Chapter Twelve
Climate

Purpose

The Climate Element is a required element of comprehensive plans under RCW 36.70A.020 RCW 36.70A.020 requires cities and counties to use their comprehensive plan to build resilience and reduce greenhouse gas emissions that contribute to climate change. The update to the GMA passed in HB 1181 integrates climate planning into the Growth Management Act (GMA) and requires the adoption of a greenhouse gas (GHG) emissions reduction sub-element with actions to reduce overall emissions and per capita vehicle miles traveled (VMT) and a resilience sub-element to avoid the adverse impacts of climate change. Washington's new planning law also directs jurisdictions to make changes to the Capital Facilities, Environment, Land Use, Recreation, Transportation, and Utilities chapters to incorporate climate goals and policies.

Chapter Organization

The Climate Element includes a set of broad goals for various aspects of climate action the county derived from the Washington Department of Commerce intermediate guidance. The Element is organized into two sub-elements, the greenhouse gas reduction and resilience sub-elements. These sub-elements include a discussion of each sector, how climate change is projected to influence the sector, and a comprehensive set of policies to help achieve the goals. The Climate Element is also supplemented by a series of appendices that provide additional information that was used to develop this Element.

Goals and policies included in the element were evaluated for compliance with Growth Management Act requirements under HB 1181, 2023 Department of Commerce Climate Element Intermediate Planning Guidance, compatibility with existing local policies, and compatibility with the Whatcom County Climate Action and Hazard Mitigation Plans. Goals and policies were included in the greenhouse gas reduction sub-element if the goal or policy had a direct link to a greenhouse gas reduction mechanism. Goals and policies were included in the resilience sub-element if the goal or policy had a direct link to a hazard exacerbated by climate change. Other elements include climate goals and policies, which can be found in dedicated sections in those elements.

Conformity with State Laws and Regulations

The Climate Element conforms with the 2023 Department of Commerce Climate Element Intermediate Planning Guidance for local governments planning under the Growth Management Act. In 2025, Whatcom County will also review the Element for compliance with the full guidance that reflects the results of a rulemaking process for HB 1181.

Commented [LC1]: Note: Whatcom County will submit the Greenhouse Gas Reduction sub-element for voluntary review to the Washington Department of Commerce.

See fact sheet at: www.commerce.wa.gov/growth-management/climate-planning/

Consistency with Whatcom County Comprehensive Plan

To ensure that the goals and policies included in the Climate Element are internally consistent with other elements of the County's Comprehensive Plan, a policy audit was conducted to identify any similar or overlapping goals and policies from other elements of the County's adopted Comprehensive Plan, and other plans the County has adopted that support implementation of the Comprehensive Plan. Based on this assessment, the County finds that the Climate Element is consistent with the other elements of the Comprehensive Plan and externally consistent with the countywide planning policies, regional transportation plan, and other adjacent city comprehensive plans.

Commented [LC2]: Sections were proposed in chapters across the Comprehensive Plan, as appropriate based on the requirements of HB 1181 and the intermediate planning guidance, and Whatcom County Council resolution 2022-036.

The climate element includes new policy language to address the 2023 climate planning intermediate guidance requirements and to address local policy priorities. Internal consistency will be reassessed as recommendations for Comprehensive Plan amendments are finalized in the legislative process.

Consistency with the Whatcom County Natural Hazard Mitigation Plan

The Natural Hazard Mitigation Plan was submitted to the WA Department of Emergency Management and Federal Emergency Management Agency (FEMA) for approval in 2021. By reviewing and updating the Hazard Mitigation Plan every five years, the County maintains eligibility for certain hazard mitigation funding from FEMA. The goals and policies of the Climate Element are complementary to and consistent with the recommended mitigation strategies of the 2021 Hazard Mitigation Plan and its identified hazards. To ensure that the goals and policies of the 2026 Hazard Mitigation Plan are consistent with recent FEMA climate guidance, a policy audit was conducted in advance of the update.

Consistency with the Whatcom County Climate Action Plan

In 2021, the County adopted the Whatcom County Climate Action Plan (CAP) through Resolution 2021-049. The CAP established a goal to reduce countywide emissions by 45% from 1990 levels by 2030 and achieve net zero emissions by 2050. The Climate Action Plan also established an emissions reduction goal of 85% from 2000 levels by 2030 for County government operations. The CAP adopts sector-specific emissions goals and provides foundational actions to establish a trajectory towards achieving those goals. The Climate Element has been reviewed for consistency with both the Climate Action Plan and other local climate planning documents adopted by other partners, including the City of Bellingham, Port of Bellingham, Nooksack Tribe, Lummi Nation, Whatcom Transit Authority, and Whatcom Council of Governments.

Greenhouse Gas Emissions Reduction Sub-Element

Introduction

This sub-element provides an overview of greenhouse gas emissions sources in Whatcom County and includes a comprehensive set of goals and policies to reduce emissions associated with those sectors.

HB 1181 requires that a county's greenhouse gas reduction sub-element and its related development regulations result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction, reduce per capita vehicle miles traveled, and prioritize reductions that benefit overburdened communities. This greenhouse gas sub-element includes prioritized policies that have a demonstrated ability to reduce greenhouse gas emissions.

Background Summary

The 2022 Whatcom County Greenhouse Gas Emissions Inventory quantified emissions produced by activities across Whatcom County, including emissions from the built environment, industrial processes, transportation, solid waste and wastewater treatment, refrigerant usage, and land use. In 2022, Whatcom County produced an estimated 8,121,734 metric tons of carbon dioxide equivalent (MTCO2e), which equates to approximately 35.1 MTCO2e per capita. For a more detailed discussion of greenhouse gas emissions and emissions trends and projections, see the Appendix.

Issues, Goals, and Policies

The greenhouse gas reduction sub-element addresses all eleven sectors recommended in the 2023 Department of Commerce Climate Element Intermediate Planning Guidance in the greenhouse gas emissions reduction goals and policies listed below.

Agriculture & Food Systems

Agricultural producers can reduce emissions associated with production and distribution through adoption of renewables and reductions in fuel use, including decreasing distances travelled for distribution through local processing. Land based strategies to reduce emissions also include the implementation of practices that increase carbon stored in soil or vegetation. Other changes in production practices that result in reduced emissions of methane and nitrous oxide include improved manure management and reduced pesticide use.

Goal 12.1- Reduce greenhouse gas emissions from agriculture and food system activities that contribute to climate change.

Policy 12.1.1- Support incentives for renewable energy projects, including agrivoltaic systems, that integrate renewable energy production with ongoing agricultural activities.

Policy 12.1.2- Encourage agricultural producers to reduce the uses of fuels, agricultural supplies, synthetic fertilizers, and pesticides derived from fossil fuels.

Policy 12.1.3- Increase accessibility of locally produced agricultural products by supporting retail, institutional, and community market opportunities for local producers and food businesses.

Policy 12.1.4- Facilitate the development of local distribution networks and processing infrastructure to reduce distances traveled to transport agricultural goods and inputs.

Policy 12.1.5- Provide financial incentives and technical support for the replacement of conventional refrigeration systems with appliances that use alternative refrigerants, reducing emissions from cooling systems.

Policy 12.1.6- Partner with livestock producers to implement best practices for manure management, including anaerobic digesters and manure application to reduce greenhouse gas emissions and improve soil health.

Policy 12.1.7- Promote the adoption of efficient irrigation technologies and practices that minimize water use, increase soil water holding capacity, and reduce energy consumption associated with water treatment and distribution.

Buildings & Energy

Building energy use, primarily for heating and cooling residential, commercial, and industrial buildings, is a significant source of greenhouse gas emissions in Whatcom County. Retrofits to existing building space through better insulation, envelope and duct airsealing, improved heating and cooling equipment, and increased building efficiency drive emissions reduction. Other solutions, such as increasing adoption of renewable energy sources, distributed renewables, and green building construction standards identified in the policies below, can also reduce emissions in this sector.

Goal 12.2- Reduce emissions from building and energy use by promoting the transition to renewable energy sources, implementing green building standards, and retrofitting existing buildings to be more energy efficient.

Policy 12.2.1- Implement the Washington State Building Code's requirements for residential and commercial construction, including space and water heating

guidelines for eligible new commercial construction and energy efficiency targets for residential construction.

Policy 12.2.2- Expand access to utility, state, and federal resources, technical assistance and incentives for the retrofitting of existing buildings to improve building operational efficiency.

Policy 12.2.3- Encourage the development of single and networked microgrids and distributed energy storage with battery back-up to support energy security, resilience, and affordability.

Policy 12.2.4- Promote the development of wind, solar, and geothermal energy projects, including small-scale and community-owned renewable energy installations.

Policy 12.2.5- Advocate for utility investments in renewable energy development, energy efficiency incentives, and low-income energy assistance in Whatcom County to meet the Clean Energy Transformation Act compliance targets.

Policy 12.2.6- Encourage the design of highly energy-efficient new buildings that utilize on-site or off-site renewable energy, and include the use of low-carbon, recycled, or reused materials in building projects.

Policy 12.2.7- Update the Whatcom County code and development standards to incorporate best practices for renewable energy project permitting and siting, consistent with WA Healthy Environment for All (HEAL) Act guidance.

Policy 12.2.8- Improve construction resource efficiency by encouraging the use of locally or regionally derived building materials, such as wood and mass timber products that sequester and store embodied carbon.

Policy 12.2.9 - Advocate for updates to the Washington State Building Code to increase the energy efficiency of homes and buildings consistent with the 2009 SB 5854, "Energy First Bill."

Cultural Resources

Siting of utility and infrastructure projects, such as energy, water, or transportation systems, that reduce greenhouse gas emissions can have a negative impact on cultural resources. As required by RCW 70A.65.305, Whatcom County should consult with the Department of Archaeology and Historic Preservation, Department of Fish and Wildlife and all interested federally recognized Tribes on Climate Commitment Act funded programs or projects that may impact Tribal resources. Tribal resources, as recognized by RCW 70A.65.305 include, "Tribal cultural resources, archaeological

sites, sacred sites, fisheries, or other rights and interests in tribal lands and lands within which a tribe or tribes possess rights reserved or protected by federal treaty, statute, or executive order."

Goal 12.3- Protect, avoid, minimize, or mitigate impacts to cultural resources from Climate Commitment Act funded programs or projects through meaningful consultation, as defined by HB 1753 and RCW 70A.65.305, with the appropriate local, state, and federal authorities, including affected Indian Tribes.

Policy 12.3.1- At the earliest possible date prior to submittal of an application to receive funds from Climate Commitment Act accounts, Whatcom County will consult with the Department of Archaeology and Historic Preservation, Department of Fish and Wildlife and all interested federally recognized Tribes in accordance with HB 1753.

Policy 12.3.2- Consultation will be early, meaningful, and individual with any affected federally recognized Tribe, with the goal of identifying Tribal and cultural resources potentially affected by the funding decisions and funding programs, assess their effects, and seek ways to avoid, minimize, or mitigate any adverse effects on cultural resources.

Policy 12.3.3 - Whatcom County will accept any documents summarizing Tribal issues, questions, concerns, or other statements regarding the project. The summary document submitted by Tribes during consultation will become part of the official application on file and do not limit what issues affected Tribes raise in the consultation process.

Policy 12.3.4- Whatcom County will adhere to all state and federal regulations that protect the location of certain cultural resources from disclosure. Any information that is exempt from disclosure pursuant to RCW 42.56.300 or federal law, including section 304 of the National Historic Preservation Act of 1966, shall not become part of the official application file.

Policy 12.3.5- Consultation will be independent of, and in addition to, any public participation process required by federal or state law, or by a federal or state agency, including the requirements of Executive Order 21-02 related to archaeological and cultural resources.

Policy 12.3.6- Whatcom County will work with the state and Tribes to identify and determine the potential impacts, including cumulative impacts, on affected cultural resources during the review of large-scale renewable energy permitting applications.

Policy 12.3.7- Whatcom County will work with the state and Tribes to identify and evaluate the potential impacts, including cumulative impacts, of proposed low-carbon transportation projects, energy transmission, and water utility infrastructure expansion on cultural resources.

Policy 12.3.8- Development on sites adjacent to or containing cultural resources should be planned and carried out so as to be compatible with continued protection of that resource.

Economic Development

Whatcom County's primary economic development sectors include manufacturing, food and beverage, technology, recreation, health, maritime, and agriculture industries. Opportunities for emissions reduction within these sectors include reducing emissions associated with business operations, evaluating supply chains, and adopting low carbon fuels.

Goal 12.4- Support the development of a local economic system that fosters business operations and opportunities associated with climate action.

Policy 12.4.1- Assist property owners regulated under the Clean Buildings Performance Standard access incentives to reduce building energy use and meet early compliance deadlines for Tier 1 and 2 buildings.

Policy 12.4.2- Consistent with the Climate Commitment Act, support covered industries' participation in the Washington State cap-and-invest market.

Policy 12.4.3- Encourage the development of local carbon offset projects to reduce greenhouse gas emissions and generate industry investment in local carbon sequestration projects.

Policy 12.4.4- Support emissions reductions within the manufacturing sector by partnering to increase access to state and federal incentives for the adoption of less carbon-intensive equipment.

Policy 12.4.5- Increase participation of qualified commercial, industrial, and multifamily properties in Whatcom County's C-PACER (Commercial Property Assessed Clean Energy and Resilience Program) to finance energy efficiency, renewable energy, water conservation, and resilience projects.

Policy 12.4.6- Determine eligible uses of economic development incentives, such as consumption tax exemptions, property tax abatements, and tax increment financing, to support climate action projects.

Policy 12.4.7- Promote purchasing from local businesses to support economic development and reduce emissions associated with the production and distribution of goods.

Policy 12.4.8- Partner with Western Washington University, Whatcom Community College, Bellingham Technical College, Northwest Indian College, Northwest Workforce Council, the Port of Bellingham, the Whatcom Working Waterfront Coalition, cities, and local businesses to address workforce skill gaps in emerging sectors that support climate action.

Ecosystems

Ecosystems play a vital role in mitigating climate change by capturing and storing carbon. Protecting, enhancing, and restoring forests, wetlands, aquatic ecosystems, and green space contributes to a reduction in greenhouse gas emissions through carbon sequestration. These nature-based solutions to greenhouse gas reduction can also protect biodiversity and improve water and air quality.

Goal 12.5- Protect, expand, retain, and restore open space, green space and tree canopy to promote aquatic and terrestrial carbon sequestration.

Policy 12.5.1- Identify, protect, and restore tidal wetlands and submerged aquatic vegetation, including seagrass, eelgrass, and kelp to enhance blue carbon sequestration.

Policy 12.5.2- Designate high-value greenspace and greenways for acquisition, conservation easements, or other preservation programs to enhance carbon sequestration and provide community benefits.

Policy 12.5.3- Increase, retain, and protect the tree canopy in UGAs, prioritizing underserved areas with low canopy cover and areas that may otherwise be vulnerable to urban heat island effects.

Policy 12.5.4- Develop and implement forest management plans for County-owned property, including individual parcels, parks, greenspace, and forestland to address climate stressors and guide adaptive management practices.

Policy 12.5.5- Discourage the conversion of forests, grasslands, and other high-carbon storage areas for uses that are incompatible with habitat preservation and carbon sequestration goals.

Policy 12.5.6- Identify, protect, and restore riparian areas on public and private properties to protect water quality, salmon and wildlife habitat, and to store carbon in riparian vegetation, wetlands, and soils.

Health

Addressing climate change represents a significant opportunity to improve public health and advance health equity. Greenhouse gas emissions reduction strategies that also improve health outcomes include increasing access to clean energy, low carbon transportation, parks and greenspace, and locally produced food. These strategies can improve the well-being of individuals and communities while reducing health disparities, particularly among groups most vulnerable to the impacts of climate change.

Goal 12.7- Improve public health outcomes and advance health equity by increasing access to sustainable transportation, renewable energy, and locally produced food.

Policy 12.7.1- Protect, maintain, and invest in transportation infrastructure that promotes access to sustainable transportation options, such as walking, cycling, transit services, and electric vehicles.

Policy 12.7.2- Prioritize investments to reduce vehicle emissions in neighborhoods disproportionately affected by air pollution.

Policy 12.7.3- Ensure equitable access to clean drinking water, wastewater, and energy services by identifying and addressing utility infrastructure gaps, particularly in rural and underserved communities.

Policy 12.7.4- Support programs that provide financial assistance or subsidies for low-income households and landlords to improve energy efficiency, reduce utility costs, and access renewable energy.

Policy 12.7.5- Strengthen support for community-based programs that promote access to locally produced, healthy, and culturally appropriate food, particularly for individuals experiencing food insecurity.

Policy 12.7.6- Improve recreational access to public lands to promote equitable access to open space, greenspace, and parks and improved public health outcomes.

Transportation

Greenhouse gas emission reduction strategies for the transportation sector include electrification, switching to lower carbon fuels, and reducing travel demand. To

lower transportation emissions, Whatcom County is evaluating land use planning practices to lower per capita VMT, promote taking fewer trips and assessing regional investments in public transit and multimodal transportation. Improving transportation options and multimodal connectivity for all residents reduces emissions and advances equity.

Goal 12.8- Support reductions in per capita Vehicles Miles Traveled (VMT) and in greenhouse gas emissions per VMT by adopting new transportation planning approaches and technologies, expanding infrastructure, improving connectivity, and increasing access to low-carbon transportation options.

Policy 12.8.1- Support efforts to reduce per capita vehicle miles traveled (VMT) and single occupant vehicle trips, including compliance with the Commute Trip Reduction Act and other initiatives to increase carpooling, ridesharing, telecommuting, bicycling, rail, and transit use.

Policy 12.8.2- Work with Whatcom Council of Governments and cities to establish and track a local and regionally coordinated per capita VMT reduction goals and policies consistent with the statewide reduction targets in RCW 47.01.440.

Policy 12.8.3- Coordinate with WSDOT, Whatcom Council of Governments, and cities to update the regional transportation plan to estimate and track transportation related greenhouse gas emissions by jurisdiction in Whatcom County.

Policy 12.8.4- Support initiatives that drive the adoption of fuel-efficient and low-emission freight technologies, including electric trucks and cleaner heavy-duty cargo-handling equipment.

Policy 12.8.5- Promote the adoption of electric vehicles (EVs) by increasing awareness of state and federal incentives for EV purchases and leases.

Policy 12.8.6- Invest in the development and installation of a countywide electric vehicle charging network, prioritizing underserved and disadvantaged communities to ensure equitable access.

Policy 12.8.7- Collaborate with regional partners to facilitate the expansion of electric vehicle (EV) infrastructure across Whatcom County.

Policy 12.8.8- Implement the countywide active transportation network and further expand an interconnected, regional multimodal network of pedestrian, bicycle, and transit facilities that enables more trips via walking, biking, and transit.

Policy 12.8.9- Encourage the adoption of battery-electric and low-carbon technology alternatives for off-road equipment used in construction, agriculture, and industrial activities.

Policy 12.8.10- Collaborate with Whatcom Transportation Authority (WTA) to ensure the operation and promote the use of a reliable, efficient, and equitable transit network that reduces emissions by promoting transit use over internal combustion engine vehicles.

Policy 12.8.11- Support Whatcom Transportation Authority's goal to transition to a zero-emission fleet by 2040.

Policy 12.8.12- Support regional and industrial efforts to reduce emissions in the aviation sector through advancements in sustainable aviation fuel and aircraft technologies.

Policy 12.8.13- Support the Port of Bellingham's initiatives to electrify shipping terminals and promote the transition to cleaner marine engines and equipment.

Policy 12.8.14- Support state and federal incentives to increase efficiency and replace diesel-powered passenger and freight trains with lower carbon alternatives.

Policy 12.8.15- Review bidding and procurement policies to prioritize lower-carbon materials and processes in County funded transportation projects.

Waste Management

Waste diversion strategies can reduce the amount of waste generated in Whatcom County that is currently being transferred to landfills outside Whatcom County. Decreasing waste production lowers greenhouse gas emissions emitted due to waste transport, processing, and disposal. Updating existing wastewater treatment infrastructure and maintaining septic tanks and water systems further reduces methane emissions.

Goal 12.9- Reduce emissions associated with waste management, sewage disposal, and wastewater treatment across Whatcom County.

Policy 12.9.1- Support reductions in waste hauler emissions by promoting efficiency in collection routes, reducing idle times, and transitioning fleets from diesel to low- or zero-carbon fuels.

Policy 12.9.2- Advocate for waste processors to adhere strictly to the Environmental Protection Agency (EPA) and manufacturer guidelines for proper refrigerant

decommissioning to reduce emissions during disposal.

Policy 12.9.3- Oversee the alignment of private waste haulers with the Whatcom County Comprehensive Solid and Hazardous Waste Management Plan to minimize waste generation and disposal emissions.

Policy 12.9.4- Support the expansion of organic material collection services to increase the diversion of waste from landfills, as required by RCW 70A.205.545 and consistent with RCW 70A.205.715.

Policy 12.9.5- Revise Whatcom County's Flow Control Ordinance (No. 91-041) to include the recycling of construction and demolition debris, promoting the reuse and recovery of building materials to reduce waste and associated emissions.

Policy 12.9.6- Support the adoption of technologies that reduce methane emissions in public wastewater treatment systems.

Policy 12.9.7- Expand the septic tank replacement rebate programs and septic inspections to incentivize the installation and maintenance of systems.

Policy 12.9.8- Compliant with RCW 70A.205.040, Whatcom County will amend zoning code to allow for the siting of organic materials management facilities in the areas identified in RCW 70A.205.040(3)(a)(i), to the extent necessary to provide for the establishment of the organic materials management volumetric capacity identified under RCW 70A.205.040(3)(a)(ii).

Water Resources

Increasing water demand in industrial, commercial, and residential buildings and for irrigation results in more greenhouse gas emissions associated with water treatment and transport. Reducing demand for water through water conservation and improvements in wastewater treatment efficiency reduces the energy use necessary to produce and transport treated water.

Goal 12.10- Work with water utilities to reduce emissions associated with water treatment through the adoption of new technologies and implementation of water conservation and efficiency practices.

Policy 12.10.1- Support efforts to improve energy efficiency in wastewater treatment through investment in advanced monitoring and control technologies that optimize energy use.

Policy 12.10.2- Support incentive programs to promote water conservation practices that reduce overall water demand and the energy required for water treatment.

Policy 12.10.3- Encourage the use of smart irrigation systems, stormwater management strategies, and preventative maintenance by water users to improve water efficiency.

Policy 12.10.4- Promote wastewater reuse and water conservation by water users to lower energy and water treatment emissions.

Zoning & Development

Facilitating land use patterns to promote dense, mixed-use, and transit-oriented development in Urban Growth Areas (UGAs) and preservation of rural lands, limits increases in greenhouse gas emissions. Continued efforts to incentivize infill, adapt development regulations, and preserve wetlands, forests, and open space can reduce emissions associated with land use.

Goal 12.11- Implement dense, mixed-use, and transit-oriented development in UGAs, where appropriate, and land preservation policies in rural areas to reduce greenhouse emissions.

Policy 12.11.1- Adopt incentive programs, such as density bonuses and tax deferrals in Urban Growth Areas (UGAs) to promote compact, transit-oriented, and infill development, reducing vehicle miles traveled and associated transportation emissions.

Policy 12.11.3- Strengthen the Density Credit Program, Conservation Easement Program, and Transfer of Development Rights Program to promote higher-density developments and preservation of open spaces and rural lands for carbon sequestration.

Policy 12.11.4- Review Whatcom County code for opportunities to discourage conversion of forestland for non-forestry uses.

Policy 12.11.5- Consistent with the Critical Areas Ordinance, strongly discourage development that would degrade wetlands to support carbon sequestration goals.

Policy 12.11.6- Evaluate mitigation monitoring to determine the effectiveness of critical areas protections and riparian management initiatives.

Resilience Sub-Element

Introduction

This sub-element provides an overview of climate hazards in Whatcom County and includes a comprehensive set of goals and policies to increase resilience to climate change.

HB 1181 requires that a county's resilience sub-element and its related development regulations address natural hazards created or aggravated by climate change, protect and enhance natural areas to foster climate resilience, and protect and enhance community resilience to climate change. The resilience sub-element includes prioritized measures that reduce the severity of the projected climate impacts from changing temperature and precipitation patterns, sea level rise, landslides, flooding, drought, heat, smoke, wildfire and ocean acidification.

Background Summary

The 2025 Whatcom County Climate Hazard & Impact Assessment Report analyzes countywide vulnerability to climate change. The analysis evaluates exposure to climate impacts and identifies priority hazards exacerbated by climate change. The analysis also identified disproportionately burdened populations countywide due to climate impacts. The report identified variables that address a wide range of socioeconomic, occupational, and geographic factors that define people who are disproportionately burdened by climate impacts. For a more detailed discussion of current and projected climate hazards and environmental health disparities, see the Appendix.

Issues, Goals, and Policies

The resilience sub-element addresses all eleven sectors recommended in the 2023 Department of Commerce Climate Element Intermediate Planning Guidance in the resilience goals and policies listed below.

Agriculture and Food Systems

Higher air temperatures, more days with extreme heat, flooding, and drought are expected to disrupt water availability and intensify stress on crops and livestock, undermining sustainability and reducing yields. More extreme precipitation and shifts in snowpack and stream flows will alter seasonal water availability for irrigation and drive changes to agricultural practices. As suitable seasonal windows for planting and cultivation shift, producers may need to adopt climate-adaptive agricultural practices, including regenerative agriculture, modified crop and livestock selection, soil carbon enhancement, and water conservation.

Goal 12.12 Adapt agricultural production systems and practices to a changing climate and fortify the food system against climate disruptions.

Policy 12.12.1- Support agricultural producers in diversifying crops resilient to climate change, promoting variety and climate-resilient crop types to improve food security, and reducing risks associated with climate variability.

Policy 12.12.2- Promote the adoption of climate-friendly agricultural practices that increase carbon sequestration and improve soil health through innovative methods, including regenerative agriculture, agroforestry, and silvopasture to increase carbon sequestration and improve soil health.

Policy 12.12.3- Evaluate the risks posed by climate hazards (e.g. drought, flooding, heat waves) to agricultural production, and develop strategies to mitigate these risks.

Policy 12.12.4- Encourage agricultural producers to diversify their product offerings, where feasible, to increase the resilience of the local food system to climate-related disruptions.

Policy 12.12.5- Develop and implement strategies to conserve water resources for agricultural use, including incentives for water-efficient irrigation systems and practices that enhance water catchment and retention.

Policy 12.12.6- Develop a monitoring and response strategy for saltwater intrusion into aquifers and drainage systems.

Policy 12.12.7- Continue supporting local, regional, and state partners to implement real-time drought monitoring systems and forecasting capabilities that support emergency water access plans for water users.

Policy 12.12.8- Explore opportunities to expand water storage capacity and improve streamflow management for agricultural purposes, particularly in areas vulnerable to seasonal water shortages.

Policy 12.12.9- Increase agricultural resilience to climate impacts such as sea level rise, shoreline erosion, and riverine flooding by adapting drainage management systems and restoring estuary, riparian, floodplain, and wetland habitats.

Policy 12.12.10- Promote best practices in soil conservation to minimize erosion, particularly in areas at high-risk of riverine flooding or sea level rise.

Buildings & Energy

More extreme climate conditions and weather events will likely increase energy demand for heating and cooling buildings, particularly those that are not adequately weatherized. While warmer air temperatures due to climate change may lower energy demand for heating buildings, increased demand during extreme cold weather events could offset any demand decrease during cold-weather months. Hotter and longer summer punctuated by extreme heat waves will increase cooling demand in the warm-weather months, particularly in areas with inadequate tree cover and development patterns that create more heat islands. Climate impacts and natural hazards, like sea level rise and flooding, may also cause displacement, in addition to damaging or destroying of existing structures. The increased prevalence and intensity of wildfire is also expected to heighten displacement risk, increase exposure of vulnerable populations, especially the most vulnerable, to heat and smoke These disruptive forces will reduce insurability, and raise building retrofit costs for buildings that that improve weatherization, indoor air quality safety, heating, and cooling.

Goal 12.13- Design and update building and energy infrastructure for increased survivability, reliability, recovery, and efficiency during extreme weather events, floods, wildfires, and other hazards exacerbated by climate change.

Policy 12.13.1- Encourage utility providers to upgrade and improve energy infrastructure to reduce vulnerability to climate-related hazards and to safeguard public health and improve service capacity for remote, underpowered communities.

Policy 12.13.2- Promote participation in utility energy efficiency and demand response programs to reduce energy consumption during peak periods, especially during extreme weather events, and to extend available system capacity during emergency conditions.

Policy 12.13.3- Develop building design standards that reflect climate forecasts for the region and provide for passive survivability to ensure safe indoor conditions in the event of an extended energy outage.

Policy 12.13.4- Require the installation of distributed generation systems, such as solar with energy storage and microgrids, in critical facilities (e.g., emergency management centers, essential public infrastructure, and County facilities) to ensure energy availability during power outages for County owned critical facilities.

Policy 12.13.5- Update flood code to reflect climate exacerbated flooding and evaluate development regulations that restrict and regulate the design and location of buildings and infrastructure in flood-prone areas, and to the extent they are allowed, ensure buildings are adapted to withstand flooding, through standards related to elevation, floodproofing, improved drainage systems, and the protection of life and property.

Policy 12.13.6- Prioritize relocation or retrofitting of critical infrastructure and at-risk buildings in areas subject to frequent flooding to reduce long-term risks and recovery costs, and adopt land use regulations that restrict further development in areas forecasted to experience additional flood impacts due to climate change.

Policy 12.13.7- Implement development regulations to mitigate wildfire risks and partner with agencies to create defensible spaces around structures in the wildland-urban interface and to safeguard densely populated areas.

Policy 12.13.8- Prioritize or retrofitting of essential infrastructure, including undergrounding electrical lines and gas pipelines, in high-risk wildfire zones to enhance safety and recovery capabilities.

Policy 12.13.9- Maintain land-use policies and update the Critical Areas Ordinance to reduce exposure to landslide risks by completing additional geotechnical assessments in highest-risk areas.

Policy 12.13.10- Promote relocation or reinforcement of infrastructure and homes in areas vulnerable to landslides to mitigate the threat to public health and safety posed by this hazard.

Policy 12.13.11- Prepare for sea level rise by developing and implementing land use regulations that address risks to development and encourage relocation of essential infrastructure and residential structures in vulnerable coastal areas at risk of inundation and repeated flooding.

Policy 12.13.12- Support adaptation measures, such as habitat restoration, soft shoreline stabilization techniques, elevating structures and infrastructure, and managed retreat to protect coastal communities from rising sea levels.

Policy 12.13.13- Partner with organizations to ensure the availability of adequate short-term emergency sheltering and emergency relief facilities for vulnerable populations during extreme weather events.

Policy 12.13.14- Increase public access to community-serving facilities to provide

relief during extreme heat events and periods of poor air quality due to wildfire smoke.

Policy 12.13.15- Retrofit public buildings and other critical facilities to incorporate efficient air filtration systems and cooling technologies to protect vulnerable populations from heat stress and smoke-related health impacts.

Cultural Resources

Cultural resources are at increased risk to climate change due to warmer air temperatures, more extreme heat days, drought, wildfires, and flooding. Climate change can result in increased stress and loss of habitat for culturally significant species, increased storms and flooding, shifting habitat distribution, damage to historic and cultural sites, and limited access to gathering sites in coastal areas.

Goal 12.14- Ensure that cultural resources and practices, including historic sites and culturally important traditional foods and natural resources, are resilient to the impacts of extreme weather and other natural hazards worsened by climate change.

Policy 12.14.1- Consult with Tribes and Department of Archaeology and Historic Preservation (DAHP) to identify cultural resources and practices, including historic sites and culturally important traditional foods and natural resources that are threatened by climate change.

Policy 12.14.2- Protect archaeological sites and artifacts from damage, deterioration, or loss of integrity caused by climate-related hazards.

Policy 12.14.3- Through consultation with Tribes and DAHP, identify culturally significant buildings and structures at risk of destabilization, submersion, or collapse due to flooding and consider relocation or elevation, if appropriate.

Policy 12.14.4- Evaluate the vulnerability and sensitivity of culturally significant roads, trails, and landscape features to damage or alteration from climate change.

Policy 12.14.5- Through consultation with Tribes and DAHP, protect culturally significant species and habitats that are threatened by climate change.

Policy 12.14.6- Strengthen partnerships with federal recognized Tribes to advance the adaptation and preservation of cultural resources at risk due to climate change, as identified in tribal cultural resource codes.

Economic Development

Due to climate change, the regional economy risks employment disruption and decreased productivity in key sectors such as the maritime, tourism, agriculture, and forestry sectors, and reduced recreation opportunities. Whatcom County is expected to experience increasing costs related to relocation and damage to property and infrastructure due to coastal and riverine flooding, in addition to losses due to extreme heat, drought, wildfire, and ocean acidification. There is expected to be increasing price volatility for business inputs, loss of operational continuity, shipping disruptions, and increased unavailability of insurance in some areas.

Goal 12.15- Foster and enhance the resilience of key economic sectors against the risks of extreme heat, changes in temperature and precipitation, drought, wildfires, flooding, coastal flooding, and ocean acidification.

Policy 12.15.1- Promote financial and technical assistance programs to help agricultural producers introduce diversified intercropping, crop and livestock selection, and climate-adaptive agricultural practices in response to climate change.

Policy 12.15.2- Partner with the Port of Bellingham to adapt port-owned facilities and infrastructure to coastal flooding, sea level rise, and other climate impacts.

Policy 12.15.3- Monitor the impacts of warming ocean temperatures and ocean acidification on the seafood industry and promote diversification to reduce vulnerability to climate-related disruption.

Policy 12.15.4- Promote climate-adaptive forest management practices, such as increasing age distribution, rotation period, and stand structure to improve forest resilience to climate impacts.

Policy 12.15.5- Identify commercial and industrial facilities in shoreline and floodplain areas at risk of flooding and coastal inundation.

Policy 12.15.6- Encourage energy infrastructure modernization, such as underground transmission lines, microgrids, and smart grid technologies to improve safety and reduce vulnerability to wildfire and other climate impacts.

Policy 12.15.7- Develop economic innovation strategies to minimize workforce displacement caused by climate-related impacts on key industries.

Ecosystems

Climate change brings great risks to ecosystems. Rising temperatures, extremes of flood and drought, reduction in snowpack, increased wildfires, sea level rise, and ocean acidification are projected to bring landscape change, habitat loss, reduced species diversity, disrupt species distribution and cause an overall decline in ecosystem health.

Goal 12.16- Protect and restore priority critical areas and natural habitats that are at high-risk for flooding, sea level rise, landslides, wildfires, drought, or other events exacerbated by climate change.

Policy 12.16.1- Protect and restore coastal ecosystems, including coastal bluffs, estuaries, and marine habitats that are vulnerable to sea level rise, coastal flooding, and erosion.

Policy 12.16.2- Promote climate-resilient forest management practices that increase canopy cover where appropriate, improve forest health, increase biodiversity, and mitigate wildfire risks.

Policy 12.16.3- Encourage climate-resilient forest management practices, such as selective thinning and controlled burns, and invasive species management to improve forest health and reduce wildfire risks.

Policy 12.16.4- Protect and restore watersheds, riparian buffers, and wetlands to increase carbon sequestration, improve water retention and reduce flood risk.

Policy 12.16.5- Strengthen partnerships with state agencies, tribal nations, and conservation organizations to implement watershed-scale restoration initiatives to increase resilience to climate impacts.

Policy 12.16.6- Work with federal partners to prioritize alpine habitats for active management, restoration, and protection across jurisdictional boundaries.

Policy 12.16.7- Coordinate countywide ecosystem planning efforts to address climate impacts on priority habitats, in conjunction with County capital infrastructure planning.

Policy 12.16.8- Promote ecosystem restoration and protection projects that prioritize the recovery of habitats for critical endangered, threatened, and priority species.

Emergency Management

Climate hazards such as drought, extreme temperature fluctuations, wildfire, and flooding are expected to increase costs and demands for emergency preparedness, response, and recovery services, and could strain or overwhelm local emergency response capacity. These climate risks include increased demand for shelter, additional pressure on energy grids, and disruption to emergency management facilities, medical services, and critical supplies due to impossible or unsafe travel conditions and the potential magnitude of emergency events.

Goal 12.17- Factor climate risks and impacts into critical infrastructure siting, emergency operations planning, and the coordination of preparedness, response, and recovery activities.

Policy 12.17.1- Incorporate climate risk assessments into hazard mitigation plans, including hazards such as extreme heat, drought, wildfire and wildfire smoke, riverine flooding, and coastal flooding.

Policy 12.17.2- Update emergency management plans to improve Whatcom County's capacity to respond to and recover from climate impacts and natural hazards, ensuring that plans are regularly reviewed to address the latest climate projections and emerging hazards, such as wildfire threats to densely populated areas.

Policy 12.17.3- Strengthen partnerships with federal, state, tribal, and local agencies to coordinate emergency preparedness and response efforts across jurisdictional boundaries.

Policy 12.17.4- Prioritize overburdened communities in emergency management planning, including residents in floodplains, coastal zones, islands, wildfire-prone areas, and other areas at high risk of climate hazards.

Policy 12.17.5- Develop and implement climate-resilient evacuation plans, with a focus on areas most vulnerable to wildfires and flooding.

Policy 12.17.6- Ensure that evacuation routes are regularly assessed, maintained, publicized, and accessible to all residents, including those with limited access to transportation.

Policy 12.17.7- Increase community awareness and preparedness for climate-related emergencies by conducting regular tests of evacuation and other emergency alerts and providing accessible public information.

Policy 12.17.8- Support the modernization of utility, transportation, and communication infrastructure to ensure continued operations during extreme weather events and other climate-related disruptions.

Policy 12.17.9- Collaborate with local organizations and community groups to expand the capacity of and facilitate access to extreme weather shelters for vulnerable populations, including low-income, medically fragile, elderly, and homeless individuals.

Policy 12.17.10- Factor climate risks, such as flooding, sea-level rise, wildfire, and landslides, into the siting of new critical infrastructure, including roads, schools, hospitals, utilities, and emergency services facilities.

Policy 12.17.11- When relocating or retrofitting existing critical infrastructure, give priority to those installations that are highly vulnerable to climate hazards, ensuring continued functionality during extreme events.

Policy 12.17.12- Encourage utility providers to enhance the resilience of energy infrastructure by preparing for disruptions in energy supply, electricity transmission, and power distribution.

Policy 12.17.13- Coordinate with Whatcom Transportation Authority to assess potential transit service disruptions and create plans to maintain transit reliability during extreme weather events.

Health

Climate change is adversely impacting public health by increasing cases of infectious and vector-borne diseases and reducing food security and water quality. Floods, droughts, wildfire and wildfire smoke, extreme temperatures, and storms are expected to contribute to increased acute health emergencies, chronic disease and hospitalization. Overburdened communities, particularly those with preexisting health conditions, socioeconomic vulnerabilities, residence in an area at risk to climate impacts, or occupational risk are more likely to experience health impacts due to climate change.

Goal 12.18- Prioritize equitable access to resources and services for overburdened communities experiencing adverse health impacts due to climate change.

Policy 12.18.1- Integrate climate-related health risks into public health planning, giving priority to address the needs of overburdened communities disproportionately affected by climate hazards.

Policy 12.18.2- Develop community-based health programs that focus on preventing and mitigating the adverse health impacts of climate change, such as heat stress, wildfire smoke exposure, respiratory illnesses, waterborne diseases, invasive-species borne, and other novel infectious disease.

Policy 12.18.3- Prioritize investments in healthcare providers, community organizations, and tribal governments to ensure that healthcare services are accessible and responsive to the needs of vulnerable populations.

Policy 12.18.4- Prioritize investments in health infrastructure and services in communities most affected by climate-related health impacts, including low-income neighborhoods, rural areas, and other overburdened communities.

Policy 12.18.5- Strengthen public health monitoring systems to assess the long-term impacts of climate change on vulnerable populations, with a focus on emerging health threats.

Policy 12.18.6- Establish contingency plans and train to execute them with community partners for maintaining critical health services, including mobile health units and telemedicine, during extreme weather events and infrastructure failures.

Policy 12.18.7- Ensure that with emergency management responders are trained and equipped to rapidly restore essential services in the wake of climate-related disasters, particularly in overburdened communities.

Policy 12.18.8- Increase public health outreach to increase compliance with the Washington Outdoor Heat Exposure Rules to reduce exposure and prevent heat-related illness for outdoor workers, including agricultural workers.

Transportation

Climate change is expected to adversely impact transportation infrastructure, including increased road surface damage from higher temperatures, additional maintenance requirements for roadside vegetation and infrastructure damage from rain, freeze, and thaw cycles. Increasing temperatures and flooding may cause road closures, delays in ferry, transit, and air travel delays, and risks to routes, roads, bridges, sidewalks, trails, rail, and airport infrastructure.

Goal 12.19- Ensure the resilience of the transportation system by considering climate risks in siting and planning, incorporating redundancies, preparing for disasters and other impacts, and conducting coordinated planning for system recovery.

Policy 12.19.1- Conduct climate risk assessments during transportation planning processes to ensure that transportation networks remain operational amid flooding, wildfire, sea-level rise, extreme heat, and landslides, using available data to prioritize upgrades for vulnerable routes.

Policy 12.19.2- Collaborate with regional, state, and local partners to develop and implement comprehensive transportation plans that incorporate climate adaptation strategies and prioritize the protection of vulnerable populations and critical access and evacuation routes.

Policy 12.19.3- Improve access to climate-resilient transportation options, such as public transit, cycling, and pedestrian infrastructure to increase system flexibility during disruptions for rural and overburdened communities.

Policy 12.19.4- Invest in resilient transportation infrastructure that prioritizes greenspaces, stormwater management, natural buffers, and wetland restoration to mitigate climate-related risks of flooding, landslides, and coastal erosion.

Policy 12.19.5- Identify, map, and regularly review the viability of critical transportation corridors that serve as lifelines for emergency response and recovery, ensuring that these routes remain operational during disasters.

Policy 12.19.6- Develop and regularly update contingency plans to minimize transportation service disruptions caused by extreme weather events, emphasizing the rapid restoration of public transit, emergency evacuation routes, and freight corridors.

Policy 12.19.7- Implement and maintain real-time monitoring and communication systems to provide timely updates to the public on transportation service disruptions, accessible to low-income, rural, underserved, and other vulnerable populations.

Policy 12.19.8- Prioritize equitable access to alternative transportation options for communities disproportionately impacted by service disruptions, including low-income and rural populations.

Policy 12.19.9- Factor climate risks, such as sea level rise, flooding, extreme heat, and landslides, into the siting and design of new transportation infrastructure to minimize future vulnerabilities.

Policy 12.19.10- Support the strategic closure, rerouting, or elevation of critical transportation infrastructure that is at high risk of climate impacts, such as roads in areas at risk of wildfire and flooding.

Policy 12.19.11- Ensure that transportation design guidelines incorporate climate adaptation and resilience standards, particularly for infrastructure located in floodplains, coastal areas, and wildfire-prone regions.

Policy 12.19.12- Incorporate hydrologic climate impacts into the design of water-crossing structures (i.e. climate smart culverts and bridges) for fish and wildlife passage and habitat quality.

Waste Management

More extreme precipitation, storms, sea level rise, and flooding increases strain on wastewater systems and increases the risk of flooding to waste management facilities and landfills. Flooding and wildfires can have an adverse impact on waste pickup and delivery operations and increase service needs for disposal following storms and wildfires due to the generation and accumulation creating public safety risks.

Goal 12.20- Encourage solid waste collection servicers to plan for the impact of climate hazards on waste facility siting and operations.

Policy 12.20.1- Evaluate the siting of new waste management facilities against climate risk assessments to minimize long-term vulnerabilities.

Policy 12.20.2- Update the Debris Management Plan to incorporate climate hazards and plan for continued operations during and after climate-related disruptions, such as extreme storms, floods, wildfires, or heatwaves.

Policy 12.20.3- Encourage upgrades of waste facility infrastructure, such as stormwater management systems, to mitigate infrastructure risks from flooding and erosion, sea level rise, and contamination risks.

Policy 12.20.4- Establish protocols for safe and efficient waste collection and disposal of debris during and after emergencies, ensuring that waste services respond to extreme weather events.

Water Resources

Projected climate change will adversely affect water availability, quality, and stormwater management. The retreat of the North Cascades glaciers and decreased winter snowpack will result in lower summer streamflow. As the glaciers retreat the summer base flows will appear to normalize or remain higher than historical flows, masking the threat of long-term glacial retreat. Warmer and drier summers and increased growth and development will increase demands on water resources, causing further reductions in instream flows and groundwater recharge and

increasing the risk of seawater intrusion, especially when combined with rising sea levels. In addition, increased winter precipitation will result in more frequent and intense flooding requiring innovative stormwater management solutions. With the anticipated disruption of the county's hydrological patterns due to climate change, it is important to prioritize proactive measures to ensure water security and enhance community resilience against its long-term impacts.

Goal 12.21- Strengthen the resilience of Whatcom County's water sources and systems to climate impacts by enhancing watershed protection, stabilizing water supplies, conserving habitats, and improving water infrastructure.

Policy 12.21.1- Consider climate change in the floodplain management planning process, including incorporating best available science modelling changes in groundwater, sea level rise, and flooding frequency and magnitude.

Policy 12.21.2- Collaborate with local, regional, and tribal partners to ensure that water resource planning through the WRIA 1 Watershed Management Project integrates climate projections and surface and groundwater modelling and monitoring, with a focus on evaluating the impacts of climate change on water availability, quality, and infrastructure.

Policy 12.21.3- Prioritize the restoration of wetland and riparian management zones to mitigate temperature increases in streams and restore natural streamflow, improve habitat connectivity to lost or degraded habitats, protecting aquatic species that are vulnerable to warmer water conditions and providing connected habitat for aquatic and terrestrial species.

Policy 12.21.4- Invest in green infrastructure solutions, such as bioswales and permeable pavements, to manage increased stormwater runoff caused by increased precipitation and mitigate the adverse effects of construction and development.

Policy 12.21.5- Update stormwater management practices and treatment systems to incorporate climate projections, including updating fish barrier culverts, to handle larger volumes of runoff, reducing the risk of flooding and water contamination during storms.

Policy 12.21.6- Strengthen regulatory requirements for stormwater management in new developments to ensure that climate impacts are incorporated in design and construction, consistent with updated stormwater management guidance.

Policy 12.21.7- Expand efforts to protect and restore critical watersheds, particularly those that provide essential water supplies and habitat for priority species vulnerable to climate change.

Policy 12.21.8- Incorporate wetland riparian area, groundwater recharge areas, and headwater restoration and protection as a key component of climate adaptation strategies, recognizing the complimentary benefits of mitigating storm impacts and supporting biodiversity.

Policy 12.21.9- Promote investments in infrastructure upgrades that enhance the capacity and conveyance of surface water to handle shifting water demands and supply variability.

Policy 12.21.10- Implement natural water storage solutions, such as floodplain reconnection, beaver management, wetland enhancement, and headwater and critical aquifer recharge area restoration.

Policy 12.21.11- Implement water conservation and water use efficiency programs to reduce overall demand, especially during periods of drought or limited water availability.

Policy 12.21.12- Encourage investments in water treatment infrastructure that improve the capacity to provide clean drinking water in the face of increased contamination risks due to climate change.

Policy 12.21.13- Assess and implement resilience strategies to reduce the vulnerability of aquifers, wastewater systems, and septic systems to seawater intrusion, flooding from rising sea levels, and changing groundwater tables.

Policy 12.21.14- Work with the PUD-1 and public water systems to coordinate voluntary and mandatory water use restrictions during declared droughts.

Policy 12.21.15- Identify potential interties between public water systems to mitigate drought impacts.

Policy 12.21.16- Evaluate the vulnerability of the Lake Whatcom watershed to climate change, based on best available projections of changes in temperature and precipitation.

Zoning & Development

Zoning and development changes can build resilience to climate impacts by limiting new development in areas at risk of flooding, wildfire, sea level rise, and other climate hazards. Development regulations and zoning also affect the availability and permitted uses of developable land in hazard zones, reduce risk to shoreline properties, and reduce infrastructure damage and displacement. Coastal and riverine infrastructure is particularly at risk to sea level rise and flooding, which can be mitigated through natural and built infrastructure solutions. Infrastructure in the wildland-urban interface and even in areas of dense development area increasingly at risk from wildfire as fire seasons become hotter and drier. These risks can be mitigated with development regulations and zoning.

Goal 12.22- Update zoning and development regulations that incorporate best practices for reducing the risk of extreme heat, sea level rise, reduced water availability, flooding, wildfire, and other climate hazards.

Policy 12.22.1- Evaluate expanding protection for critical areas and shorelines that are vulnerable to sea level rise and flooding, ensuring that development is restricted and/or adequately mitigated for in high-risk zones.

Policy 12.22.2- Promote the use of conservation easements and other land preservation tools to advance carbon sequestration.

Policy 12.22.3- Prioritize the transfer of development rights from high-risk areas, including shorelines and flood-prone and fire-prone zones to areas less susceptible to climate impacts.

Policy 12.22.4- Incorporate climate migration considerations into zoning and land use policies to encourage new development in areas that are at lower risk to climate impacts, such as sea level rise, decreased water availability, flooding, and wildfires.

Policy 12.22.5- Work with neighboring jurisdictions and regional planners to address the impacts of climate migration and ensure that zoning policies support sustainable growth in lower-risk areas.

Policy 12.22.6- Use best available science to periodically update countywide climate vulnerability assessments to inform land use planning and define areas vulnerable to sea level rise, flooding, wildfire, and other climate impacts.

Policy 12.22.7- Refer to countywide climate vulnerability assessments when reviewing land use and development proposals that propose to increase density in rural and resource lands.

Policy 12.22.8- Discourage new development in areas at high-risk to wildfires, landslides, flooding, and sea level rise without adequate mitigation measures in accordance with best practices to mitigate potential public safety risks and property losses.

Policy 12.22.9- Evaluate the rezoning of low climate hazard risk areas for higher-density development in UGAs, focusing on multimodal and transit-oriented communities to reduce greenhouse gas emissions.

Policy 12.22.10- Update shoreline management program, critical areas ordinance, and flood code for consistency with Chapter 173-26 WAC rulemaking to address the impact of sea level rise and increased storm severity on people, property, and the environment

RESILIENCE SUB-ELEMENT MAPS

The following maps and associated analysis are included to meet intermediate guidance requirements to use climate modeling to identify and prepare for natural hazards exacerbated by climate change. Given geospatial data limitations, analysis includes mapping of some climate impacts, as illustrated below. Hazard areas shown are not intended to provide site-specific analysis, but rather an approximation of potential future risk to public assets.

COUNTYWIDE FORECASTED NEAR-TERM CLIMATE IMPACTS

Consistent with the requirement that a resilience sub-element utilize the best available science and scientifically credible climate projections and impact scenarios that moderate or avoid harm, the following maps summarizes countywide forecasted risks to buildings, critical infrastructure, and roads across Whatcom County due to flooding, erosion, and sea level rise.

The following maps illustrate projected exposure by 2040 due to 0.8 feet of sea level rise and 20-year coastal storm and a 20 percent increase in peak river flows (1.2x the current 100-year flood event). Initial analysis forecasts 6,652 buildings, 63 critical facilities, and 150 miles of road at risk across Whatcom County due to riverine and sea level rise impacts. Areas at highest risk are those that may be subject to deep or fast-flowing water, daily tidal flooding, or served by exposed critical infrastructure.

Figure 1. **Whatcom County Near-Term Forecasted Coastal Hazard Exposure**- Map illustrates forecasted critical facility, road, and building exposure forecasted at risk due to coastal erosion, coastal flooding (0.8 feet sea level rise), and groundwater flooding by 2040.

Figure 2. Whatcom County Near-Term Forecasted Riverine Hazard Exposure- Map illustrates forecasted critical facility, road, and buildings forecasted at risk due to riverine erosion, riverine flooding (1.2x 100-year flood), and groundwater flooding by 2040.

Figure 3. Whatcom County Roads Forecasted Impacts- Map illustrates forecasted road exposure forecasted at risk due to coastal and riverine hazards by 2040 and 2080.

Figure 1. Buildings, Critical Facilities and Roads Exposed to Coastal Hazards in Near-Term (2040s).

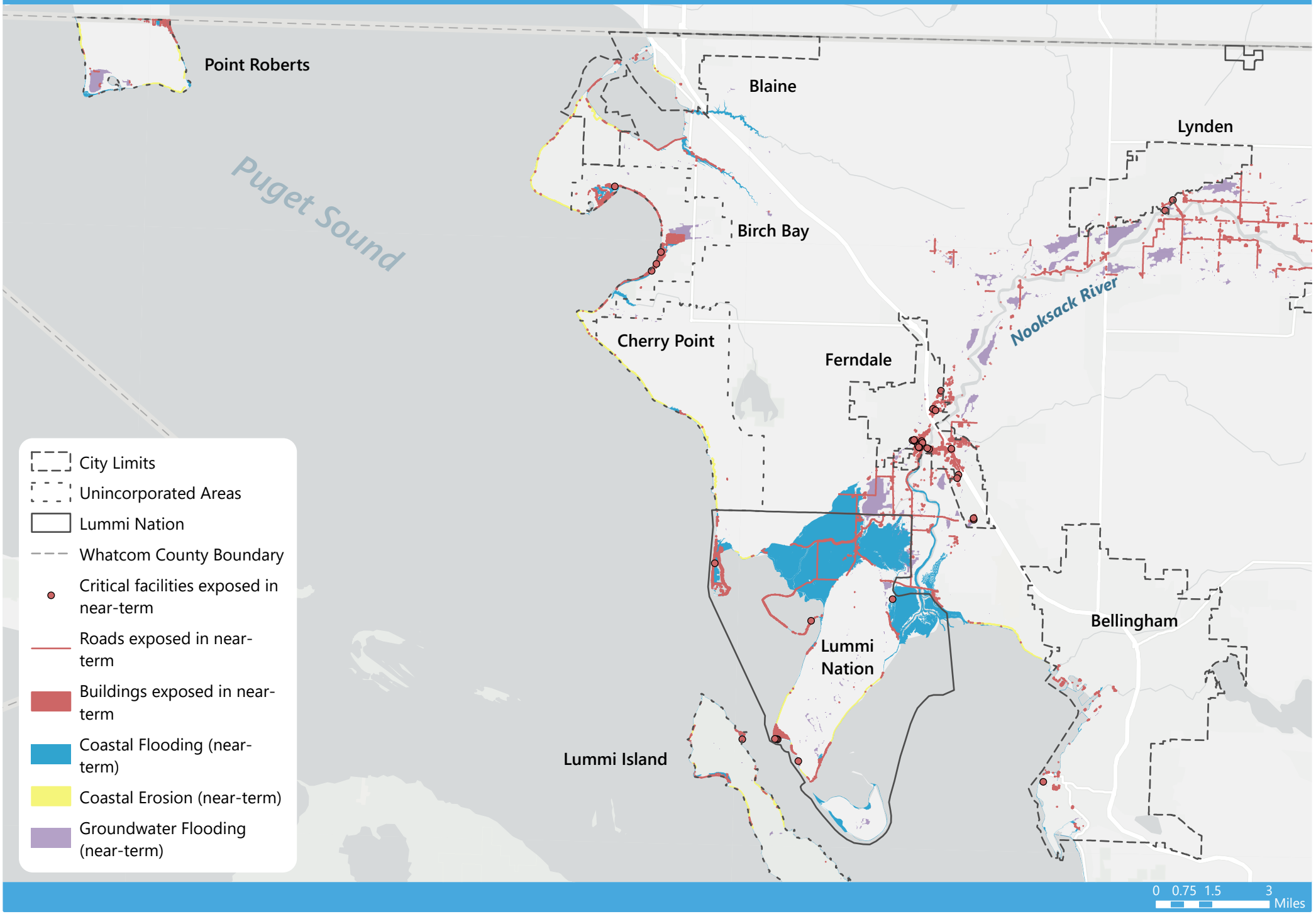

Figure 2: Buildings, Critical Facilities and Roads Exposed to Riverine Hazards in Near-Term (2040s).

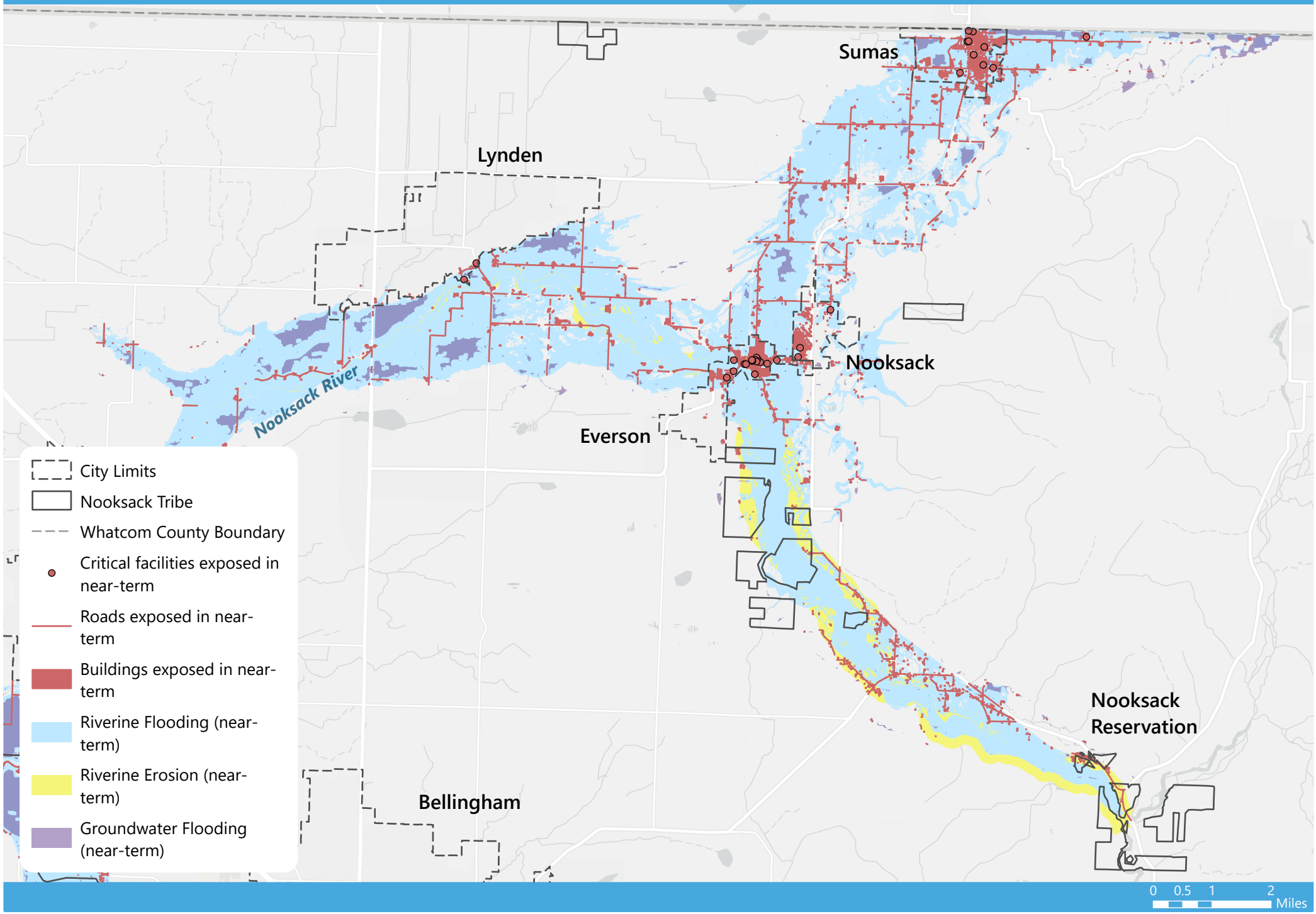

Figure 3. Roads Exposed in the Near (2040s) and Mid Term (2080s)