Vine, and Race Street.
>
> While the City has benefited greatly from that original planning with its grid-pattern street layout, various challenges were also created such as utility service provision and circulatory problems, due to the topography of the land. Six different streams, with associated ravines, travel through the community flowing north from the foothills of the Olympic Mountains as they quickly make their way to the Strait of Juan de Fuca. They are: Dry Creek, Tumwater Creek, Valley Creek, Peabody Creek, Ennis Creek, White's

[17] DataUSA, *Port Angeles, WA*, https://datausa.io/profile/geo/port-angeles-wa?redirect=true, accessed June 6, 2024.
[18] ESD, *Clallam County Profile*, https://esd.wa.gov/labormarketinfo/county-profiles/Clallam, accessed June 6, 2024.

> Creek, with Lee's Creek, and Morse Creek located within the City's Urban Growth Areas."[19]

The City of Port Angeles contains 10.7 square miles or 6,856 acres of land area. The Land Use Element of the 2023 Comprehensive Plan Amendment establishes the following six comprehensive plan land use categories:

- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Open Space

In general, there are residential areas, industrial areas and commercial areas with a fairly well-defined Central Business District. There is undeveloped land in each zone that is available to accommodate anticipated future needs. The Comprehensive Plan also includes goals and policies to comply with the Growth Management Act and the Urban Growth Areas within the City of Port Angeles.

2.6 Transportation and Commuting

The 2023 Comprehensive Plan Amendment provides the following profile regarding transportation trends in the City of Port Angeles:

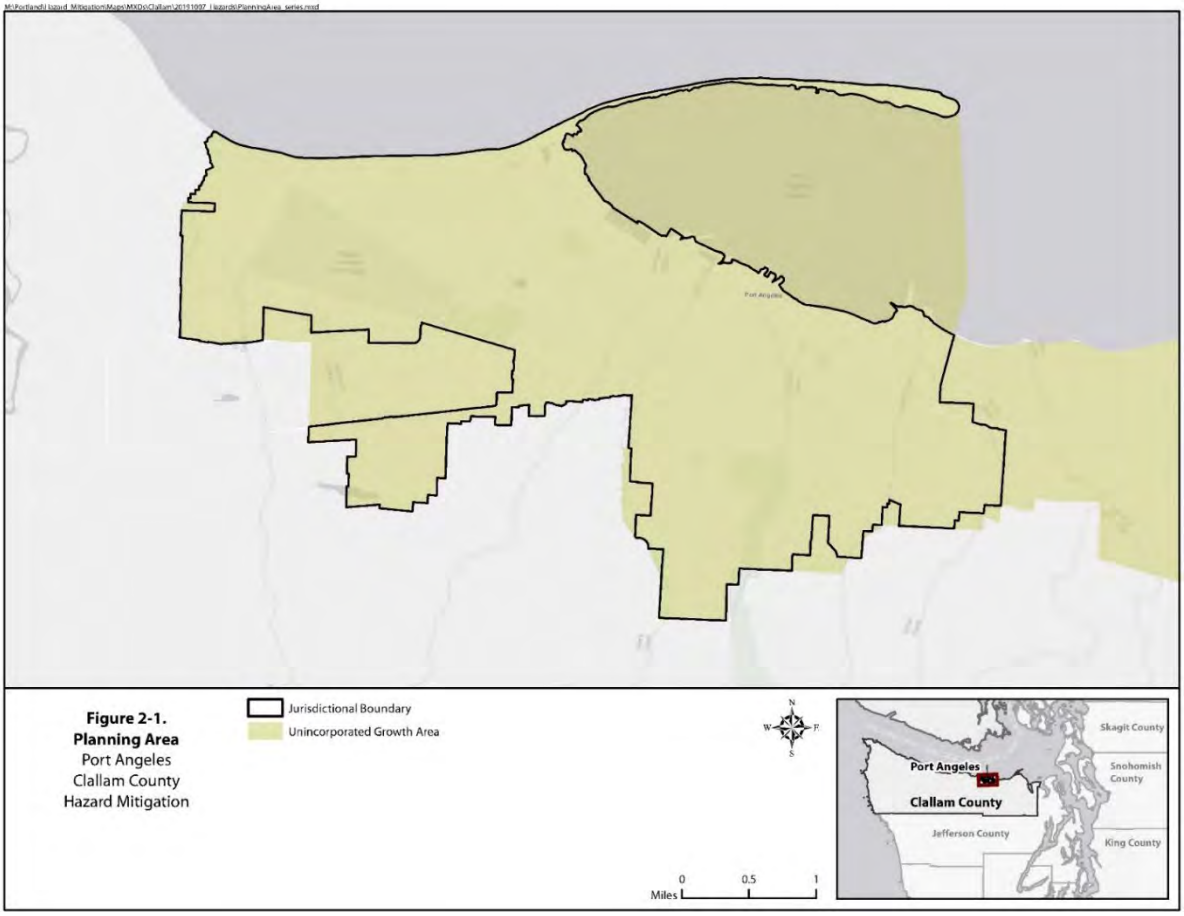
> "The road network in the City of Port Angeles is characterized by a gridded street pattern that is oriented east to west (parallel to the waterfront) and north to south. This pattern shifts slightly south of Lauridsen Boulevard, where the street orientation shifts to match the platting pattern established by the County before City boundaries were expanded. The regular geometry of this pattern is generally retained, except where topography of the foothills, deep ravines or bluffs along the Strait of Juan de Fuca force road realignment. Some areas located in the western portion of the City also diverge from the grid pattern, forming a more curvilinear, suburban-style pattern.
>
> Street grades are moderate in most areas, adapting to area topography – which rises from the waterfront and gently undulates as the foothills flatten to meet the Strait of Juan de Fuca. The most unique characteristic of the City's street network is the way it is interrupted by several deep ravines, which bisect east-west street connectivity and results in a limited number of streets that run continuously from one end of the City to the other…
>
> There are five Highways of Regional Significance through the City, including:

[19] City of Port Angeles, *2023 Comprehensive Plan Amendment*, https://www.cityofpa.us/DocumentCenter/View/13310/2023-Amended-Comprehensive-Plan-, accessed June 6, 2024.

- US-101
- State Route 117 Tumwater Truck Route
- Race Street leading to the Olympic National Park Visitor Center and Hurricane Ridge
- The First/Front Street couplet Marine Drive from US-101 to SR 117
- Lincoln/Laurel/Oak Streets connecting US-101 with the Coho Ferry landing on Railroad Avenue

…The City of Port Angeles is served by Clallam Transit System (CTS), the Public Transportation Benefit Area (PTBA) that serves Clallam County with a combination of fixed-route, paratransit, and vanpool services…. Paratransit service is provided to all locations within the City for those who qualify. Vanpools extend the reach of the transit network and are frequently used by those commuting to locations which are difficult to serve with fixed-route service…"[20]

Exhibit 2-1
City of Port Angeles



[20] City of Port Angeles, *2023 Comprehensive Plan Amendment*, https://www.cityofpa.us/DocumentCenter/View/13310/2023-Amended-Comprehensive-Plan-, accessed June 6, 2024.

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History

Clallam County has encountered several major disaster declarations that have affected the City of Port Angeles. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the jurisdictional annex and HMCR Steering Committee. The jurisdictional annex and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked Port Angeles HMCR Steering Committee members.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with City vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)

- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the jurisdictional annex and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:

Probability = (Probability Score x Importance)

Impact = (Affected Area + Primary Impact + Secondary Impacts), where:

Affected Area = Affected Area Score x Importance

Primary Impact = Primary Impact Score x Importance

Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration

Total Score	Range	Distribution	Hazard Level
0.0	20.0	5	Low
20.1	42.0	9	Medium
42.1	64.0	0	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Drought	4.00	2.00	2.00	2.00	32.00	Medium
Severe Weather - Windstorm	3.00	3.00	2.00	2.00	28.80	Medium
Severe Weather - Winter Storm	3.00	2.00	2.00	2.00	24.00	Medium
Wildfire Smoke	3.00	2.00	2.00	2.00	24.00	Medium
Flood	3.00	2.00	2.00	2.00	24.00	Medium
Severe Weather - Extreme Heat	2.00	4.00	1.00	1.00	17.60	Medium
Disease/Pandemic	2.00	2.00	2.00	2.00	16.00	Medium
Wildfire	2.00	2.00	2.00	2.00	16.00	Medium
Human-Caused - Maritime Disaster/Oil Spill	2.00	2.00	2.00	2.00	16.00	Medium
Sea Level Rise	2.00	2.00	2.00	3.00	9.00	Low
Tsunami	1.00	2.00	2.00	3.00	9.00	Low
Human-Caused - Utility Failure/Power Outage	2.00	1.00	1.00	1.00	8.00	Low
Seismic - Cascadia Earthquake	1.00	2.00	2.00	2.00	7.00	Low
Dam Failure	1.00	2.00	2.00	2.00	7.00	Low
Seismic - Earthquake 7.0 Design Level	1.00	1.00	1.00	2.00	5.00	Low
Landslide	1.00	1.00	1.00	1.00	4.00	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, the jurisdictional annex and HMCR Steering Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

The following hazards are discussed in Section 3.3 below:

- Dam Failure
- Disease/Pandemic
- Drought
- Flood
- Human-Caused Hazards (Maritime Disaster/Oil Spill, Utility Failure/Power Outage)
- Landslide
- Sea Level Rise

- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorms, Winter Storms, Extreme Heat)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Table 3-4
City of Port Angeles Vulnerability Assessment

Hazard	Assets Located within Mapped Hazard Zones		
	Residential Units	Population Estimate	Non-Residential Parcels (Acre)
Dam Failure	24	90	66
Flood	57	127	172.4
Landslide	4,635	10,336	2,295
Tsunami	108	241	184.6
Wildfire	7,233	16,130	3,706
Sea Level Rise	57	127	172.4

As the City of Port Angeles is a city located within Clallam County, the number of residential units, population estimates and non-residential parcels (acres) is a subset of the larger Clallam County vulnerability assessment findings outlined in MJHMP Volume 1, Section 4.0.

For non-mapped hazards identified in this jurisdictional annex (including, disease/pandemic, drought, human-caused hazards, seismic hazards, severe weather, and climate change), this jurisdictional annex considers the entire City of Port Angeles to be vulnerable. This includes the entire City population (estimated 20,007 individuals per 2022 ACS data findings), and all residential units and non-residential development within the City's jurisdiction.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines the methodology for identifying critical facilities within the planning area. The City of Port Angeles identified relevant critical facilities for the jurisdiction.

As the City of Port Angeles is a jurisdiction within larger Clallam County, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*. Appendix D-2 includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

The Port Angeles Municipal Code designates the Director of Public Works and Utilities as the Floodplain Administrator responsible for administering and implementing the provisions of the National Flood Insurance Program (NFIP). All development, including substantial improvement, within designated special flood hazards must be in full compliance with Chapter 15.12, Flood Damage Prevention. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

As outlined in MJHMP Volume 1, a single National Flood Insurance Program (NFIP)-identified repetitive loss structure is located within the City of Port Angeles (Table 3-5).

Table 3-5
NFIP Severe Repetitive Loss Properties

Census Block Group	City	Zip Code	Flood Zone	Total Losses	Repetitive Loss	Severe Repetitive Loss
530090007001	PORT ANGELES	98362	C	2	✓	

Source: FEMA, *OpenFEMA Dataset: NFIP Multiple Loss Properties - v1*, https://www.fema.gov/openfema-data-page/nfip-multiple-loss-properties-v1, accessed August 27, 2024.

3.4 Land Use and Development Trends

The City of Port Angeles reviewed and updated their Comprehensive Plan in June of 2019 to comply with the periodic review requirement outlined in Washington State's Growth Management Act. In 2023 the City prepared an amendment to the Comprehensive Plan and the City is currently preparing a periodic update of the plan. As part of the 2023 Comprehensive Plan Amendment, the City adopted Ordinance No. 3710 amending Title 17 of the Port Angeles Municipal Code to facilitate infill development and the production of attainable housing. The City is proposing to further amend Title 17 in an effort to make

the code even more user-friendly as a continuation of the Pursuing Housing for All program.[21]

Since the previous MJHMP was developed, the City has seen a 2 percent population growth from 19,615 in 2018 to 20,007 in 2022 as reported by the United States Census Bureau.[22] No major land use changes, rezoning or changes in development have occurred since the previous MJHMP update.

The City of Port Angeles is an identified Urban Growth Area (UGA) within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature. Growth Management Act population projections for Clallam County show a projected population increase of 5.37 percent from 2022 to 2030. By applying that growth percentage to the Port Angeles population of 20,007 in 2022, it is estimated that the City will have a population of 21,081 by 2030. The City anticipates additional housing and employment capacity in the coming five years as part of the Pursuing Housing for All program. The only anticipated land use and development changes over the next five years is increased density due to housing programs in the City.

Past growth and development indicate that vulnerability has generally increased for the City of Port Angeles since the previously prepared 2019 MJHMP. Expected population growth, and continued development in the City indicates that vulnerability for each hazard will likely increase as shown in Table 3-6 below.

Table 3-6
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Dam Failure	=
Disease/Pandemic	+
Drought	+
Flood	+
Human-Caused - Maritime Disaster/Oil Spill	+
Human-Caused - Utility Failure/Power Outage	+
Landslide	+
Sea Level Rise	+
Seismic - Cascadia Earthquake	+
Seismic - Earthquake 7.0 Design Level	+
Severe Weather - Extreme Heat	+
Severe Weather - Windstorm	+
Severe Weather - Winter Storm	+

[21] City of Port Angeles, *Pursuing Housing For All*, https://www.cityofpa.us/1051/Pursuing-Housing-For-All#:~:text=On%20March%2021%2C%202023%2C%20the,the%20production%20of%20attainable%20housing., accessed June 6, 2024.
[22] U.S. Census, *Port Angeles City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Port%20Angeles%20city,%20Washington, accessed June 5, 2024.

Hazard	Status
Tsunami	+
Wildfire	+
Wildfire Smoke	+
Key: + Increased vulnerability - Decreased vulnerability = Unchanged vulnerability	

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including the City of Port Angeles. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*.

Census tracts that make up the City of Port Angeles (Census Tracts 7, 8, 9, 10 and 12) have social vulnerability scores that range from medium-high to high as reported by the Center for Disease Control and Prevention (CDC) and Washington State Department of Health. Census Tract 7 has the highest CDC Social Vulnerability Index scores of those that make up the City and is categorized as high social vulnerability. These census tracts generally included concentrations for the following indicators of social vulnerability:

- Persons with income below 150 percent of the poverty rate
- Persons aged 65 and older
- Civilian noninstitutionalized population with a disability
- Persons reporting minority status
- Persons living in mobile homes

Refer to Volume 1, Section 3.8.1, *SVP Research and Methodology* for a detailed analysis of SVPs in the planning area.

Based on the CDC Social Vulnerability Index (SVI) data, the HMCR Steering Committee determined that Census Tract 7 (City of Port Angeles) is formally established as an SVP. However, SVPs are understood to exist throughout the planning area despite the CDC Social Vulnerability Index. The SVP analysis identified the following groups as vulnerable throughout the planning area despite SVI scores: individuals below the 150-percent poverty rate; aged 65 or older; disabled persons; persons reporting minority status; persons living within a mobile home; populations of the Quileute Tribe, Makah Tribe, Lower Elwha Klallam and the Jamestown S'Klallam Tribe; and tourists, seasonal visitors, and transient populations visiting for special events.

It is acknowledged that regardless of specific location within the planning area, members of these groups are more likely to experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8.

Considerations for SVPs have been incorporated into the City of Port Angeles mitigation strategy in Section 5.0 below. Refer to Table 5-1, *City of Port Angeles Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the City of Port Angeles. The City reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Port Angeles.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**County Comprehensive Emergency Management Plan (CEMP) Update**	Outlines roles and responsibilities of local government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	2016 – 2036 Comprehensive Plan	The City's Comprehensive Plan establishes Urban Growth Areas, natural resource lands, rural lands, and public lands.	▪ Completion of Housing Action Plan	All
	Harbor Resource Management Plan	Provides guidance by providing a coordinated plan for the future utilization of the Port Angeles Harbor.	▪ Approval of this plan provided a framework and baseline for the SMP	Flooding
	Port Angeles School District Hazard Mitigation Plan	The plan focuses on the hazards that pose the greatest threats to the District's facilities and people: Earthquake, flood, wildlife and urban interface fire and landslide.	▪ Plan development (2015) ▪ Issuance for public comment and adoption (2016)	Earthquake, flood, WUI fire, landslide
	Shoreline Master Program	Influences uses and future development in shoreline areas and ensures protection of waterfront habitat.	▪ Adoption of the plan on October 21, 2014	Flooding, Hazardous Materials

Table 4-1 (continued)
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**2020-2025 Capital Facilities Plan & Transportation Improvement Plan**	Identifies capital improvement projects to be undertaken by the City over the next five-year period.	▪ Inclusion of hazard mitigation and maintenance projects	All
	State of Washington Enhanced Hazard Mitigation Plan	Profiles hazards throughout the State, assesses risks, and outlines potential mitigation actions.	▪ Collaborative effort between State and County.	All
Policies	**Zoning Ordinance**	Provides land use regulation in the unincorporated portions of the City.	▪ Current code through Ordinance 3619, passed February 19, 2019	All
	Subdivision Ordinance	Incorporated into zoning ordinance, establishes regulations around subdivision of properties.	▪ Current code through Ordinance 3619, passed February 19, 2019	All
	Flood Damage Prevention Ordinance	The City floodplain management ordinance incorporated into the Critical Areas ordinance is designed to protect and conserve the environmental attributes of the City and add to the quality of life for residents.	▪ Defines areas of special flood hazard ▪ Requirements for development within an area of special flood hazard	Flooding
	Critical and Environmentally Sensitive Areas Protection	Define and protect critical areas as required by the Growth Management Act.	▪ Defines areas of geological hazard that are of special concern to the City.	Landslide, Earthquake, Flooding
	National Flood Insurance Program (NFIP)	NFIP aims to reduce the impact of flooding on private and public structures.	▪ All participating jurisdictions currently participating in NFIP	Flooding
	Building Codes	Building permits are issued by the Department of Community Development and aligned with ICC 2021 building codes.	▪ Adoption of 2021 ICC codes	All

4.2 Administrative and Technical Capabilities

Table 4-2 describes the City's administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Planning Manager	Department of Community & Economic Development (DCED)	Planners with knowledge of land development, land management practices, and natural and/or human-caused hazards
City Engineer	Public Works and Fire Marshal	Engineers or professionals trained in construction practices relate to buildings and/or infrastructure; Floodplain Manager
City Manager/Fire Chief	Fire Department	Emergency Manager
Resource Manager	Public Works Department	Serves as resource development lead and grant writer.
GIS Analyst	Public Works	Personnel skilled in Geographic Information Systems (GIS)
Planning Manager/City Engineer	DCED	Resource development staff or grant writers
Public Works Director	Public Works	Ongoing participation in hazard mitigation planning process

4.3 Financial Resources

The City maintains many fiscal and financial resources to support its mitigation program. Table 4-3 identifies specific resources accessible for use. In addition to these financial resources, the financial resources identified in MJHMP Volume 1, Section 5.5 would potentially be available to the City of Port Angeles and all participating jurisdictions.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?
Community Development Block Grants	Yes
Capital Improvement Project Funding	Yes
Insurance	Yes
User fees for utility services	No
Incur debt	Yes
Federal/State-sponsored grant programs	Yes
Partnering arrangements or intergovernmental agreements	Yes

4.4 Education and Outreach Capabilities

Table 4-4 describes the City's education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Port Angeles.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
City Council Meetings	Regular public comment periods at City Council meetings.
Media	The City of Port Angeles can utilize the Peninsula Daily News and the radio station KONP for public outreach.

4.5 National Flood Insurance Program Participation

The City maintains an active NFIP policy and complies with the NFIP through Chapter 15.12 (Flood Damage Prevention) of the Port Angeles Municipal Code. The Port Angeles Municipal Code (15.12.220) designates the Director of Public Works and Utilities as the Floodplain Administrator responsible for administering and implementing the provisions of the NFIP. Development regulations for flood zones and floodways are provided in Municipal Code Chapter 15.12, *Article IV – Requirements and Standards*. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial damage or substantial improvement as defined in Sections 15.12.205 and 15.12.210 respectively.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. No mitigation actions were removed from the previous list of mitigation actions except for one mitigation action that was completed (Mitigation Action PA07). These updates are reflected in the MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, the City has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
City of Port Angeles Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	PA05, PA11, PA14, PA18
Expanding Administrative and Technical Capabilities	PA11, PA13, PA15, PA16
Expanding Financial Capabilities	PA13, PA19
Expanding Education and Awareness	PA12, PA18
Infrastructure/Capital Project	PA01, PA02, PA03, PA04, PA07, PA08, PA09, PA10, PA16, PA20, PA21
Natural System Protection/Nature-Based Solutions	PA06, PA14
Socially Vulnerable Populations	PA12

All mitigation actions identified in the plan are addressed in the mitigation implementation plan provided in Section 5.3 below. The actions include both interim- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into planning mechanisms and how the mitigation actions will be

prioritized, implemented, and administered by the City. The implementation plan includes both short-term strategies that focus on planning and assessment activities, and long-term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. The City of Port Angeles reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. The City and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, *City of Port Angeles Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for the City of Port Angeles were ultimately included in the MJHMP and Table 5-2, *City of Port Angeles Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and the City of Port Angeles regarding mitigation actions.

Table 5-2
City of Port Angeles Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
PA01	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	2019 Mitigation Action	Fire Department/Public Works	Short-term	Wildfire	FEMA (Hazard Mitigation Assistance (HMA) program, WADNR Fire District Assistance Programs, State Wildfire Mitigation Funding
PA02	Identify local cooling/warming centers to serve vulnerable populations during extreme weather events. Communicate and educate the public about locations and hours to enhance awareness.	2019 Mitigation Action	Parks and Recreation/GIS/Fire Department	Short-term	Severe Weather	FEMA Hazard Mitigation Assistance (HMA) Programs, National Telecommunications, and Information Administration Grant
PA03	Identify and prioritize critical facilities within Port Angeles in need of back-up generators. Establish a procurement plan and seek grant funding.	2019 Mitigation Action	Public Works Department	Short-term	Severe Weather/Power Outage	FEMA Hazard Mitigation Assistance (HMA) Programs, National Telecommunications, and Information Administration Grant
PA04	Develop an Urban Forest Management Plan to assess and monitor forest health including disease, pests, and other signs of decline throughout the forested landscape.	2019 Mitigation Action	Parks and Recreation, Community and Economic Development	Medium-term	Drought, Wildfire	Capital Facilities Plan, WADNR Community Forestry Assistance Program
PA05	Evaluation and implementation of a secondary water source and upgraded water transmission mains.	2019 Mitigation Action	Public Works Department	Medium-term	Drought, Earthquake, Flood, Severe Weather	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA06	Assess tsunami warning system and update equipment as needed.	2019 Mitigation Action	Public Works Department	Medium-term	Tsunami	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA07	Construct Joint Public Safety Facility (JPSF) between the City of Port Angeles and Clallam County.	2019 Mitigation Action	Police Department, Fire Department	Long-Term	All Hazards	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA08	Continue to participate in local and regional hazardous materials spills preparation and response exercises. Maintain coordination between the Port Angeles Police Department, Clallam County Department of Emergency Management and Port of Port Angeles for hazardous materials tabletop exercises.	2019 Mitigation Action	Public Works Department/Police Department	Ongoing	Human Caused – Maritime Disaster/Oil Spill	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA9	Continue to seek funding opportunities to assist with environmental cleanup of known hazardous material locations within the City of Port Angeles Industrial Zones, including the Rayonier Mill Site.	2019 Mitigation Action	Public Works Department, Community and Economic Development	Ongoing	Disease, Human Caused Maritime Disaster/ Oil Spill	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA10	Peabody Creek culvert/stormwater control assessment and improvements, including watershed restoration.	New	Public Works, Community and Economic Development	Medium-term	Flood, Drought	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs, WA Department of Ecology Climate Resiliency Programs
PA11	Valley Creek upstream stormwater control assessment and improvements including watershed restoration.	New	Public Works, Community and Economic Development	Medium-term	Flood, Drought	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs, WA Department of Ecology Climate Resiliency Programs
PA12	Fire Department HVAC, Roof, and Solar Storage Improvements.	New	Fire Department, Public Works Department	Ongoing	All Hazards	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA13	Underground Cable Replacements – Grounding of Distribution Lines.	New	Public Works Department	Medium-term	Severe Weather, Utility Failure/Power Outage	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA14	Stormwater capacity upgrades.	New	Public Works Department	Ongoing	Flood	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA15	Water transmission fire flow upgrades.	New	Public Works Department	Ongoing	Wildfire, Earthquake, Severe Weather	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA16	Water reservoir and power substation upgrades.	New	Public Works Department	Medium-term	Earthquake, Severe Weather, Drought	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
PA17	Construction of a West Side Fire Station.	New	Fire Department, Public Works Department	Long-term	All Hazards	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA18	Incorporate a pandemic response plan into the comprehensive plan periodic updates.	New	Fire Department, Police Department, Community and Economic Development	Short-term	All Hazards	FEMA Hazard Mitigation Assistance (HMA) Programs, WA Department of Commerce
PA19	Upgrades to the shoreline, including the Olympic Discovery Trail, and stormwater outfalls. Expected rising sea levels on the Olympic Discovery Trail and the stormwater outfalls along the coast need to be addressed.	New	Public Works Department, Parks and Recreation Department, Community and Economic Development	Medium-term	Landslide, Flood, Sea Level Rise, Severe Weather, Earthquake	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA20	Develop a plan for ingress/egress route in response to earthquakes and landslides.	New	Police Department, Fire Department, Public Works	Long-Term	Earthquake, Landslide	FEMA Hazard Mitigation Assistance (HMA) Programs
PA21	Continue to bolster against Cyberattacks.	New	IT	Ongoing	Human-Caused – Terrorism/Cyberattacks	National Telecommunications and Information Administration Grant
PA22	Development of Emergency Management Pods to be equipped with StarLink or Comparable Internet Service.	New	Fire Department, IT	Ongoing	All Hazards	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA23	Information Technology data backup systems replacement.	New	IT	Medium-term	All Hazards	Capital Facilities Plan, National Telecommunications and Information Administration Grant
PA24	IT Networking Upgrades and Maintenance (Network Security Upgrades and Improvements).	New	IT	Short-term	Utility Failure/Poer Outage, Cyberattacks	Capital Facilities Plan, National Telecommunications and Information Administration Grant
PA25	Increase primary backup storage system.	New	IT	Medium-term	Utility Failure/Power Outage	Capital Facilities Plan, National Telecommunications and Information Administration Grant
PA26	Install an energy storage microgrid to store solar energy for use in the EOC, Senior Center, and Fire Department.	New	Fire Department, IT	Long-term	All Hazards	Capital Facilities Plan, FEMA Hazard Mitigation Assistance (HMA) Programs
PA27	Train city staff to perform seismic assessments of City facilities.	New	Fire Department	Medium-term	Earthquake	FEMA Hazard Mitigation Assistance (HMA) Programs
PA28	Conduct a citywide wildfire risk assessment.	New	Fire Department	Long-term	Wildfire	FEMA Hazard Mitigation Assistance (HMA) Programs
PA29	Conduct emergency management/incident response trainings for City Staff.	New	Fire Department, Police Department	Medium-term	All Hazards	FEMA Hazard Mitigation Assistance (HMA) Programs
PA30	Develop risk assessment and response plan for vulnerable populations in response to extreme weather conditions and wildfire smoke.	New	Fire Department, Police Department	Long-term	Wildfire, Severe Weather	FEMA Hazard Mitigation Assistance (HMA) Programs
PA31	Identify temperature-controlled storage needs for emergency supplies and a plan for procurement of both storage and supplies for the essential function of government.	New	Fire Department, Police Department	Long-term	All Hazards	FEMA Hazard Mitigation Assistance (HMA) Programs
PA32	Enhance building access control and surveillance.	New	IT	Long-term	Human-caused – Terrorism/Cyberattacks	FEMA Hazard Mitigation Assistance (HMA) Programs
PA33	Incorporate the Clallam County Multi-Jurisdictional Hazard Mitigation Plan into the Comprehensive Plan Periodic Updates.	New	Community and Economic Development	Short-Term	All Hazards	WA Department of Commerce
PA34	Scoping for reinforcement of Peabody Heights Reservoir Earthen Dam.	2019 Mitigation Action	Public Works Department	Medium-term	Dam Failure	WA Department of Ecology

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for the City of Port Angeles. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Port Angeles will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how the City intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including the City of Port Angeles. Specific information related to Port Angeles is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team comprised of representatives from the Clallam County Emergency Management (CCEM) and Community Development Department (DCD), the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Port Angeles are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Port Angeles Environmental Planner is responsible for coordinating annual review of the Port Angeles annex and making appropriate revisions. On an annual basis, the HMCR Steering Committee including representatives from Port Angeles will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The HMCR Steering Committee will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The HMCR Steering Committee will request input from other City departments and outside entities on issues listed above. A special effort will be made to gather information on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from Port Angeles are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Port Angeles HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The Port Angeles City Council is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation through Existing Programs and Planning Mechanisms

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into existing City plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the City of Port Angeles. Together, the mitigation actions in the MJHMP provide the framework for activities that the City may choose to implement over the next five years. Port Angeles HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

Participating Port Angeles HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, the City of Port Angeles

agree to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

The City is dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

References

City of Port Angeles, *2023 Comprehensive Plan Amendment*, https://www.cityofpa.us/DocumentCenter/View/13310/2023-Amended-Comprehensive-Plan-, accessed June 6, 2024

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ESD, *Clallam County Profile*, https://esd.wa.gov/labormarketinfo/county-profiles/Clallam, accessed June 6, 2024.

FEMA, *OpenFEMA Dataset: NFIP Multiple Loss Properties - v1*, https://www.fema.gov/openfema-data-page/nfip-multiple-loss-properties-v1, accessed August 27, 2024.

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City of Sequim

Section 1.0: Introduction

1.1 City of Sequim Hazard Mitigation Program

The City of Sequim (referred to herein as 'City' or 'Sequim') participated in the 2019 Clallam County Multi-Jurisdictional Hazard Mitigation Plan and is a participating jurisdiction in this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan").

The following representatives from the City of Sequim served on the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and were present at one or more HMCR Steering Committee meetings:

- Meggan Uecker, Resource Analyst
- Dennis Burnett, Emergency Management Coordinator
- Matthew Huish, City Manager
- Lindsey Sehmel, Community & Economic Development Director
- Charisse Deschenes, Deputy City Manager
- Paul Bucich, Public Works Director

In addition, the HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including the City of Sequim. Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with the City of Sequim. Coordination between representatives of City of Sequim and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Representatives from the City coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

1.1.3 Public Outreach

All jurisdictions, including City of Sequim, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on the public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the

public. The City was also responsible for distributing components of the Sequim public outreach campaign, including the community survey link and invitation for the HMCR Workshop. This distribution was to ensure members of the public within this jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S'Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. Representatives from the City of Sequim attended the workshop including HMCR Steering Committee members Meggan Uecker (Resource Analyst) and Paul Bucich (Public Works Director). This workshop was open to members of the public, including City of Sequim citizens. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the City of Sequim served on the HMCR Steering Committee and helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.6 of this MJHMP.

As noted above, representatives from the City coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Sequim jurisdictional annex:

- The City reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of the City of Sequim. Updated list of hazards and hazard rankings are included in Section 3.0, *Risk and Vulnerability Assessment* below.

- Critical facilities were reviewed and updated by the City and were incorporated into the vulnerability and risk assessment of the MJHMP. Critical facilities essential to the City of Sequim are identified in in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*.

- Updated information on past and future development and growth was provided and incorporated into the Sequim jurisdiction-specific vulnerability assessment of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.4, *Land Use and Development Trends* below.

- Sequim capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capabilities Assessment* below.

- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for the City of Sequim are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the City and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0: Community Profile

2.1 Governance

The City of Sequim was incorporated in 1913. In 1995, City residents voted to adopt the council-manager form of government. The City Council is comprised of elected officials who serve as the governing body. The City Manager is appointed by the City Council and is responsible for directing staff in the accomplishment of the City Council goals and the efficient and effective operation of City government.[23]

The City Government includes the following departments and divisions:

- Administrative Services Department
- Boards, Commissions & Committees
- City Clerk
- City Council
- City Manager's Office
- Communications & Marketing Department
- Department of Community Development
- Human Resources Department
- Legal Department
- Police Department
- Public Works Department

2.2 Geography and Climate

Sequim is located in the leeward side of the Olympic Mountains, which is also known as a "rain shadow." As a result, metrological conditions in Sequim are relatively mild year-round, with dramatically less precipitation than interior Clallam County, or in areas along the western coast of the Olympic Peninsula. The average precipitation and temperature trends over the time period from 2007-2019 are displayed in Table 2-1.

Table 2-1
Average Precipitation and Temperature Trends (2007-2019)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Max. Temp. (F°)	47	49	52	56	61	65	70	70	66	58	51	46	58
Avg. Min. Temp. (F°)	32	32	34	38	43	48	51	50	45	39	35	31	40
Avg. Total Precip. (inches)	2.11	1.26	1.35	1.08	1.29	0.98	0.56	0.58	0.78	1.4	2.73	2.09	16.02

Source: U.S. Climate Data, *Climate in Sequim, WA*, https://www.usclimatedata.com/climate/sequim/washington/united-states/uswa0401, accessed June 6, 2024.

[23] City of Sequim, *City Government*, https://sequimwa.gov/8/City-Government, accessed June 6, 2024.

2.3 Population and Demographics

As of 2022, the U.S. Census American Community Survey (ACS) 5-Year estimated population for Sequim was 8,073 individuals, which is a 13.7 percent increase from 2018.[24] The data estimates that 4.1 percent of the City's population is younger than 5 years of age and 16.9 percent of the City's population is younger than 18 years of age. Approximately 37.3 percent of the City's population is 65 years of age and older.[25]

According to the 2022 ACS, 2.6 percent of the City's population is black or African American alone; 0.6 percent of the City's population is American Indian or Alaska Native alone; 3.2 percent of the City's population is Asian alone; and 6.5 percent is Hispanic or Latino. Approximately 91.9 percent of the City's population is white alone and 5.6 percent is two or more races.[26]

In 2022, an estimated 15.4 percent of the City's population lived in poverty and the median household income was $48,015. An estimated 43.4 percent of the population over age 75 live with a disability.

2.4 Economy

The following is excerpted from the City of Sequim 2015 – 2035 Comprehensive Plan:

> "One of the City's biggest strengths is its location along State Route 101 which is a primary means of access to the Olympic National Park and to Victoria, British Columbia. Annually, approximately 1,000,000 visitors drive north-bound through Sequim to visit the variety of Olympic National Park sites or to embark on the M/V Coho in Port Angeles to travel to Victoria. In the summer, high numbers of tourists drive to Sequim to partake in Lavender and agro-tourism related activities, including but not limited to the Sequim Lavender Weekend. In addition to its adjacency to tourist destinations, Sequim itself has a beautiful setting and quaint downtown which appeals to tourists as a side trip or a base from which they enjoy recreation in the surrounding areas."[27]

2.5 Land Use and Ownership

The following is excerpted from Chapter 3 of the City of Sequim's 2015 – 2035 Comprehensive Plan:

[24] U.S. Census Bureau, *Sequim City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Sequim%20city,%20Washington, accessed June 6, 2024.
[25] U.S. Census Bureau, *Sequim City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Sequim%20city,%20Washington, accessed June 6, 2024.
[26] U.S. Census Bureau, *Sequim City, WA*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=Sequim%20city,%20Washington, accessed June 6, 2024.
[27] City of Sequim, *Comprehensive Plan*, https://www.sequimwa.gov/259/Comprehensive-Plan, accessed June 6, 2024.

"Over 100 years ago, before Sequim was officially a city, a traditional urban pattern of development was already emerging. As the community grew from setting the first travel paths and property lines over the next half-century, the urban form followed the invisible lines of township, range and section – the intersection of Washington Street and Sequim Avenue is the exact corners of quarter-sections. Subdivision of land maintained the formality of the geographic grid with north-south streets following lines of longitude and east-west streets running parallel to latitude.

Since 1980, Sequim has grown as a 'community of subdivisions' rather than a community of neighborhoods. None of the residential subdivisions in the past 35 years has followed the design principles that create real neighborhoods: new developments lack the features that promote safe walking, they have insufficient points of connection to adjacent districts, and they hinder emergency access and multi-modal circulation by limiting route options. Some of these "modern" subdivisions are created on terrain that is not easily developed as a grid – streets are windy, cul-de-sacs are common, and blocks are long – but even most of these are deliberately designed not to connect to the next subdivision."[28]

2.6 Transportation and Commuting

While the City's population stands at 8,073, the City resources and infrastructure accommodates large populations of the surrounding areas. For reference, the Sequim School District serves a population of approximately 33,908 residents. The presence of so many residents near the City places greater demands on services and industries than may be expected for a similarly sized city.

US-101 is the main transportation corridor through Sequim. Clallam Transit provides public bus service throughout Clallam County, including service to and from the Bainbridge Island ferry terminal with a stop in Sequim on the Strait Shot.[29]

Sequim is also accessible by private airplane through the Sequim Valley Airport with a 3500-foot runway and fueling station. The John Wayne Marina, operated by the Port of Port Angeles, is located on the western shore of Sequim Bay. It is a full-service marina with a restaurant and 22 transient slips.

[28] City of Sequim, *Comprehensive Plan*, https://www.sequimwa.gov/259/Comprehensive-Plan, accessed June 6, 2024.
[29] City of Sequim, *Transportation*, https://www.visitsunnysequim.com/134/Transportation#:~:text=Public%20bus%20service%20throughout%20Clallam,Sequim%20on%20the%20Strait%20Shot., accessed June 7, 2024.

Exhibit 2-1
City of Sequim

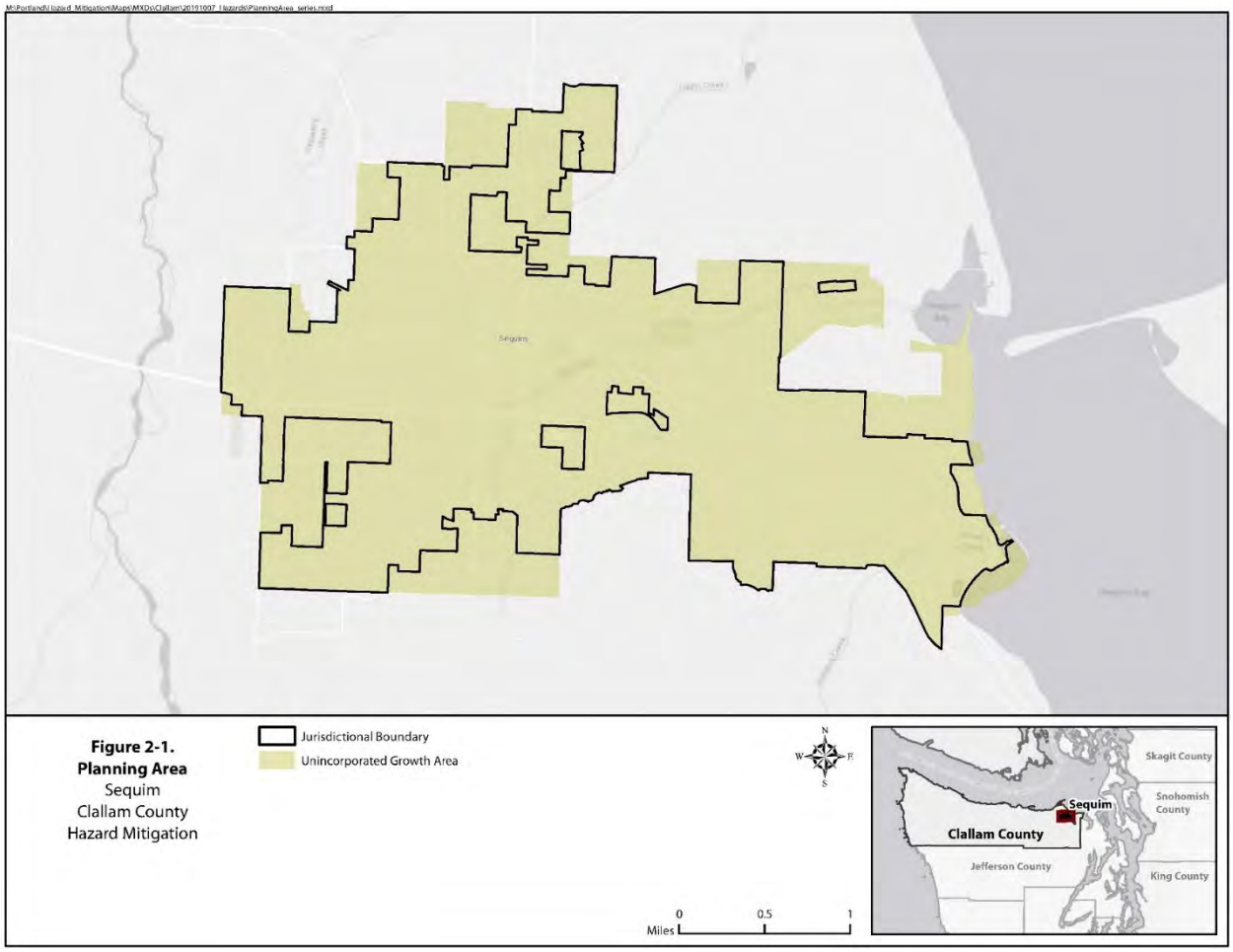

Figure 2-1.
Planning Area
Sequim
Clallam County
Hazard Mitigation

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History

Clallam County has encountered several major disaster declarations that have affected the City of Sequim. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the Sequim staff and HMCR Steering Committee. The Sequim staff and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked Sequim HMCR Steering Committee members.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with City vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)

- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the Sequim staff and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:
Probability = (Probability Score x Importance)
Impact = (Affected Area + Primary Impact + Secondary Impacts), where:
Affected Area = Affected Area Score x Importance
Primary Impact = Primary Impact Score x Importance
Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration			
Total Score	Range	Distribution	Hazard Level
0.0	20.0	4	Low
20.1	42.0	12	Medium
42.1	64.0	2	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Wildfire Smoke	4.00	4.00	2.00	3.00	48.80	High
Drought	4.00	4.00	2.00	2.00	44.80	High
Severe Weather - Winter Storm	4.00	3.00	2.00	2.00	38.40	Medium
Severe Weather - Windstorm	3.00	4.00	2.00	3.00	36.60	Medium
Human-Caused - Utility Failure/Power Outage	4.00	2.00	2.00	3.00	36.00	Medium
Disease/Pandemic	3.00	3.00	2.00	3.00	31.80	Medium
Seismic - Cascadia Earthquake	2.00	3.00	3.00	4.00	26.00	Medium
Human-Caused - Active Shooter	3.00	1.00	2.00	4.00	25.20	Medium
Human-Caused - Terrorism (Cyberattack)	2.00	3.00	3.00	2.00	22.00	Medium
Severe Weather - Extreme Heat	2.00	4.00	1.00	2.00	19.60	Medium
Seismic - Earthquake (7.0 Design Level)	3.00	1.00	2.00	2.00	19.20	Medium
Human-Caused - Hazardous Materials	2.00	1.00	2.00	2.00	12.80	Medium
Flood	2.00	1.00	2.00	2.00	12.80	Medium
Wildfire	2.00	1.00	1.00	2.00	10.00	Low
Dam/Reservoir Failure	1.00	2.00	3.00	2.00	9.40	Low
Tsunami	1.00	1.00	3.00	2.00	7.80	Low
Landslide	1.00	1.00	2.00	2.00	6.40	Low
Sea Level Rise	1.00	1.00	1.00	2.00	5.00	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, the Sequim staff and HMCR Steering Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

Vulnerability to the following hazards is discussed in Section 3.3 below:

- Dam/Reservoir Failure
- Disease/Pandemic
- Drought
- Flood

- Human-Caused Hazards (Hazardous Materials, Active Shooter, Terrorism/Cyberattack, Utility Failure/Power Outage)
- Landslide
- Sea Level Rise
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorms, Winter Storms, Extreme Heat)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Table 3-4
City of Sequim Vulnerability Assessment

Hazard	Assets Located within Mapped Hazard Zones		
	Residential Units	Population Estimate	Non-Residential Parcels (Acre)
Flood	68	151.64	215.3
Historical Landslide	26	57.98	252.2
Sea Level Rise	68	151.64	215.3
Tsunami	11	24.53	8.09
Wildfire	2805	6255.15	2,507.9

As the City of Sequim is a city located within Clallam County, the number of residential units, population estimates and non-residential parcels (acres) is a subset of the larger Clallam County vulnerability assessment findings outlined in MJHMP Volume 1, Section 4.0. For non-mapped hazards identified in this jurisdictional annex (including, dam/reservoir failure, disease/pandemic, drought, human-caused hazards, seismic hazards, severe weather, and climate change), this jurisdictional annex considers the entire City of Sequim to be vulnerable. This includes the entire City population (estimated 8,073 individuals per 2022 ACS data findings), and all residential units and non-residential development within the City's jurisdiction.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines the methodology for identifying critical facilities within the planning area. The City of Sequim identified relevant critical facilities for the jurisdiction. As the City of Sequim is a jurisdiction within larger Clallam County, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*. Appendix D-2 includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

The Sequim Municipal Code designates the Public Works Director as the Floodplain Administrator responsible for administering and implementing the provisions of the National Flood Insurance Program (NFIP). All development, including substantial improvement, within designated special flood hazards must be in full compliance with Chapter 8.36. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

As outlined in MJHMP Volume 1, Section 5.1.1, *FEMA's National Flood Insurance Program*, two NFIP-identified repetitive loss structures are located within the City of Sequim (Table 3-5).

Table 3-5
NFIP Severe Repetitive Loss Properties

Census Block Group	City	Zip Code	Flood Zone	Total Losses	Repetitive Loss	Severe Repetitive Loss
530090023022	SEQUIM	98382	B	3	✓	
530090023022	SEQUIM	98382	C	2	✓	

Source: FEMA, *OpenFEMA Dataset: NFIP Multiple Loss Properties - v1*, https://www.fema.gov/openfema-data-page/nfip-multiple-loss-properties-v1, accessed August 27, 2024.

3.4 Land Use and Development Trends

The City of Sequim Comprehensive Plan (2015) provides the overall scheme of City development and establishes the framework for all other planning activities and documents. The City is currently conducting a review and major update to the Sequim Comprehensive Plan to comply with the periodic review requirement outlined in Washington State's Growth Management Act (GMA). This effort includes a review of land use, housing, transportation, capital facilities, parks, and economic development policies and incorporating updated economic development policy. Additionally, updated State regulations require climate resilience planning and considerations for changes in natural hazard risk due to fire, draught, flooding, severe storms, and sea level rise. Sequim has

already positioned its current comprehensive plan policies with this in mind, and the City will now work to review, expand, and update those policies to ensure they're on target and effective. Sequim's updated Comprehensive Plan is anticipated to be adopted in June 2025.

Since the previous MJHMP was developed, the City has seen a 9.8 percent population growth from 7,481 in 2018 to 8,215 in 2022 as reported by the Washington Office of Financial Management (OFM).[30] The City's land use has reflected these changes as development expands, however, no major rezones or land use designation changes have occurred.

The City of Sequim is an identified Urban Growth Area (UGA) within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature. Growth Management Act population projections for Clallam County show a projected population increase of 5.37 percent from 2022 to 2030. By applying that growth percentage to the Sequim population of 8,215 in 2022 as reported by OFM, it is estimated that the City will have a population of 8,656 by 2030. Additionally, the City anticipates additional housing and employment capacity in the coming five years. Currently approximately 700 lots under development, 300 units in subdivision processing and an additional 600 units of resort development are anticipated.

Past growth and development indicate that vulnerability has generally increased for the City of Sequim since the previously prepared 2019 MJHMP. Expected population growth, and continued development in the City indicates that vulnerability for each hazard will likely increase as shown in Table 3-6 below.

[30] Washington State Office of Financial Management, *April 1, 2024 Population of Cities, Towns and Counties Used for Allocation of Selected State Revenues State of Washington*, https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_population_final.pdf, accessed October 4, 2024.

Table 3-6
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Dam/Reservoir Failure	+
Disease/Pandemic	+
Drought	+
Flood	+
Human-Caused - Active Shooter	+
Human-Caused - Hazardous Materials	+
Human-Caused - Terrorism (Cyberattack)	+
Human-Caused - Utility Failure/Power Outage	+
Landslide	+
Sea Level Rise	+
Seismic - Cascadia Earthquake	+
Seismic - Earthquake (7.0 Design Level)	+
Severe Weather - Extreme Heat	+
Severe Weather - Windstorm	+
Severe Weather - Winter Storm	+
Tsunami	+
Wildfire	+
Wildfire Smoke	+
Key: + Increased vulnerability - Decreased vulnerability = Unchanged vulnerability	

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including the City of Sequim. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*.

Census tracts that make up the City of Sequim (Census Tracts 20.01, 20.02, and 21) have social vulnerability scores that range from low-medium to high as reported by the Center for Disease Control and Prevention (CDC) and Washington State Department of Health. Census Tract 20.02 and Census Tract 21 are identified as medium-high and high vulnerability respectively. These census tracts generally included concentrations for the following indicators of social vulnerability:

- Persons with income below 150 percent of the poverty rate

- Persons aged 65 and older
- Civilian noninstitutionalized population with a disability
- Persons reporting minority status
- Persons living in mobile homes

Refer to Volume 1, Section 3.8.1, *SVP Research and Methodology* for a detailed analysis of SVPs in the planning area.

Based on the CDC Social Vulnerability Index (SVI) data, the HMCR Steering Committee determined that Census Tract 21 (City of Sequim) is formally established and an SVP. However, SVPs are understood to exist throughout the entire county planning area despite the CDC Social Vulnerability Index. The SVP analysis identified the following groups as vulnerable throughout the county planning area despite SVI scores: individuals below the 150-percent poverty rate; aged 65 or older; disabled persons; persons reporting minority status; persons living within a mobile home; populations of the Quileute Tribe, Makah Tribe, Lower Elwha Klallam and the Jamestown S'Klallam Tribe; and tourists, seasonal visitors, and transient populations visiting for special events.

It is acknowledged that regardless of specific location within the planning area, members of these groups are more likely to experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8.

Considerations for SVPs have been incorporated into the City of Sequim mitigation strategy in Section 5.0 below. Refer to Table 5-1, *City of Sequim Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the City of Sequim. The City reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Sequim.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**County Comprehensive Emergency Management Plan (CEMP) Update**	Outlines roles and responsibilities of local government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	2015 – 2035 Comprehensive Plan	The City's Comprehensive Plan establishes Urban Growth Areas, natural resource lands, rural lands, and public lands.	▪ Updated Comprehensive Plan anticipated June, 2025 that will span 2025 - 2045	All
	Stormwater Management Needs Assessment	Sequim Public Works identified "problem areas" and documented physical and operational stormwater management.	▪ Utilized in annual capital improvement planning	Flooding
	Storm & Surface Water Master Plan	The Storm & Surface Water Master Plan is established to improve the quality of stormwater runoff, reduce speed and volume of stormwater flows, and raise public awareness of stormwater issues.	▪ Utilized in annual capital improvement planning	Flooding

Table 4-1 (continued)
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**2025 – 2030 Capital Improvement Plan**	Identifies capital improvement projects to be undertaken by the City over the next five-year period.	▪ Inclusion of hazard mitigation and maintenance projects (updated annually)	All
	State of Washington Enhanced Hazard Mitigation Plan	Profiles hazards throughout the State, assesses risks, and outlines potential mitigation actions.	▪ Collaborative effort between State and County.	All
Policies	**Zoning Ordinance**	Provides land use regulation in the unincorporated portions of the City.	▪ Current code through Ordinance 2024-019, passed April 22, 2024	All
	Subdivision Ordinance	Incorporated into zoning ordinance, establishes regulations around subdivision of properties.	▪ Current code through Ordinance 2024-019, passed April 22, 2024	All
	Flood Damage Prevention Ordinance	The City floodplain management ordinance incorporated into the Critical Areas ordinance is designed to protect and conserve the environmental attributes of the City and add to the quality of life for residents.	▪ Defines areas of special flood hazard ▪ Requirements for development within an area of special flood hazard	Flooding
	Critical and Environmentally Sensitive Areas Protection	Define and protect critical areas as required by the Growth Management Act and State Shoreline Act.	Defines areas of environmentally sensitive and geological hazard areas that are of special concern to the City.	Landslide, Earthquake, Flooding, shoreline
	National Flood Insurance Program (NFIP)	NFIP aims to reduce the impact of flooding on private and public structures.	▪ All participating jurisdictions currently participating in NFIP	Flooding
	Building Codes	Building permits are issued by the Department of Community Development and aligned with ICC 2021 building codes.	▪ Adoption of 2021 ICC codes	All
	Sustainability and Resiliency Resolution	Resolution R2016-16 adopting policies that improve the City's sustainability and resiliency	▪ Prioritized city resiliency and sustainability	All

4.2 Administrative and Technical Capabilities

Table 4-2 describes the City's administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Community and Economic Development Director	Community Development	Oversees community and economic development and update of strategic planning relating to land use, building codes, and citywide policy guidance.
Community Development Senior Planner	Community Development	Planner with knowledge of land development, environmental stewardship and land management practices
Director of Public Works	Public Works Department	Engineers and/or professionals trained in construction practices related to City buildings and/or infrastructure
City Engineer	Public Works Department	
Project Engineer	Public Works Department	
Resource Manager	Public Works Department	Serves as resource development lead and grant writer.
Police Chief	City of Sequim Police Department	Serves as a liaison for County emergency management and planning.
GIS/Engineering Technician II	Public Works Department	Personnel skilled in Geographic Information Systems (GIS)
Police Sergeant	Police Department	Serves as a liaison for County emergency management and planning.
Emergency Management Coordinator	Police Department	Coordinates City CEMP & emergency management planning with county & area responders

4.3 Financial Resources

The City maintains many fiscal and financial resources to support its mitigation program. Table 4-3 identifies specific resources accessible for use. In addition to these financial resources, the financial resources identified in MJHMP Volume 1, Section 5.5 would potentially be available to the City of Sequim and all participating jurisdictions.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?
Special Purpose Taxes	Yes, Transportation Benefit District
Insurance	Yes
User fees for utility services	No
Incur debt	Yes
Development Impact Fees	No
General Obligation, Revenue, and/or Special Tax Bonds	Yes
Partnering arrangements or intergovernmental agreements	Yes
Emergency Grants-Various Agencies	Yes

4.4 Education and Outreach Capabilities

Table 4-4 describes the City's education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the City of Sequim.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
2019 City of Sequim Comprehensive Emergency Management Plan	Use by officials to provide emergency management preceding, during and following disasters; the policies, information, recommendations and guidance necessary for the officials making operational decisions
City Council Meetings	Regular public comment periods at City Council meetings.
Media	The City of Sequim can utilize the Peninsula Daily News, Sequim Gazette, online media and websites, and the radio station KONP and KSQM for public outreach.

4.5 National Flood Insurance Program Participation

The City complies with the NFIP through a flood control ordinance and explicit code requirements for development in flood hazard areas (Sequim Municipal Code [SMC] 8.36.080). The City currently manages floodplain hazards through its Flood Damage Prevention code (SMC Chapter 8.36) which addresses areas of special flood hazard as identified by the Federal Insurance Administration in the Flood Insurance Study for the Clallam County, Washington Unincorporated Areas, revised February 23, 2001. This study includes flood profiles and accompanying Flood Insurance Rate Maps (FIRMs). The code adopts these maps and any future revisions (SMC 8.36.040) and requires the best available information for flood hazard area identification (SMC 8.36.050(B)) be used as the basis for regulation until new flood insurance rate map is issued that incorporates new data.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. These updates are reflected in the MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions.*

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, the City has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
City of Sequim Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	SQ15, SQ19, SQ21, SQ26, SQ27, SQ28
Expanding Administrative and Technical Capabilities	SQ09, SQ11, SQ14, SQ16, SQ17, SQ25
Expanding Financial Capabilities	SQ20
Expanding Education and Awareness	SQ14, SQ18
Infrastructure/Capital Project	SQ01, SQ02, SQ03, SQ04, SQ05, SQ06, SQ07, SQ08, SQ09, SQ10, SQ12, SQ13, SQ20, SQ22, SQ24, SQ29
Natural System Protection/Nature-Based Solutions	SQ29
Socially Vulnerable Populations	SQ18, SQ19

All mitigation actions identified in the plan are addressed in the mitigation implementation plan provided in Section 5.3 below. The actions include both interim- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into planning mechanisms and how the mitigation actions will be prioritized, implemented, and administered by the City. The implementation plan includes both short-term strategies that focus on planning and assessment activities, and long-

term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. The City of Sequim reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. The City and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, *City of Sequim Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for the City of Sequim were ultimately included in the MJHMP and Table 5-2, *City of Sequim Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and the City of Sequim regarding mitigation actions.

Table 5-2
City of Sequim Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
SQ01	Build fuel station at City Public Works Yard to supply fuel to City departments and all emergency responders.	2019 Mitigation Action	**Internal:** City Public Works, Police Department	Short-term (1-2 years)	Earthquake, Flood, Utility Failure, Winter Storm, Tsunami, Windstorm	FEMA Hazard Mitigation Assistance (HMA) program
SQ02	Replace 3-mile 12" water main from Ranney Well (infiltration gallery) beginning near the Dungeness River and ending at the Reservoir Road Reservoirs.	2019 Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Floods, Utility Failure, Winter Storm,	FEMA Hazard Mitigation Assistance (HMA) program, Drinking Water State Revolving Fund (DWSRF)
SQ03	Purchase a portable water purification system and small tanks. Prepare multiple sites and equipment to operate water purification	2019 Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Earthquake, flooding, tsunami	Drinking Water State Revolving Fund (DWSRF), FEMA
SQ04	Locate site for new potable water reservoir, purchase property, design and construct.	2019 Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Winter storms, flooding	City of Sequim general fund, property owners, developers, Public Utility District (PUD)
SQ05	Reroute/reconfigure electrical supply to the City of Sequim Water Reclamation Facility at 247 Schmuck Road by bringing new power source into the facility and using existing supply as backup.	2019 Mitigation Action	**Internal:** Public Works Department **External:** PUD	Long-term (5+ years)	Utility Failure	Drinking Water State Revolving Fund (DWSRF), FEMA Hazard Mitigation Assistance (HMA) program
SQ06	Construct deep water well (>600 feet) to increase resiliency and reliability within water system.	2019 Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Utility Failure, Drought, Water Shortage	Drinking Water State Revolving Fund (DWSRF), FEMA Hazard Mitigation Assistance (HMA) program
SQ07	Connect and extend City water mains to improve looping, during water main replacements and developer projects.	2019 Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Earthquakes, Excessive Heat, Utility Failure, Water Shortages, Wildfires	Drinking Water State Revolving Fund (DWSRF), Developers
SQ08	Purchase Additional Heavy Equipment for Use during Severe Storms	2019 Mitigation Action	**Internal:** Public Works Department	Medium-term (3-5 years)	Winter storms, flooding	City of Sequim general fund
SQ09	Develop Reliable Backup Program for Critical City Data Entry Post-Disaster	2019 Mitigation Action	**Internal:** Finance Department (Information Technology)	Short-term (1-2 years)	All hazards	City of Sequim general fund
SQ10	Capture stormwater in the County southwest of Sequim city limits and re-infiltrate using green stormwater infrastructure to benefit the watershed.	2019 Mitigation Action	**Internal:** City of Sequim Public Works **External:** Clallam County Public Works	Short-term (1-2 years)	Flooding, Drought, Wildfire	Application submitted to FEMA Hazard Mitigation Program
SQ11	Install an energy storage microgrid for storing solar energy for use in the ECC and Civic Center during power outage emergencies.	2019 Mitigation Action	**Internal:** Public Works Department	Short-term (1-2 years)	All hazards	Washington State Department of Commerce
SQ12	Replace mid-1900s AC pipe running through the City with earthquake-resistant pipe.	2019 Mitigation Action	**Internal:** Public Works Department	Medium-term (3-5 years)	Earthquake, Utility Failure	City Budget, Grant
SQ13	Protect/reinforce Johnson Creek Trestle for the Olympic Discovery Trail west of Whitefeather Way	2019 Mitigation Action	**Internal:** Public Works Department	Medium-term (3-5 years)	Earthquake, Flooding, Landslide, Winter Storm	City Budget, Grant
SQ14	Train City staff to perform seismic assessments of City properties	2019 Mitigation Action	**Internal:** Public Works Department	Short-term (1-2 years)	Earthquakes	Staff time
SQ15	Conduct wildfire risk assessment for City of Sequim and Fire District 3	2019 Mitigation Action	**Internal:** Public Works Department **External:** Clallam Co. Fire District 3	Short-term (1-2 years)	Wildfire	Grant
SQ16	Implement asset management using GIS for all capital facilities	2019 Mitigation Action	**Internal:** Public Works Department	Short-term (1-2 years)	All Hazards	Existing Budget
SQ17	Coordinate Emergency Management/Incident Response trainings for North Olympic Peninsula jurisdictions	2019 Mitigation Action	**Internal:** Sequim Police Department	Short-term (1-2 years)	All Hazards	Existing Budget
SQ18	Public education of potential hazards, local agency response, and preparedness	2019 Mitigation Action	**Internal:** Sequim Police Department	Short-term (1-2 years)	All Hazards	Existing Budget
SQ19	Develop risk assessment and response plan for vulnerable populations regarding excessive heat, cold, smoke inhalation – including loss of power and/or ability to transport	2019 Mitigation Action	**Internal:** Sequim Police Department	Short-term (1-2 years)	All Hazards	Existing Budget, Grant
SQ20	Identify and prioritize critical facilities within Sequim in need of back-up generators. Prioritize procurement for a permanent generator at the Emergency Coordination Center (ECC). Establish a procurement plan and seek grant funding.	New Mitigation Action	**Internal:** Public Works Department	Long-term (5+ years)	Severe Weather, Power Outage	City Budget, FEMA Hazard Mitigation Assistance (HMA) program

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
SQ21	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Community Development Department, Public Works (GIS) **External**: Fire District 3, Clallam Co. Emergency Management	Short-term (1-2 years)	Wildfire	City Budget
SQ22	In order to address coastal flooding and sea level rise, fund and construct capital improvement projects on West Sequim Bay Road to serve as an alternative evacuation route for Highway 101. Evaluate solutions for Pitship Bridge to protect the asset from flooding and storm surge.	New Mitigation Action	**Internal:** Public Works **External**: Clallam County	Long-term (5+ years)	Flood, Sea Level Rise	City Budget, Capital Improvement Budget, FEMA Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA) Program
SQ23	Update risk assessments, including GIS analysis, for landslides, dam/reservoir failures, tsunamis with substantial changes	New Mitigation Action	**Internal:** Public Works (GIS)	Ongoing	Landslides, Tsunamis, Dam/Reservoir Failure	City Budget, FEMA Hazard Mitigation Assistance (HMA) program
SQ24	Identify temperature-controlled storage needs for emergency supplies and a plan for procurement of both storage and supplies for the essential function of government	New Mitigation Action	**Internal:** Police Department **External**: Clallam County Emergency Management, Fire District 3, Community Emergency Response Team, Red Cross	Long-term (5+ years)	Disease, Active Shooter/Terrorism, All Hazards	City Budget
SQ25	Continue to participate in local and regional hazardous materials spills preparation and response exercises. Maintain coordination between the Sequim Police Department and Clallam County Department of Emergency Management for hazardous materials tabletop exercises.	New Mitigation Action	**Internal**: Police Department **External**: Clallam County Emergency Management	Ongoing	Hazardous Materials	City Budget
SQ26	As part of the ongoing Sequim Comprehensive Plan update, consider land use or zoning restrictions on industrial land uses and sources of hazardous materials to reduce risk to surrounding areas.	New Mitigation Action	**Internal:** Department of Community Development	Ongoing	Hazardous Materials	City Budget
SQ27	As part of the ongoing Sequim Comprehensive Plan update and related climate resilience planning, evaluate policies related to climate change and related hazards, including the threat of sea level rise along the coast. Consider the findings of this MJHMP and the Comprehensive Plan climate resilience planning to develop ongoing policies to mitigate climate impacts.	New Mitigation Action	**Internal:** Department of Community Development	Ongoing	Flood, Sea Level Rise, Climate Change	City Budget
SQ28	As part of the ongoing Sequim Comprehensive Plan update, evaluate housing and other land uses and consider land use/zoning restrictions in hazard areas and environmentally sensitive areas.	New Mitigation Action	**Internal:** Department of Community Development	Ongoing	Wildfire, Seismic Hazards, Flood, Tsunami, Landslide	City Budget
SQ29	Construct wastewater collection system & lift station to serve residential and commercial development in east Sequim to reduce and prevent septic systems in critical areas in order to protect water quality in Sequim Bay	New Mitigation Action	**Internal:** Public Works, Department of Community Development	Short-term (1-2 years)	Hazardous Materials	City Budget, FEMA Hazard Mitigation Assistance (HMA) program
Adopt the 2024 MJHMP	Adopt the MJHMP after approval.	New Mitigation Action	All Participating Jurisdictions	Short-term (1-2 years)	All hazards	N/A

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for the City of Sequim. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Sequim will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how the City intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including the City of Sequim. Specific information related to Sequim is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team (comprised of representatives from the Sheriff's Office and Community Development Department), the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Sequim are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Sequim Emergency Management Coordinator is responsible for coordinating annual review of the Sequim annex and making appropriate revisions. On an annual basis, the HMCR Steering Committee including representatives from Sequim will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The HMCR Steering Committee will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The HMCR Steering Committee will request input from other City departments and outside entities on issues listed above. A special effort will be made to gather information

on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from Sequim are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Sequim HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The Sequim City Council is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation Programs and Planning Mechanisms

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into City plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the City of Sequim. Together, the mitigation actions in the MJHMP provide the framework for activities that the City may choose to implement over the next five years. Sequim HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

Participating Sequim HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, the City of Sequim agree to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

The City is dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

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Jamestown S'Klallam Tribe

Section 1.0: Introduction

1.1 Jamestown S'Klallam Tribal Hazard Mitigation Program

The Jamestown S'Klallam Tribe (herein also referred to as 'Tribe') adopted a Tribal Multi-Hazard Mitigation Plan in 2011 and updated the plan in 2015. The Jamestown S'Klallam Tribe participated in the 2019 Clallam County Multi-Jurisdictional Hazard Mitigation Plan and is a participating jurisdiction in this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan").

The following representatives from the Jamestown S'Klallam Tribe Throughout the hazard mitigation planning process, the Tribal Planning Director (Luke Strong-Cvetich) and Environmental Planning Manager (Robert Knapp) were the main points of contact and represented the Jamestown S'Klallam Tribe. These representatives served on the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and participated in HMCR Steering Committee Meetings throughout the planning process.

Additional representatives for the Jamestown S'Klallam Tribe served on the HMCR Steering Committee including the Tribal Communications & Publications Specialist, Environmental Planner, Executive Assistant, Tribal Vice Chair, Elders Service Manager, Transportation Program Manager. Representatives from Jamestown S'Klallam Tribe coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

The HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including the Jamestown S'Klallam Tribe. Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with the Jamestown S'Klallam Tribe. Coordination between representatives of the Jamestown S'Klallam Tribe and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

For purposes of this Plan, "public" is defined as Tribal Citizens and Tribal government employees who have been delegated certain Tribal government responsibilities. During the MJHMP process, input from the Tribe was solicited through outreach on the Tribe's website, through published Tribal Newsletters and at Tribal gatherings. The Tribal Council was continuously updated throughout the process and provided valuable input. Members of the Tribe participated in filling out the surveys that were conducted during

the MJHMP process. The Tribal Council provided feedback on the draft Plan informally during work sessions and formally at Tribal Council meetings.

1.1.1 Public Outreach

All jurisdictions, including Jamestown S'Klallam Tribe, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on the public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the public. The Jamestown S'Klallam Tribe was also responsible for distributing components of the public outreach campaign, including the community survey link and invitation for the HMCR Workshop. This distribution was to ensure members of the public within the Jamestown S'Klallam Tribe jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S'Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. This workshop was open to members of the public, including Jamestown S'Klallam Tribe citizens and employees. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the Jamestown S'Klallam Tribe served on the HMCR Steering Committee and helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.6 of this MJHMP.

As noted above, representatives from Jamestown S'Klallam Tribe coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Jamestown S'Klallam Tribe jurisdictional annex:

- The Jamestown S'Klallam Tribe reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of the Jamestown S'Klallam Tribe. Updated list of hazards and hazard rankings are included in Section 3.0, *Risk and Vulnerability Assessment* below.

- Critical facilities were reviewed and updated by the Tribe and were incorporated into the vulnerability and risk assessment of the MJHMP. Jamestown S'Klallam

Tribe critical facilities are identified in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*.

- Updated information on past and future development and growth was provided and incorporated into the Jamestown S'Klallam Tribe jurisdiction-specific vulnerability assessment of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.4, *Land Use and Development Trends* below.

- Jamestown S'Klallam Tribe capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capability Assessment* below.

- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for the Jamestown S'Klallam Tribe are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the Jamestown S'Klallam Tribe and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0: Community Profile

2.1 Tribal Sovereignty and Governance

The Jamestown S'Klallam Tribe is a sovereign, federally recognized Indian Nation, with its own constitution and government. The Jamestown S'Klallam Tribe is governed by a five-member Tribal Council elected to four-year terms on a staggered basis. All enrolled Tribal citizens over 18 years are eligible to vote and those who live within the Tribal service area are eligible to run for office. The Tribal constitution was drafted and adopted in 1975. Tribal governmental programs receive overall direction from the Tribal Council through the Chief Executive Officer. The Tribe adheres to the practice of separation of Tribal government and Tribal administration to provide continuity and stability in its day-to-day operations. The Council sets policy, considers community input, and relies upon the administrative staff to effectively carry out its policies.

Since recognition in 1981, the Council and staff have set up basic operational structures to administer governmental policies and provide services, programs and activities for the Tribal citizenship. This structure has allowed the Tribe to create programs to assist Tribal citizens as well as begin building a strong economic base for future needs.[31]

Tribal self-governance is key to the Jamestown S'Klallam Tribe's ability to restructure programs and address Tribal priorities and needs. Self-Governance is premised on the government-to-government relationship that exists between Indian Tribes and the United States as sovereign nations. Indian Tribes have always been recognized as independent sovereign nations with the authority to conduct their affairs under their inherent powers. In 1988, Congress authorized a demonstration project called Self-Governance which allowed for many programs and services formally administered by the Bureau of Indian Affairs (BIA) to be transferred to the Tribes themselves. The Jamestown S'Klallam Tribe was one of the first seven Tribes in the nation to participate in this project.[32]

2.2 Geography and Climate

The Jamestown S'Klallam Tribal community is located on the northern portion of the Olympic Peninsula of Washington State (Peninsula), approximately 70 miles northwest of the City of Seattle. The Peninsula is a distinct and relatively isolated geographic region that is separated from Seattle by two bodies of water. The Peninsula is bounded by the Pacific Ocean to the west, the Strait of Juan de Fuca to the north, by Hood Canal on the east and by the Olympic Mountain range to the south. Clallam County and Jefferson County comprise the bulk of the Olympic Peninsula, with Clallam County being at the most northern point. A large part of the two counties is densely timbered wilderness or undeveloped areas characterized by rugged mountains, steep slopes and rain forests.

[31] Jamestown S'Klallam Tribe, *Tribal Government Documents*, https://jamestowntribe.org/tribal-council/tribal-documents/, accessed June 6, 2024.
[32] Jamestown S'Klallam Tribe, *Self-Governance*, https://jamestowntribe.org/programs-staff/self-governance/, accessed June 6, 2024.

Annual precipitation varies widely on the Peninsula, from over 100 inches annually on the west end to only 16 inches in the Sequim area.[33] Major towns in the area are the county seat in City of Port Angeles, City of Sequim, and the City of Forks. The area known as "Jamestown" is not an incorporated village, nor does it have a commercial center."[34]

2.3 Population and Demographics

As Jamestown S'Klallam Tribe has never had a traditional reservation, Tribal citizens and their families live within the communities of Clallam and Jefferson counties, throughout Washington State, as well as in many other states across the nation. As of 2022, the Jamestown S'Klallam Tribe has 521 enrolled citizens.[35] There are 239 males and 282 females. Currently, 49.9 percent of the population is 55 years or older, thus qualifying them as "Elders".[36] Tribal enrollment is based on blood quantum, a strategy used by the government and tribes to authenticate and trace individual and group ancestry. This system inevitably leads to a diminishing population and a lower number of enrolled Tribal Citizens. Jamestown S'Klallam Tribe establishes its own enrollment criteria and there will likely be a change in criteria that would expand enrollment within the next decade.

In 2022, the local population of Tribal citizens consists of 212 enrolled citizens living inside the Tribe's designated Service Area. The Service Area is defined as the entirety of Clallam County (Planning Area) and a portion of Jefferson County. For the purposes of the MJHMP the focus of this jurisdictional annex is representative of the Clallam County portion of the Jamestown S'Klallam Tribe Service Area.

2.4 Tribal Enterprises

The Jamestown S'Klallams purchased a 210-acre tract of land near Dungeness, Washington Territory, north of present-day Sequim in 1874 for $500 in gold when a group of S'Klallam families pooled their resources. The land was divided among the families according to their financial contribution. The purchase was an active response by the families to efforts by non-Indian settlers to have them relocated to a reservation at Skokomish, far from their historical territory. The community was named Jamestown for their leader, Lord James Balch (the Europeans had a penchant for nicknaming Native Americans leaders with the names of European royalty) whose father had signed the 1855 treaty.

During the Indian Reorganization Act period (1935-1939), the Jamestown S'Klallams were given a choice of moving to a reservation or remaining on the land we had purchased. We chose to keep our land and the independence we had worked so hard to obtain. The Federal government provided services to the Jamestown S'Klallams until

[33] Olympic Rain Shadow, *Location*, https://www.olympicrainshadow.com/olympicrainshadowmap.html, accessed June 10, 2024.
[34] Jamestown S'Klallam Tribe, *Tribal Government Documents*, https://jamestowntribe.org/tribal-council/tribal-documents/, accessed June 6, 2024.
[35] Jamestown S'Klallam Tribe Report to Tribal Citizens, https://jamestowntribe.org/wp-content/uploads/2023/04/2022-Report-to-Tribal-Citizens_FINAL.pdf, 2022, accessed June 10, 2024.
[36] Ibid.

1953 when most services and programs to "unrecognized" Tribes were discontinued, and our treaty rights were abrogated.

All through these many assaults on our identity as a group, the Jamestown S'Klallams maintained a cohesive societal structure and continued to show a progressive nature by integrating into the non-Indian community and economy. The hub around which we centered our Tribal spirit was the 210-acre Jamestown land base.

By the 1970's, it was evident to the Tribe that fishing, hunting, and gathering rights were being denied us due to lack of recognition from the Federal government. Another major concern was the problem we had providing adequate health services and education opportunities to the Tribal citizens. The Tribe realized that only through Federal recognition would we be able to provide for these basic needs. The campaign for formal Federal recognition began in 1974 and ended with Jamestown's successfully regaining recognition on February 10, 1981.

Settlement funds received from the Federal government because of this recognition were used to acquire the land at the head of Sequim Bay which eventually became the initial reservation of the Tribe. It is now the location of the Tribal government offices. The Tribe has access, directly or through its business entities, to socio-economic development opportunities that most local governments and non-profit planning organizations do not have, such as the SBA 8(a) program, the HUBZONE program and, in Washington State, the Minority & Women's Business Enterprise program. The Tribe continues to use grants (when available), loans (including those with subsidized rates and guarantees), lines of credit and joint venture relationships with investors and/or business partners.

The primary growth industries will create new employment and career opportunities are tourism, high-tech businesses, healthcare and medical supplies, marine services and commercial/residential construction.[37]

Tribal business is diverse and varied, representing an array of enterprises that operate on Tribal land and throughout Clallam County including:

- Jamestown Family Health Clinic
- Jamestown Family Dental Clinic
- Jamestown Healing Clinic
- Northwest Native Expressions Gallery
- Jamestown Seafood
- Point Whitney Shellfish Hatchery
- The Longhouse Market and Deli and Chevron Fueling Station
- Jamestown Excavating
- Jamestown Networks (broadband services)
- Jamestown S'Klallam Tribal Library
- 7 Cedars Resort
- House of Seven Brothers
- Napoli's Stone Fired Cuisine
- Rainforest Bar
- Cedars at Dungeness Gold Course

[37] Jamestown S'Klallam Tribe Report to Tribal Citizens, https://jamestowntribe.org/wp-content/uploads/2023/04/2022-Report-to-Tribal-Citizens_FINAL.pdf, 2022, accessed June 10, 2024.

- Stymie's Bar and Grill
- Double Eagle Steak and Seafood
- Dungeness River Nature Center at Railroad Bridge Park
- Carlsborg Self Storage
- JST Capital
- Cedar Greens Cannabis Shop
- Salish Trails Campground
- Jamestown Property Management

2.5 Tribal Lands and Ownership Trends

The Jamestown S'Klallam Tribe has been actively reacquiring their ancestral homelands since receiving federal recognition in 1981, as the original land allotment was only 13.5 acres. When appropriate, the Tribe applies for these lands to be transferred into Trust status, giving the Tribe jurisdictional authority and the ability to practice self-governance and promote self-determination. The Jamestown S'Klallam Tribe's land base spans across two counties, approximately 32 miles east-to-west, 36 miles north-to-south and covers 363 square miles of land. As of 2023, Jamestown S'Klallam Tribe owns approximately 1763 acres in the two-county area (835 acres of Trust; 270 acres of Reservation; and 648 acres of Fee land).

Although Tribes are not required to plan under Washington State's Growth Management Act, and although reservation lands are not subject to the jurisdiction of Clallam County or the State, any decisions made by Clallam County or the State with respect to fee lands may have an impact on the ability of the Tribe to utilize those lands in the future.

2.6 Natural Resources

The Jamestown S'Klallam people have fished, hunted and gathered across the Olympic Peninsula landscape since time immemorial.[38] The Tribe's Usual and Accustomed fishing and hunting areas stretch from the west and throughout the length of the Strait of Juan de Fuca, the San Juan Islands, Admiralty Inlet and Hood Canal. Jamestown S'Klallam Tribe continues to be dependent on the wise use and proper management of its natural resources historically and today as they increase their economic development.

The relationship between the Jamestown S'Klallam Tribe and natural resources in our region has been framed by the Treaty of Point No Point with the United States. In 1855, the Jamestown S'Klallam Tribe ceded millions of acres of land to the government while reserving rights to the natural resources on that land and in local waters, including both surface and ground water resources. Water rights are included in the property rights retained by treaty, while resources are shared with other Tribes and the State of Washington. The Tribe has maintained the right to fish, shellfish, hunt and gather, but that right is empty if there are no fish to catch, no clams to dig, no elk to hunt or berries to gather. The Jamestown S'Klallam Natural Resources Department's greatest effort is protecting and restoring habitat that supports healthy, sustainable populations of fish and

[38] Ibid.

shellfish for subsistence and commercial harvest, along with other plants and animals the Tribe regularly uses.

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History

Clallam County has encountered several major disaster declarations that have affected the Jamestown S'Klallam Tribe. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the Jamestown S'Klallam Tribal staff and HMCR Steering Committee. The jurisdictional annex and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked by Jamestown S'Klallam Tribal HMCR Steering Committee members.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with the Tribe's vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)

- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the jurisdictional annex and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:

Probability = (Probability Score x Importance)

Impact = (Affected Area + Primary Impact + Secondary Impacts), where:

Affected Area = Affected Area Score x Importance

Primary Impact = Primary Impact Score x Importance

Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration

Total Score	Range	Distribution	Hazard Level
0.0	20.0	3	Low
20.1	42.0	10	Medium
42.1	64.0	1	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Drought	4.00	3.00	3.00	3.00	48.00	High
Wildfire Smoke	4.00	4.00	2.00	1.00	40.80	Medium
Severe Weather - Winter Storm	3.00	3.00	3.00	3.00	36.00	Medium
Wildfire	3.00	2.00	4.00	2.00	32.40	Medium
Severe Weather - Windstorm	3.00	3.00	2.00	2.00	28.80	Medium
Flood	2.00	2.00	3.00	3.00	20.80	Medium
Human-Caused - Power Outages	3.00	2.00	1.00	1.00	16.80	Medium
Human-Caused - Hazardous Materials	2.00	2.00	3.00	1.00	16.80	Medium
Landslide	2.00	1.00	3.00	2.00	15.60	Medium
Seismic - Cascadia Earthquake	1.00	3.00	4.00	4.00	14.40	Medium
Tsunami	1.00	2.00	4.00	4.00	12.80	Medium
Seismic - Earthquake 7.0 Design Level	1.00	3.00	2.00	2.00	9.60	Low
Human-Caused - Active Shooter	1.00	1.00	4.00	1.00	8.20	Low
Disease/Pandemic	1.00	2.00	2.00	1.00	7.00	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, the Jamestown S'Klallam Tribal staff and HMCR Steering Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

Vulnerability to the following hazards is discussed in Section 3.3 below:

- Disease/Pandemic
- Drought
- Flood
- Human-Caused Hazards (Hazardous Materials, Active Shooter, Utility Failure/Power Outage)
- Landslide
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorms, Winter Storms)

- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Assessing vulnerability for the Jamestown S'Klallam Tribe is unique due to the mix of land and assets in reservation, trust, and fee status within multiple jurisdictions (including both Clallam and Jefferson Counties). Reservation land includes the Tribal Campus and Casino, located in unincorporated Clallam County. Tribes are not required to plan under the Washington State's Growth Management Act, and reservation/trust lands are not subject to the jurisdiction of Clallam County or the state. The Tribe's goal is to transfer lands from fee status to trust/reservation land, when and where it is appropriate..

Other assets in fee status are located within unincorporated Clallam County and the City of Sequim, including residential, commercial, and institutional assets. The Jamestown S'Klallam Tribe critical facilities and vulnerability for all mapped hazards is included in Appendix D-2, *Vulnerability Summary*. The Tribe owns other assets, such as residential rental properties, within unincorporated Clallam County and Sequim, that are not listed as critical facilities.

At the time of this writing, the Jamestown S'Klallam Tribe trust and reservation lands does not include a substantial residential population. Tribal citizens and their families are distributed throughout the Clallam County, including the City of Sequim and Port Angeles, neighboring Jefferson County, throughout Washington state and other parts of the country. The total vulnerability for the approximately 521 enrolled citizens in this population is included in Volume 1 of the MJHMP, which covers mapped natural hazards such as flood, landslide, tsunami, and wildfire. The vulnerability of individual Tribal Citizens is reflected in the cumulative hazard summaries within the MJHMP. These citizens live either in unincorporated Clallam County or in one of the three cities within the County—Port Angeles, Sequim, or Forks—which are participating jurisdictions.

For non-mapped hazards identified within this annex, including disease/pandemic, drought, human-caused hazards, seismic hazards, severe weather, and wildfire smoke – the entire Tribal population of 521 individuals is considered vulnerable.

The Jamestown S'Klallam Tribe faces increased vulnerability in any disaster related to the hazards identified in this annex. This is due to the challenges in coordinating a

response, as the tribal population is spread across different jurisdictions within the planning area. As Tribal citizens are also residents and constituents of the County or other cities within the planning area, disaster response requires collaboration between Tribal government and local jurisdictions. In addition, many critical facilities owned and operated by the Jamestown S'Klallam Tribe benefit the larger community beyond local Tribal citizens. Therefore, the hazard mitigation approach in this jurisdictional annex focuses on future collaborations and partnerships with the County and neighboring jurisdictions.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines the methodology for identifying critical facilities within the planning area. The Jamestown S'Klallam Tribe identified relevant critical facilities for the jurisdiction. As the Tribe is a jurisdiction within larger Clallam County and other participating jurisdictions, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*. Appendix D includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

Tribal communities can join the National Flood Insurance Program (NFIP), even if no flood hazard map exists that covers all tribal lands. The Jamestown S'Klallam Tribe does not currently participate in the NFIP for lands in Reservation/Trust status but nonetheless participates in meetings and stays up to date on the latest maps.

However, the Jamestown S'Klallam Tribe participates in the NFIP through the Clallam County NFIP policy, covering assets located on tribal lands. Tribal assets distributed across the County must maintain consistency with the NFIP policy of the local jurisdiction/County the asset is located within. All development, including substantial improvement, within designated special flood hazards must be in full compliance with local flood ordinances. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

The majority of Tribal assets not located within the limits of Jamestown S'Klallam Tribal lands are within the City of Sequim, or unincorporated areas of Clallam County. There are no NFIP-identified severe repetitive loss properties that have been identified on Jamestown S'Klallam Tribal lands.

3.4 Land Use and Development Trends

The Jamestown S'Klallam Tribe's Comprehensive Plan (2016) outlines its goals and priorities for continued growth and development. The Comprehensive Plan will soon be

updated to reflect the Tribe's future growth and plans for development. The Jamestown S'Klallam Tribe has been actively reacquiring the ancestral lands; as of 2024 the Tribe has approximately 1,762 acres of land including roughly 1,100 acres in reservation/trust land.

The Jamestown S'Klallam Tribe will continue to reacquire land within the area outlined in the Tribe's Land Consolidation Plan, including areas in Clallam and Jefferson counties, a federally approved area in which the Tribe takes jurisdiction through the fee-to-trust process. Additionally, the Tribe has made significant investments in its medical facilities in the City of Sequim, as well as at the Dungeness River Nature Center, Jamestown Beach, and Blyn. The Tribe will continue to develop its medical facilities in the City of Sequim, Community facilities at Jamestown Beach, Government facilities in Blyn, and other economic development activities throughout East Clallam and East Jefferson counties.

Past growth and development indicate that vulnerability has generally increased for the Jamestown S'Klallam Tribe since the previously prepared 2019 MJHMP. Expected population growth, reacquired Tribal land, and continued development inside and outside the Tribe area indicates that vulnerability for each hazard will likely increase as shown in Table 3-4 below.

Table 3-4
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Drought	+
Wildfire Smoke	+
Wildfire	+
Severe Weather - Winter Storm	+
Severe Weather - Windstorm	+
Flood	+
Human-Caused - Power Outages	+
Human-Caused - Hazardous Materials	+
Human-Caused - Active Shooter	+
Landslide	+
Seismic - Cascadia Earthquake	+

Table 3-4 (continued)
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Seismic - Earthquake 7.0 Design Level	+
Tsunami	+
Disease/Pandemic	+

Key:
+ Increased vulnerability
- Decreased vulnerability
= Unchanged vulnerability

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including the Tribe's designated Service Area. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*.

The Tribe's designated Service Area, Census Tracts 23.01 and 23.02 are identified as low social vulnerability by the Center for Disease Control and Prevention (CDC) and Washington State Department of Health; however, SVPs are understood to exist throughout the planning area despite the CDC Social Vulnerability Index. The SVP analysis identified the populations of the Jamestown S'Klallam Tribe as a formally established SVP.

It is acknowledged that regardless of specific location within the planning area, members of the Jamestown S'Klallam Tribe (particularly Tribal Elders) are more likely to experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8. Economic and health disparities can also contribute to enhanced social vulnerability, and this community require additional support during natural disasters.

Considerations for SVPs have been incorporated into the Jamestown S'Klallam Tribe mitigation strategy in Section 5.0 below. Refer to Table 5-1, *Jamestown S'Klallam Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify existing personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the Jamestown S'Klallam Tribe. The Tribe reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the Jamestown S'Klallam Tribe.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**County Comprehensive Emergency Management Plan (CEMP) Update**	Outlines roles and responsibilities of tribal government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	Comprehensive Plan	The Tribe's Comprehensive Plan establishes community and governance goals that guide the Tribe's self-reliance through future expansion.	▪ Develop plan to establish goals and priorities for Tribal citizens ▪ Comprehensive Plan to be updated in 2025	All
	Floodplain Management Plan	The County has developed a Dungeness River Comprehensive Flood Hazard Management Plan to study the risk of flooding along the river. The Tribe participated in plan development as co-leaders of the Dungeness River Management Team (DRMT)	▪ Plan was approved by Washington Department of Ecology in 2010	Flooding

Table 4-1 (continued)
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**Dungeness Watershed Plan: Protecting and Restoring the Waters of the Dungeness**	A watershed-based plan prepared in compliance with Section 319 of the Clean Water Act.	▪ Ongoing implementation	Flooding
	State of Washington Enhanced Hazard Mitigation Plan	Profiles hazards throughout the State, assesses risks, and outlines potential mitigation actions.	▪ Collaborative effort between State and County.	All
	Jamestown S'Klallam Tribe Climate Vulnerability Assessment and Adaptation Plan	Projection of climate change/sea level impacts on Tribal lands and resources	▪ Identified key tribal resources, the expected impacts from climate change, and created adaptation strategies for each resource	Climate Change, Sea Level Rise, Flooding
Policies	**Tribal Code Title 29: Building and Development Code**	Provides code to cover the construction, renovation, and removal of buildings on, and the development of, the trust and reservation lands of the Jamestown S'Klallam Tribe.	▪ Current code May 1, 2017.	All
	Tribal Code Title 28: Public Health And Safety Code	Provides for a public health and safety code to cover certain activities that occur on the trust and reservation lands of the Jamestown S'Klallam Tribe and for other purposes.	▪ Approved on August 31, 2010 ▪ Most recently amended on November 2, 2020, by adding a new chapter dealing with Emergency Proclamations by the Tribal government.	All
	Tribal Code Title 27: Building and Development Code	Tribal Environmental Policy Act (TEPA). Provides code to cover procedures for emergency construction and other activities directly related to emergencies.	▪ TEPA was approved on July 27, 2009.	All
	Coastal Zone Management Plan	Regulates development in potentially hazard prone areas.	▪ Ongoing implementation	Flooding

4.2 Administrative and Technical Capabilities

Table 4-2 describes the Tribe's administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Tribal Council	Government Office	Ensure mitigation program is incorporated into the Tribe's daily business
Planning Director	Operations	Oversee mitigation program and encourage integration of mitigation planning into all Tribal development activities.
Natural Resources Director	Natural Resources Department	Manage natural resources within the Tribe's properties. Capacities include environmental planning, habitat programs, and fisheries.
Construction Manager & Facilities Manager	Operations – Building Division	Repair and maintain tribal infrastructure. Oversees Tribal construction projects providing permitting, regulations and project management services.
Economic Development Authority Board of Directors and Staff	Economic Development Authority	Integrate risk reduction into Tribal economic development corporations and plan for strategic expansion.
Grant and Contract Specialist	Finance Department	Manage grant awards, applications and project budgets for tribal programs.
GIS/Data Management Specialist	Natural Resources – Environmental Planning	Integrate hazard data into mapping capabilities of the Tribe.
Tribal Historic Preservation Officer	Operations – Tribal Historic Preservation Office	Integrate risk reduction into protection of Tribal cultural resources, archives and collections.
Other		
Planners or engineers	Operations	Integrate risk assessments and mitigation tactics into ongoing Tribal projects.
Construction professionals	Operations – Building Division	Manage structural mitigation activities for utility services.
Hazardous Materials Planning	Clallam County Local Emergency Planning Council	Develop capacity for local jurisdictions to prepare for and respond to hazardous materials incidents.

4.3 Financial Capabilities

The Tribe maintains many fiscal and financial resources to support its mitigation program. Table 4-3 identifies specific resources accessible for use.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?
Community Development Block Grants	Yes
Capital Improvement Project Funding	Yes
Insurance	Yes
User fees for utility services	No
Incur debt	Yes
State-sponsored grant programs	Yes
BIA Tribal Climate Resilience	Yes
Other Federal grant programs	Yes

As a federally recognized tribe, the Jamestown S'Klallam Tribe can access funding directly through the federal government. In addition, funding is also available from the State of Washington and potentially through Clallam County. Funding that is annually negotiated and acquired through self-governance is used to support Tribal programs and activities, including through Indian Health Services (mental health programs, alcohol and substance abuse support, and community health programs). In addition to the financial resources above, the financial resources identified in MJHMP Volume 1, Section 5.5 would potentially be available to the Jamestown S'Klallam Tribe and all participating jurisdictions.

4.4 Education and Outreach Capabilities

Table 4-4 describes the Tribe's education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the Jamestown S'Klallam Tribe.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
Dungeness River Nature Center (DRNC)	DRNC works to educate people of all ages on the Dungeness River watershed. This includes information on the river's flood plain and historic channel migration zones.

4.5 National Flood Insurance Program Participation

As noted in Section 3.3.3, *Repetitive Loss Properties* above, the Jamestown S'Klallam Tribe does not participate in the NFIP for reservation/trust lands and does not have any repetitive loss properties. Tribal assets dispersed across the county must adhere to the NFIP policies of the local jurisdiction or county where the asset is situated. All development, including substantial improvement, within designated special flood hazard areas must comply fully with local flood ordinances. Clallam County, Forks, Port Angeles, and Sequim maintain active NFIP policies. The Lower Elwha Klallam Tribe also maintains active policies. Jamestown S'Klallam Tribe are covered through the Clallam County NFIP policy.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. Jamestown S'Klallam Tribe HMCR Steering Committee members identified one mitigation action to be removed (Mitigation Action JSK10) and three mitigation actions that have been completed (Mitigation Action JSK02, JSK15, JSK16). These updates are reflected in the MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, the Tribe has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding existing capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
Jamestown S'Klallam Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	JSK01, JSK05, JSK19, JSK21
Expanding Administrative and Technical Capabilities	JSK14, JSK15
Expanding Financial Capabilities	JSK22, JSK23
Expanding Education and Awareness	JSK07, JSK09, JSK11, JSK13, JSK22, JSK24
Infrastructure/Capital Project	JSK03, JSK04, JSK12, JSK17, JSK22, JSK23, JSK25, JSK26, JSK27
Natural System Protection/Nature Based Solutions	JSK03, JSK06, JSK08, JSK09, JSK18
Socially Vulnerable Populations	JSK07, JSK11, JSK24

All mitigation actions identified in the plan are addressed in the mitigation implementation plan, provided in Section 5.2 below. The actions include short-, medium- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into existing planning mechanisms and how the mitigation actions will be prioritized, implemented, and administered by the Tribe. The implementation plan includes both short-term strategies that focus on planning and assessment activities, and long-term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. The Jamestown S'Klallam Tribe reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. Jamestown S'Klallam Tribal staff and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, *Jamestown S'Klallam Tribe Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for Jamestown S'Klallam Tribe were ultimately included in the MJHMP and Table 5-2, *Jamestown S'Klallam Tribe Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and the Jamestown S'Klallam Tribe regarding mitigation actions.

Table 5-2
Jamestown S'Klallam Tribe Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
JSK01	Seismic assessment of Tribal facilities	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe, structural engineer	Ongoing	Tsunami, Seismic Hazards	FEMA Hazard Mitigation Assistance (HMA) program
JKS02	Lower Dungeness River Floodplain Restoration, including 3 Crabs Rd.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County, Washington Department of Fish and Wildlife	Ongoing	Flooding	WA Floodplains by Design, Construction funding from ACOE
JSK03	Structure elevation and/or relocation of Tribal facilities and infrastructure	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Medium-term	Flooding, Tsunami, Landslides	HMGP/BIA Climate Resiliency
JSK04	Coordinate with County on the implementation of the NFIP Program	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County, FEMA,	Medium-term	Flooding	Tribe Budget, FEMA Hazard Mitigation Assistance (HMA) program
JSK05	Encourage native vegetation on shorelines and formation of dunes	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Medium-term	Flooding	FEMA Hazard Mitigation Assistance (HMA) program, U.S. Department of Agriculture
JSK06	Public education around flood mitigation, floodplain functions, emergency service procedures, and potential hazards.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Medium-term	Flooding	FEMA Hazard Mitigation Assistance (HMA) program
JSK07	Limit removal of vegetation in areas prone to ground failure. Plan ground cover where appropriate.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County	Medium-term	Landslide	Tribe Budget
JSK08	Encourage residents and landowners to leave natural erosion barriers, such as driftwood logs on the shore, in place to reduce shoreline erosion.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Medium-term	Landslide	Tribe Budget
JSK09	Conduct severe weather awareness activities.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County	Medium-term	Windstorm, Winter Storm	Tribe Budget
JSK10	Develop alternate water supplies to provide reserve water sources to be used in event of drought or water shortage in Blyn, WA.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Long-term	Windstorm, Winter Storm, Drought	HUD Indian Community Development Grand Program
JSK11	Create and expand water efficiency/conservation programs.	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Ongoing	Drought	Tribe Budget, Grants
JSK12	Continue to participate in TsunamiReady with Clallam County	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County	Medium-term	Tsunami	Minimal
JSK13	Develop advanced warning systems	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County	Medium-term	Tsunami	Minimal
JSK14	Explore feasibility of incorporating elevated tsunami shelters or vertical evacuation structures in future construction plans in vulnerable zones in Blyn (7 Cedars Resort Casino & Tribal Government).	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Long-term	Earthquake/Tsunami, Flooding	FEMA Hazard Mitigation Assistance (HMA) program
JSK15	Vegetation management, fuel reduction projects and defensible space around structures	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County, PUD	Ongoing	Wildfire, Windstorm, winter storm	U.S. Forest Service Grants
JSK16	Promote FireWise building design for construction in the Vision Master Plan and Housing Programs	2019 Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County	Medium-term	Wildfire	ICDBG, US Forest Service, BLM
JSK17	Identify which Tribal facilities could serve as a neighborhood cooling/warming center or emergency shelter during extreme weather events or natural disasters.	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Medium-term	Severe Weather, Power Outage, Earthquake	Tribe Budget
JSK18	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe, Resort, or Jamestown Family Health	Short-term	Wildfire	Tribe Budget
JSK19	Identify, plan, and construct redundant routing around the known weakest links on Highway 101 (such as around Jimmycomelately Creek). Where redundancy already exists, publish alternative routes for evacuation and emergency preparedness/awareness. Where redundancy does not exist, identify grant funding resources for alternative	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County, WSDOT	Long-term	Seismic Hazard, Tsunami, Landslides	Tribe Budget, FEMA Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA) Program, WSDOT grants

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
JSK20	Evaluate and prioritize Jamestown S'Klallam Tribe owned residential properties for weatherization, prioritizing energy efficiency and preventing damage from water, moisture, and sunlight. Assess and document needed weatherization improvements required per property, considering insulation, windows/doors, air sealing, heating and cooling systems, and ventilation system improvements. Seek grant funding to fund weatherization improvements.	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe (Housing Program)	Short-term	All Hazards	Tribe Budget, FEMA Hazard Mitigation Assistance (HMA) program
JSK21	Engage with tribal elders and other socially vulnerable tribal members who may need extra support during an emergency incident. Prioritize communication, awareness, and messaging targeted to encourage preparedness.	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe (Social and Community Services)	Ongoing	All Hazards, Disease/Pandemic, Climate Change, Human-caused hazards	Tribe Budget
JSK22	Rehab/maintain Howe Truss Railroad Bridge at Dungeness River Nature Center	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe	Short-term/Ongoing	Seismic Hazard, Windstorm, Winter Storms, Flooding	Tribe Budget, FEMA Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA) Program, WSDOT grants
JSK23	Create additional pedestrian crossing on HWY101 in low lying areas to allow trail users to move to higher ground in case of an Earthquake/tsunami	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe Government	Medium term	Seismic Hazard, Tsunami	Tribe Budget
JSK24	Construct and maintain emergency supplies warehouse to support recovery	New Mitigation Action	**Internal:** Jamestown S'Klallam Tribe **External:** Clallam County EOC	Long-term	All Hazards	Tribe Budget, FEMA Emergency Operations Center Grant Program
Adopt the 2024 MJHMP	Adopt the MJHMP after approval.	New Mitigation Action	All Participating Jurisdictions	Short-term	All hazards	N/A

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for the Jamestown S'Klallam Tribe. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Jamestown S'Klallam Tribe will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how Jamestown S'Klallam Tribe intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including the Jamestown S'Klallam Tribe. Specific information related to Jamestown S'Klallam Tribe is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team (comprised of representatives from the Sheriff's Office and Community Development Department), the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Jamestown S'Klallam Tribe are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Tribal Planner is responsible for coordinating annual review of the Jamestown S'Klallam Tribe annex and making appropriate revisions. On an annual basis, the tribal planning team will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The tribal planning team will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The Tribal Planner will request input from other tribal departments and outside entities on issues listed above. A special effort will be made to gather information on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from Jamestown S'Klallam Tribe are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Jamestown HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The Jamestown S'Klallam Tribal Council is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation Programs and Planning Mechanisms

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into existing Tribe plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the Jamestown S'Klallam Tribe. Together, the mitigation actions in the MJHMP provide the framework for activities that the Tribe may choose to implement over the next five years. Jamestown S'Klallam Tribe HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

The Tribe will comply with all applicable Federal statutes and regulations in effect with respect to the periods which it receives grant funding, including 2 CFR Parts 200 and 3002, and will amend its plan whenever necessary to reflect changes in Tribal or Federal laws and statutes.

Participating Jamestown S'Klallam Tribe HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, the Jamestown

S'Klallam Tribe agrees to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

The Tribe is dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

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Lower Elwha Tribe

Section 1.0: Introduction

1.1 Lower Elwha Klallam Tribe Hazard Mitigation Program

The Lower Elwha Klallam Tribe (herein referred to as "LEKT") participated in the 2019 Clallam County Multi-Jurisdictional Hazard Mitigation Plan and is a participating jurisdiction in this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan").

Throughout the hazard mitigation planning process, the Director of Emergency Management (Glen Roggenbuck) served as the main point of contact for and representative for the Lower Elwha Klallam Tribe. The Director of Emergency Management also served on the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and participated in HMCR Steering Committee Meetings throughout the planning process.

In addition, the HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including the Lower Elwha Klallam Tribe. Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with the Lower Elwha Klallam Tribe. Coordination between representatives of the LEKT and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Representatives from the Lower Elwha Klallam Tribe coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

The LEKT conducts a variety of emergency planning and preparedness activities. The tribal Director of Emergency Management is the lead on integrating hazard mitigation planning with other tribal, county and FEMA planning efforts.

The following planning activities are conducted to integrate hazard mitigation planning within the tribal community and locally:

- Hold Community Meetings regarding Emergency Preparedness and Tsunami Awareness.

- Emergency Management Safety Fair, which is open to tribal and non-tribal community members to provide information on how to prepare and survive large scale disasters.

- Emergency preparedness information distributed to tribal members via meetings, the tribal newsletter, and social media.
- Work with the tribal Planning Department to evaluate future building sites that are outside of the tsunami inundation zone.

The following activities are conducted to integrate hazard mitigation planning with FEMA and state planning efforts:

- Worked with EMD to provide a Tsunami Awareness Open House for tribal and non-tribal community members.
- Participated in the Great Shakeout Earthquake Drill.
- Worked with the Washinton Department of Natural Resources to integrate climate change into emergency preparedness planning.

For purposes of this Plan, “public” is defined as Tribal Citizens and Tribal government employees who have been delegated certain Tribal government responsibilities. During the MJHMP process, input from the Tribe was solicited through outreach on the Tribe’s social media sites, reader-boards and emails, and at Tribal gatherings. The Tribal Council was continuously updated throughout the process and provided valuable input. Members of the Tribe participated in filling out the surveys that were conducted during the MJHMP process. The Tribal Council provided feedback on the draft Plan informally during work sessions and formally at Tribal Council meetings.

1.1.1 Public Outreach

All jurisdictions, including Lower Elwha Klallam Tribe, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on the public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the public. The Lower Elwha Klallam Tribe was also responsible for distributing components of the public outreach campaign, including the community survey link and invitation for the HMCR Workshop. This distribution was to ensure members of the public within this jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S’Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. This workshop was open to members of the public, including Lower Elwha Klallam Tribe citizens and employees. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the Lower Elwha Klallam Tribe served on the HMCR Steering Committee and helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.7 of this MJHMP.

As noted above, representatives from the LEKT coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Lower Elwha Klallam Tribe jurisdictional annex:

- The Lower Elwha Klallam Tribe reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of the Lower Elwha Klallam Tribe. Updated list of hazards and hazard rankings are included in Section 3.0, Risk and *Vulnerability Assessment* below.

- Critical facilities were reviewed and updated by the LEKT and were incorporated into the vulnerability and risk assessment of the MJHMP. Lower Elwha Klallam Tribe critical facilities are identified in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*.

- Updated information on past and future development and growth was provided and incorporated into the Lower Elwha Klallam Tribe jurisdiction-specific vulnerability assessment of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.5, *Land Use and Development Trends* below.

- Lower Elwha Klallam Tribe capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capabilities Assessment* below.

- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for the Lower Elwha Klallam Tribe are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the Lower Elwha Klallam Tribe and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0: Community Profile

2.1 Tribal Sovereignty and Governance

The Lower Elwha Klallam Tribe is a sovereign, federally recognized Indian Nation, with its own constitution and government. Not only does the LEKT govern itself, but many Tribal administrative departments oversee the everyday function of the reservation and provide for Tribal members.[39] The Lower Elwha Tribal Council, or Business Committee, which consists of five elected officials serving staggered three-year terms, governs the LEKT.[40]

The Business Committee has full and ultimate responsibility for management of all Tribal programs operating on an annual budget. The Community Council, comprised of the eligible voting Tribal members, enacts the laws for the governance of the land and the people under its jurisdiction. In the absence of a quorum of the Tribal Council, a quorum of the Business Committee serves this function."[41]

The Tribal departments are listed below:

- Carnegie Museum
- Education
- Elwha Klallam Heritage Center
- Elwha Klallam Veterans
- Elwha Library
- Employment Opportunities
- Klallam Counseling Services
- Lower Elwha Family Advocacy
- Low Income Home Energy Assistance Program
- Lower Elwha Head Start and Early Head Start
- Lower Elwha Dental Clinic
- Lower Elwha Health Clinic
- Lower Elwha Police Department
- Lower Elwha Social Services
- Lower Elwha Tribal Temporary Assistance for Needy Families
- Natural Resources
- River Restoration
- Tribal Court
- Tribal Programs
- Tribal Enrollment
- Tribal Government
- Vocational Rehabilitation Program

[39] Elwha, *Lower Elwha Klallam Tribe*, https://www.elwha.org/, accessed June 7, 2024.
[40] Elwha, *Tribal Government*, https://www.elwha.org/departments/tribal-government/, accessed June 7, 2024.
[41] NWTEMC, *LEKT HMP*, http://www.nwtemc.org/LEKT_HMP.aspx, accessed June 6, 2024.

2.2 Geography and Climate

The Lower Elwha Klallam Tribe resides in the Lower Elwha River Valley and adjacent bluffs on the north coast of the Olympic Peninsula just west of Port Angeles, Washington; the geography and climate of the Lower Elwha Klallam Tribe is consistent with the geography and climate of the City of Port Angeles to the east.

The Elwha Tribal lands consist of the main reservation found at the mouth of the Elwha River. Additional land in the delta was added in 2001 and 2002 as sediment from the removal of the Elwha dams reached the Strait. The LEKT has additional Reservation and Trust lands outside of the reservation for housing near Price Road. It owns two properties on Highway 101, and has scattered fee properties in Port Angeles including land at Tse-whit-zen and Ediz Hook. Altogether, Tribal lands make up about 1,780 acres or 2.8 square miles.

The climate of the Elwha River delta region is strongly influenced by the rainshadow effect of the Olympic Mountains and the moderating influence of the ocean. As a result, metrological conditions are relatively mild year-round, with dramatically less precipitation than interior Clallam County, or in areas along the western coast of the Olympic Peninsula. The average precipitation and temperature trends from 2007-2019 in the nearest city, Port Angeles, are displayed in Table 2-1 below.

Most of the Lower Elwha Klallam Tribe's reservation is on alluvial fill in a deeply incised river valley that flows into the delta of the Elwha River in the Strait of Juan de Fuca.

Table 2-1
Average Precipitation and Temperatures (2007-2019)

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Total Precip. (inches)	.86	2.80	2.13	1.30	1.06	0.87	0.59	0.75	1.06	2.44	4.41	4.41	25.68
Avg. Max. Temp. (F°)	46	48	51	56	61	65	69	69	66	58	50	46	57
Avg. Min. Temp. (F°)	34	35	37	40	45	49	52	52	49	43	38	35	43

Source: U.S. Climate Data, *Climate in Port Angeles, WA*, https://www.usclimatedata.com/climate/port-angeles/washington/united-states/uswa0346, accessed June 6, 2024.

2.3 Population and Demographics

"The LEKT is a party to the 1855 Treaty of Point No Point and its members are the direct successors of the Klallam people who lived for centuries in villages along the Peninsula's

north coast and southern Vancouver Island, from Port Angeles Harbor west to the Hoko River.[42]

The LEKT's current landbase was acquired by the United States in trust for the LEKT in 1935-36. These lands were proclaimed as the Lower Elwha Reservation in 1968. Today tribal lands include about 1,000 acres on and near the Elwha River.[43] The estimated current enrolled Tribal membership stands at just over 900 people.

The United States Census Bureau identifies a 2022 population of 671 for the Lower Elwha Reservation and off Reservation Trust Land. Approximately 30 percent of the population is below the age of 18, and 14.6 percent of the population is aged 65 or older. Over 67 percent of the population is American Indian or Native Alaskan, 13.3 percent of the population is White alone, nearly 16 percent are two or more races and Hispanic or Latino of any race is 13.7 percent.[44]

2.4 Cultural Resources

The Elwha River valley is the cultural and spiritual home of the Lower Elwha Klallam Tribe. The Klallam people have continually resided here since time immemorial. Cultural resources include traditional sites, structures, landscapes, archaeological, ethnographic and ethnohistoric sites.[45] The river and surrounding land fed, sheltered, and sustained the people, as well as provided access to the interior of the Olympic Peninsula. When the Elwha Dam was completed in 1912, the ensuing loss of salmon runs and the loss of access to spiritual sites devastated the Elwha Klallam people. The Elwha Dam was removed in 2014, and in 2023, one limited and ceremonial fishery opened in the Elwha River for Coho salmon with commercial and recreational fishing remaining closed.[46]

Beach Lake

The southern (landward) shore of Beach Lake is known to be an area of historic gravesites that were used for many generations. However, the extent of the gravesite area has never been mapped or delineated. Prof. John Albright, of the University of Washington, unearthed approximately 100 pounds of beads, bracelets, and a variety of other 'curios' (grave goods) at this site in August 1923. A brief account of this 'discovery' was published in Port Angeles Evening News on August 30, 1923. The 'collection' was transported by Professor Albright to the American Museum of Natural History of New York, where it is assumed to remain today.

S'Klallam Villages

[42] Elwha, *Lower Elwha Klallam Tribe*, https://www.elwha.org/, accessed June 7, 2024.
[43] Elwha, *Lower Elwha Klallam Tribe*, https://www.elwha.org/, accessed June 7, 2024.
[44] US Census Bureau, 2022: ACS 5-Year Estimates Data Profiles, *DP05: ACS Demographic and Housing Estimates*, https://data.census.gov/table/ACSDP5Y2022.DP05?q=2022%20acs&g=2500000US2040, accessed October 9, 2024.
[45] Elwha, *Lower Elwha Klallam Tribe*, https://www.elwha.org/, accessed June 7, 2024.
[46] KNKX NPR, *For the first time since dam removal, a fishery opens on the Elwha*, https://www.knkx.org/environment/2023-10-11/lower-elwha-klallam-tribe-dam-removal-elwha-river-fishery, published October 11, 2023, accessed June 10, 2024.

The S'Klallam, of which the Lower Elwha Tribe is the western band, had 32 villages spread along the north shore of the Olympic Peninsula and the south shore of Vancouver Island near Becher Bay and Cape Calver, 12 miles southwest of present-day Victoria. In the immediate area of the Reservation, there are at least four village sites and two in nearby Port Angeles, Tse-whit-zen and Ennis Creek. In the late 19th and part of the 20th century, Tribal members also lived on Ediz Hook before moving to the reservation area."[47]

2.5 Tribal Land Use and Ownership

Land use in the planning area is consistent with Clallam County zoning and shoreline management designation, including a significant portion of privately owned land has been harvested and converted for residential uses. Individual Indian allotment and reservation land in the Elwha Heights area is used for rural residential purposes.

Most of the area that is not developed is covered with brush and unmanaged second growth timber. Both the Department of Natural Resources and corporate timberlands hold acreage adjacent to the Elwha Heights area on Ranger Road. There are also large gravel pits in the vicinity of Elwha Heights and Place Road. Washington Department of Natural Resources (DNR) lands in the study area are used primarily for timber production. These are primarily coniferous forests with Douglas-fir on a short (50 year) rotation and were last harvested in the 1960s and 70s.

The Elwha River provides, commercial, and Native American subsistence fisheries, as well as general recreational use. Salmon and steelhead fishing are a major recreational activity. A public access and boat launch below the Elwha Road Bridge and at the private levee at Place Road are well used during the fishing season by the general public. In addition, privately owned fishing camps adjoin the river below Hunt Road and trails follow the riverbanks in less accessible areas. The Lower Elwha Klallam Tribe usual and accustomed areas include fishing and harvesting species such as Dungeness crab, Spot Shrimp, sea cucumbers, sea urchins, clams, oysters, geoduck, halibut, Chinook, Coho, Chum, sockeye, steelhead, and bottom fish.[48]

Land use on the Lower Elwha Klallam Reservation is sharply delineated by the 7,700-foot-long levee built by the U.S. Army Corps of Engineers (USACE) in 1989. Approximately 215 acres of Trust and reservation land on the delta is protected from flooding while approximately 330 acres are dedicated to flood abatement. The Federal Flood Control Levee was constructed 400 to 3,000 feet from the present Elwha River channel. It has since become accepted as a feature of the landscape, despite the relocation of some residents from their former homes. The landscape east of the levee is now thought of as 'the Tribal Community Side' while the land to the west belongs to 'the River.' The levee follows the 200-year flood contour, with the exception of a 450-foot opening adjacent to the beach and estuary.

[47] KNKX NPR, *For the first time since dam removal, a fishery opens on the Elwha*, https://www.knkx.org/environment/2023-10-11/lower-elwha-klallam-tribe-dam-removal-elwha-river-fishery, published October 11, 2023, accessed June 10, 2024.
[48] Lower Elwha Klallam Tribe, *Fishing & Hunting Regulations*, https://www.elwha.org/departments/natural-resources/lekt-regulations/, updated 2024, accessed June 10, 2024.

The Tribal Community land to the east of the levee and above the 100-year flood elevation is held for rural residential use, agriculture, limited timber production and some industry. Agricultural use of the delta is primarily devoted to pasture: either via grazing or hay production. Much of the land formerly in pasture has, during the past decade, been converted to Tribal housing.

Tribal land within the 100-year floodplain on the River side of the levee is designated as Community Forest land and includes approximately 388 acres. Community Forest lands between the Flood Control Levee and the Elwha River are to be used for sustainable forestry practices, as directed by the L.E.K.T. Community Forest Management Plan (1996). Development is not permitted in this region."[49]

Policy restricting access to beaches includes an ordinance was passed in 1998 that prevents non-Tribal members from accessing the beach areas without a Tribal escort.

[49] Lower Elwha Klallam Tribe, *Fishing & Hunting Regulations*, https://www.elwha.org/departments/natural-resources/lekt-regulations/, updated 2024, accessed June 10, 2024.

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History

Clallam County has encountered several major disaster declarations that have affected the Lower Elwha Klallam Tribe. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the LEKT staff and HMCR Steering Committee. The jurisdictional annex and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked by LEKT HMCR Steering Committee members.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with the LEKT's vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)
- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)

- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the jurisdictional annex and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:

Probability = (Probability Score x Importance)

Impact = (Affected Area + Primary Impact + Secondary Impacts), where:

Affected Area = Affected Area Score x Importance

Primary Impact = Primary Impact Score x Importance

Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration

Total Score	Range	Distribution	Hazard Level
0.0	20.0	1	Low
20.1	42.0	8	Medium
42.1	64.0	2	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Severe Weather - Winter Storm	4	4	2	2	44.80	High
Severe Weather - Windstorm	4	4	2	2	44.80	High
Human Caused - Utility Failure	3	4	2	2	33.60	Medium
Disease/Pandemic	2	4	3	3	27.20	Medium
Human Caused - Supply Chain Interruption	2	4	2	2	22.40	Medium
Wildfire	2	2	2	2	16.00	Medium
Seismic - Earthquake 7.0 Design Level	1	4	3	3	13.60	Medium
Seismic - Cascadia Earthquake	1	4	3	3	13.60	Medium
Tsunami	1	3	3	4	13.00	Medium
Landslide	2	1	2	2	12.80	Medium
Flood	1	1	1	1	4.00	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, the jurisdictional annex and HMCR Steering Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

Vulnerability to the following hazards is discussed in Section 3.3 below:

- Disease/Pandemic
- Flood
- Human-Caused Hazards (Utility Failure/Power Outage, Supply Chain Interruption)
- Landslide
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorms, Winter Storms)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Assessing vulnerability for the Lower Elwha Klallam Tribe is unique due to the mix of land and assets in reservation, trust, and fee status within Clallam County. Tribes are not required to plan under the Washington State's Growth Management Act, and reservation lands are not subject to the jurisdiction of Clallam County or the state. Other assets in trust and fee status (also known as Off-Reservation Trust Land) are located within unincorporated Clallam County, including residential, commercial, and institutional assets. The Lower Elwha Klallam Tribe critical facilities and vulnerability for all mapped hazards is included in Appendix D-2, *Vulnerability Summary*.

Approximately 671 individuals live in the Lower Elwha Reservation and Off-Reservation Land Trust. It is noted that members of the Lower Elwha Tribe may live in other parts of the County, state or country. In addition, there is a percentage of non-tribal members who reside on both the Lower Elwha Reservation and Off-Reservation Land Trust. Significant components of the Lower Elwha Reservation and Off-Reservation Land Trust are mapped within known hazard zones as profiled in this annex, including: flood, landslide, tsunami and wildfire. Therefore, the entire population of 671 individuals, and all residential/non-residential property is considered vulnerable. These vulnerability findings are also accounted for in the cumulative hazard summaries encompassed within this MJHMP. For non-mapped hazards identified within this annex, including disease/pandemic, human-caused hazards, seismic hazards, severe weather, and wildfire smoke – the entire Tribal population of 671 individuals is considered vulnerable.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines the methodology for identifying critical facilities within the planning area. The Lower Elwha Klallam Tribe identified relevant critical facilities for the jurisdiction. As the LEKT is a jurisdiction within larger Clallam County and other participating jurisdictions, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D, *Vulnerability Summary*. Appendix D-2 includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

Native American tribes are considered communities by the National Flood Insurance Program (NFIP) and can join the program even if no flood hazard map exists that covers all tribal lands. The Lower Elwha Tribe maintains an active NFIP policy covering assets located on tribal lands.

Additionally, assets outside of Tribal lands may be covered under the NFIP policies of Clallam County or other participating jurisdictions (City of Port Angeles). Tribal assets distributed across the County must maintain consistency with the NFIP policy of the local jurisdiction/County the asset is located within. All development, including substantial improvement, within designated special flood hazards must be in full compliance with local flood ordinances. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

Significant flood events are rare within the County, even during heavy precipitation years. There are no NFIP-identified severe repetitive loss properties that have been identified on Lower Elwha Klallam Tribal lands.

3.4 Land Use and Development Trends

The Lower Elwha Klallam Tribe is currently developing and 2024 – 2028 Comprehensive Economic Development Strategy to advance the Lower Elwha Klallam Tribe's and tribal members' economic development. At the time of this writing the Comprehensive Economic Development Strategy is in draft form for public review. The Comprehensive Economic Development Strategy identifies several key infrastructure projects to support the Tribe's economic growth and community expansion. These initiatives lay the foundation for future development and the community's needs.[50]

The Tribe is in Phase 1 of developing a Health and Wellness Campus on reservation property along Highway 101, west of Port Angeles. Additionally, the Health and Wellness Wastewater Infrastructure Project is in the engineering phase, focusing on establishing the necessary infrastructure to support the future Health and Wellness Campus. This campus is progressing through its design and architectural phase, with plans to create a comprehensive facility that will serve our community's health and wellness needs. Additionally, the Lower Elwha Valley Water System Project is underway, with technical assistance to ensure proper planning for expanding water storage capacity. This project is vital for supporting the development of additional housing and facilities, ensuring our community can grow sustainably. These infrastructure projects are essential to building a solid foundation for the Tribe's future prosperity.[51]

[50] Lower Elwha Klallam Tribe, *Draft Comprehensive Economic Development Strategy 2024-2028*, https://www.elwha.org/wp-content/uploads/2024/09/CEDS_Public_Comment_Draft.pdf, accessed October 10, 2024.
[51] Lower Elwha Klallam Tribe, *Draft Comprehensive Economic Development Strategy 2024-2028*, https://www.elwha.org/wp-content/uploads/2024/09/CEDS_Public_Comment_Draft.pdf, accessed October 10, 2024.

Continued development inside and outside the Tribe planning area in anticipation of population growth, indicates that vulnerability for each hazard will likely increase as shown in Table 3-4 below.

Table 3-4
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Disease/Pandemic	+
Flood	+
Human Caused - Supply Chain Interruption	+
Human Caused - Utility Failure	+
Landslide	+
Seismic - Cascadia Earthquake	+
Seismic - Earthquake 7.0 Design Level	+
Severe Weather - Windstorm	+
Severe Weather - Winter Storm	+
Tsunami	+
Wildfire	+

Key:
+ Increased vulnerability
- Decreased vulnerability
= Unchanged vulnerability

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including Tribal lands. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*.

The Lower Elwha Klallam Tribe lands are located in Census Tracts 6, 15, and 24, which are identified as medium-high and high social vulnerability by the Center for Disease Control and Prevention (CDC) and Washington State Department of Health. These census tracts contain significant amounts of land outside of the Lower Elwha Klallam Tribe and Social Vulnerability Index (SVI) scores represent the conditions both within and outside of Tribal lands. These census tracts generally included concentrations for the following indicators of social vulnerability:

- Persons with income below 150 percent of the poverty rate
- Persons aged 65 and older
- Civilian noninstitutionalized population with a disability
- Persons reporting minority status
- Persons living in mobile homes

However, SVPs are understood to exist throughout the entire county planning area despite the CDC SVI. The SVP analysis identified the populations of the Lower Elwha Klallam Tribe as a formally established SVP.

It is acknowledged that regardless of specific location within the planning area, members of the Lower Elwha Klallam Tribe (particularly Tribal Elders) are more likely to experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8. Economic and health disparities can also contribute to enhanced social vulnerability, and this community requires additional support during natural disasters.

Considerations for SVPs have been incorporated into the Lower Elwha Klallam Tribe mitigation strategy in Section 5.0 below. Refer to Table 5-1, *Lower Elwha Klallam Tribe Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify existing personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the Lower Elwha Klallam Tribe. The LEKT reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the Lower Elwha Klallam Tribe.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**Lower Elwha Klallam Comprehensive Emergency Operations Plan**	Contains information that may be used to protect people and property on or near the Lower Elwha Klallam Reservation.	▪ Hiring of a Director of Emergency Management ▪ Incorporation of emergency planning into tribal operations	All
	Comprehensive Economic Development Strategy	Provides framework of current conditions in contrast to the regional economic conditions, analyze areas of strength, weakness, opportunity, or threat, gather community feedback, and examine what makes us resilient as a Tribal community.	▪ Development of 2024-2028 plan	All
	Comprehensive Flood Hazard Management Plan	Examines flood related hazards that exist on the lower Elwha River near its confluence with the Strait of Juan de Fuca.	▪	Flooding

Table 4-1 (continued)
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**Special Flood Hazard Ordinance**	A Tribal regulatory tool to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas.	▪ Signed into agreement	Flooding
Policies	**Northwest Tribal Emergency Management Council**	Support tribal participation on homeland security and emergency management preparedness efforts.	▪ Joined the consortium	All
Programs	**Northwest Tribal Emergency Management Council**	Support tribal participation on homeland security and emergency management preparedness efforts.	▪ Joined the consortium	
	Elwha River Restoration	Rehabilitation of formerly dammed floodplain.	▪ Removal of the Lower Elwha dams	
	National Incident Management System (NIMS) Compliance Training	Training of all tribal police officers, department heads, Board members, and relevant staff in NIMS	▪ Ongoing	

4.2 Administrative and Technical Capabilities

Table 4-2 describes the LEKT's administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Chief Executive Officer	Business Committee	Ensures the mitigation program is incorporated into the Tribe's daily business
Director of Emergency Management	Police Department	Oversee mitigation program and encourage integration of mitigation planning into all tribal activities
Natural Resources Director	Natural Resources Department	Manage natural resources within the Tribe's properties
Geographic Information System (GIS) Mapping Program Manager	Natural Resources Department	Integrate hazard data into mapping capabilities of the Tribe

4.3 Financial Capabilities

The LEKT maintains many fiscal and financial resources to support its mitigation program. Table 4-3 identifies specific resources accessible for use.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?
Community Development Block Grants	Yes
Capital Improvement Project Funding	Yes
Insurance	Yes
Incur debt	Yes
State-sponsored grant programs	Yes

As a federally recognized tribe, the Lower Elwha Klallam Tribe can access funding directly through the federal government. In addition, funding is also available from the State of Washington and potentially through Clallam County. Funding that is annually negotiated and acquired through self-governance is used to support Tribal programs and activities. In addition to the financial resources above, the financial resources identified in MJHMP Volume 1, Section 5.3 would potentially be available to the Lower Elwha Klallam Tribe and all participating jurisdictions.

4.4 Education and Outreach Capabilities

Table 4-4 describes the Tribe's education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the Lower Elwha Klallam Tribe.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
Elwha Library	The Lower Elwha Klallam Tribal Library is dedicated to serving the information needs of the Lower Elwha Klallam Tribe and its members. The library serves as a location for information sharing and community capacity building, where details about hazard mitigation/emergency preparedness can be distributed.
Social Services Programs	The Lower Elwha Social Services Department strives to offer quality services to empower families and individuals to obtain self-sufficiency through coordinated services. Services are offered through the support of active participants, community support, tribal programs, as well as outside services providers.

4.5 National Flood Insurance Program Participation

As noted in Section 3.3.3, *Repetitive Loss Properties* above, the Lower Elwha Klallam Tribe participates in the NFIP and maintains an active NFIP policy covering assets located on tribal lands. All development, including substantial improvement, within designated special flood hazard areas must comply fully with local flood ordinances. Additionally, Tribal assets dispersed across the county must adhere to the NFIP policies of the local jurisdiction or county where the asset is situated. In addition to the Lower Elwha Klallam Tribe, Clallam County, Forks, Port Angeles, and Sequim maintain active NFIP policies.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. Lower Elwha Klallam Tribe HMCR Steering Committee members identified four mitigation actions that have been completed (Mitigation Action LEK04, LEK06, LEK07, and LEK14). These updates are reflected in the MJHMP Volume 1, Section 5.1.4, *Status of Previous Plan Actions*.

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, the Tribe has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding existing capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
Lower Elwha Klallam Tribe Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	LEK08
Expanding Administrative and Technical Capabilities	LEK09
Expanding Financial Capabilities	
Expanding Education and Awareness	LEK05
Infrastructure/Capital Project	LEK01, LEK02,
Natural System Protection/Nature Based Solutions	
Socially Vulnerable Populations	

All mitigation actions identified in the plan are addressed in the mitigation implementation plan, provided in Section 5.2 below. The actions include short-, medium- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into existing planning mechanisms and how the mitigation actions will be

prioritized, implemented, and administered by the Tribe. The implementation plan includes both short-term strategies that focus on planning and assessment activities, and long-term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. The Lower Elwha Klallam Tribe reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. The Tribe and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, *Lower Elwha Klallam Tribe Mitigation Actions*, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for the Tribe were ultimately included in the MJHMP and Table 5-2, *Lower Elwha Klallam Tribe Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.1.4, *Status of Previous Plan Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and the Lower Elwha Klallam Tribe regarding mitigation actions.

Table 5-2
Lower Elwha Klallam Tribe Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
LEK01	Move the tribal center from the tsunami inundation zone where it is currently located.	2019 Mitigation Action	**Internal:** Lower Elwha Police Department, Emergency Management Division	Medium-term	Tsunami	FEMA Hazard Mitigation Assistance (HMA) program
LEK02	Widen and strengthen Lower Elwha Road from Stratton Road to Kacee Way.	2019 Mitigation Action	**Internal:** Lower Elwha Police Department, Emergency Management Division	Medium-term	Earthquake, Flood, Landslide, Severe Weather, Winter Storm, Tsunami, Wildfire	FEMA Building Resilient Infrastructure and Communities (BRIC)
LEK03	Evaluate options to make new hotel in Port Angeles tsunami resistant.	2019 Mitigation Action	**Internal:** Lower Elwha Police Department, Emergency Management Division	Short-term	Earthquake, Flood, Tsunami	FEMA Hazard Mitigation Assistance (HMA) program
LEK04	Create new, and expand existing Evacuation Routes, including better signage	2019 Mitigation Action	**Internal:** Lower Elwha Klallam Emergency Management	Short-term	Tsunami, Earthquake	Tribal Operating Budget
LEK05	Develop and/or improve Emergency Plans such as Evacuation Plans, Tribal Records Protection Plan, Continuity of Operations Plan etc.	2019 Mitigation Action	**Internal:** Tribal Council, Lower Elwha Klallam Emergency Management	Medium-term	All hazards (Human-caused Hazards, Disease/Pandemic, Climate Change), Utility Failure, Supply Chain Interruption	Emergency Management Performance Grants, Dept of Health Grants, Regional Homeland Security funds and other sources
LEK06	Partner with local jurisdictions and agencies in developing and implementing mitigation and emergency response strategies and actions	2019 Mitigation Action	**Internal:** Lower Elwha Klallam Emergency Management	Medium-term	All hazards	Tribal Operating Budget
LEK07	Develop a system to protect and maintain historical and archival Tribal records	2019 Mitigation Action	**Internal:** Tribal Council	Short-term	All hazards	Tribal Operating Budget
Adopt the 2024 MJHMP	Adopt the MJHMP after approval.	New Mitigation Action	All Participating Jurisdictions	Short-term	All hazards	N/A

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for the Lower Elwha Klallam Tribe. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Lower Elwha Klallam will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how the Lower Elwha Klallam Tribe intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including the Lower Elwha Klallam Tribe. Specific information related to Elwha is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team (comprised of representatives from the Sheriff's Office and Community Development Department), the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Lower Elwha Klallam are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Tribe Director of Emergency Management is responsible for coordinating annual review of the Lower Elwha Klallam Tribe annex and making appropriate revisions. On an annual basis, the HMCR Steering Committee will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The HMCR Steering Committee will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;
- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The HMCR Steering Committee will request input from other tribal departments and outside entities on issues listed above. A special effort will be made to gather information on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from the Lower Elwha Klallam Tribe are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Lower Elwha Klallam Tribe HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The Lower Elwha Klallam Tribe Tribal Council is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation Programs and Planning Mechanisms

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into existing Tribe plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the Lower Elwha Klallam Tribe. Together, the mitigation actions in the MJHMP provide the framework for activities that the Tribe may choose to implement over the next five years. Elwha HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

The Tribe will comply with all applicable Federal statutes and regulations in effect with respect to the periods which it receives grant funding, including 2 CFR Parts 200 and 3002, and will amend its plan whenever necessary to reflect changes in Tribal or Federal laws and statutes.

Participating Elwha HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, the Lower Elwha Klallam Tribe agree to

reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

The Tribe is dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

References

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Special Districts

Section 1.0: Introduction

1.1 Clallam County Special Hazard Jurisdictions

For the purposes of the Clallam County Multi-Jurisdictional Hazard Mitigation Plan (the "MJHMP" or "Plan"), Special Hazard Jurisdictions are defined as governmental or quasi-governmental entities that participated in the hazard mitigation planning process. Participating Special Hazards Jurisdictions include Clallam County Public Utilities District (PUD) No. 1, Peninsula College, and the Port of Port Angeles. Each of these jurisdictions contribute greatly to the County and local jurisdictions and in turn rely on County or local emergency services and utilities. Each of these jurisdictions participated in the 2019 MJHMP and this updated Clallam County Multi-Jurisdictional Hazard Mitigation Plan.

Throughout the hazard mitigation planning process, the following representatives from the Special Hazard Districts served as the point of contact and participated as part of the Hazard Mitigation and Climate Resilience (HMCR) Steering Committee and were present at one or more HMCR Steering Committee meetings:

Clallam County Public Utilities District (PUD) No. 1

- Shailesh Shere, General Superintendent (point of contact)
- Mike Hill, Engineering Manager

Peninsula College

- Marty Martinez, Director of Emergency Management (point of contact)

Port of Port Angeles

- Jesse Waknitz, Environmental Manager (point of contact)

Representatives from the Clallam County PUD, Peninsula College, and the Port of Port Angeles coordinated with the MJHMP Project Management Team and Consultant Team to develop updated content for this jurisdictional annex. This was accomplished through meetings and via email; data requests and instructional worksheets were provided for review, update and discussion.

The HMCR Steering Committee included representatives from external stakeholders (nonprofits, NGOs, organizations serving socially vulnerable populations) and neighboring jurisdictions, who participated on behalf of all jurisdictional annexes including Clallam County PUD, Peninsula College, and the Port of Port Angeles.

Refer to Volume 1, Section 2.0 of the MJHMP for additional details on the planning process, including HMCR Steering Committee participation and coordination with each participating jurisdiction. Coordination between representatives of the Annexes and the

MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

1.1.4 Public Outreach

All jurisdictions, including Special Hazard Jurisdictions, collaborated to facilitate one MJHMP public outreach process to develop their individual annex. Each jurisdiction had the opportunity to provide feedback on the public outreach approach, including methods and mechanisms to be utilized as part of this process. Each jurisdiction also had the opportunity to review and provide feedback on community outreach deliverables before distribution to the public.

The Special Hazard Jurisdictions were also responsible for distributing components of the public outreach campaign, including the community survey link and invitation for the HMCR Workshop. This distribution was to ensure members of the public within each jurisdiction had the opportunity to participate in the hazard mitigation planning process.

An in-person HMCR Workshop was hosted at the Jamestown S'Klallam Tribal Center Red Cedar Hall on August 7, 2024, from 1:30 – 3:30 pm. Representatives from Special Hazard Jurisdictions attended the workshop including HMCR Steering Committee members Shailesh Shere (General Superintendent, Clallam County PUD), Mike Hill (Engineering Manager, Clallam County PUD), and Jesse Waknitz (Environmental Manager, Port of Port Angeles). This workshop was open to members of the public, including those served by Clallam County PUD, Peninsula College, and Port of Port Angeles. Refer to Volume 1, Section 2.1.7 of the MJHMP for additional details on the public outreach opportunities.

1.2 What's New in the 2024 Update?

Representatives of the Special Hazard Jurisdictions helped guide various updates that are incorporated into this MJHMP. The HMCR Steering Committee reviewed the previous 2019 MJHMP mitigation goals, identified hazards, vulnerability assessment methodology, and mitigation strategy and discussed and implemented updates accordingly. A summary of plan changes implemented by the HMCR Steering Committee is included in Volume 1, Section 1.6 of this MJHMP.

Representatives from the Special Hazard Jurisdictions coordinated directly with the MJHMP Project Management Team and Consultant Team to update this jurisdictional annex. The following updates were incorporated into the MJHMP and the Special Hazard Jurisdictions annex:

- Participating jurisdictions reviewed and updated the list of identified hazards with the potential to impact the people, economy, and built and natural environments of their respective jurisdiction. Updated list of hazards and hazard rankings are included in Section 3.0, *Risk and Vulnerability Assessment* below.

- Critical facilities were reviewed and updated by the City and were incorporated into the vulnerability and risk assessment of the MJHMP. Critical facilities essential to the participating jurisdictions are identified in in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*
- Updated information on past and future development and growth was provided and incorporated into the jurisdiction-specific vulnerability assessments of this annex. Changes in vulnerability due to updated development and growth are included in Section 3.4, *Land Use and Development Trends* below.
- Jurisdiction-specific capabilities were reviewed and updated including planning, administrative, financial and educational resources that are available to guide and implement hazard mitigation. Updated capabilities are included in Section 4.0, *Capabilities Assessment* below.
- Previous mitigation actions were reviewed, updated, and new mitigation actions were developed based on the MJHMP vulnerability assessment to reflect an updated mitigation strategy and comprehensive list of mitigation actions. Mitigation actions for each participating jurisdiction are included in Section 5.0, *Mitigation Strategy* below.

Coordination between representatives of the Special Hazard Jurisdictions and the MJHMP Project Management and Consultant Teams is documented in Volume 1, Appendix F, *Annex Coordination*.

Section 2.0: District Profiles

2.1 Clallam County Public Utilities District No. 1

The Clallam County PUD No. 1 is located in Port Angeles, Sequim, and Forks. It is a nonprofit organization that provides electric, water, internet, and sewer services to the communities and citizens of Clallam County. The Clallam County PUD is based in Carlsborg and is directed by a three-member Board of Commissioners elected by the citizens of Clallam County.[52] The service area includes 2,000 square miles of electricity service, 44.5 square miles of water services, and 1,833 miles of electrical distribution lines. Clallam County PUD provides power services to 33,000 customers and water services to 4,800 customers as of 2024. The Clallam County service area is shown in Exhibit 2-1 and Exhibit 2-2 below.

[52] Clallam County PUD, *Commissioners*, https://clallampud.net/commissioners/#:~:text=Roles-,Clallam%20County%20Public%20Utility%20District%20%231%20is%20directed%20by%20a,delegate%20to%20various%20business%20organizations., accessed June 6, 2024.

2.2 Peninsula College

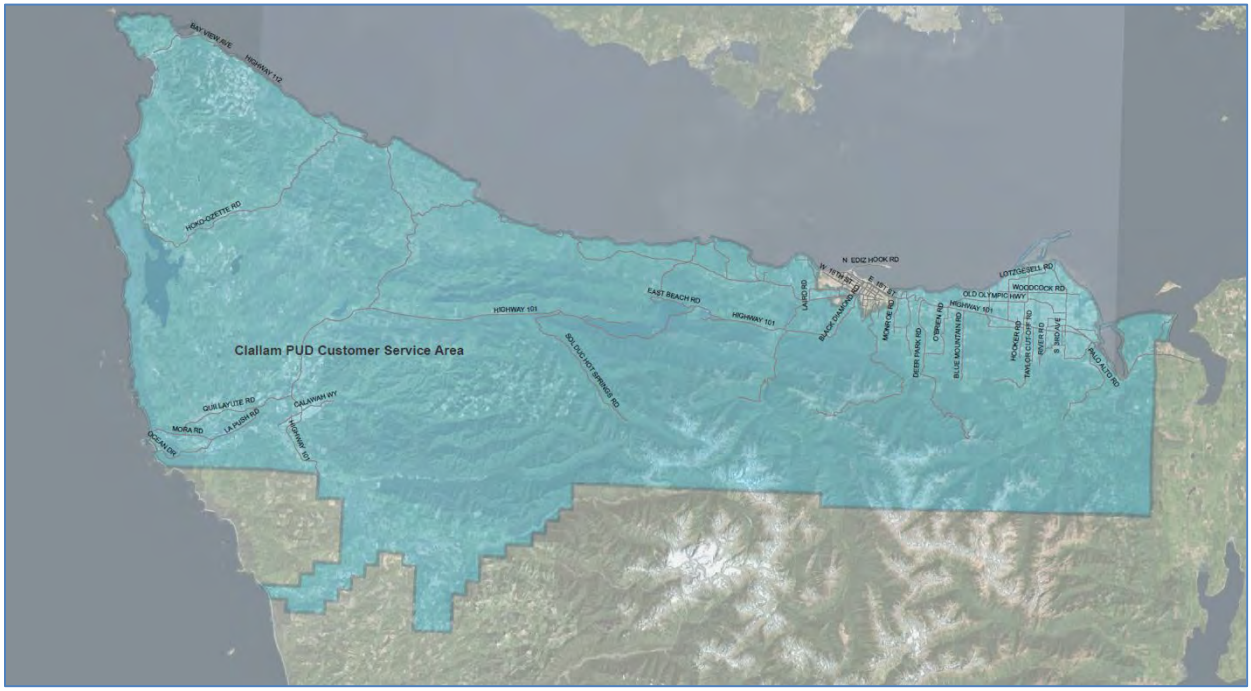
The only resident institution of higher education on the North Olympic Peninsula, Peninsula College is a comprehensive community college with a district that encompasses both Clallam and Jefferson Counties.[53] The main campus is located in Port Angeles on 75 acres of land at the foot of the Olympic Mountains, refer to Exhibit 2-3 below. Extension sites are located in Forks and Port Townsend.[54] Representatives of Peninsula College reported the 2024 current enrollment includes 4,071 students, 36 percent of which are full time, and 461 faculty/staff.

2.3 Port of Port Angeles

The Port of Port Angeles, the Olympic Peninsula's only deepwater port, provides support for Clallam County industry and employs 48 full-time equivalent (FTE) administrative and trades staff. The majority of Port facilities are located in the City of Port Angeles, refer to Exhibit 2-4 below. The Port owns and operates two marinas (Port Angeles Boat Haven and John Wayne Marina), four marine terminals, a marine trades area, a log yard, rental properties, an industrial park and two airports. The William R. Fairchild International Airport located in the City of Port Angeles and the Sekiu Airport in located in Sekiu/Clallam Bay

[53] Peninsula College, *Facts & Figures*, https://pencol.edu/about-pc/facts-figures#:~:text=Peninsula%20College%20is%20a%20public,Counties%20on%20the%20Olympic%20Peninsula., accessed June 6, 2024.
[54] Ibid

Exhibit 2-1
Clallam PUD Electrical Service Area



Source: Clallam County PUD, Service Area Map, https://clallampud.net/service-area-map/, accessed June 6, 2024.

Exhibit 2-2
Clallam PUD Water Service Areas

Source: Clallam County PUD, Water Service Areas, http://clallamcountypud.maps.arcgis.com/apps/webappviewer/index.html?id=d69a40e3bd9149c789213eb7690575fa, accessed June 6, 2024.

Exhibit 2-3
Location of Peninsula College relative to the City of Port Angeles

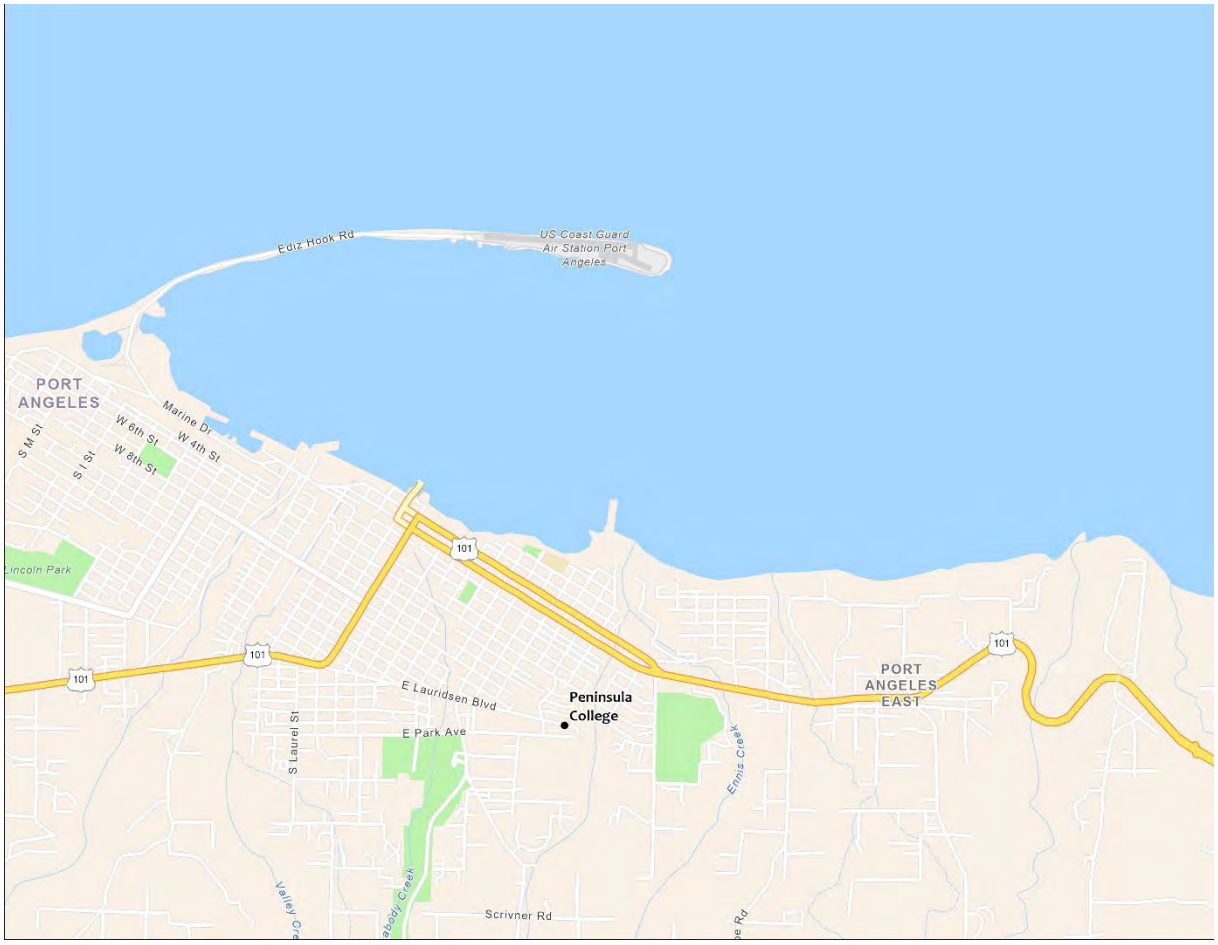
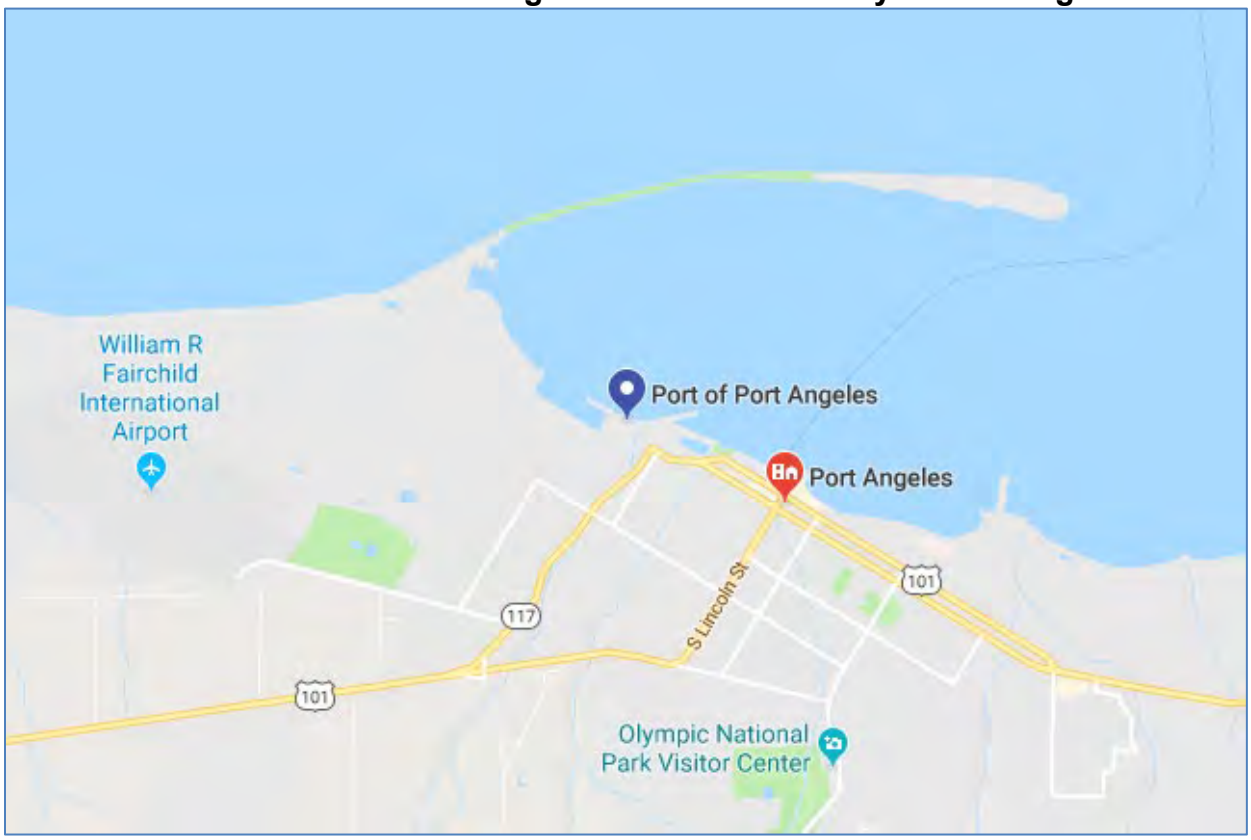


Exhibit 2-4
Location of Port of Port Angeles relative to the City of Port Angeles



Source: Google Maps, Port of Port Angeles, https://www.google.com/maps/search/portofportangeles, accessed June 6, 2024.

Section 3.0: Risk and Vulnerability Assessment

3.1 Jurisdiction-Specific Natural Hazard Event History

Clallam County has encountered several major disaster declarations that have affected the planning area and participating jurisdictions. Table 3-1 identifies the disaster declarations since 2018. Additional details are provided in Volume 1, Section 4.17.

Table 3-1
FEMA Disaster Declarations 2018 - 2024

DR #	HM Program Declared	Title	Incident Begin Date	Incident End Date
4775	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	1/5/2024	1/29/2024
4682	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	11/3/2022	11/8/2022
4650	Yes	Severe Winter Storms, Snowstorms, Straight-Line Winds, Flooding	12/26/2021	1/15/2022
4635	Yes	Flooding And Mudslides	11/13/2021	12/2/2021
4593	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides	12/29/2020	1/16/2021
4481	Yes	Covid-19 Pandemic	1/20/2020	5/11/2023
3427	Yes	Covid-19	1/20/2020	5/11/2023
4418	Yes	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, Mudslides, Tornado	12/10/2018	12/24/2018

Source: FEMA, *Washington Disaster History, Major Disaster Declarations*, https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties, accessed June 12, 2024.

3.2 Hazard Risk Ranking

The hazard profiles and vulnerability assessments contained in this chapter represent a considerable amount of work performed by the Special Hazard Jurisdiction's staff and HMCR Steering Committee. Participating jurisdictions and HMCR Steering Committee members ranked hazards using several key considerations, followed up by activities to validate hazard analysis results and identify specific areas of risk. Table 3-3 below displays the hazards that were identified and ranked by Clallam County PUD, Peninsula College, Port of Port Angeles and HMCR Steering Committee members. Each participating jurisdiction identified the hazards that apply to their specific jurisdictions.

Hazards were ranked using a Microsoft Excel-based tool by assigning each hazard a ranking based on probability of occurrence and potential impact. These rankings were assigned based on a group discussion, knowledge of past occurrences, and familiarity with the jurisdictions' vulnerabilities. Four criteria were used to establish priority:

- Probability (likelihood of occurrence)

- Location (size of potentially affected area)
- Maximum Probable Extent (intensity of damage)
- Secondary impacts (severity of impacts to community)

A value from one to four was assigned for each criterion, where one is the lowest and four is the highest. To enhance collaboration and discussion regarding hazard rankings, the HMCR Steering Committee members for each annex were given a worksheet to individually report thoughts on probability, location, maximum probable extent, and secondary impacts. Rankings were assigned individually based on knowledge of past occurrences and familiarity with each annexes' vulnerabilities. Results were averaged to provide a group score per hazard, utilizing the weighted value (recommended by FEMA and confirmed by the jurisdictional annex and HMCR Steering Committee) based on the importance of the criterion; refer to Table 3-2, *Hazard Ranking Methodology*.

The hazard rankings were multiplied by weighted factors to obtain a score for each criterion. The final scores were used to determine the prioritization of each hazard based on the following FEMA recommended scale:

- Low Threat: 0 to 12;
- Medium Threat: 12.1 to 42; and
- High Threat: 42.1 to 64.

The results from each annex hazard prioritization worksheet were compiled and presented to the HMCR Steering Committee for further evaluation and discussion. Table 3-3, *Hazard Rankings*, identifies the final scores and the hazard planning consideration (threat level) for each hazard based on discussions with the HMCR Steering Committee and the prioritization process described above.

Table 3-2
Hazard Ranking Methodology

Probability	Importance	2.0
Based on estimated likelihood of occurrence from historical data		
Probability		*Score*
Unlikely (less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years)		1
Somewhat Likely (between 1% and 10% probability in next year or has a recurrence interval of 11 to 100 years)		2
Likely (between 10% and 100% probability in next year or has a recurrence interval of 10 years or less)		3
Highly Likely (near 100% probability in next year or happens every year)		4

Affected Area	Importance	0.8
Based on size of geographical area of community affected by hazard		
Affected Area		*Score*
Isolated		1
Small		2
Medium		3
Large		4

Primary Impact	Importance	0.7
Based on percentage of damage to typical facility in community		
Impact		*Score*
Negligible – less than 10% damage		1
Limited – between 10% and 25% damage		2
Critical – between 25% and 50% damage		3
Catastrophic – more than 50% damage		4

Secondary Impacts	Importance	0.5
Based on estimated secondary impacts to community at large		
Impact		*Score*
Negligible – no loss of function, downtime, and/or evacuations		1
Limited – minimal loss of function, downtime, and/or evacuations		2
Moderate – some loss of function, downtime, and/or evacuations		3
High – major loss of function, downtime, and/or evacuations		4

Total Score = Probability x Impact, where:
Probability = (Probability Score x Importance)
Impact = (Affected Area + Primary Impact + Secondary Impacts), where:
Affected Area = Affected Area Score x Importance
Primary Impact = Primary Impact Score x Importance
Secondary Impacts = Secondary Impacts Score x Importance

Hazard Planning Consideration			
Total Score	Range	Distribution	Hazard Level
0.0	20.0	12	Low
20.1	42.0	33	Medium
42.1	64.0	0	High

The probability of each hazard is determined by assigning a level, from unlikely to highly likely, based on the likelihood of occurrence from historical data. The total impact value includes the affected area, primary impact, and secondary impact levels of each hazard. Each level's score is reflected in the matrix. The total score for each hazard is the probability score multiplied by its importance factor times the sum of the impact level scores multiplied by their importance factors. Based on this total score, the hazards are separated into three categories based on the hazard level they pose to the communities: High, Medium, and Low.

Table 3-3
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Clallam County PUD No. 1						
Severe Weather - Winter Storm	4.00	2.00	2.00	2.00	32.00	Medium
Severe Weather - Windstorm	4.00	2.00	2.00	2.00	32.00	Medium
Disease (Infectious/Vector) and Pandemic	2.00	4.00	1.00	4.00	23.60	Medium
Human-Caused - Utility Failure/Power Outage	2.00	3.00	2.00	3.00	21.20	Medium
Wildfire	2.00	2.00	2.00	3.00	18.00	Medium
Seismic - Cascadia Earthquake	1.00	4.00	4.00	4.00	16.00	Medium
Tsunami	1.00	4.00	4.00	4.00	16.00	Medium
Dam/Reservoir Failure	1.00	4.00	4.00	4.00	16.00	Medium
Landslide	2.00	1.00	3.00	2.00	15.60	Medium
Sea-level Rise	1.00	4.00	3.00	4.00	14.60	Medium
Human-Caused - Active Shooter/Terrorism	1.00	4.00	3.00	4.00	14.60	Medium
Seismic - Earthquake 7.0 Design Level	1.00	3.00	3.00	4.00	13.00	Medium
Drought	1.00	4.00	3.00	1.00	11.60	Low
Human-Caused - Supply Chain Interruption	1.00	4.00	2.00	1.00	10.20	Low
Flood	1.00	2.00	2.00	4.00	10.00	Low
Human-Caused - Hazardous Materials	2.00	1.00	1.00	2.00	10.00	Low
Peninsula College						
Seismic - Earthquake 7.0 Design Level	3.00	2.00	3.00	2.00	28.20	Medium
Seismic - Cascadia Earthquake	3.00	2.00	3.00	2.00	28.20	Medium
Severe Weather - Winter Storm	3.00	2.00	3.00	2.00	28.20	Medium
Severe Weather - Windstorm	3.00	2.00	3.00	2.00	28.20	Medium
Flood	2.00	2.00	2.00	2.00	16.00	Medium
Wildfire	2.00	2.00	2.00	1.00	14.00	Medium
Human-Caused - Hazardous Materials	2.00	2.00	2.00	1.00	14.00	Medium
Human-Caused - Cyber-terrorism	1.00	3.00	4.00	3.00	13.40	Medium

Table 3-3 (continued)
Hazard Rankings

Hazard Type[1]	Probability	Impact			Total Score[2]	Hazard Planning Consideration[3]
		Affected Area	Primary Impact	Secondary Impact		
Peninsula College (continued)						
Human-Caused - Utility Failure/Power Outage	2.00	2.00	1.00	1.00	11.20	Low
Human-Caused - Active Shooter	1.00	2.00	3.00	1.00	8.40	Low
Tsunami	1.00	1.00	1.00	1.00	4.00	Low
Port of Port Angeles						
Wildfire (Wildfire Smoke)	3.00	4.00	2.00	2.00	33.60	Medium
Disease (Infectious/Vector) and Pandemic	2.00	4.00	2.00	3.00	24.40	Medium
Severe Weather - Windstorm	3.00	2.00	2.00	2.00	24.00	Medium
Severe Weather - Winter Storm	3.00	2.00	2.00	2.00	24.00	Medium
Severe Weather - Extreme Heat	3.00	2.00	2.00	2.00	24.00	Medium
Landslide	2.00	1.00	4.00	2.00	18.40	Medium
Seismic - Cascadia Earthquake	1.00	4.00	4.00	4.00	16.00	Medium
Seismic - Earthquake 7.0 Design Level	1.00	4.00	4.00	4.00	16.00	Medium
Flood	2.00	1.00	3.00	2.00	15.60	Medium
Drought	2.00	3.00	1.00	1.00	14.40	Medium
Tsunami	1.00	3.00	4.00	4.00	14.40	Medium
Sea Level Rise (Coastal/Bluff Erosion)	2.00	2.00	2.00	1.00	14.00	Medium
Human-Caused - Hazardous Materials	1.00	2.00	4.00	3.00	11.80	Low
Human-Caused - Maritime Disaster	1.00	2.00	4.00	3.00	11.80	Low
Human-Caused - Active Shooter/Terrorism	1.00	2.00	4.00	3.00	11.80	Low
Human-Caused - Utility Failure/Power Outage	1.00	2.00	4.00	3.00	11.80	Low
Human-Caused - Supply Chain Interruption	1.00	2.00	4.00	3.00	11.80	Low

1. The jurisdictional annexes and HMCR Steering Committee did not rank climate change, due to the interconnected nature with other identified hazards. Climate change is not jurisdiction specific and is discussed in MJHMP Volume 1.
2. Refer to Table 3-2 for the hazard ranking methodology. The total score is based on an equation that provides a weighted value to each category by importance.
3. The final scores were used to determine the prioritization of each hazard based on the FEMA recommended scale for low-, medium- and high-threat.

As part of the hazard identification and prioritization process, each jurisdictional annex and HMCR Steering Committee determined that some hazards could be combined for clarity purposes within a larger hazard category; this organizational approach is reflected in MJHMP Volume 1, Section 4.0.

Vulnerability to the following hazards is discussed in Section 3.3 below:

Clallam County PUD:

- Dam/Reservoir Failure
- Disease/Pandemic
- Drought
- Flood
- Human-Caused Hazards (Hazardous Materials, Active Shooter/Terrorism, Supply Chain Interruption, Utility Failure/Power Outage)
- Landslide
- Sea Level Rise
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorm, Winter Storms)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

Peninsula College:

- Disease/Pandemic
- Flood
- Human-Caused Hazards (Hazardous Materials, Active Shooter/Terrorism, Utility Failure/Power Outage)
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorm, Winter Storms)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

Peninsula College is not vulnerable to dam failure or sea level rise and has affirmatively omitted these hazards in the Special District Plan.

Port of Port Angeles:

- Disease/Pandemic
- Drought

- Flood
- Human-Caused Hazards (Hazardous Materials, Maritime Disaster, Active Shooter/Terrorism, Supply Chain Interruption, Utility Failure/Power Outage)
- Landslide
- Sea Level Rise
- Seismic Hazards (Cascadia Subduction Zone Earthquake, Earthquake 7.0 Design Level)
- Severe Weather (Windstorm, Winter Storms, Extreme Heat)
- Tsunami
- Wildfire (and wildfire smoke)
- Climate Change (integrated into each hazard)

The Port of Port Angeles is not vulnerable to dam failure and has affirmatively omitted this hazard in the Special District Plan.

3.3 Identified Jurisdictional Risk and Vulnerability Differences

3.3.1 Population and Development Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 4.0 provides a detailed hazard assessment for each identified hazard as part of this annex, including: hazard description, location/extent, previous occurrences, probability of future occurrences, intersection with climate change and socially vulnerable populations. This section is intended to highlight differences in vulnerability for both mapped and non-mapped hazards, below.

Assessing vulnerability for the Clallam County PUD, Peninsula College, and Port of Port Angeles is unique because the population of each special district overlaps with Clallam County and the three incorporated cities (City of Forks, Port Angeles, and Sequim). Clallam County PUD provides electricity service to the entirety of the County excluding City of Port Angeles and provides water service to six zones including the City of Port Angeles. Therefore, the population vulnerability findings match the overall findings of Clallam County as outlined in MJHMP Volume 1, Section 4.0.

Similarly, Peninsula College and the Port of Port Angeles are both located within the City of Port Angeles. From a vulnerability standpoint, both special districts serve the entire planning area. Students, faculty and staff at Peninsula College and Port of Port Angeles employees are highly likely to reside within Clallam County. In addition, the services offered by Peninsula College is a community resource and asset to Clallam County. The County population also benefits from supply chain connectivity and economic development from the Port.

Peninsula College is located outside of mapped hazard zones; including flood, landslide, tsunami, wildfire and liquefaction. The entire student, faculty, and staff population (4,532 individuals) would be considered vulnerable to: human-caused hazards, seismic hazards, severe weather, wildfire smoke and climate change.

Port of Port Angeles is located within mapped tsunami, sea level rise and liquefaction hazard zones; thus, all 48 FTE staff members are considered vulnerable during these types of disasters. The entire staff would be considered vulnerable to: disease/pandemic, drought, human-caused hazards, seismic hazards, severe weather, wildfire smoke and climate change. It is noted that standard operations during business hours may draw users, contractors, and other individuals to the Port in addition to the FTE staff members.

3.3.2 Critical Facilities Jurisdictional Risk and Vulnerability Differences

MJHMP Volume 1, Section 3.7 outlines the methodology for identifying critical facilities within the planning area. Each Special Hazard Jurisdiction identified relevant critical facilities for their jurisdiction. As Clallam County PUD, Peninsula College, and Port of Port Angeles are jurisdictions within larger Clallam County and other participating jurisdictions, there are many facilities critical to both the County and one or more jurisdictional annexes. Critical facility identification is documented in MJHMP Volume 1, Appendix D-2, *Vulnerability Summary*. Appendix D-2 includes all details for each critical facility, including the address/location, asset type, community lifeline type, and replacement value (if applicable) and provides a comprehensive assessment of critical facility vulnerability for all mapped hazards. For non-mapped hazards, all critical facilities are considered vulnerable.

3.3.3 Repetitive Loss Properties

Clallam County PUD, Peninsula College, and Port of Port Angeles are not considered communities under the National Flood Insurance Program (NFIP). These Special Hazard Districts do not participate in the NFIP; however, the assets of these jurisdictions are covered through the NFIP policies of participating cities (Port Angeles, Sequim, and Forks) and the Clallam County NFIP policy. Jurisdictional assets distributed across the County must maintain consistency with the NFIP policy of the local jurisdiction/County the asset is located within. All development, including substantial improvement, within designated special flood hazards must be in full compliance with local flood ordinances. These standards are applicable both at the time of initial improvement and would be applicable after any flood event that constitutes substantial improvement or substantial damage.

There are no NFIP-identified severe repetitive loss properties that have been identified on for Clallam County PUD, Peninsula College, or Port of Port Angeles assets.

3.4 Land Use and Development Trends

Clallam County PUD

Since the previously prepared 2019 MJHMP, the Clallam County PUD service area has remained the same size. However, the number of customers has grown significantly. As of 2024, Clallam County PUD provides power services to 33,000 customers, an increase of over 25 percent since 2019 (26,525 customer), and water services to 4,800 customers,

an increase of roughly 7 percent since 2019 (4,500 customers). Additionally, the number of total distribution lines have increased by about 1.5 percent in the same time period.

Clallam County PUD is planning for continued growth. The 2023 Electric System Planning study provides a summary of electric system characteristics and analysis with expected system improvements needed to ensure safe and reliable power for Clallam PUD customers for the present and the future. It is intended to serve as a guide for the design, construction, operation and management of electric system transmission, distribution and substation resources. Comprehensive planning studies are completed every three years evaluating the current system status and the anticipated status five years in the future. Detailed load analysis looks forward five years with respect to voltage control, capacity and equipment thermal limits. The system study also reviews scenarios for up to ten years regarding high-level Strategic Plan objectives associated with Substations, feeder ties, and aging infrastructure. An ongoing 2024 Water System Planning update will provide a comprehensive inventory of existing facilities for each system, establishing criteria for the water system analysis and analyzing the hydraulic capacity of each system. Clallam County PUD has a duty to provide service to new customers within the retail service area, which is used to develop water demand projections and analyze water system capacity for the six-year and 20-year planning horizons. Based on these analyses, Clallam County PUD does not anticipate significant development or expansion of electric utilities in the next five year; however, Carlsborg is projected to be the fastest growing water system in next five years. The County anticipates Clallam County PUD to be the water purveyor for the unincorporated Urban Growth Area of Port Angeles.

Peninsula College

Peninsula College accommodates students from areas throughout Clallam County and other participating jurisdictions including Urban Growth Areas throughout the planning area. Due to the anticipated growth in the area, Peninsula College anticipates an increase in students, faculty and staff in the next five years. It is estimated that enrollment will be approximately 5,000 students and 500 faculty/staff by 2030 – an increase of 23 percent and 8 percent respectively. There are no planned or anticipated changes in land use or significant development for Peninsula College over the next five years.

Port of Port Angeles

Since the 2019 MJHMP update, the Port of Port Angeles has maintained its current size and services to tenants and the community. However, over the next five years, the Port anticipates significant growth and development, including the development of the 18-acre Marine Trade Center, the redevelopment of the Port's log yard and associated barge berth and operations, and the expansion of light industrial development at airport property.

Past growth and development indicate that vulnerability has generally increased for these Special Hazard Jurisdictions since the previously prepared 2019 MJHMP. Expected population growth and development in the surrounding areas of these jurisdictions

indicates that vulnerability for each hazard will likely increase across the board for these jurisdictions. Table 3-4 below shows how vulnerability is expected to change for each hazard identified by participating jurisdictions.

Table 3-4
Vulnerability Changes due to Future Growth and Development

Hazard	Status
Dam/Reservoir Failure	+
Disease and Pandemic	+
Drought	+
Flood	+
Human-Caused - Active Shooter/Terrorism	+
Human-Caused - Hazardous Materials	+
Human-Caused - Maritime Disaster	+
Human-Caused - Supply Chain Interruption	+
Human-Caused - Utility Failure/Power Outage	+
Landslide	+
Sea Level Rise	+
Seismic - Cascadia Earthquake	+
Seismic - Earthquake 7.0 Design Level	+
Severe Weather - Extreme Heat	+
Severe Weather - Windstorm	+
Severe Weather - Winter Storm	+
Tsunami	+
Wildfire (Wildfire Smoke)	+
Key: + Increased vulnerability - Decreased vulnerability = Unchanged vulnerability	

3.5 Socially Vulnerable Populations

The HMCR Steering Committee identified socially vulnerable populations (SVPs) throughout Clallam County including the areas served by Special Hazard Jurisdictions. A detailed analysis of SVPs throughout the planning area is provided in Volume 1, Section 3.8, *Socially Vulnerable Populations and Determination*. It is acknowledged that regardless of specific location within the planning area, members of socially vulnerable populations such as persons with income below 150 percent of the poverty rate, persons aged 65 and older, civilian noninstitutionalized population with a disability, persons reporting minority status, and persons living in mobile homes are more likely to

experience social vulnerability due a variety of causes as outlined in Volume 1, Section 3.8.

Considerations for SVPs have been incorporated into the Special Hazard Jurisdictions' mitigation strategies in Section 5.0 below. Refer to Table 5-1, *Special Hazard Jurisdictions Mitigation Objectives*.

Section 4.0: Capability Assessment

This capabilities assessment is designed to identify existing personnel, planning tools, policy and programs, technology, and funds that have the capability to support hazard mitigation activities and strategies of the participating Special Hazard Jurisdictions. Clallam County PUD, Peninsula College and the Port of Port Angeles reviewed and updated their capabilities through direct coordination with the MJHMP Project Management and Consultant Team. Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. Resources are categorized by the types of mitigation capabilities: Planning and Regulatory Capabilities, Administrative and Technical Capabilities, Financial Capabilities, and Education and Outreach Capabilities.

4.1 Planning and Regulatory Capabilities

Table 4-1 describes the legal and regulatory capabilities, including plans, policies, and programs that have integrated hazard mitigation principles into their operations. The capabilities below have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of the Special Hazard Jurisdictions.

Table 4-1
Planning and Regulatory Resources Integrated with Hazard Mitigation

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**Clallam County PUD**			
	County Comprehensive Emergency Management Plan (CEMP) Update	Outlines roles and responsibilities of local government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	Clallam County Flood Management	PUD complies with Clallam County flood management practices, including County Code requirements outlined in Chapters 21 (Building and Construction) and 27 (Environment).	▪ N/A	Flooding
	Strategic Plan	Outlines actions to continue serving PUD customers.	▪ Updated vision statement to pledge reliability of services through climate change	All

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**State of Washington Enhanced Hazard Mitigation Plan**	Profiles hazards throughout the State, assesses risks, and outlines potential mitigation actions.	Collaborative effort between State and County.	All
	Capital Improvements Plan	Identifies capital improvement projects to be undertaken by the County over the next five-year period.	Inclusion of hazard mitigation and maintenance projects	All
	Peninsula College			
	County Comprehensive Emergency Management Plan (CEMP) Update	Outlines roles and responsibilities of local government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	Flood Management	Peninsula College complies with the City of Port Angeles' requirements for permitting and development in flood-prone areas to comply with NFIP requirements (see Municipal Code Section 15.20.060).	▪ N/A	Flooding
	Port of Port Angeles			
	County Comprehensive Emergency Management Plan (CEMP) Update	Outlines roles and responsibilities of local government in mitigating potential hazards.	▪ The CEMP was updated in 2022	All
	State of Washington Enhanced Hazard Mitigation Plan	Profiles hazards throughout the State, assesses risks, and outlines potential mitigation actions.	▪ Collaborative effort between State and County.	All
	Storm Water Management Planning	Port has maps of stormwater infrastructure along waterfront and airport property per Industrial Stormwater General Permit	▪ Update of stormwater management practices	Flooding
	Flood Management	The Port complies with the City of Port Angeles' requirements for permitting and development in flood-prone areas to comply with NFIP requirements (see Municipal Code Section 15.20.060).	▪ N/A	Flooding
	Continuity of Operations (COOP) Plan	Outlines the County's procedures for establishing continuity of critical services following a disruption.	▪ Update of plan currently in progress – aligns COOP procedures for all County partners	All

Capability Type	Capability	Capability Description and Mitigation Evaluation	Key Accomplishments Since 2019 MJHMP	Hazard Mitigated
Plans	**Emergency Response and Restoration Plan**	Outlines responsible preplanning, and the response and restoration of power, water, fiber, and sewer services	▪ N/A	All
	Capital Project Prioritization	Current plan detailing Port improvements is in place.	▪ Updated within the last 5 years, with capital projects focused on hazard mitigation	

4.2 Administrative and Technical Resources

Table 4-2 describes the Special Hazard Jurisdictions' administrative and technical capabilities to engage in and improve mitigation planning and program implementation.

Table 4-2
Administrative and Technical Resources Integrated with Hazard Mitigation

Resource	Department	Tasks and Activities Integrated into Mitigation Planning
Clallam County PUD		
Commissioners	Board of Commissioners	Publicly elected Board overseeing PUD activities, including hazard mitigation planning.
Safety Manager	Clallam County PUD	Liaison with the County to oversee hazard mitigation planning.
Peninsula College		
Emergency Manager	Finance & Administration	Emergency management and campus public safety.
Geology Instructor	Geosciences Department	Staff with education or expertise to assess vulnerability to hazards.
Port of Port Angeles		
Director of Engineering	Engineering Department	Engineer trained in construction practices related to Port buildings and/or infrastructure.
Grants & Contracts Manager	Engineering Department	Applies for grant funding and manages grants
Airport Manager	Operations	Oversees management of the airport and facilities.
Operations Supervisor	Operations	Oversees management and day-to-day operations.
Marine Terminal Manager	Operations	Oversees management of the Port's marine terminals
Director of Finance & Administration	Admin	Oversees finance department and manages insurance claims

4.3 Financial Resources

The Special Hazard Jurisdictions maintain fiscal and financial resources to support their mitigation programs. Table 4-3 identifies specific resources accessible for use. In addition to these financial resources, the financial resources identified in MJHMP Volume 1, Section 5.5 would potentially be available to all participating jurisdictions.

Table 4-3
Accessible Financial Resources

Financial Resource	Accessible?		
	Clallam County PUD	Peninsula College	Port of Port Angeles
Community Development Block Grants	Yes	No	Yes
Capital Improvement Project Funding	Yes	Yes	Yes
Insurance	Yes	Yes	Yes
User fees for utility services	Yes	-	Yes
Incur debt	Yes	Yes	-

4.4 Education and Outreach Capabilities

Table 4-4 describes the Special Hazard Jurisdictions' education and outreach capabilities that have been evaluated and identified as having the ability to support hazard mitigation activities and strategies of their jurisdictions.

Table 4-4
Education and Outreach Capabilities

Education/Outreach Resource	Capability Description and Mitigation Evaluation
Clallam County PUD	
Clallam County Fair	A booth at the County Fair provides an opportunity for a larger outreach.
Sequim Sunshine Festival	PUD's presence at the festival allows for targeted outreach to Sequim related matters
Home Show	PUD's presence at the show allows for targeted outreach to Port Angeles related matters
NPBA Builder's Expo	PUD's presence at the expo allows for targeted outreach to engage the builder/construction community
Sequim River Festival	PUD's presence at the festival allows for targeted outreach to Sequim related matters
Makah Day	PUD's presence at the festival allows for targeted outreach to Makah related matters
Quileute Day	PUD's presence at the festival allows for targeted outreach to Quileute related matters
Peninsula College	
SharePoint	Communication on this platform reaches employees

Drills	Quarterly drills: Active shooter, Earthquake, Fire, Cyber event
Port of Port Angeles	
N/A	N/A

4.5 National Flood Insurance Program Participation

As noted above, Clallam County PUD, Peninsula College, and Port of Port Angeles do not participate in the NFIP; however, the assets of these jurisdictions are covered through the NFIP policies of participating cities (Port Angeles, Sequim, and Forks) and the Clallam County NFIP policy. Jurisdictional assets distributed across the County must maintain consistency with the NFIP policy of the local jurisdiction/County the asset is located within.

Section 5.0: Mitigation Strategy

5.1 Review of 2019 Hazard Mitigation Actions

As part of the mitigation strategy update, all mitigation actions identified in the 2019 MJHMP were evaluated to determine the status of the action and whether any ongoing or incomplete actions should be included as actions in the 2024 MJHMP update. One mitigation action for the Special Hazard Jurisdictions (Mitigation Action PUD05) was removed because it was noted as not applicable and one mitigation action (PUD06) was completed and not carried over to the new list of mitigation actions. These updates are reflected in the MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

5.2 Identification and Analysis of New Mitigation Actions

In order to achieve the mitigation goals identified in the MJHMP, each participating jurisdiction has identified a comprehensive series of mitigation objectives and supporting actions that are focused on reducing vulnerability and maximizing loss reduction. Mitigation actions prioritize various goals such as expanding existing capabilities (planning and regulatory, administrative, financial, education and awareness), infrastructure/capital improvement projects, natural systems and nature-based solutions, and socially vulnerable populations considerations. Mitigation actions that accomplish these priorities are summarized in Table 5-1 below. Some mitigation actions may accomplish multiple objectives.

Table 5-1
Special Hazard Jurisdiction Mitigation Objectives

Mitigation Objective	Related Mitigation Actions
Expanding Planning and Regulatory Capabilities	PUD06, PUD07, PUD18, PUD22, PUD33, PC05, POPA06, POPA08, POPA09
Expanding Administrative and Technical Capabilities	PUD10, PUD16, PUD32, POPA07, POPA10, POPA13
Expanding Financial Capabilities	PUD27, PUD29, PUD33, PUD34, POPA09
Expanding Education and Awareness	PUD31, PUD32, POPA07, POPA13
Infrastructure/Capital Project	PUD01, PUD03, PUD08, PUD11, PUD12, PUD14, PUD21, PUD23, PUD25, PC01, PC02, PC03, PC04, POPA01, POPA05, POPA12
Natural System Protection/Nature-Based Solutions	PUD33, POPA11, POPA14
Socially Vulnerable Populations	PUD2, PUD27, PUD32

All mitigation actions identified in the plan are addressed in the mitigation implementation plan provided in Section 5.3 below. The actions include both interim- and long-term strategies for reducing vulnerability to hazard and are characterized as such in the 'timeline' column of the implementation plan.

5.3 2024-2029 Mitigation Implementation Plan

The mitigation implementation plan lays the groundwork for how the mitigation plan will be incorporated into existing planning mechanisms and how the mitigation actions will be prioritized, implemented, and administered by participating jurisdictions. The implementation plan includes both short-term strategies that focus on planning and assessment activities, and long-term strategies that will result in ongoing capability or structural projects to reduce vulnerability to hazards.

Ongoing, not completed, or partially completed mitigation actions from the previous MJHMP were retained in the 2024 MJHMP mitigation actions. Participating jurisdictions reviewed those previous mitigation actions and updated the timeframe for implementation, priority level, and funding sources as necessary. Clallam County PUD, Peninsula College, Port of Port Angeles and the HMCR Steering Committee worked together to identify additional mitigation actions and establish the responsible department, priority level and timeline.

Table 5-2, Special Hazard Jurisdictions Mitigation Actions, identifies the mitigation action, hazard(s) addressed, agency and/or department responsible for implementation, potential funding source(s), timeline for implementation, and priority. The timeline for implementation is defined as follows:

- Ongoing: currently in process; or 1-2 years and ongoing thereafter;
- Short-Term: 1 to 2 years;
- Medium-Term: 3 to 4 years; and
- Long-Term: 5+ years.

All mitigation actions considered for each Special Hazard Jurisdiction were ultimately included in the MJHMP and Table 5-2, *Special Hazard Jurisdictions Mitigation Actions*. There were no mitigation actions considered but ultimately excluded from the MJHMP other than previous mitigation actions that were completed or otherwise removed as noted in MJHMP Volume 1, Section 5.3, *Hazard Mitigation Actions*.

Appendix F, *Annex Coordination*, documents revisions, comments, and feedback, between the MJHMP Project Management Team, Consultant Team and representatives for Clallam County PUD, Peninsula College, Port of Port Angeles regarding mitigation actions.

Table 5-2
Special Hazard Jurisdictions Mitigation Actions

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
PUD01	Acquire properties in low hazard areas in order to locate new development or relocate existing vulnerable structures and critical facilities	2019 Mitigation Action	**Internal:** Clallam PUD	Long-term	Landslide	PUD operating budget
PUD02	Develop and/or improve Emergency Plans such as Evacuation Plans, Tribal Records Protection Plan, Continuity of Operations Plan etc.	2019 Mitigation Action	**Internal:** Clallam PUD	Medium-term	Severe Weather, Windstorms	PUD operating budget
PUD03	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Clallam PUD	Short-term	Wildfire	PUD operating budget
PUD04	Deploy generator backup for all critical facilities (Ex. Operational Facilities, Sources of Water Supply, Treatment Plants, Pump Stations, Electric Substations, etc.). Enhance fuel inventory.	New Mitigation Action	**Internal:** Clallam PUD	Medium-term	Multiple Hazards: Severe Weather- Winter Storm, Windstorm, Utility Failure/Power Failure	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD05	Maintain clearance around critical electrical infrastructure (substation, transmission, and distribution lines) and water storage facilities	New Mitigation Action	**Internal:** Clallam PUD	Short-term	Severe Weather - Windstorm	PUD operating budget
PUD06	Build and retain mask and other PPE inventory, create work from home protocols, crew rotation policy, testing and quarantine protocols. Address relevant issues in Collective Bargaining Agreement to ensure Continuity of Operations	New Mitigation Action	**Internal:** Clallam PUD	Medium-tern	Disease and Pandemic	PUD operating budget
PUD07	Upgrade critical facilities to handle increased storage, generators at water sources and pumpstation. Maintain defensible perimeters at critical facilities	New Mitigation Action	**Internal:** Clallam PUD	Medium-term	Multiple Hazards: Severe Weather- Winter Storm, Windstorm, Utility Failure/Power Failure, Wildfire	PUD operating budget
PUD08	Seismic Retrofitting of Existing Critical Electrical and Water Infrastructure (Ex. Electric Substation, Transmission, Distribution facilities; Water treatment, pumping, storage, transmission, distribution facilities; Operations facilities and Headquarters)	New Mitigation Action	**Internal:** Clallam PUD	Long-term	Seismic hazards	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD09	Periodically assess critical facilities location in relation to NOAA/USGS Tsunami Model. Evaluate options for mitigating risk (i.e. Relocation, Redundancy, etc)	New Mitigation Action	**Internal:** Clallam PUD	Long-term	Tsunami	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program, NOAA Coastal Resilience Grants
PUD10	Assess appropriate grid-scale "Behind the Meter" Generation technologies that are sufficient to provide continuous power to all critical services, government functions, healthcare facilities in Clallam County. Construct and commission grid scale generation (Scenario: BPA Dam failure, Wildfire Public Safety Power Shutoff by BPA, BPA Transmission Line failure)	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Long-term	Multiple Hazards: Dam/Reservoir Failure, Wildfire, Severe Weather, Power Outages	PUD operating budget, FEMA Building Resilient Infrastructure and Communities (BRIC)
PUD11	Study, identify and acquire properties required to serve portions of water service area and electric service area that may be relocated due to sea level rise and coastal erosion	New Mitigation Action	**Internal:** Clallam PUD	Long-term	Sea Level Rise	PUD operating budget
PUD12	Assess security measures and evacuation protocols in light of active shooter threat. Bolster physical security measures at office locations	New Mitigation Action	**Internal:** Clallam PUD	Short-term	Active Shooter/ Terrorism	PUD operating budget
PUD13	Assess and improve security measures at electric and water infrastructure	New Mitigation Action	**Internal:** Clallam PUD	Medium-term	Active Shooter/ Terrorism	PUD operating budget
PUD14	Prepare a water system plan to account for new groundwater sources and identify additional tie-ins with other potable water systems (such as the City of Port Angeles). Enhance access to groundwater sources of supply, aquifer recharge projects	New Mitigation Action	**Internal:** Clallam PUD/ Water	Short-term	Drought	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program, Washington Department of Ecology Drought Planning and Preparedness Grants
PUD15	Maintain minimum quantities of critical inventory. Increase inventory warehousing capacity at all water and electric operations facilities	New Mitigation Action	**Internal:** Clallam PUD	Medium-term	Supply Chain Interruption	PUD operating budget
PUD16	Check critical facilities' (Electric Substations, Transmission, Distribution facilities; Water source of supply, treatment plants, pump stations; Operations facilities and headquarters) locations in relation to FEMA flood maps, evaluate and implement options for mitigating risk (i.e. relocation, elevation, armoring, waterproofing, etc.)	New Mitigation Action	**Internal:** Clallam PUD	Short-term	Flood	PUD operating budget, FEMA Flood Mitigation Assistance (FMA) Program

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
PUD17	Evaluate long-term opportunities to move and upgrade substations (transformers and breakers) out of known hazard zones as load density increases due to population growth and increased energy needs.	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Long-term	All Hazards	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD18	Prepare a Wildland Fire Mitigation Plan and create/assemble/hire/contract a "Wildfire Mitigation Crew"	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	Wildfire	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD19	Identify and execute "Wildfire Targeted projects" (i.e Poles/crossarms upgraded from wood to fiberglass; overhead to underground conversion; evaluate and install wildfire resistant technology and other prevention systems, tree wires, etc)	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	Wildfire	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD20	Upgrades/Expansion/Relocations of facilities and other infrastructure to increase resiliency (including resilient construction methods) to better serve customers' energy needs, address inland population shift, minimize power outages, improve power outage restoration times and to facilitate staff support when responding to larger emergencies in conjunction with Clallam County EOC (rest facilities, food storage, etc. for crews responding to large scale outages).	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	Multiple Hazards: Wildfire, Seismic, Tsunami, Severe Weather	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program, Building Resilient Infrastructure and Communities (BRIC)
PUD21	Replacement of old, direct-buried conductor with a jacketed cable in schedule 40 or higher conduit	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Medium-term	Landslide	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program, Building Resilient Infrastructure and Communities (BRIC)
PUD22	Enhance HDD capabilities of Distribution and Transmission facilities	New Mitigation Action	**Internal:** Clallam PUD/ Water	Long-term	Landslide	PUD Operating Budget
PUD23	Create and promote accessible and affordable programs for vulnerable and low-income populations to enhance whole house heating and cooling capabilities. Seek funding mechanism to expand program to all eligible customers	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	All Hazards, Climate Change	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD24	Increase water storage capabilities to enhance fire protection and standby storage within water service areas to mitigate change in precipitation patterns.	New Mitigation Action	**Internal:** Clallam PUD/ Water	Long-term	Multiple Hazards: Drought, Flood	PUD operating budget
PUD25	Create and promote accessible and affordable programs to provide extended electric backup for medical devices for vulnerable and low-income populations with medical needs. Seek funding mechanism to expand program to additional customers.	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	All Hazards	PUD operating budget
PUD26	Evaluate and implement advanced modeling and adaptive protection technologies to predict and avoid outages, wildfire, and expedite restoration efforts (i.e. Advanced Metering Infrastructure, Outage Management Systems, etc.)	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	All Hazards	PUD operating budget
PUD27	Promote community awareness on Public Safety Power Shutoffs (PSPS).	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	Wildfire	PUD operating budget
PUD28	Participate in regular safety and public awareness campaigns regarding natural and human-caused hazards, and partner with local stakeholders to distribute awareness materials. Consider outreach that engages socially vulnerable populations, such as senior citizens and disabled persons.	New Mitigation Action	**Internal:** Clallam PUD	Short-term	All Hazards	PUD operating budget
PUD29	Establish a comprehensive vegetation management and fuel reduction program applicable to the entirety of the electric service area. Identify areas with high wildfire hazard risk as top priority for fuel clearance and reduction. Estimate fuel reduction pricing to apply for grant funding.	New Mitigation Action	**Internal:** Clallam PUD/ Electric	Short-term	Wildfire	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD30	Seek and apply for grant funding towards all identified mitigation actions	New Mitigation Action	**Internal:** Clallam PUD	Short-term	All Hazards	PUD operating budget
PUD31	Enhance resiliency of Hoko water facility to tsunami, flood and drought via relocation or other mitigation measure(s)	New Mitigation Action	**Internal:** Clallam PUD/Water	Medium-term	Tsunami, flood, drought	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD32	Identify possible interconnections with other potable water systems (such as the City of Port Angeles and City of Sequim) in order to aid water system resiliency on a regional basis.	New Mitigation Action	**Internal:** Clallam PUD/Water	Medium-term	Drought	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program
PUD33	Check critical facilities' (Electric Substations, Transmission, Distribution facilities; Water source of supply, treatment plants, pump stations; Operations facilities and headquarters) locations in relation to Geohazard maps, evaluate and implement options for mitigating risk (i.e relocation, site/structural/geotech improvements, etc)	New Mitigation Action	**Internal**: Clallam PUD	Medium-term	Landslide	PUD operating budget, FEMA Hazard Mitigation Assistance (HMA) program

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
PC01	Include Seismic design to reduce risk of earthquake damage when renovating or replacing Q Building, Main Campus	2019 Mitigation Action	**Internal:** Finance and Administration	Long-term	Earthquakes	Capital Funds, FEMA Hazard Mitigation Assistance (HMA) program
PC02	Incorporate hazard mitigation into Master Plan	2019 Mitigation Action	**Internal:** Finance and Administration	Medium-term	All hazards	Capital Funds, FEMA Hazard Mitigation Assistance (HMA) program
PC03	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Finance and Administration	Short-term	Wildfire	
PC04	Maintain a culture of preparedness by facilitating ongoing emergency response and security training, allowing staff to evolving human-caused threats and risks. Regularly review and update the Comprehensive Emergency Management Plan (CEMP) to ensure actions, roles and responsibilities remain relevant and current.	New Mitigation Action	**Internal:** Finance and Administration	Ongoing	Human-Caused Hazards (Hazardous Materials, Cyber-Terrorism, Utility Failure, Active Shooter)	
PC05	Continue to promote the PC Alert notification system as means to communicate campus safety, security and closures to students and staff.	New Mitigation Action	**Internal:** Finance and Administration	Ongoing	All hazards	
POPA01	Strengthen airport runway to facilitate landing of large emergency aircraft.	2019 Mitigation Action	**Internal:** Port of Port Angeles	Long-term	Earthquakes, Tsunami, Water Shortages, Windstorm	FEMA Hazard Mitigation Assistance (HMA) program, Operating Budget (Larger cost savings will be realized by completing this project in conjunction with the 2022 runway rehab project)
POPA02	Install protective safety glass in the windows of the airport terminal building complex to hold shattered glass in place in the event of a major windstorm or earthquake.	2019 Mitigation Action	**Internal:** Planning Department	Short-term	Earthquakes, Winter Storm, Tsunami, Windstorm	FEMA Hazard Mitigation Assistance (HMA) program, Operating Budget
POPA03	Purchase fuel tanks and build a fuel transfer station at the Port's newly constructed and located shop outside of the tsunami zone.	2019 Mitigation Action	**Internal:** Facilities Maintenance - Port of Port Angeles	Short-term	Utility Failure, Winter Storm, Tsunami	Operating Budget, Grant
POPA04	Build a portable emergency water supply.	2019 Mitigation Action	**Internal:** Facilities Maintenance - Port of Port Angeles	Short-term	All Hazards	Operating Budget
POPA05	Strengthen airport taxiway to increase weightbearing capacities for emergency aircraft.	2019 Mitigation Action	**Internal:** Port of Port Angeles	Short-term	Earthquakes, Tsunami, Water Shortages, Windstorm	FEMA Hazard Mitigation Assistance (HMA) program, Operating Budget (Larger cost savings will be realized by completing this project in conjunction with the 2022 runway rehab project)
POPA06	Participate in the County-wide Community Wildfire Protection Plan as a stakeholder. Utilize technical findings to understand areas of local vulnerability and relevant risk reduction strategies.	New Mitigation Action	**Internal:** Environmental	Short-term	Wildfire	Operating Budget
POPA07	Maintain a culture of preparedness by facilitating ongoing emergency response and security training, allowing staff to respond to evolving human-caused threats and risks.	New Mitigation Action	**Internal:** Operations	Ongoing	Human-Caused Hazards (Hazardous Materials, Maritime Disaster, Active Shooter/Terrorism, Supply Chain Interruption, Disease/Pandemic)	Operating Budget
POPA08	Procure a consultant to study sea level rise and associated secondary impacts (such as flood, storm surge, king tides) on Port of Port Angeles assets and facilities. Evaluate infrastructure protection systems such as seawalls, levees, floodgates, or pumps to reduce risk to storm surge, flooding, and sea level rise.	New Mitigation Action	**Internal:** Engineering	Long-term	Flood, Sea Level Rise, Climate Change	Operating Budget, FEMA Flood Mitigation Assistance (FMA) Program, NOAA Coastal Resilience Grants
POPA09	Continue to monitor sea level rise projections as related to Port of Port Angeles assets and critical facilities. Integrate considerations for sea level rise projections into capital improvement plans/programs.	New Mitigation Action	**Internal:** Engineering	Ongoing	Sea Level Rise	Operating Budget, FEMA Flood Mitigation Assistance (FMA)

Action ID#	Mitigation Action Description	New or Previous Mitigation Action	Jurisdiction/ Lead Department	Timeline	Hazards Addressed	Funding Sources
						Program, NOAA Coastal Resilience Grants
POPA10	Coordinate with Clallam County Emergency Management on preparedness plans for use of Port barges for potential transport of supplies/equipment during significant events where roadway transportation systems fail.	New Mitigation Action	**Internal:** Operations **External:** Clallam County EMD	Ongoing	Seismic, Supply Chain Interruption	Operating Budget
POPA11	Shoreline and bank re-armoring and retrofits at Port facilities at Tumwater Creek, Port Angeles Harbor and Sequim Bay.	New Mitigation Action	**Internal:** Engineering	Long-term	Severe Weather, Flood, Tsunami, Sea-Level Rise, Seismic	Operating Budget, FEMA Flood Mitigation Assistance (FMA) Program, NOAA Coastal Resilience Grants
POPA12	Terminal 1 Warehouse retrofit, reconstruction or relocation.	New Mitigation Action	**Internal:** Engineering	Long-term	Severe Weather, Flood, Tsunami, Sea-Level Rise, Seismic	Operating Budget
POPA13	Emergency Generators for Port Facilities/Community Members: Install, upgrade or replace backup power generators at Port facilities including two airports, industrial parks, and two marinas. Framework and training for emergency shelters for community members at Port facilities locations enhanced with generators, supplies, and communication plans.	New Mitigation Action	**Internal:** Engineering	Medium-term	Severe Weather, Flood, Tsunami, Sea-Level Rise, Seismic	Operating Budget, FEMA Hazard Mitigation Assistance (HMA) program
POPA14	Severe Weather Repairs at Two Marinas: Proactive reinforcements, repairs, and reconstruction to the marina facilities due to weather impacts.	New Mitigation Action	**Internal:** Engineering	Long-term	Severe Weather, Flood, Tsunami, Sea-Level Rise, Seismic	Operating Budget
POPA15	Seek grant funding for an alternative energy project at the airport.	New Mitigation Action	**Internal:** Operations	Medium-term	All Hazards	Operating Budget
POPA16	Seek grant funding for a regional operational and communication center at the airport.	New Mitigation Action	**Internal:** Operations	Medium-term	All Hazards	Operating Budget
Adopt the 2024 MJHMP	Adopt the MJHMP after approval.	New Mitigation Action	All Participating Jurisdictions	Short-term	All hazards	N/A

Section 6.0: Plan Monitoring and Evaluation

This section summarizes the formal process that ensures the MJHMP remains an active and relevant document for each participating jurisdiction. The MJHMP maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing an update every five years (to ensure the County and participating jurisdictions maintain eligibility for hazard mitigation funding). This section also describes how Clallam County PUD, Peninsula College, and Port of Port Angeles will integrate public participation throughout Plan maintenance and implementation process. Finally, this section describes how each participating jurisdiction intends to incorporate the mitigation actions outlined in this Plan into existing planning mechanisms and programs.

Volume 1, Section 6.0, *Plan Maintenance* includes additional maintenance procedures related to Clallam County and all participating jurisdictions including Clallam County PUD, Peninsula College, and Port of Port Angeles. Specific information related to these Special Hazard Jurisdictions is summarized in the section below.

6.1 Plan Maintenance Responsibility and Authority

Under the direction of the MJHMP Project Management Team (comprised of representatives from the Sheriff's Office and Community Development Department), the HMCR Steering Committee will be responsible for the on-going maintenance of the MJHMP. Representatives from Clallam County PUD, Peninsula College, and Port of Port Angeles are responsible for participating in the HMCR Steering Committee throughout the Plan update process.

At a minimum, the ongoing annual HMCR Steering Committee meeting will evaluate the progress of the MJHMP and incorporate the actions into other relevant planning documents. The Clallam County PUD General Superintendent, Peninsula College Director of Emergency Management, and Port of Port Angeles Environmental Manager are responsible for coordinating annual review of their respective information in the Special Hazard Jurisdiction annex and making appropriate revisions. On an annual basis, the HMCR Steering Committee including representatives from Clallam County PUD, Peninsula College, and Port of Port Angeles will be convened to conduct a comprehensive review of the plan to ensure that all information is current. The review and update processes are outlined below:

The HMCR Steering Committee will meet to consider:

- Progress made on plan recommendations during the previous 12 months;
- Mitigation accomplishments in projects, programs, and policies;
- Actual losses avoided by implementation of mitigation actions;
- Emerging disaster damage trends and repetitive losses;

- Identification of new mitigation needs;
- Cancellation of planned initiatives, and the justification for doing so; and
- Changes in membership to the HMCR Steering Committee.

The HMCR Steering Committee will request input from other relevant jurisdictional departments and outside entities on issues listed above. A special effort will be made to gather information on non-capital projects important to mitigation and programs and considerations for socially vulnerable populations.

6.2 Method and Schedule for Updating the Plan within Five Years

Section 201.6.(d)(3) of Title 44 of the Code of Federal Regulations requires that hazard mitigation plans be reviewed, revised if appropriate, and resubmitted for approval to remain eligible for benefits awarded under the DMA. The County and all participating jurisdictions intend to update the MJHMP on a five-year cycle from the date of its adoption. It is anticipated that this update process will occur one year prior to expiration of the existing Plan. Representatives from Clallam County PUD, Peninsula College, and Port of Port Angeles are responsible for participating in the five-year MJHMP update.

The process for updating the MJHMP, including Special Hazard Jurisdictions HMCR Steering Committee members' role, is outlined in Volume 1, Section 6.2.1.

6.3 Local Adoption

Washington Emergency Management Division (EMD) and FEMA are responsible for initial review and approval of the MJHMP. The regulatory body for each participating jurisdiction, including Clallam County PUD, Peninsula College, and Port of Port Angeles is responsible for local adoption by resolution of the MJHMP. This formal adoption process should take place every five years.

6.4 Implementation Programs and Planning Mechanisms

The effectiveness of the MJHMP depends on the implementation and incorporation of the outlined mitigation action items into existing plans, policies, and programs. The MJHMP includes a range of action items that, if implemented, would reduce loss from hazard events impacting the Special Hazards Jurisdictions. Together, the mitigation actions in the MJHMP provide the framework for activities that Clallam County PUD, Peninsula College, and Port of Port Angeles may choose to implement over the next five years. Special Hazard Jurisdiction HMCR Steering Committee members prioritized the Plan's goals and identified actions that will be implemented (resources permitting) through existing plans, policies, and programs.

Participating Special Hazard Jurisdiction HMCR Steering Committee members are responsible for overseeing the MJHMP implementation and maintenance though existing planning mechanisms. By adopting a resolution to approve this MJHMP, Clallam County PUD, Peninsula College, and Port of Port Angeles agree to reference and incorporate the document into planning documents, programs, decisions, processes, and regulations.

6.5 Continued Public Involvement

Clallam County PUD, Peninsula College, and Port of Port Angeles are dedicated to involving the public in review and updates to the MJHMP throughout the 5-year planning period. The public, including socially vulnerable populations, will continue to be informed of the MJHMP actions through regular updates throughout the five-year planning period. Upon initiation of the MJHMP update process, a new public involvement strategy will be developed based on guidance from the MJHMP Project Management Team and HMCR Steering Committee.

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