

KITTITAS COUNTY

HAZARD MITIGATION PLAN

Kittitas County Conservation
District Annex



Kittitas County
Public Works Department





TABLE OF CONTENTS

1. Introduction	1
2. Local Planning Team	1
3. Jurisdiction Profile	1
3.1. Population	2
3.1.1. <i>Underserved Population</i>	2
3.2. Brief History	3
3.3. Governing Body Format	4
4. Development Trends	4
4.1. Changes in Priority	5
5. Capability Assessment	5
5.1. Planning and Regulatory Capabilities	5
5.2. Administrative and Technical Capabilities	8
5.3. Financial Resources	9
5.4. Education and Outreach Capabilities	10
5.5. Needs to Expand/Improve Capabilities	10
6. Hazard Mitigation Plan Integration	10
6.1. Existing Plan Integration	11
6.2. Potential Future Integration	11
7. Significant Hazard Past Events	12
8. National Flood Insurance Program	12
9. Hazard Vulnerability and Impact Assessment	12
10. Hazard Risk Ranking	16
11. Mitigation Actions	18
Appendix A. Hazard Maps	25
Appendix B. Plan Adoption	34



1. INTRODUCTION

This Annex details the hazard mitigation elements specific to the Kittitas County Conservation District, a participating jurisdiction to the 2025 Kittitas County Hazard Mitigation Plan update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Countywide Planning Elements)**. Therefore, all sections of **Volume 1** including the planning process, hazard identification and risk assessment, mitigation strategy (includes mitigation goals and objectives), and plan maintenance apply to and were met by the Kittitas County Conservation District. This Annex provides additional information specific to the District, with a focus on providing additional details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

2. LOCAL PLANNING TEAM

The Kittitas County Conservation District Local Planning Team was comprised of the members listed on **Table 1**.

Table 1. Kittitas County Conservation District Local Planning Team Members

Name	Title	Department
Mark Moore	Chair, Board of Supervisors	Kittitas County Conservation District
Anna Lael	District Manager	Kittitas County Conservation District
Tony Craven	Wildfire Preparedness Project Manager	Kittitas County Conservation District
Mark Crowley	Conservation Planner	Kittitas County Conservation District
Sherry Swanson	Manastash Project Manager	Kittitas County Conservation District
Brent Dixon	Natural Resources Project Manager	Kittitas County Conservation District

3. JURISDICTION PROFILE

The Kittitas County Conservation District is an independent public agency with the purpose of assisting landowners and operators to protect and enhance natural resources. All of Unincorporated Kittitas County and the cities of Cle Elum and Roslyn are served by the District. Other incorporated cities can opt in, or out, of the District by resolution of their City Council. The District is located in central Washington State from the crest of the Cascade Mountain Range to the shores of the Columbia River.

The District is primarily grant funded and averages approximately 25 open grants at any time. The grants are predominantly secured from state and federal sources such as the Washington State Conservation Commission, Department of Natural Resources, Department of Ecology, Salmon Recovery Funding Board, Brian Abbott Fish Barrier Removal Board, Bonneville Power Administration, and the United States Department of Agriculture, Natural Resources Conservation Service. Over the last 10 years, the state and federal grants have accounted for 87% of the revenue received. The remaining revenue is from local and private sources, including the System of Rates and Charges, Kittitas County Public Works, and private organizations (e.g., Puget Sound Energy). The System of Rates and Charges funding is used to secure many of the state and federal grants, so although the local funds are a small part of the overall revenue, they are critical to obtaining those grants.



Conservation districts in Washington State are the only organizations that routinely design and apply on the ground solutions to nonpoint water quality problems on privately owned resource lands. Further, the technical help provided by conservation districts to private landowners is free for the asking. KCCD serves an area of 2,333 square miles.

3.1. Population

The Kittitas County Conservation District had a population of 22,110 as of July 1, 2022.¹ Between 2010 and 2020, the population increased by approximately 3.4% and an additional increase of 2.6% occurred between 2020 and 2022.² **Table 2** shows the District’s population distribution between 2010 and 2022.

Table 2. Population Estimates

Jurisdiction	2010	2020	2022	Population Change (2010 – 2022)
City of Cle Elum	1,872	2,157	2,250	20.2%
City of Roslyn	893	950	960	7.5%
Unincorporated Kittitas County	18,063	18,436	19,034	5.4%
Kittitas County Conservation District	20,828	21,543	22,110	6.6%

3.1.1. Underserved Population

FEMA defines underserved populations as groups that have limited or no access to resources or that are otherwise disenfranchised. These groups may include, but are not limited to, people who are socioeconomically disadvantaged, people with limited English proficiency, geographically isolated or educationally disenfranchised people, people of color as well as those of ethnic and national origin minorities, women and children, individuals with disabilities and others with access and functional needs, and seniors.³

The CDC’s SVI is considered an appropriate and authoritative dataset to identify areas where efforts can be prioritized to ensure equitable outcomes from mitigation planning and actions. Social vulnerability refers to a community’s capacity to prepare for and respond to the stress of natural, human-caused, and technological disasters. CDC’s SVI combines 16 census-derived social factors, within four (4) themes (i.e., socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation) that summarizes the extent to which an area is socially vulnerable to disasters. The overall SVI combines all variables to provide a comprehensive assessment, and the possible scores range from zero (0) (lowest vulnerability) to one (1) (highest vulnerability).⁴

¹ Washington State Office of Financial Management. (n.d.). April 1, 2023 Population of Cities, Towns, and Counties Used for Allocation of Selected State Revenues. Retrieved from https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_population_final.pdf.

² Washington State Office of Financial Management. (n.d.). Decennial Census Counts of Population for the State, Counties, Cities and Towns. Retrieved from <https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates/historical-estimates-april-1-population-and-housing-state-counties-and-cities>.

³ Federal Emergency Management Agency. (n.d.). Glossary: Underserved Population/Communities. Retrieved from <https://www.fema.gov/about/glossary>.

⁴ Centers for Disease Control and Prevention. (2024). CDC/ATSDR SVI 2022 Documentation. Retrieved from <https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/pdf/SVI-2022-Documentation-H.pdf>.



The overall SVI score for Kittitas County is 0.3366 which indicates a low to medium level vulnerability. **Table 3** outlines the SVI information for each social factor for the Kittitas County Conservation District.⁵

Note: ArcGIS mapping analysis was performed utilizing Census Tract data by overlaying Census Tracts with the District’s planning area boundary. The information outlined in this section includes the best available data from the entire Census Tracts that intersect the jurisdiction.

Table 3. Social Vulnerability Index (2022)

Theme	Social Factors	Percent
Socioeconomic Status	People below 150% poverty estimate	22.1%
	Unemployed (Civilian 16 years old and older)	3.1%
	Housing Cost Burden	12.9%
	No High School Diploma	4.4%
	No Health Insurance	5.3%
Household Characteristics	65 years old and older	16.8%
	17 years and younger	17.4%
	Civilian with a Disability	12.9%
	Single-Parent Household	1.9%
	English Language Proficiency	0.4%
Racial and Ethnic Minority Status	<ul style="list-style-type: none"> • Hispanic or Latino (of any race) • Black or African American • Asian • American Indian or Alaska Native • Native Hawaiian or Pacific Islander • Two or More Races • Other Races 	19.4%
Housing Type and Transportation	Multi-Unit Structures	5.6%
	Mobile Homes	3.6%
	Crowding	0.9%
	No Vehicle	1.5%
	Group Quarters	4.8%

3.2. Brief History

The Kittitas Conservation District was established in 1942 as an independent public agency under Chapter 89.08 of the Revised Code of Washington as part of a national response to the Dust Bowl. The Cle Elum Conservation District was established in 1947. The two (2) districts combined in the 1960’s to create the Kittitas County Conservation District. The District serves the citizens of its community to ensure the long term use of natural resources in an economically, socially, and environmentally sustainable manner using non-regulatory, voluntary approaches.

⁵ Centers for Disease Control and Prevention. (2022). CDC/ATSDR Social Vulnerability Index (SVI). Retrieved from https://www.atsdr.cdc.gov/placeandhealth/svi/interactive_map.htm.



3.3. Governing Body Format

The District is led by a five (5) member Board of Supervisors, three (3) are elected locally and two (2) are appointed by the Washington State Conservation Commission, the State’s conservation agency. These individuals serve three (3) year terms, during which time they remain aware of locally important natural resources or environmental issues and decide what projects the District will undertake each year. Additionally, the Kittitas County Conservation District has eight (8) paid staff that work together to implement the annual and long range plans of the Board of Supervisors. The District focuses its work on collaborative efforts to partner with landowners, public agencies, tribes and the general public to create and maintain resilient working landscapes through voluntary incentive based measures. The Board will assume responsibility for the adoption and implementation of this Plan.

4. DEVELOPMENT TRENDS

As stated in the Kittitas County Conservation District 5-Year Plan (2022 to 2026), the population in Kittitas County increased by approximately 17.2% between 2010 and 2019 which exceeds the State’s 13.2% growth rate during the same timeframe. With the increase in population, natural resource issues such as flooding, wildfire and other concerns will put more residences and private properties at risk.

Table 4 summarizes service trends in the performance period since development of the previous hazard mitigation plan and expected service development trends.

Table 4. Recent and Expected Service Trends

Criteria	Response
Has your jurisdiction annexed any land since the development of the previous Hazard Mitigation Plan?	No
<i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	N/A
Is your jurisdiction expected to annex any areas during the performance period of this Plan?	No
Has your jurisdiction had any major changes in development over the <u>past</u> five (5) years that have occurred in hazard prone areas?	No
<i>If yes, please briefly describe.</i>	N/A
Are any areas targeted for development or major redevelopment in the <u>next</u> five (5) years that will occur in hazard prone areas?	Yes
<i>If yes, please briefly describe.</i>	This County is growing rapidly with developments in unincorporated areas permitted through Kittitas County (refer to Volume 1). The District works with homeowners through programs that address natural hazards, such as wildfire fuels reduction (from small scale chipping programs for defensible space to larger scale cost share projects to remove fuels in priority areas).
Provide a qualitative description of where development has occurred in hazard areas.	Kittitas County Conservation District development is controlled by Kittitas County. Refer to Volume 1 of this Plan.



4.1. Changes in Priority

The overall hazard mitigation priorities have not significantly changed for the Kittitas County Conservation District since the last Plan update. However, mitigation actions from the previous Plan were updated, and a more concerted effort on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations, has been implemented.

5. CAPABILITY ASSESSMENT

Federal regulations require hazard mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)). A critical step in the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for Kittitas County Conservation District and participating jurisdictions' authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment. Information regarding the District's implementation of and continued participation in the National Flood Insurance Program (NFIP) can be found in Section 8 of this Annex.

The Local Planning Team assessed the District's capabilities that can contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include the following categories:

- Planning and Regulatory Capabilities
- Administrative and Technical Capabilities
- Financial Capabilities
- Education and Outreach Capabilities

Additionally, ways to expand on and improve these existing policies and programs to integrate hazard mitigation into the day-to-day activities and programs of the District were considered.

5.1. Planning and Regulatory Capabilities

These include local ordinances, policies, and laws to manage growth and development (e.g., land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes, and zoning ordinances). The Kittitas County Conservation District relies on Kittitas County to maintain a strong framework of codes, ordinances, and requirements to help mitigate the impacts of the hazards identified in this Plan. **Table 5** contains a list of legal and regulatory capabilities.

Table 5. Planning and Regulatory Capabilities

Capability Category	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Codes, Ordinances, and Requirements				
Building Code	Yes	No	Yes	Title 14.04 of the Kittitas County Code (KCC). Chapter 19.27 of the Revised Code of Washington (RCW)
Zoning Code	Yes	No	Yes	Title 17 of the KCC



Capability Category	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Subdivisions Code	Yes	No	Yes	Title 16 of the KCC
Floodplain Ordinance	Yes	Yes	Yes	Title 14.08 of the KCC
Stormwater Management	Yes	No	No	Title 12.04 of the KCC
Post Disaster Recovery	No	No	No	
Real Estate Disclosure	No	No	Yes	Chapter 64.06 RCW
Growth Management	Yes	No	Yes	The Washington State Growth Management Act (RCW Chapter 36.70A) directs growth management and comprehensive planning for cities and counties. Kittitas County Comprehensive Plan was adopted in 2021.
Site Plan Review	Yes	No	No	Title 14.04 of the KCC Site plans are reviewed for compliance with codes and development regulations.
Public Health and Safety	Yes	Yes	Yes	Title 8 of the KCC Title 13 of the KCC
Climate Change Adaptation	Yes	No	No	
Shoreline Management	Yes	No	No	Title 17B of the KCC Shoreline Master Plan Chapter 90.58 RCW
Natural Hazard Specific Ordinance (stormwater, steep slope, wildfire, etc.)	Yes	No	Yes	Title 12.04 of the KCC Title 17A.06 of the KCC Title 20.10 of the KCC
Environmental Protection	No	Yes	Yes	Title 15 of the KCC Title 17A and 17B of the KCC
Special Purpose (flood management, critical areas)	Yes	Yes	Yes	Title 14.08 (Flood Damage Protection) of the KCC Title 17A (Frequently Flooded Areas) of the KCC Kittitas County Flood Control Zone District
Critical Areas	Yes	Yes	Yes	Title 17A of the KCC
Planning Documents				
Comprehensive Plan	Yes	No	Yes	Cities in Washington State must update their Comprehensive Plan every eight (8) years. Washington State's Growth Management Act (GMA) and Chapter 36.70A RCW. Last adopted in 2021.

**2025 Hazard Mitigation Plan
Kittitas County, Washington**



Capability Category	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Floodplain or Basin Plan	Yes	No	No	Chapter 86.16 RCW, implemented through WAC 173-158. Kittitas County Flood Control Zone District
Stormwater Plan	No	No	No	Eastern Washington Stormwater Management Plan City of Cle Elum Stormwater Comprehensive Plan City of Roslyn Stormwater Comprehensive Plan
Capital Improvement Plan	Yes	No	Yes	The Capital Facilities Plan is incorporated into the County's Comprehensive Plan in Chapter 5.
Habitat Conservation Plan	No	No	No	The GMA requires cities and counties to adopt regulations for the protection of environmental areas, which include habitat conservation areas. It is incorporated in the Land Use Element chapter of the County's Comprehensive Plan.
Shoreline Management Plan	Yes	No	Yes	Shoreline Master Program updated in 2016.
Community Wildfire Protection Plan	Yes	No	No	Kittitas County Community Wildfire Protection Plan was updated in 2018 and amended in 2022. An update is planned for 2024/2025 with Community Wildfire Defense Grant (CWDG) Program grant through the Kittitas Fire Adapted Communities Coalition and Washington Resource Conservation & Development Council.
Transportation Plan	Yes	No	Yes	The Transportation Element is incorporated into the County's Comprehensive Plan in Chapter 4.
Comprehensive Emergency Management Plan	Yes	No	Yes	Chapter 38.52 RCW The County Comprehensive Emergency Plan (CEMP) was last updated in 2016, and an update is in progress.



Capability Category	Local Authority	Other Jurisdictional Authority	State Mandated	Comments
Threat and Hazard Identification and Risk Assessment	No	No	No	Currently, the County has a HIVA (2018). Washington State is in the process of replacing THIRA/SPR with a new program called (CEPA). Kittitas County is officially signed up to participate in this assessment with the state in February 2025.
Terrorism Plan	No	No	No	
Post-Disaster Recovery Plan	No	No	No	Debris Removal Plan (FEMA approved the in 2016 and it was updated in 2018, but not approved)
Continuity of Operations Plan	No	No	No	Included in the County's CEMP (Appendix 1)
Public Health Plans	Yes	No	No	Kittitas County Public Health Department (KCPHD) 2020-2024 Strategic Plan Kittitas County Community Health Improvement Plan Public Health Emergency Operations Plan
Economic Development Plan	Yes	No	No	Economic Development is incorporated into the County's Comprehensive Plan in Chapter 10.
Kittitas County Conservation District Long Range Plan and Annual Plan of Work	Yes	No	Yes	Long Range and annual plans are mandated by Chapter 89.08 RCW.
Kittitas County Voluntary Stewardship Program Work Plan	Yes	No	Yes	The Voluntary Stewardship Program (VSP) creates a non-regulatory approach to meeting the goals of the State of Washington's Growth Management Act by protecting critical areas where agricultural practices occur while maintaining the viability of agriculture. Kittitas County Work Plan was initially approved in 2018, with updates in 2023.

5.2. Administrative and Technical Capabilities

The administrative and technical capabilities include community (i.e., public and private) staff and their skills and tools, which can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities, such as counties or



special districts, for resources. These capabilities may be used to support mitigation activities. **Table 6** lists administrative and technical capabilities.

Table 6. Administrative and Technical Capabilities

Staff/Personnel Resources	Available	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	District Manager, District Engineer, Conservation Planner, and Project Managers, Kittitas County Conservation District
Engineers or professionals trained in building or infrastructure construction practices	Yes	District Engineer, Kittitas County Conservation District
Planners or engineers with an understanding of natural hazards	Yes	District Manager, District Engineer, Conservation Planner, and Project Managers, Kittitas County Conservation District
Staff with training in benefit/cost analysis	Yes	District Manager, Conservation Planners and Project Managers, Kittitas County Conservation District
Floodplain Manager/Administrator	No	N/A
Surveyors	No	N/A
Personnel skilled or trained in GIS applications	Yes	GIS Specialist, Kittitas County Conservation District
Staff familiar with natural hazards in local area	Yes	District Manager, Conservation Planner, and Project Managers, Kittitas County Conservation District
Emergency Manager	No	N/A
Grant writers	Yes	District Manager and Project Managers, Kittitas County Conservation District

5.3. Financial Resources

Table 7 contains a list of financial capabilities available to the District. These financial resources may be used to support mitigation activities based on procedures for each resource.

Table 7. Financial Resources

Financial Resources	Accessible or Eligible to Use
Community Development Block Grants (CDBG)	No
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs <i>Include: Washington State Conservation Commission, Washington State Department of Ecology, Washington State Department of Natural Resources, Washington Emergency Management Division</i>	Yes
Development Impact Fees for Homebuyers or Developers	No



Financial Resources	Accessible or Eligible to Use
Federal Grant Programs <i>Direct and Indirect: United States Department of Agriculture (USDA) Natural Resources Conservation Service, US Fish & Wildlife Service, and Bonneville Power Administration</i> <i>Indirect Only: FEMA, United States Forest Service</i>	Yes
Local funding through the District established System of Rates and Charges (authorized by RCW 89.08.405 and collected by Kittitas County with property taxes and assessments)	Yes

5.4. Education and Outreach Capabilities

Table 8 lists the Jurisdiction’s financial and public outreach capabilities. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices. Education and outreach capabilities can be used to inform the public about current and potential mitigation activities.

Table 8. Education and Outreach Resources

Resource	Available	Department/Agency/Position/Description
Public Information Officer	Yes	District Manager, Kittitas County Conservation District
Personnel skilled or trained in website development	Yes	District Manager and Office Administrator, Kittitas County Conservation District
Hazard mitigation information available on your website	Yes	District Manager and Office Administrator, Kittitas County Conservation District
Utilize social media for hazard mitigation education and outreach	Yes	Facebook: facebook.com/KittitasCoCD
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Board of Supervisors, Kittitas County Conservation District (RCW 89.08.210 and RCW 89.08.220)
Other programs already in place that could be used to communicate hazard-related information	No	N/A
An established warning systems for hazard events	Yes	Emergency Management, Kittitas County Sheriff’s Office

5.5. Needs to Expand/Improve Capabilities

The Kittitas County Conservation District identified existing authorities, policies, programs, funding, and/or resources that need to be expanded and/or improved in order to support the implementation of the hazard mitigation initiatives identified in this Plan (e.g., mitigation actions).

- In order to increase the District’s capability to apply for hazard mitigation grants and fund the local match for hazard mitigation grants, the District needs to expand its grant writing capabilities by potentially hiring more grant writers.

6. HAZARD MITIGATION PLAN INTEGRATION

The information on hazards, risk, vulnerability, and mitigation contained in this Hazard Mitigation Plan is based on the best available data at the time of the Plan update. Plan integration consists of the incorporation of hazard mitigation into other relevant planning mechanisms (e.g., annual and long range planning). It includes the integration of natural hazard information and mitigation policies, principles, and actions into local planning mechanisms and vice versa. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative hazard mitigation planning.



6.1. Existing Plan Integration

In the performance period since the adoption of the previous Hazard Mitigation Plan, Kittitas County Conservation District made progress on integrating components of the hazard mitigation strategy (e.g., goals, objectives, and actions) into the planning initiatives listed in **Table 9**.

Table 9. Existing Plan Integration

Planning Initiative	Description
Kittitas County Conservation District Long Range Plan	The District’s Long Range Plan is a five (5) year document which sets the overall direction of the District and its programs. The previous update (2022 – 2026), stated that the District will continuously build community capacity to improve resiliency in the face of natural disasters including participation in the County’s Hazard Mitigation Plan.
Kittitas County Conservation District Annual Plan of Work	The Annual Plan of Work outlines how the priorities identified in the District’s Long Range Plan will be implemented for the upcoming year. The last update outlined participation in the County’s Hazard Mitigation Plan.
Voluntary Stewardship Program Approved Work Plan	Kittitas County’s approved Voluntary Stewardship Program (VSP) Work Plan is a non-regulatory, and incentive based approach that balances the protection of critical areas on agricultural lands while promoting agricultural viability, as an alternative to managing agricultural activities under the Critical Areas Ordinance. The Plan includes protection and enhancement goals for five (5) critical areas, including frequently flooded areas and geologic hazard areas relevant to the Hazard Mitigation Plan. The Hazard Mitigation Plan is referenced as a relevant document to fulfill the goals outlined in the VSP Plan.

6.2. Potential Future Integration

As the Hazard Mitigation Plan is implemented, Kittitas County Conservation District will use information from the Plan as the best available science and data on hazards. The capability assessment presented in Section 5 of this Annex identifies codes, plans, and programs that provide opportunities for integration. The Districtwide and local action plans developed for this Hazard Mitigation Plan are related to plan integration. The capability assessment identified plans and programs, listed in **Table 10**, that do not currently integrate goals and recommendations of this Plan but provide opportunities to do so in the future.

Table 10. Potential Future Integration

Planning Initiative	Description
Kittitas County Conservation District Long Range Plan	Future updates to the Long Range Plan will utilize this Hazard Mitigation Plan for appropriate information on risk associated with natural hazards to inform the priorities, goals, and measures of success for the District in the next five (5) years. Additionally, mitigation projects could be identified based on needs and trends impacting the District outlined in the Long Range Plan.
Kittitas County Conservation District Annual Plan of Work	Future updates to the Annual Plan of Work will align natural resource priorities with this Hazard Mitigation Plan. Additionally, mitigation actions can be identified and added into this Hazard Mitigation Plan to help address issues and concerns such as water quantity (drought) and wildfires.
Community Wildfire Protection Plan	The Hazard Mitigation Plan and County Community Wildfire Protection Plan (CWPP) should be aligned and mitigation actions in the Hazard Mitigation Plan should support the goals of the CWPP. Analysis of the wildfire hazard in the Hazard Mitigation Plan can inform updates and revisions to the CWPP.



The District’s Local Planning Team will identify all relevant planning initiatives that are scheduled to be updated in the next year and during the annual update process of the Hazard Mitigation Plan. Additionally, opportunities to integrate key elements of the Hazard Mitigation Plan, specifically any relevant strategies, into the planning initiatives will be identified by the Local Planning Team. Mitigation actions were identified to promote plan integration in future revisions of this Plan.

7. SIGNIFICANT HAZARD PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern can be found in **Volume 1** of this Plan.

8. NATIONAL FLOOD INSURANCE PROGRAM

As a special district, the Kittitas County Conservation District is not eligible to participate in FEMA’s National Flood Insurance Program (NFIP). Further information on Kittitas County’s NFIP and Community Rating System (CRS) participation is available on **Volume 1** of this Plan.

9. HAZARD VULNERABILITY AND IMPACT ASSESSMENT

Exposure and vulnerability to certain hazards affect the entire County and others are geographically defined. Although the entire County may be vulnerable to these hazards, their impacts may vary based on existing community conditions (e.g., underserved, or functional access needs populations may be more susceptible based on certain conditions, vulnerabilities, or needs).

Table 11 outlines the *unique vulnerabilities and impacts* for the Kittitas County Conservation District and only addresses the hazards that are relevant and unique to the jurisdiction. A complete risk assessment for each identified hazard of concern is in **Volume 1** of this Plan. Hazard mapping can be found in **Appendix A** of this Annex.

Table 11. Hazard Vulnerability and Impact Assessment

Hazards	Vulnerabilities and Impacts
Avalanche	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to avalanches.
Dam and Levee Failure	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to dam and levee failure.
Drought	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to droughts.
Earthquake	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to earthquakes.
Flood	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to floods.
Landslide	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to landslides.
Severe Weather <i>(thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures)</i>	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to severe weather.
Volcanic Activity	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to volcanic activity.
Wildfire <i>(wildfire smoke)</i>	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to wildfires.



Hazards	Vulnerabilities and Impacts
Winter Weather <i>(ice storms, heavy snow, and blizzards)</i>	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to winter weather.
Communicable Diseases/Pandemic	The Local Planning Team determined that the District does not have unique vulnerabilities and impacts to communicable diseases/pandemics.

The District evaluated whether vulnerability and impact in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. Climate change, changes in population, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard areas or is not built to the updated building codes, it may increase the community’s vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics (e.g., underserved population) were taken into consideration.

Table 12 outlines if climate change has increased or decreased the District’s vulnerability (i.e., exposure) and impact to each natural hazard over the past five (5) years, and the effect of climate change in the future probability of occurrence and impacts from each natural hazard.

Table 12. Climate Change Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
<i>Current Vulnerability and Impact</i>	
Avalanche	Remained the Same
Communicable Diseases/Pandemic	Remained the Same
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood	Remained the Same
Landslide	Remained the Same
Severe Weather <i>(thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures)</i>	Remained the Same
Volcanic Activity	Remained the Same
Winter Weather <i>(ice storms, heavy snow, blizzards)</i>	Remained the Same
Wildfire <i>(Wildfire Smoke)</i>	Increased
<i>Future Vulnerability and Impact</i>	
Avalanche	No Change Anticipated
Communicable Diseases/Pandemic	No Change Anticipated
Dam and Levee Failure	No Change Anticipated
Drought	Increase
Earthquake	No Change Anticipated
Flood	No Change Anticipated



Hazard	Vulnerability and Impact
Landslide	No Change Anticipated
Severe Weather (<i>thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures</i>)	No Change Anticipated
Volcanic Activity	No Change Anticipated
Winter Weather (<i>ice storms, heavy snow, blizzards</i>)	No Change Anticipated
Wildfire (<i>Wildfire Smoke</i>)	Increase

Table 13 outlines if changes in population within the District over the past five (5) years have increased or decreased the vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in population may have on the future probability of occurrence and impacts from these natural hazards.

Table 13. Changes in Population Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Avalanche	Remained the Same
Communicable Diseases/Pandemic	Remained the Same
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood	Remained the Same
Landslide	Remained the Same
Severe Weather (<i>thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures</i>)	Remained the Same
Volcanic Activity	Remained the Same
Winter Weather (<i>ice storms, heavy snow, blizzards</i>)	Remained the Same
Wildfire (<i>Wildfire Smoke</i>)	Remained the Same
Future Vulnerability and Impact	
Avalanche	No Change is Anticipated
Communicable Diseases/Pandemic	No Change is Anticipated
Dam and Levee Failure	No Change is Anticipated
Drought	No Change is Anticipated
Earthquake	No Change is Anticipated
Flood	No Change is Anticipated
Landslide	No Change is Anticipated
Severe Weather (<i>thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures</i>)	No Change is Anticipated
Volcanic Activity	No Change is Anticipated



Hazard	Vulnerability and Impact
Winter Weather (<i>ice storms, heavy snow, blizzards</i>)	No Change is Anticipated
Wildfire (<i>Wildfire Smoke</i>)	No Change is Anticipated

Table 14 outlines if development over the past five (5) years has increased or decreased the jurisdiction’s vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts from these natural hazards.

Table 14. Changes in Development Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Avalanche	Remained the Same
Communicable Diseases/Pandemic	Remained the Same
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood	Remained the Same
Landslide	Remained the Same
Severe Weather (<i>thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures</i>)	Remained the Same
Volcanic Activity	Remained the Same
Winter Weather (<i>ice storms, heavy snow, blizzards</i>)	Remained the Same
Wildfire (<i>Wildfire Smoke</i>)	Increased
Future Vulnerability and Impact	
Avalanche	No Change Anticipated
Communicable Diseases/Pandemic	No Change Anticipated
Dam and Levee Failure	No Change Anticipated
Drought	No Change Anticipated
Earthquake	No Change Anticipated
Flood	Increase
Landslide	No Change Anticipated
Severe Weather (<i>thunderstorms, hail, tornado, strong winds/damaging winds, extreme temperatures</i>)	No Change Anticipated
Volcanic Activity	No Change Anticipated
Winter Weather (<i>ice storms, heavy snow, blizzards</i>)	No Change Anticipated
Wildfire (<i>Wildfire Smoke</i>)	Increase

The District does not anticipate future major assets to be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. However, the aging infrastructure can potentially



become vulnerable overtime. Any new assets (e.g., new construction in hazard prone areas) will be constructed to adhere to the latest building codes and standards, and mitigation to protect them from identified and anticipated hazards, especially those that are expected to increase due to climate change.

10. HAZARD RISK RANKING

Table 15 presents the local hazard ranking for Kittitas County Conservation District of all hazards of concern listed in **Volume 1** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As described in detail in **Volume 1**, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy.

It is important to note that the sub hazards for severe weather (i.e., strong wind/damaging winds, thunderstorms, cold wave/extreme cold, heat wave/extreme heat, hail and tornado) and wildfire (i.e., wildfire smoke) were individually ranked in the hazard risk ranking; however, severe weather and wildfire are each considered as the main hazard throughout this Annex and **Volume 1**.

Table 15. Hazard Risk Ranking

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score (Probability x Consequence)
Winter Weather (Blizzard/Heavy Snow, Ice Storm)	3	15	16	24	55	77
Earthquake	2	12	16	33	61	59
Flood	2	18	11	31	60	59
Strong Winds / Damaging Winds (Severe Weather)	3	9	16	15	40	59
Wildfire Smoke (Wildfire)	3	9	10	20	39	57
Wildfire	2	15	11	27	53	53
Thunderstorms (Severe Weather)	2	6	16	26	48	48
Communicable Diseases / Pandemic	2	18	10	20	48	48
Cold Wave / Extreme Cold (Severe Weather)	2	12	12	20	44	45
Avalanche	3	9	6	13	28	43
Heat Wave / Extreme Heat (Severe Weather)	2	12	12	17	41	42
Landslide	2	12	12	13	37	39
Drought	2	9	6	16	31	33
Hail (Severe Weather)	1	6	16	16	38	22
Tornado (Severe Weather)	1	6	16	16	38	22
Dam and Levee Failure	1	9	11	16	36	21



Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score (Probability x Consequence)
Volcanic Activity	1	12	6	15	33	20
<p><i>Consequence:</i> Sum of <u>all</u> weighted factors. <i>Extent:</i> Sum of the weighted <u>Extent</u> factors. <i>Vulnerability:</i> Sum of the weighted <u>Vulnerability</u> factors.</p> <p><i>Impact:</i> Sum of the weighted <u>Impact</u> factors. Total Risk Score* = Probability x Consequence * Normalized to 100</p>						
Total Risk Score Legend						
Classification	Probability Factor	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 6	0 – 12	0 – 24	0 – 24
Medium (M)	2	7 – 12	7 – 12	13 – 26	25 – 50	25 – 52
High (H)	3	13 – 18	13 – 18	27 – 39	51 – 75	53 and above
<p>The legend—specifically the assignment of low, medium, and high—provides an additional means to qualitatively assess the probability factor, sum of weighted factors, and the total risk scores for each hazard. The Consequence Score represents the sum of the Extent, Vulnerability, and Impact Factors. The Total Risk Score is a measure of Probability and Consequence.</p>						



11. MITIGATION ACTIONS

This section includes the mitigation actions that were developed to address identified risks and vulnerabilities to hazards identified in this Plan. This Plan serves only to recommend mitigation measures based on the potential for risk reduction and available funding. Implementation of mitigation actions is dependent on risk reduction priorities, feasibility, and available funding. It is also dependent on the cooperation and support of the jurisdiction and/or department responsible for each action item.

Kittitas County Conservation District agreed upon **six (6)** mitigation actions that apply to the jurisdiction’s properties where they have jurisdictional responsibility and authority. A summary of the District’s mitigation actions status is listed in **Table 16**.

Table 16. Kittitas County Conservation District Mitigation Actions Summary

Status		Mitigation Action Total	
Ongoing		6	
In Progress/In Work		0	
Not Started		0	
Delayed/Deferred		0	
New		0	
TOTAL		6	
Completed		0	
Deleted/No Longer Needed		0	
Mitigation Actions per Hazard			
Avalanche	1	Landslide	2
Dam and Levee Failure	2	Severe Weather	1
Drought	3	Volcanic Activity	1
Earthquake	1	Wildfire	4
Flood	3	Winter Weather	1

These shared actions, some of which address all hazards, help to meet the following requirements:

- Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
- Does the Plan include one (1) or more action(s) per jurisdiction for each hazard identified within the risk assessment?

A detailed explanation of the Mitigation Strategy can be found in Chapter 5 of **Volume 1**.



Mitigation Action	Continue to develop and implement public education programs which increase public awareness of the risks associated with hazards/disasters and emergency preparedness.				
Action Number	KCCD-1	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	39/40
Goal(s) Addressed	4		Hazard(s) Mitigated	Avalanche, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Severe Weather, Volcanic Activity, Wildfire, Winter Weather	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	Kittitas County Conservation District	Supporting Agency / Organization (If applicable)		n/a	
Additional Participating Jurisdictions (If applicable)	n/a				
Project Duration	Ongoing	Estimated Cost		High	
Potential Funding Source	Local Budgeted Funds, Other	If Other, you must identify a funding source.		Washington State Conservation Commission Grants, KCCD System of Rates & Charges	
		Please provide further detail on Potential Funding Source.		General Fund (Staff Time, Outreach Materials)	
Implementation Priority	High	Changes in Priority (If applicable)			



Mitigation Action	Pre and post disaster technical, educational and financial assistance to private landowners including, but not limited to, conducting damage assessments, recommending best practices to address erosion risk (e.g., seeding, mulching, culvert replacements), encouraging residents to participate in the National Flood Insurance Program (NFIP), and seeking funding to implement actions to reduce risk and protect homes and infrastructure.				
Action Number	KCCD-2	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	34/40
Goal(s) Addressed	1, 2, 4, 5		Hazard(s) Mitigated	Dam and Levee Failure, Flood, Wildfire	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	Kittitas County Conservation District	Supporting Agency / Organization (If applicable)	n/a		
Additional Participating Jurisdictions (If applicable)	n/a				
Project Duration	Ongoing	Estimated Cost	High		
Potential Funding Source	Local Budgeted Funds, Other	If Other, you must identify a funding source.		Washington State Conservation Commission, Washington Recreation and Conservation Office, Washington State Department of Ecology, and USDA Natural Resources Conservation Service grants (Regional Conservation Partnership Program)	
		Please provide further detail on Potential Funding Source.		General Fund (Staff Time)	
Implementation Priority	High	Changes in Priority (If applicable)			



Mitigation Action	Coordinate, monitor status, and implement projects with private landowners conducting agricultural practices in frequently flooded areas, floodplains, and geologic hazard areas that improve resource conditions and maintain the viability of agriculture.				
Action Number	KCCD-3	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	33/40
Goal(s) Addressed	1, 2, 4		Hazard(s) Mitigated	Drought, Flood, Landslide	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		n/a	
Benefits <i>(Loss Avoided)</i>	Medium				
Lead Agency / Organization	Kittitas County Conservation District		Supporting Agency / Organization <i>(If applicable)</i>	Kittitas County Community Development Services	
Additional Participating Jurisdictions <i>(If applicable)</i>	n/a				
Project Duration	Ongoing		Estimated Cost	Medium	
Potential Funding Source	Local Budgeted Funds, Other		If <i>Other</i> , you must identify a funding source.	Voluntary Stewardship Program Funds (via Washington State Conservation Commission)	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time), Funds Directly or Via Cost Share from Landowners	
Implementation Priority	High	Changes in Priority <i>(If applicable)</i>			



Mitigation Action	Conduct individual property and communitywide wildfire risk assessments and evaluate potential mitigation projects.				
Action Number	KCCD-4	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	39/40
Goal(s) Addressed		1, 3, 4	Hazard(s) Mitigated	Wildfire	
Project Status		Ongoing	<i>If Deleted/No Longer Needed, provide reason.</i>	n/a	
Benefits <i>(Loss Avoided)</i>	Medium				
Lead Agency / Organization	Kittitas County Conservation District		Supporting Agency / Organization <i>(If applicable)</i>	Washington Department of Natural Resources, Fire Districts, City of Cle Elum, City of Roslyn	
Additional Participating Jurisdictions <i>(If applicable)</i>	n/a				
Project Duration	Ongoing		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP, HMGP Post Fire, Other		<i>If Other, you must identify a funding source.</i>	Washington Department of Natural Resources and Washington State Conservation Commission grants, KCCD System of Rates & Charges	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Changes in Priority <i>(If applicable)</i>			



Mitigation Action	Continue to work on actions items and proposed projects in the Kittitas County Community Wildfire Protection Plan including implementation of landscape scale restoration and partnering with stakeholders through the Kittitas Fire Adapted Communities Coalition (KFACC).				
Action Number	KCCD-5	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	34/40
Goal(s) Addressed	1, 2, 3, 4, 5		Hazard(s) Mitigated	Wildfire	
Project Status	Ongoing	If Deleted/No Longer Needed, provide reason.		n/	
Benefits <i>(Loss Avoided)</i>	High				
Lead Agency / Organization	Kittitas County Conservation District	Supporting Agency / Organization <i>(If applicable)</i>	n/a		
Additional Participating Jurisdictions <i>(If applicable)</i>	n/a				
Project Duration	Ongoing	Estimated Cost	Medium		
Potential Funding Source	Local Budgeted Funds, BRIC, HMGP, HMGP Post Fire, Other	If Other, you must identify a funding source.	Washington State Conservation Commission, Washington Department of Natural Resources, USDA Forest Service Community Wildfire Defense grants		
		Please provide further detail on Potential Funding Source.	General Fund (Staff Time)		
Implementation Priority	High	Changes in Priority <i>(If applicable)</i>			



Mitigation Action	Implement projects and conduct public outreach for landowners to improve water use efficiencies and resiliency in drought conditions (e.g., drought resistant landscapes, reducing water system losses, identifying alternate water supply options).				
Action Number	KCCD-6	Year Initiated / Anticipated Year of Initiation	2019 or before	Prioritization Score	31/40
Goal(s) Addressed		1, 4	Hazard(s) Mitigated	Drought	
Project Status		Ongoing	<i>If Deleted/No Longer Needed, provide reason.</i>	n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	Kittitas County Conservation District		Supporting Agency / Organization (If applicable)	n/a	
Additional Participating Jurisdictions (If applicable)	Irrigation Districts/Companies				
Project Duration	Ongoing		Estimated Cost	High	
Potential Funding Source	Local Budgeted Funds, Other		<i>If Other, you must identify a funding source.</i>	Ecology for the Yakima Basin Integrated Water Resources Management Plan, Washington State Conservation Commission, USDA Natural Resources Conservation Service's Regional Conservation Partnership Program grants	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	Changes in Priority (If applicable)			



APPENDIX A. HAZARD MAPS

Figure 1	Kittitas County Conservation District Planning Area
Figure 2	Liquefaction Susceptibility (Earthquake) <i>Helps assess potential damage from earthquakes in the City.</i>
Figure 3	Special Flood Hazard Area (SFHA) <i>Includes each Flood Zone, and the 500-year floodplain. Flood Insurance Rate Maps (FIRMs) show the flood zones, floodplain boundaries, and Base Floor Elevation (BFE) and are used for floodplain management, flood insurance ratings, and to determine flood insurance requirements. FIRMs show areas with a 1% chance of flooding each year, commonly known as the 100-year floodplains, and are illustrated as the SFHA. The 500-year floodplains show areas with a 0.2% chance of flooding each year.</i>
Figure 4	Cle Elum Dam Inundation Area Map
Figure 5	Easton Dam Inundation Area Map
Figure 6	Keechelus and Kachees Dam Inundation Area Map
Figure 7	Wildfire Likelihood Map <i>Wildfire likelihood is the annual probability of wildfire burning in a specific location.</i>
Figure 8	Wildfire Risk to Homes Map <i>Wildfire risk to homes measures the relative consequence of wildfire to residential structures everywhere on the landscape, whether a home actually exists there or not.</i>



Figure 1. Kittitas County Conservation District Planning Area

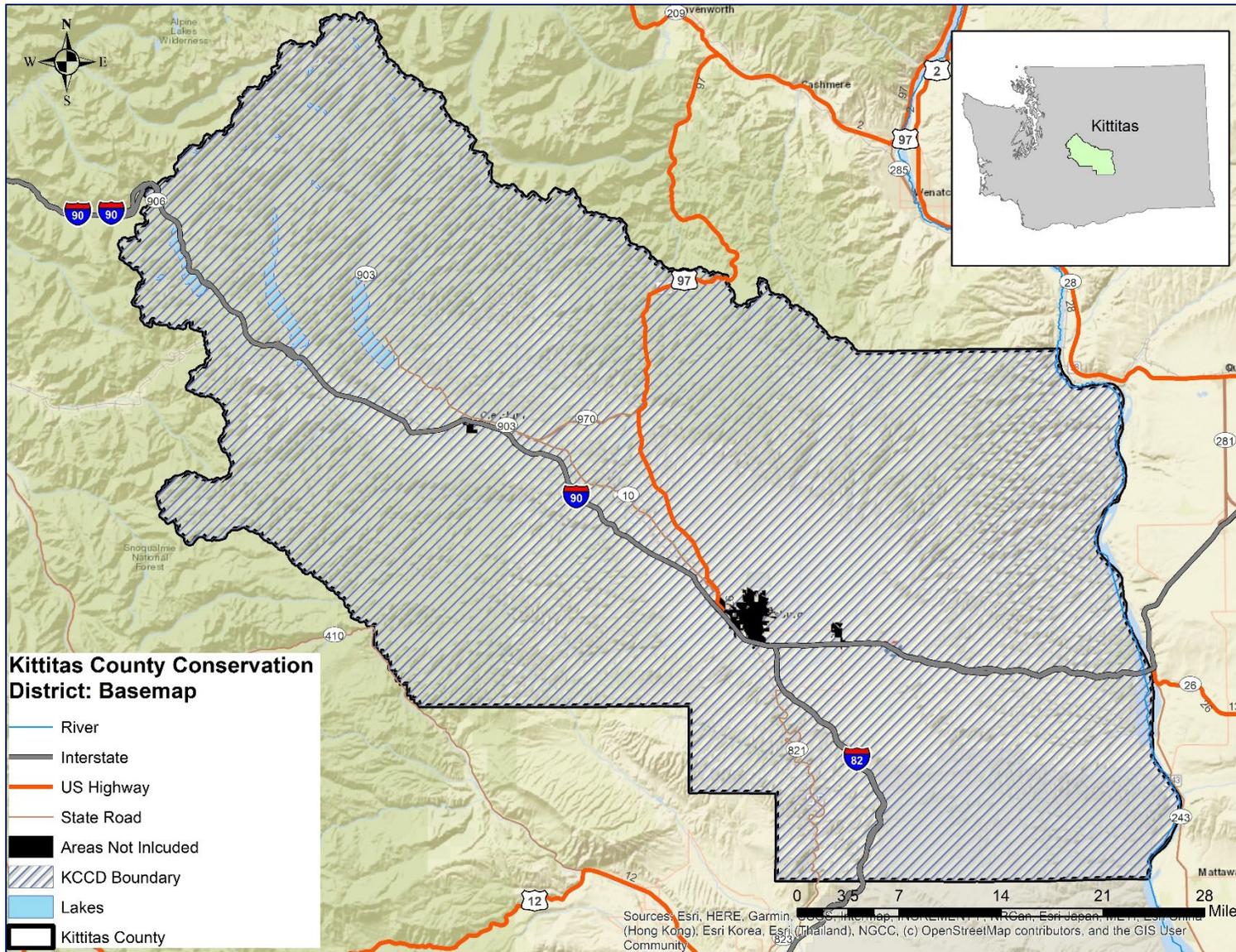




Figure 2. Liquefaction Susceptibility (Earthquake)

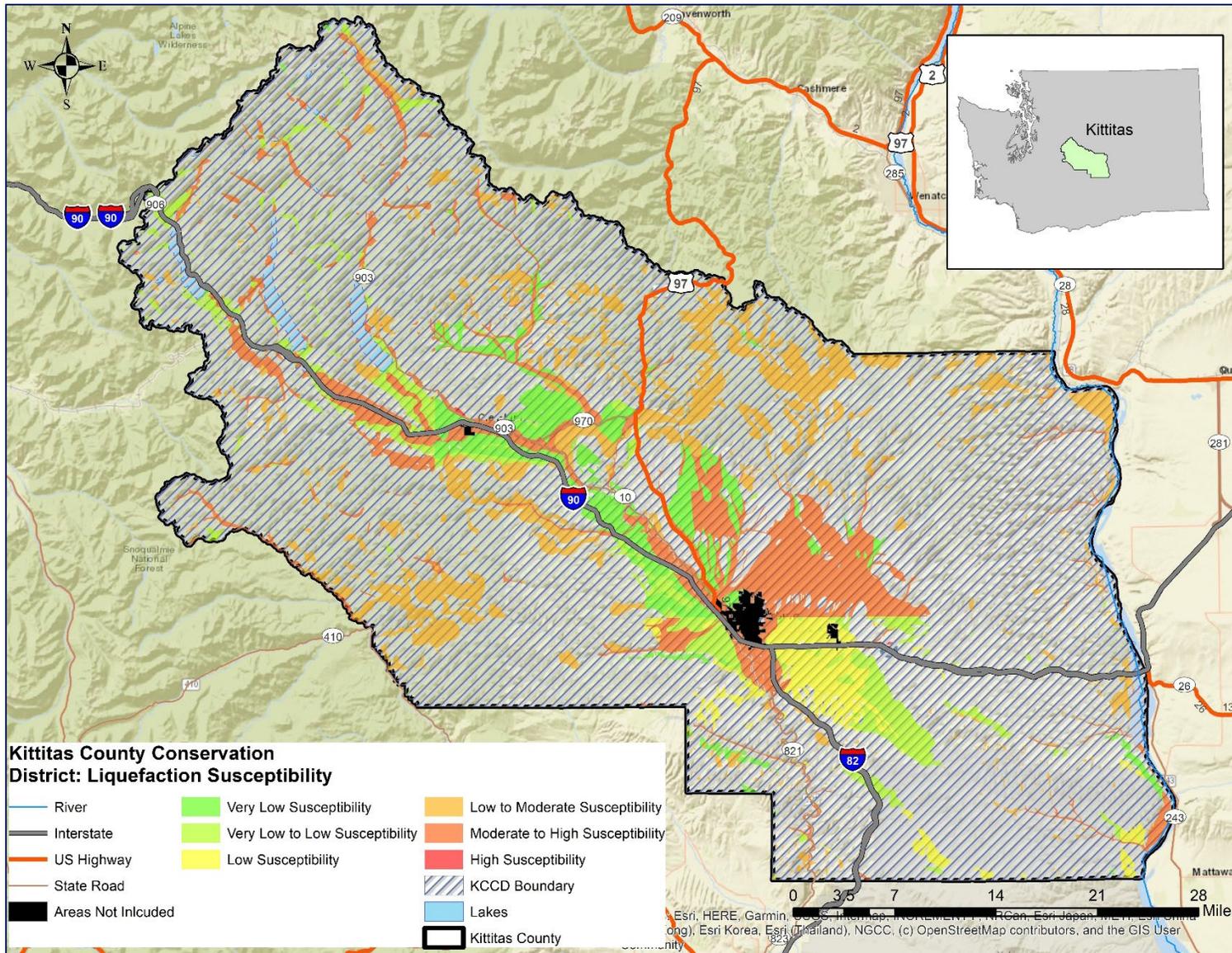




Figure 3. Special Flood Hazard Area

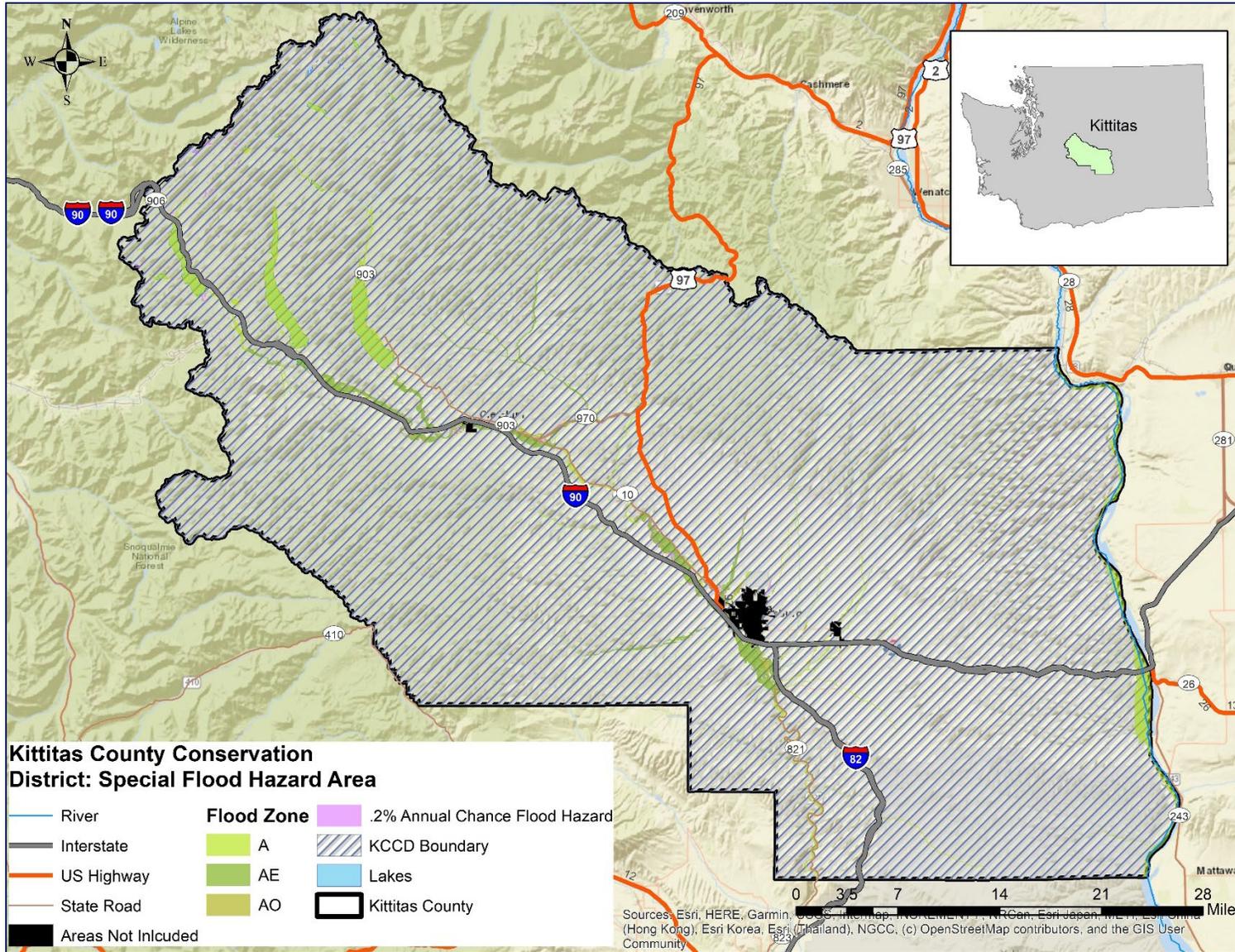




Figure 4. Cle Elum Dam Inundation Area

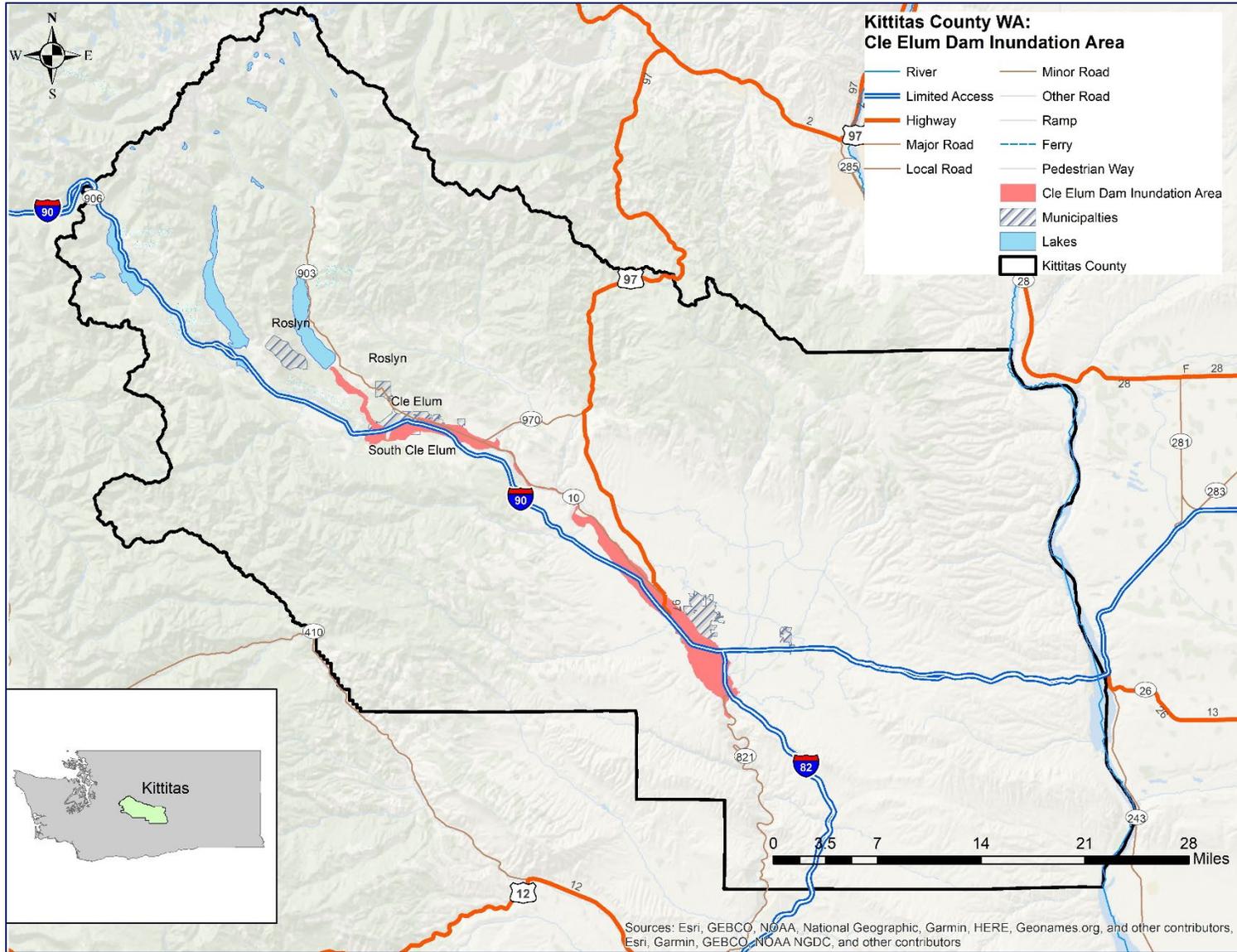




Figure 5. Easton Dam Inundation Area

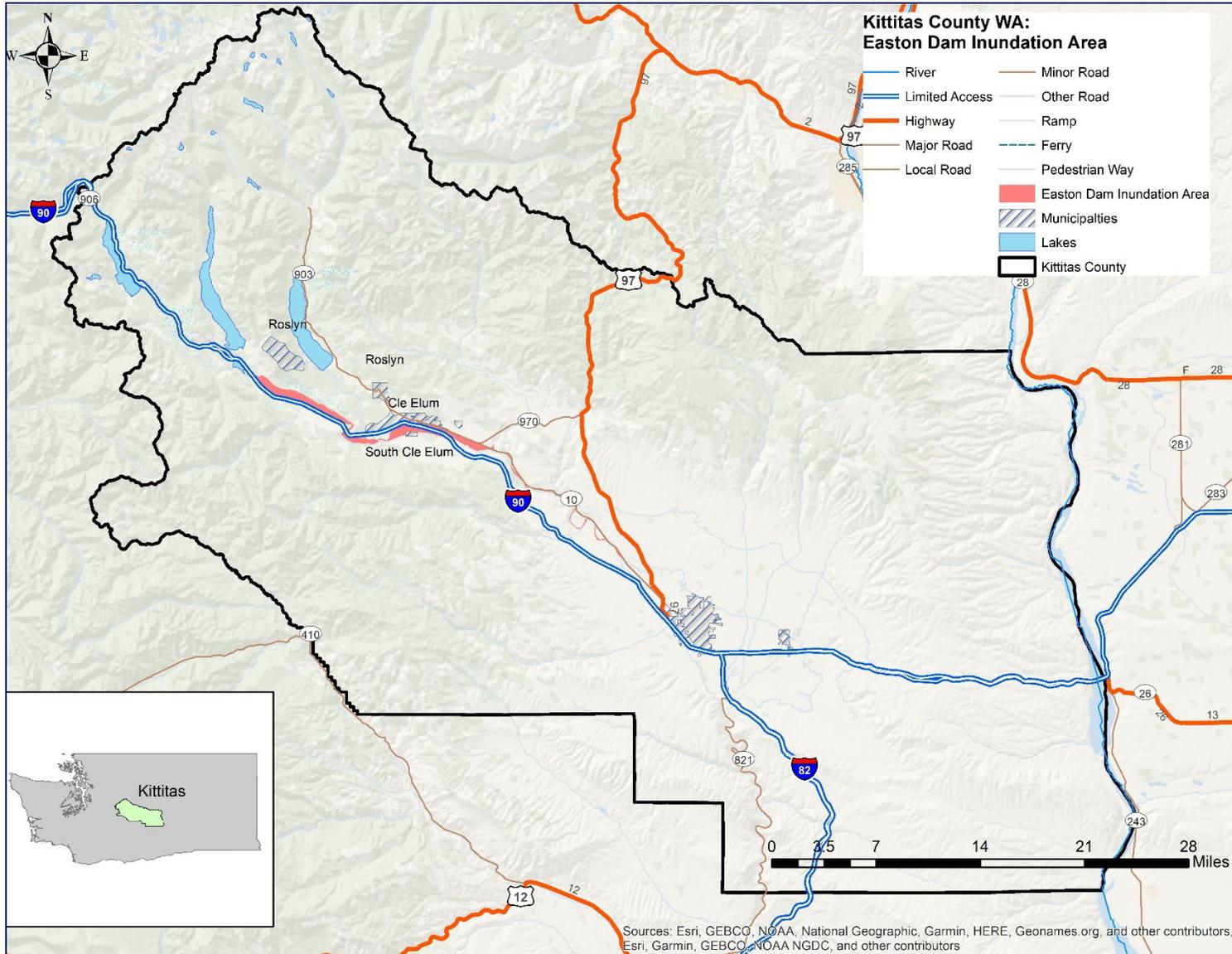




Figure 6. Keechelus and Kachees Dam Inundation Area

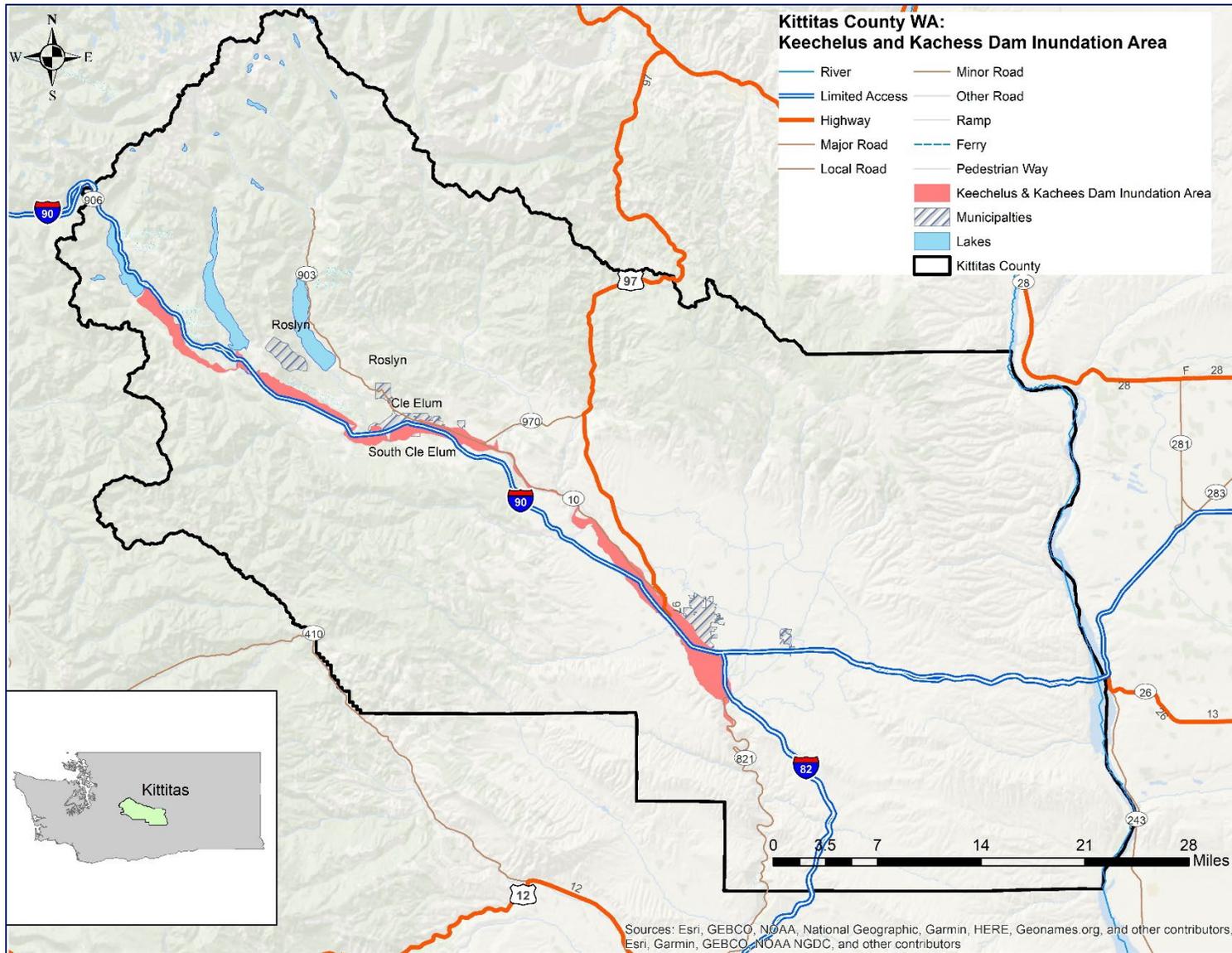




Figure 7. Wildfire Likelihood

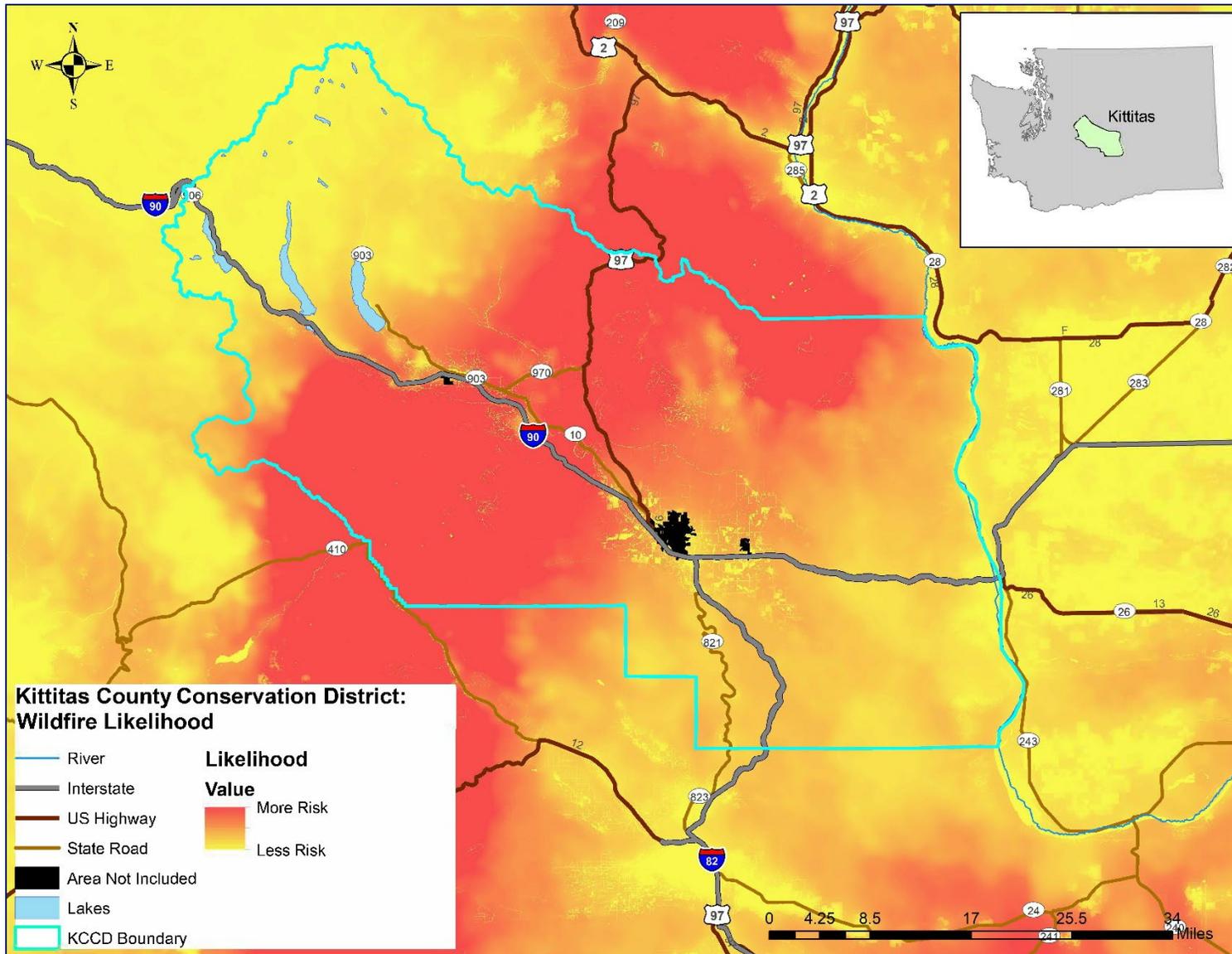
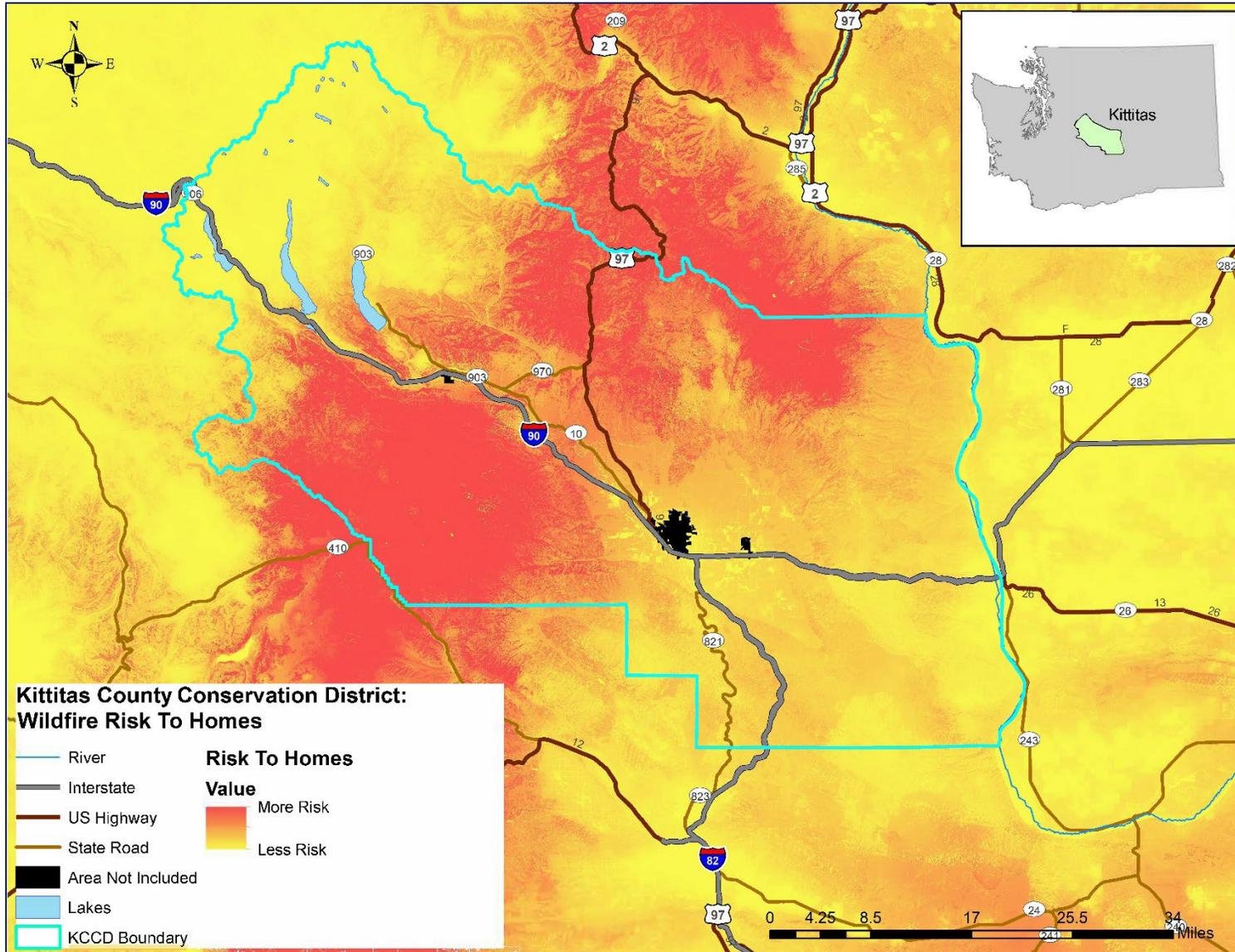




Figure 8. Wildfire Risk to Homes





APPENDIX B. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA Approval]