

## ELEMENT 11 – CLIMATE ELEMENT

### 11.1 INTRODUCTION

The Growth Management Act (GMA) requires local comprehensive plans to have a Climate Resilience Element. Climate elements must maximize economic, environmental, and social co-benefits and prioritize environmental justice to avoid worsening environmental health disparities. A climate element can take the form of a stand-alone comprehensive plan element or be integrated into several elements such as housing, transportation, and land use.

#### 11.1.1 RELATIONSHIP TO OTHER ELEMENTS

Climate related goals, policies, and strategies are found throughout the other elements of the Comprehensive Plan. Goals and policies specifically related to climate change and resiliency, rather than incidentally related, appear in this element.

### 11.2 RESILIENCE SUB-ELEMENT

#### 11.2.1 REQUIREMENTS

As required by state law the Resilience Sub-Element must include but is not limited to:

- Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns; and
- Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration; and
- Identify, protect, and enhance community resilience to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.

#### 11.2.2 RESILIENCE

To identify, protect, and enhance natural areas and community resilience, Island County identified over 170 assets, including administrative and civic buildings, regional county & state parks, historic sites, ferry terminals, bridge, farms, natural preserves, waste handling facilities, water systems (as an asset versus individual water systems), fiber optic network, shorelines, electrical distribution, and other critical facilities. These assets have been organized into specific community sectors. Island County explored hazards, climate indicators, and climate impacts relevant to the identified assets and sectors.

**TABLE 11.1 COMMUNITY ASSETS BY SECTOR**

Sector	Assets
Agriculture & Food Systems	Hobby farms, commercial farms, grazing land, vineyards, dairy, and food production
Buildings & Energy	Power transmission lines, natural gas pipelines, government buildings, schools, churches and places of worship, libraries, wharfs, and marinas

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Cultural Resources	Historic sites and buildings, archeological resources, and cemeteries
Economic Development	Tourism, natural resources (shellfish), state & county parks, Naval Air Station Whidbey Island, fiber optic communications
Ecosystems	Shorelines, forests, grasslands, estuaries, and wetlands
Emergency Management	Fire stations, police stations, and emergency shelters
Health & Well-being	Naval Health Clinic, Whidbey Health Medical Center, clinics, senior living, and community centers
Transportation	Deception Pass Bridge, highways, Clinton Ferry Terminal, Coupeville Ferry Terminal, trails, and park & rides
Waste Management	Transfer stations, Coupeville Solid Waste Complex (hazardous waste), City of Oak Harbor, Langley, and Coupeville Wastewater Treatment Plants, septic systems, and RV dump stations
Water Resources	City of Anacortes Water Treatment Plant (surface water from the Skagit River serving Oak Harbor and Naval Air Station), Island County Sole Source Aquifer (serving individual wells, 294 Class A, and 586 Class B water systems)
Zoning & Development	Military, state & county parks, rural, multifamily, commercial, industrial, municipality (UGA), water

Hazards, climate indicators, and climate impacts specific to Island County were identified for each sector utilizing the Climate Mapping for a Resilient Washington (“CMRW”) webtool, the Coastal Hazard Resiliency Network Sea-level tool, and the USGS groundwater database. Priority climate hazards were identified based on the County’s existing plans and anecdotal information. The existing plans include the Comprehensive Plan, Shoreline Master Program, 2020 Hazard Mitigation Plan, and Countywide Planning Policies. The climate hazards most significant to consider in the County are listed below.

### Priority Climate Hazards

- Drought
- Extreme Precipitation
- Flooding
- Reduced Snowpack
- Sea Level Rise

Assets most vulnerable to these priority climate hazards are residences, agricultural farms, estuaries and wetlands, forests, industrial/manufacturing businesses, nature preserves, fire stations, roadways & bridges, wastewater treatment facilities, water supply infrastructure, schools, and telecommunication-fiber optic infrastructure.

Lower income households and people of color in Oak Harbor and with mobility difficulties are vulnerable to climate hazards. Areas in northeastern Camano Island and southeastern Whidbey Island have high exposure to sea-level rise, heat, and poor air quality and will have increased mortality rates due to natural hazard injuries and fatalities.

Drought presents a significant risk for Island County due to approximately 70 percent of the population's reliance on drinking water from various class A and class B water systems across the County. The Climate Policy Advisory Team, along with the public and staff, identified water systems as a primary concern. Additionally, rising sea levels pose a threat by causing property damage and affecting the sole source aquifer these water systems depend on.

### **11.3 RESILIENCY GOALS AND POLICIES**

The goals and policies in this element, and discussed throughout the Comprehensive Plan, relating to climate and resiliency were established to address priority hazards identified and preserve and enhance natural areas and community resilience. Each goal identified below is intended to help Island County improve community resilience by sector.

Integrated resiliency goals and policies are distributed throughout the Comprehensive Plan in addition to the resiliency policies included below.

#### **11.3.1 CLIMATE RESILIENCE SUB-ELEMENT GOALS & POLICIES**

The following are the goals and associated policies for each goal. The policies are provided below each goal in a bulleted list.

- Goal 1      Increase climate literacy among general population. Provide information to the general public to increase the level of knowledge across the County for people to be more engaged.
  - CL 1.1      Provide the Best Available Science (BAS) to understand the essential principles of Earth's climate, geological, and water systems and the options to address climate change.
  - CL 1.2      Promote sources for credible information about climate change and make it accessible and keep it updated.
  - CL 1.3      Communicate about climate change in accurate and effective ways.
  - CL 1.4      All appropriate levels of leadership will make informed decisions related to climate change.
  - CL 1.5      Educate permit applicants on the climate associated risks with new development or changes to existing development.
- Goal 2      Protect and restore undeveloped coastal ecosystems to increase the resilience of species and habitats to climate change.
  - CL 2.1      Utilize the Best Available Science in respect to sea-level rise for coastal and nearshore habitat restoration projects.
  - CL 2.2      Identify, protect, and restore aquatic and shoreline ecosystem services including submerged aquatic vegetation, saltwater marshes, feeder bluffs, accretion beaches.

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- Goal 3 Establish land use patterns that increase the resilience of the built environment, ecosystems, and communities to climate change.
- CL 3.1 Direct new development into areas where exposure to climate hazards (drought, flooding, and heat) is low.
  - CL 3.2 Conduct an environmental justice audit, including people living on shorelines and in heat sensitive areas, prior to creating new zoning designations or rezoning.
  - CL 3.3 Identify and implement strategies to increase the resilience of the shoreline environment to sea-level rise and other climate hazards, while also protecting shoreline and coastal wetland ecological functions, allowing water-dependent uses, and providing public access.
  - CL 3.4 Identify and protect agricultural and forested lands, including wildlife corridors, that provide climate resilience benefits from being converted to more developed land use types.
  - CL 3.5 Prohibit the expansion of polluting industries in overburdened communities via local zoning and development regulations.
- Goal 4 Protect and preserve water quality and quantity from drought, extreme heat, and other hazards exacerbated by climate change.
- CL 4.1 Every 5 years, review and, if necessary, update the Coordinated Water System Plan to evaluate the long term financial and water resource sustainability of class A and B water systems and develop strategies for long term sustainability of those water systems in light of growth, climate change and operability.
  - CL 4.2 Utilize water conservation methods and technologies in development of irrigation infrastructure within parks and recreation areas to foster climate resilience.
  - CL 4.3 Require low-impact development best management practices, where feasible, for the development and incentivizing of green infrastructure to address increased storm intensities and stormwater runoff.
  - CL 4.4 Manage water resources and sole source aquifer sustainably in the face of climate change through smart irrigation, stormwater management, preventative maintenance, water conservation and wastewater reuse, plant selection, and landscape management.
  - CL 4.5 Encourage onsite gray water reuse systems to reduce water demand in private-sector commercial and residential buildings.

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- CL 4.6 Evaluate the long-term adequacy of stormwater infrastructure to ensure that changes in hydrological patterns (e.g., increases in flooding frequency) can be anticipated and managed effectively.
  - CL 4.7 Develop and implement a comprehensive drought resilience strategy that factors in projected climate impacts and sets action levels for different drought stages.
  - CL 4.8 Develop education programs on hazards associated with the use and disposal of chemicals including chemicals of emerging concern, pesticides, herbicides and petroleum products.
- Goal 5 Design and improve the local transportation system — including infrastructure, routes, and travel modes — so that it can withstand and recover quickly from the impacts of extreme weather events and other hazards exacerbated by climate change.
- CL 5.1 Design and site new and expanded roads to have the least possible adverse effect on the shoreline, account for sea-level rise projections, not result in a net loss of shoreline ecological functions, or adversely impact existing or planned water-oriented uses, public access, and habitat restoration and enhancement projects.
  - CL 5.2 Improve street connectivity and walkability, including trails, to serve as potential evacuation routes.
  - CL 5.3 Incorporate hydrologic climate impacts into the design of water-crossing structures (i.e., climate-smart culverts and bridges) for fish passage and habitat quality.
  - CL 5.4 Reduce stormwater impacts from transportation and development through watershed planning, redevelopment and retrofit projects, and low-impact development.
  - CL 5.5 Enhance the resilience of parks and recreational trails by assessing and addressing climate hazards and impacts.
- Goal 6 Ensure the protection and restoration of streams, riparian zones, estuaries, wetlands, and to achieve healthy watersheds that are resilient to climate change.
- CL 6.1 Implement actions identified in restoration and salmon recovery plans to improve the climate resilience of streams and riparian zones.
  - CL 6.2 Increase the climate resilience of native fish species and aquatic ecosystems by reducing the threat of aquatic invasive species (e.g., fish, plants, invertebrates).

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- CL 6.3 Increase aquatic habitat resilience to low summer flows by increasing water residence time, storing water on the landscape, conserving water, protecting groundwater, providing shade, and protecting water quality.
  - CL 6.4 Protect and restore wetlands and corridors between wetlands to provide biological and hydrological connectivity that fosters resilience to flooding and other climate impacts.
- Goal 7 Enhance emergency preparedness, response, and recovery efforts to mitigate risks and impacts associated with extreme weather and other hazards worsened by climate change.
- CL 7.1 Support enhanced data collection for climate hazard events (extreme heat, flooding, etc.) of all magnitudes to provide a fuller understanding of the community's hazard characteristics — including those affected by climate change.
  - CL 7.2 Support the implementation and ongoing updates of the County's Community Wildfire Protection plan.
  - CL 7.3 Develop resilience hubs — community-serving facilities that are designed to support residents, coordinate communication, and distribute resources during emergencies.
  - CL 7.4 Factor climate impacts into the planning of operations and coordination of preparedness, response, and recovery activities among first-responders and partners, including public health, law enforcement, fire, school, and emergency medical services (EMS) personnel.
  - CL 7.5 Integrate a climate impacts risk assessment and policies into the local hazard mitigation plan.
  - CL 7.6 Incorporate sea-level rise information, along with tsunami hazard mapping, into critical area delineation for siting critical infrastructure, land-use planning, conservation, and emergency management.
  - CL 7.7 Reduce wildfire risk by enforcing burn bans.
  - CL 7.8 Designate alternative travel routes for critical transportation corridors for evacuation routes.
  - CL 7.9 Enhance resilience by supporting upgrades to airport facilities to serve as critical infrastructure for emergency response, evacuation, and supply distribution during extreme weather events or other climate-related disasters.
- Goal 8 Utilize local conservation districts to ensure that the local agricultural economy — including food and materials producers, distributors, and sellers — is resilient to the impacts of extreme weather and other natural hazards and resources are

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coordinated, funded, and staffed to support farmers in making informed business decisions in a changing climate.

- CL 8.1 Expand local food security and the food-related economy to address climate impacts and increase access to healthy and affordable foods.
- CL 8.2 Promote conservation district programs to educate the local agricultural sectors on methods to adapt to changing climate conditions and capitalize on sustainable business opportunities.
- CL 8.3 Utilize conservation districts to promote environmentally sustainable water-storage and farming practices that help agricultural producers adapt to changing conditions and reduce production losses while balancing ecosystem needs.
- CL 8.4 Direct citizens to technical assistance from conservation programs to meet increasing demands and continued viability around climate adaptation within the agricultural sector.
- CL 8.5 Support, and direct citizens to, conservation programs and resources that provide information and direct financial assistance to farmers to implement best management practices that address impacts of climate change.

Goal 9 Ensure that buildings and infrastructure are sited, designed, built, and updated sustainably to reduce environmental impacts and remain resilient to extreme weather and other hazards worsened by climate change.

- CL 9.1 Require the design and construction of commercial and residential buildings and their surrounding sites to reduce and treat stormwater runoff and pollution.
- CL 9.2 Encourage the use of lower-carbon building materials in new construction and building retrofits to reduce embodied carbon.
- CL 9.3 Adopt fire-resilience standards for new and redeveloped sites in high-risk wildfire areas.
- CL 9.4 Encourage building designs for passive survivability to ensure that they will stay at a safe temperature for occupants if the power goes out.

Goal 10 Protect community health and well-being from the impacts of climate-exacerbated hazards — prioritizing focus on overburdened communities — and ensure that the most vulnerable residents do not bear disproportionate health impacts.

- CL 10.1 Evaluate and implement habitat reduction and population control for arthropod disease vectors (e.g., mosquitos and ticks) and zoonotic disease reservoirs using integrated pest-management methods.

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- CL 10.2 Develop and maintain a program for addressing the social and mental health needs of displaced populations following disasters.
  - CL 10.3 Mitigate community exposure to wildfire smoke by providing personal protective equipment and filter fans or incentivizing infrastructure updates (e.g., HVAC updates and MERV 13 filters for air intake) for facilities that serve high-risk populations.
  - CL 10.4 Promote and connect citizens to programs that distribute cooling units and install heat pumps.
  - CL 10.5 Develop and implement a wildfire smoke resilience strategy in partnership with local residents, emergency management officials, Northwest Clean Air agency officials, and other stakeholders.
  - CL 10.6 Explore an urban heat resilience strategy for County UGAs that includes land use, urban design, urban greening, and waste heat reduction actions.
  - CL 10.7 Utilize and update local health impact assessments and other tools to address the potential impacts of health, equity, and climate change on vulnerable communities.
  - CL 10.8 Prioritize the development of anti-displacement programs in overburdened communities when increasing densities.
  - CL 10.9 Review land use maps and identify opportunities or barriers to responding to rapid population growth or decline, rebuilding housing and services after disasters, and other extreme climate impact scenarios.
  - CL 10.10 Provide overburdened communities information and assistance to offset potential cost increases associated with conversion to non-fossil-fuel energy sources.
- Goal 11 Protect and enhance the climate resilience of forests by implementing climate-smart forest management.
- CL 11.1 Reduce loss of private forestland through forest stewardship education and identify opportunities to expand incentives for forest landowners.
  - CL 11.2 Consider implementing ordinances to maintain and expand tree canopy cover, improve tree and watershed health, prioritize carbon sequestration, and plan for recovery after wildfire.
  - CL 11.3 Adopt a forest master plan and implementing ordinances to maintain and expand tree canopy cover, improve tree and watershed health, prioritize carbon sequestration, plan for recovery after wildfire, and build climate resilience.



- CL 11.4 Encourage management of tree canopy and forests (including parks, greenbelts, and urban forests) to decrease climate-exacerbated risks from severe wildfires, protect residents, and improve ecosystem health and habitat through programs like Washington’s small forest landowner assistance cost-share and stewardship programs.
- CL 11.5 Ensure that all forestry management plans include considerations for the impacts of climate change.

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