Chapter 4

Environment and Natural Resources

A Vision for the Environment and Natural Resources

The city of Lake Stevens will provide effective and ongoing investment to ensure water quality protection and environmental stewardship for current and future generations by protecting fish and wildlife species and their habitat, critical areas and open space corridors; conserving land, air, water and energy resources; planning for the potential impacts of climate change on the natural environment; and integrating the shoreline management of Lake Stevens into land use decisions.

INTRODUCTION

This chapter contains a basic description of the city of Lake Stevens' natural environment, its current condition, and recommendations for its protection and enhancement. It discusses policies and regulations currently in effect to protect the local environment, including but not limited to critical areas regulations, best available science, shoreline management, tree retention and stormwater management.

As part of the integrated SEPA/GMA approach to this update, this chapter also discusses how critical areas protection factors into the other elements of the Comprehensive Plan. Finally, it provides a discussion of and strategies for adapting to and mitigating the impacts of climate change by encouraging sustainable development and implementing the city's Climate Sustainability Plan, which was adopted in 2023.

Significant habitat and green spaces remain within the city. Under current regulations, new developments are required to dedicate Native Growth Protection Areas (NGPA) and other buffers around critical areas (wetlands, streams, geologically hazardous areas, etc.) to assist in preserving their quality. The city also has tree retention regulations and innovative development and subdivision regulations that aim to cluster development and maximize the protection of natural resources.

Critical Areas: Wetlands, fish and wildlife habitat conservation areas (streams), critical aquifer recharge areas, frequently flooded areas, and geologically hazardous areas (RCW 36.70A.030)

Best Available Science: Information used to develop policies and development regulations to protect functions and values of critical areas (RCW 36.70A.172)

Natural Resources in the City of Lake Stevens

The city also maintains a Shoreline Master Program (SMP) that requires land use and environmental protections along the vast shoreline areas (Lake Stevens, portions of Catherine Creek and Little Pilchuck Creek, and associated wetlands) within the city of Lake Stevens that are subject to the state's Shoreline Management Act (SMA). Critical areas within shoreline jurisdiction are regulated under the SMP's critical areas regulations.

The city adopted an updated Critical Areas Ordinance (CAO) in 2019 that contains provisions for "Best Available Science" (BAS) and regulates critical areas outside of shoreline jurisdiction. BAS is a requirement of the GMA, and the city will continue to update the science

used for future CAO updates (the city is required to update its CAO as an implementation task, as discussed later in this chapter) based on guidance from the Department of Ecology and other state and federal agencies and which reflects the unique environmental conditions in Lake Stevens.

PLANNING CONTEXT

State Planning

Under Goal 10 of the Growth Management Act (GMA), jurisdictions must adopt policies to protect and enhance the environment and the quality of life of residents. This includes protecting the quality of air and water and availability of water. This goal includes all actions made within urban and rural areas and affects all land use decisions made by the city, specifically those related to the preservation of critical areas and shorelines within the jurisdiction of the SMA.

RCW 36.70A.030(5) defines five types of critical areas, which local jurisdictions must designate and protect using best available science:

- Wetlands;
- Critical aquifer recharge areas;
- Frequently flooded areas;
- Geologically hazardous areas; and
- Fish and wildlife habitat conservation areas.

In 2023, the GMA was amended to include a new goal (Goal 14) that requires comprehensive plans and development strategies to adapt to and mitigate the effects of a changing climate. As noted in Chapter 1, by 2029 the city will adopt a standalone element within the comprehensive plan addressing climate change adaptation and mitigation, resiliency, and the reduction of greenhouse gas emissions. As part of the 2024 update to the plan, the city has incorporated policies addressing climate change within each of the existing elements, including those related to the environment and natural resources in this chapter.

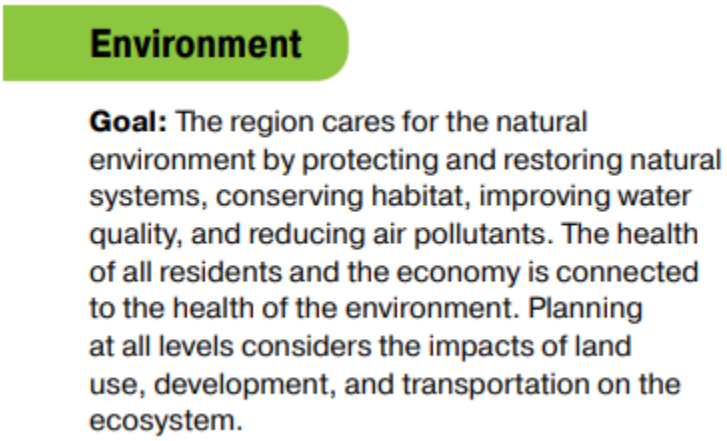
Goal 8 of the GMA also sets requirements to ensure the maintenance and enhancement of natural resource-based industries, such as fishing, forestry, mineral resources and agriculture. This requirement primarily affects regional and rural areas (the city does not have any natural resources lands covered by RCW 36.70A.170), but the city supports the

position that natural resource industries should be maintained throughout Snohomish County through active stewardship and protection of resources.

Regional Planning

In addition to the GMA goals for environmental protection, enhancement and quality of life, Vision 2050 (discussed in more detail in Chapter 1) supports the protection and preservation of open spaces, natural resources, critical areas, endangered species, and climate change mitigation and adaptation strategies through the implementation of regional and interdisciplinary strategies among local jurisdictions. These multicounty planning policies (MPPS) emphasize stablishing best management practices to preserve long-term integrity and productivity of resource lands, including maintaining currently designated resource lands and ensuring compatibility with development on adjacent non-resource lands, protecting habitats and open spaces for ecological functions, and establishing long term resilience towards climate impacts.

Vision 2050 also encourages the private, public, and nonprofit sectors to incorporate environmental and social responsibility into their practices, highlighting the need for a clean and pollution free environment for all residents regardless of social or economic status. Finally, Vision 2050 sets goals for reducing climate change impacts by promoting efficient land uses and transportation systems and reducing energy consumption and waste production through conservation or efficiency.



Vision 2050 Environment Goal

As noted above, the city does not have active resource-based uses within its city limits, but does consider the effects of land use actions on open space and critical areas within the city limits through its development regulations. The city also coordinates with other jurisdictions and special interest groups on environmental issues, facilities planning and transportation planning.

Countywide Planning

As detailed in Chapter 1, the Countywide Planning Policies (CPPs) for Snohomish County establish a countywide framework for developing both county and city comprehensive plans. The role of the CPPs is to coordinate comprehensive plans of jurisdictions in the same county for issues affecting common borders. RCW 36.70A.100 and 36.70A.210 require that city and county comprehensive plans are consistent with each other and multicounty planning policies, while also respecting the autonomy of cities to exercise their land use powers. The Natural Environment and Climate Change CPPs were last updated in 2021.

The city will continue to act as a steward of the natural environment by protecting natural systems, conserving habitat, improving air quality, reducing greenhouse gas emissions and addressing climate change impacts. This environmental stewardship is balanced with a care for the economic and social needs of the community through the integration of regional (PSRC) and state goals and regulations into policies designed to protect, enhance, and restore the environment, as well as mitigate and adapt to climate impacts and improve community resiliency.

Lake Stevens Planning

The city's Environment and Natural Resources Element considers the themes expressed in state, regional, and countywide plans to create a strategy for natural resource protection over the next 20 years. The element aims to balance environmental stewardship with the goals of addressing economic growth and providing a positive and vibrant development atmosphere.

This balance has been achieved by updating and consolidating the Goals and Policies section to ensure that the city is adequately protecting critical areas; implementing federal and state regulations such as the National Pollutant Discharge Elimination System (NPDES); protecting wildlife habitat; administering the Shoreline Master Program consistently; and providing residents of all social and economic statuses a healthy environment with minimal exposure to pollution.

In 2023, the city adopted a Climate Sustainability Plan which identified the importance of addressing climate change to maintain the city's natural resources and quality of life, and established strategies related to climate change adaptation and mitigation. Several of these strategies have been incorporated into new goals and policy language at the end of this chapter and other chapters. These policies bridge the natural environment, transportation,

land use, building and energy, and waste management to create a more resilient and responsible community.

DESCRIPTION OF PLANNING AREA AND NATURAL RESOURCES

The city of Lake Stevens UGA occupies a Pleistocene glacial terrace, rising east from the floodplain of the Snohomish River in the foothills of the Cascades. Plateaus, steep ravines, wetlands, stream corridors, three drainage basins and Lake Stevens characterize the physical environment of the city. The city is located on a relatively level plateau, with minor variations in topography along the lakefront and other drainage basins. The city's central lake is the most prominent environmental feature in the community and is sensitive to the effects of urban development.

Geology and Soils

The Soils Survey conducted by the U.S. Soil Conservation Service notes that the resident soils in the area are generally suitable for urban development. Site-specific soils studies indicate many areas have relatively shallow soils above hardpan. While this may be helpful to provide a solid foundation for buildings, it limits infiltration of stormwater and urban runoff.

WAC 365-190-120 describes the different types of geologically hazardous areas the city must designated and plan for, which include erosion hazards, landslide hazards, seismic hazards, tsunami hazards, volcanic hazards, and area subject to other geological events. In updating its critical areas ordinance for geologically hazardous areas, the city will consult information from the Department of Natural Resources.

Surface Waters

The Lake Stevens UGA drains to the Puget Sound through three receiving water basins and numerous other streams in 23 catchments (defined areas of land through which water moves and collects). The three basins are:

- Ebey Slough basin (also called the Sunnyside basin), which encompasses most of the city west of State Route 9 and north of 20th Street SE;
- Snohomish River basin, which includes a portion of the city south of 20th Street SE; and

- Pilchuck River basin, which covers the remainder of the city, with Lake Stevens as a significant sub-watershed.

Smaller water bodies are scattered across the city, including Burri Creek, Catherine Creek, Frontier Creek, Hulbert Creek, Kokanee (Mitchell) Creek, Kuhlman Creek, Little Pilchuck Creek, Lower Stevens Creek (the outflow channel from Lake Stevens), Lundeen Creek, Stitch Creek, Stitch Lake, Upper Stevens Creek, and numerous unnamed natural channels, which connect into the major basins. The city's Public Works Department manages water bodies within its limits as part of its Surface Water program (discussed later in this chapter) and is subject to regulation under the NPDES permit for Phase II Municipal Storm Separate Sewer Systems (MS4).

Lake Stevens, encompassing approximately 1,040 acres, is the most dominant physical feature within the city and its UGA. The lake provides an obvious social, recreational and aesthetic focal point for the community. It shapes the local microclimate, and it is an important regional habitat for several fish, mammal, reptile, amphibian, and bird species, including protected salmonid species. Lake Stevens, portions of Catherine Creek and Little Pilchuck Creek, and associated wetlands (including those near Stich Lake) are subject to the Shoreline Management Act (SMA), while areas adjacent to Lake Stevens and Catherine Creek are designated as flood hazard zones by the Federal Emergency Management Agency (FEMA). Wetlands are often contiguous with surface water bodies in the city.

Ground Water

The Snohomish County Public Utilities District No. 1 (PUD) provides drinking water to the UGA, as further detailed in Chapter 7. Spada Lake provides most of the city's drinking water supply, which is supplemented by PUD wells within the city and surrounding areas. A few residents use wells as their main source of drinking water. The aquifer for these wells is found in the northeastern corner of the city, generally under the industrially zoned area. The depth of the aquifer is approximately 35-120 feet deep, and most uses should not affect groundwater quality. The water quality is good if not overdrawn (whereupon iron may become a problem) and for most of the year does not require chlorination.

Fauna

Although much natural habitat has been lost to urbanization, the Lake Stevens area supports a variety of species of fish (salmon, trout, bass, catfish, perch, etc.), birds (waterfowl, songbirds, raptors and others), mammals (beavers, otters, deer, raccoons, coyotes and

others), amphibians, reptiles, and insects and other invertebrates. Lake Stevens provides a critical resource to migrating waterfowl.

The state and federal governments list numerous species in the region as endangered, threatened or a candidate species. The city hosts seasonal runs of several different salmon

species, and is notable for having Kokanee, Steelhead, Chinook, Coho and Chum salmon in various waterbodies at different times of the year.

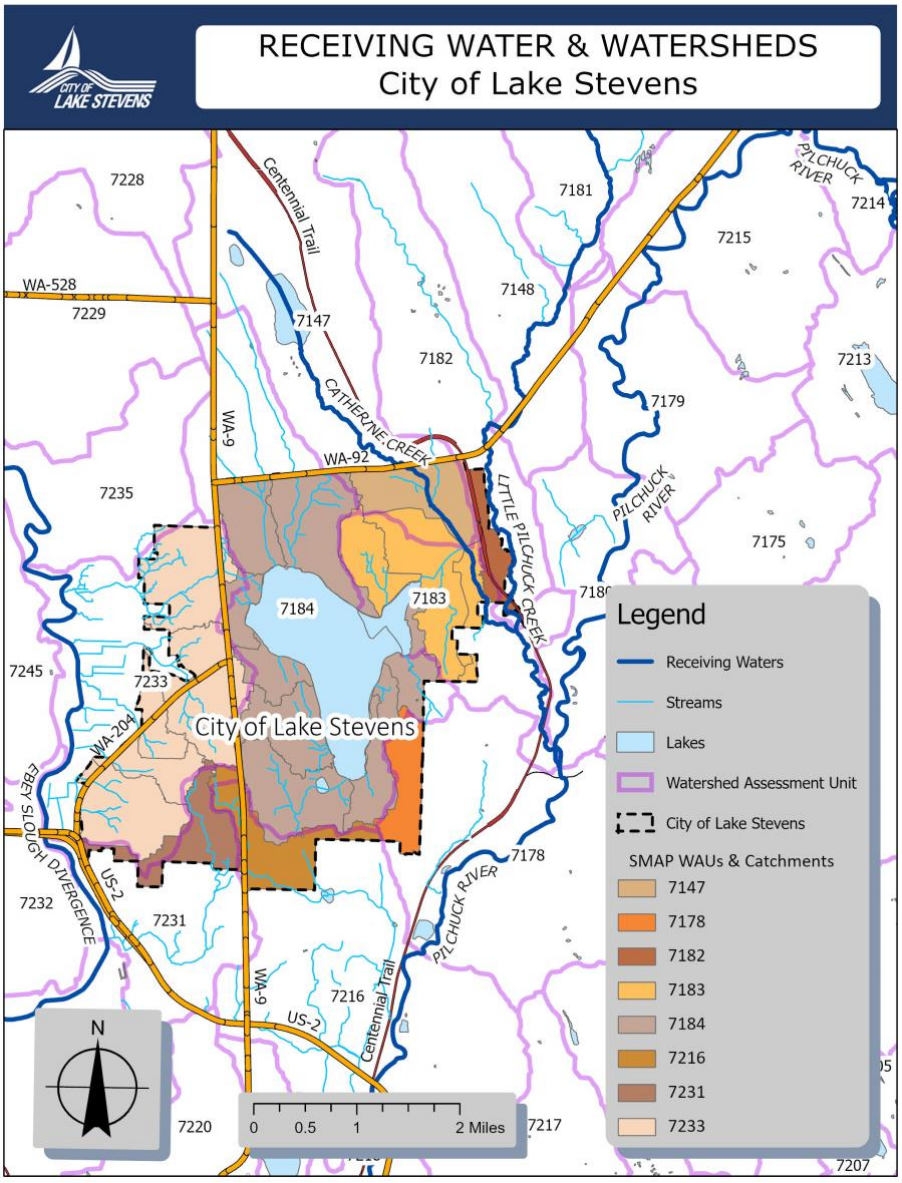


Figure 4.1 – Receiving Water and Watersheds in Lake Stevens

Flora

The area supports deciduous and coniferous trees (Douglas fir, spruce, hemlock, cedar, alder, cottonwood, and maple) as well as native shrubs, herbs, grasses, and wetland plants.

Most of the habitats are disjointed and greatly impacted by urbanization, logging and agricultural activities. The city currently has tree retention regulations that require protection of significant trees, or significant stands of trees and the replacement of trees lost to urban development at a 3:1 ratio. It also has regulations for critical areas and encourages innovative subdivision design (e.g., planned residential developments, cluster subdivisions, etc.) and low impact development (LID) and green infrastructure to protect environmental resources.

There are no areas within the city designated for resource extraction or cultivation.

Climate and Weather

Summers in Lake Stevens are mild and warm (average daytime temperature in the 70's), and winters are comparatively mild (average daytime temperature in the mid-40's). The frost-free period for the city generally begins in April and ends near the first of October. Precipitation is in the form of rain and snow, averaging 39 inches annually (average low of 1.1 inches in August to an average high of 5.9 inches during the winter months of November through December). Relative humidity is high due to the water influences. The prevailing wind is westerly or northwesterly most of the year.

Natural and Human-Caused Hazards

Like the rest of the region, the City of Lake Stevens is susceptible to a variety of natural and human-caused hazards, including earthquakes, epidemics, hazardous materials, wildfires, and flooding. The city participated as a planning partner in development of the 2020 Snohomish County Hazard Mitigation Plan, which assesses risks and identifies strategies for hazard management throughout the county. Chapter 8 includes an assessment of hazard risks and capabilities in Lake Stevens and identifies numerous strategies and hazard mitigation actions. The city has incorporated the analysis, strategies and actions into its Comprehensive Emergency Management Base Plan, which was adopted by City Council in May 2024.

PSRC provides a Regional Hazards Map that assesses areas susceptible to a variety of natural hazards. In general, the maps show that the city has very low or low risks for natural hazards

such as wildfires, sea level rise, major flooding events, landslides and seismic activity, except for a "High" liquefaction susceptibility in the northeast portion of the city, including portions of Downtown Lake Stevens and the Lake Stevens Industrial Center. A north-south natural gas pipeline runs through the eastern half of the city, while a north-south petroleum pipeline is located just east of city boundaries.

Figure 4.2 – High Liquefaction Susceptibility in Lake Stevens (Source: PSRC/DNR)

Sustainability and Climate Change

As noted in the city's Climate Sustainability Plan (CSP), climate change is a global challenge, and its impacts affect every community. The region has begun to observe the effects of climate change particularly in the character of precipitation and heat. Longer periods of dry, intense heat are anticipated in the future and will pose direct risk to residents, especially elderly and historically underserved communities of color, and have greatly exacerbated the threat and intensity of wildfires and smoke. Perennial streams may remain dry for

Reduced air quality from wildfire smoke (*Source: Everett Herald***)**

increasingly long periods of time and stream temperatures may increase, adversely affecting local fish populations and increasing the need for mitigation strategies such as shading along stream channels. Heavy precipitation events, flooding, and decreased snowpack are all real threats to the region's stability and security moving forward.

The city of Lake Stevens is committed to addressing new state climate goals and the central Puget Sound region's contribution to climate change by, at a minimum, complying with state initiatives and directives regarding climate change, reduction of greenhouse gasses, and increasing community resiliency through adaptation and mitigation strategies. The 2023 CSP establishes a comprehensive list of these strategies and actions, which have been incorporated into new policies in this and other chapters.

PSRC and Snohomish County provide additional guidance and goals/policies related to climate change. In December 2022, PSRC published its "Climate Change and Resilience Guidance", which includes actions and strategies for reducing greenhouse gas emissions, adapting to and preparing for climate change impacts. Vision 2050 has numerous MPPs

related to climate change, including several related to vulnerable populations – including lower income and minority populations, those with disabilities and medical conditions, and children - that have been or may be disproportionately impacted by climate change.

The Washington Department of Health's Environmental Health Disparities Map compares communities for environmental health disparities based on public health, housing/built environment, transportation, demographic and socioeconomic factors. The map shows that while the city is generally at lower risk to climate change compared to the region, several census tracts in the city include populations with health risks and housing stock that make them more vulnerable to increased temperatures and decreased air quality that could result from and be impacted by climate change. As part of the city's Climate Sustainability Plan, the city will continue to monitor these potential impacts on vulnerable populations and develop actions and strategies to combat them.

In August 2022, Snohomish County release a Communitywide Geographic Greenhouse Gas Emissions Analysis, which assessed the GHG emissions generated by Snohomish County residents, business, employees and visitors. The report provides an important analysis of ways to reduce greenhouse gas emissions and meet reduction thresholds and targets.

The city will, in addition to consistent implementation of the SMP, CAO, and inter-agency partnerships, enact goals and policies that encourage a reduction in the use of pesticides and chemical fertilizers to improve both water and air quality, mitigate greenhouse gas emissions, and plans for adapting to the impacts of climate change. By 2029, the city intends to adopt a standalone Climate Change element in this plan, and the city will continue to take an active stewardship role in identifying and addressing the impacts of climate change by promoting the use of innovative, sustainable, and environmentally sensitive development practices, including design, materials, construction, and ongoing maintenance.

Aquifer Recharge

Aquifer recharge is the movement of water from the ground surface (the unsaturated zone) to the saturated zone and is vital for both effective water resource management and the continued functioning of the hydrologic cycle (Nimmo et. al.: 2005). Many land use actions have the potential to affect both the quantity and quality of groundwater, including the application of fertilizers and pesticides, the addition of impervious surfaces, and demand for water from new residential and commercial development.

A limited number of residents in Lake Stevens draw water from wells from aquifers located in the northeastern corner of the city. While the water quality is generally good if not overdrawn, the area is adjacent to the city's Lake Stevens Industrial Center (LSIC) and falls within a high recharge importance area as shown in Figure 4.2, making them potentially susceptible to contamination and pollution. Planned improvements to sanitary sewer infrastructure in the area should eliminate potential septic recharge, while implementation of the city's surface water source control program will also assist with aquifer protection.

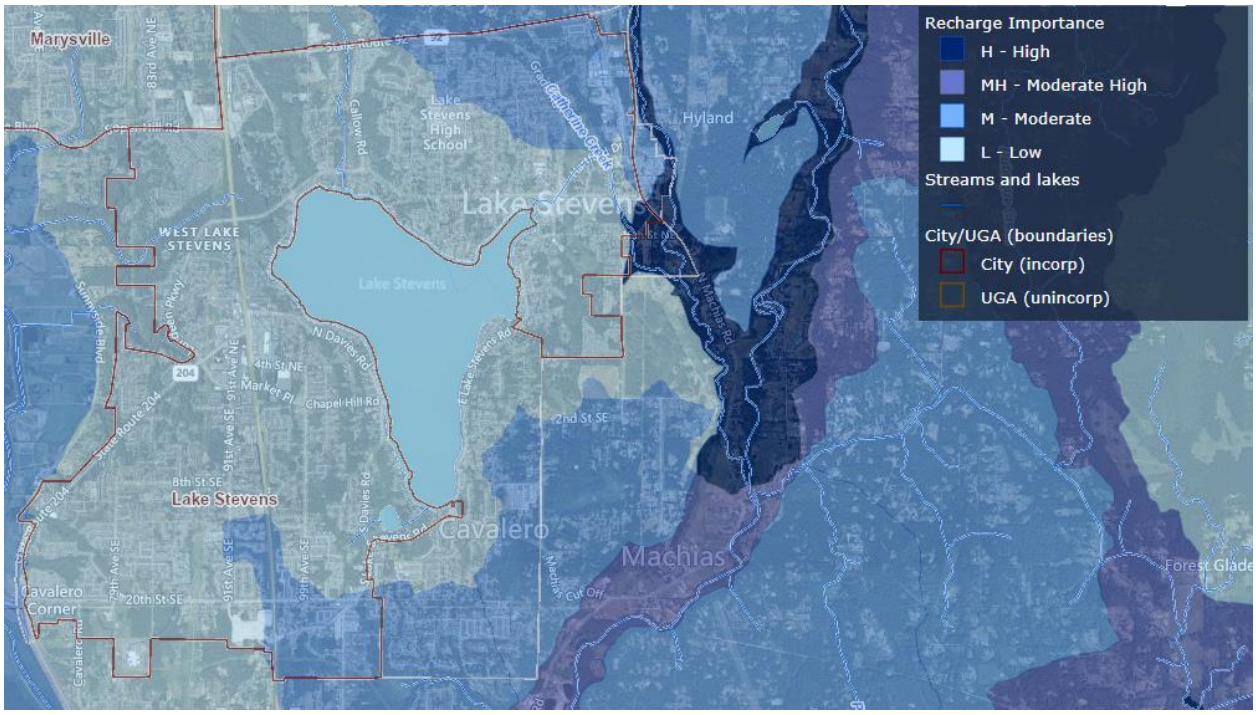


Figure 4.3 - Recharge Importance Designations in City (*Source: Department of Ecology***)**

CRITICAL AREAS

Critical areas in Lake Stevens, as defined by the GMA, include wetlands, fish and wildlife habitat conservation areas (including streams), frequently flooded areas, critical aquifer recharge areas and geologically hazardous areas, as shown in Figure 4.3. The GMA requires the city to adopt policies and implement development regulations to protect the functions and values of all identified critical areas. The city administers these regulations through Chapter 14.88 of the Lake Stevens Municipal Code (LSMC), the city's Critical Areas Ordinance (CAO). and is charged with the responsibility to designate, classify and protect critical areas within the community.

The city's last major update occurred in 2019, which incorporated new guidance for wetland ratings from the Department of Ecology and other updated best available science (BAS). The city is required to update its CAO by December 31, 2025, which will be done as an implementation task for the 2024 periodic update to this plan. As part of the CAO update, the city will incorporate updated BAS from the Washington Department of Commerce and Washington Department of Fish and Wildlife for wetlands, streams and other critical areas, utilize Commerce's Critical Areas Checklist and Handbook, and address topics such as priority habitats and species and riparian management.

Lake Stevens is approximately 1,040 acres in size and provides not only recreational enjoyment but serves as an important regional habitat for several fish, mammal, reptile, amphibian and bird species, including those along the Pacific Flyway. Stitch Lake, located in the southern part of the city, encompasses approximately nine acres. Lake Stevens and its shoreline-associated wetlands (including those adjacent to Stitch Lake) are subject to the Shoreline Management Act (SMA). The lakes and local streams - including Kokanee (Mitchell) Creek, Stevens Creek, Lundeen Creek, Catherine Creek, and Little Pilchuck Creek - provide aquatic and riparian habit for a variety of species and are home to priority habitats and species including Chinook, Coho Salmon, Bull Trout, Steelhead, the Northern Spotted Owl, and Marbled Murrelet. The western streams are often associated with deep gulleys or canyons that have unique qualities for relatively high isolation from the urban community above.

Fish & Wildlife Conservation Areas (streams and other water bodies)

Lake Stevens is approximately 1,040 acres in size and provides not only recreational enjoyment, but serves as an important regional habitat for several fish, mammal, reptile, amphibian and bird species, including those along the Pacific Flyway. Stitch Lake is located in the southern part of the city and encompasses approximately 9 acres. Lake Stevens and its shoreline-associated wetlands (including those adjacent to Stitch Lake) are subject to the Shoreline Management Act (SMA). The lakes and local streams - including Kokanee (Mitchell) Creek, Stevens Creek, Lundeen Creek, Catherine Creek, and Little Pilchuck Creek - provide aquatic and riparian habit for a variety of species and are home to priority habitats and species including Chinook, Coho Salmon, Bull Trout, Steelhead, the Northern Spotted Owl, and Marbled Murrelet. The western streams are often associated with deep gulleys or canyons that have unique qualities for relatively high isolation from the urban community above.

Flood Hazard Areas

According to Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency (FEMA), areas prone to floods from a 100-year storm are limited to properties mostly fronting Catherine Creek and the lake. Snohomish County partnered with FEMA in 2019 to produce updated Digital Flood Insurance Rate Maps (DFIRM) for the region. These areas are designated as Zone A flood hazard areas, and flooding has been observed when area wetlands, streams and ditches have more water than they can hold.

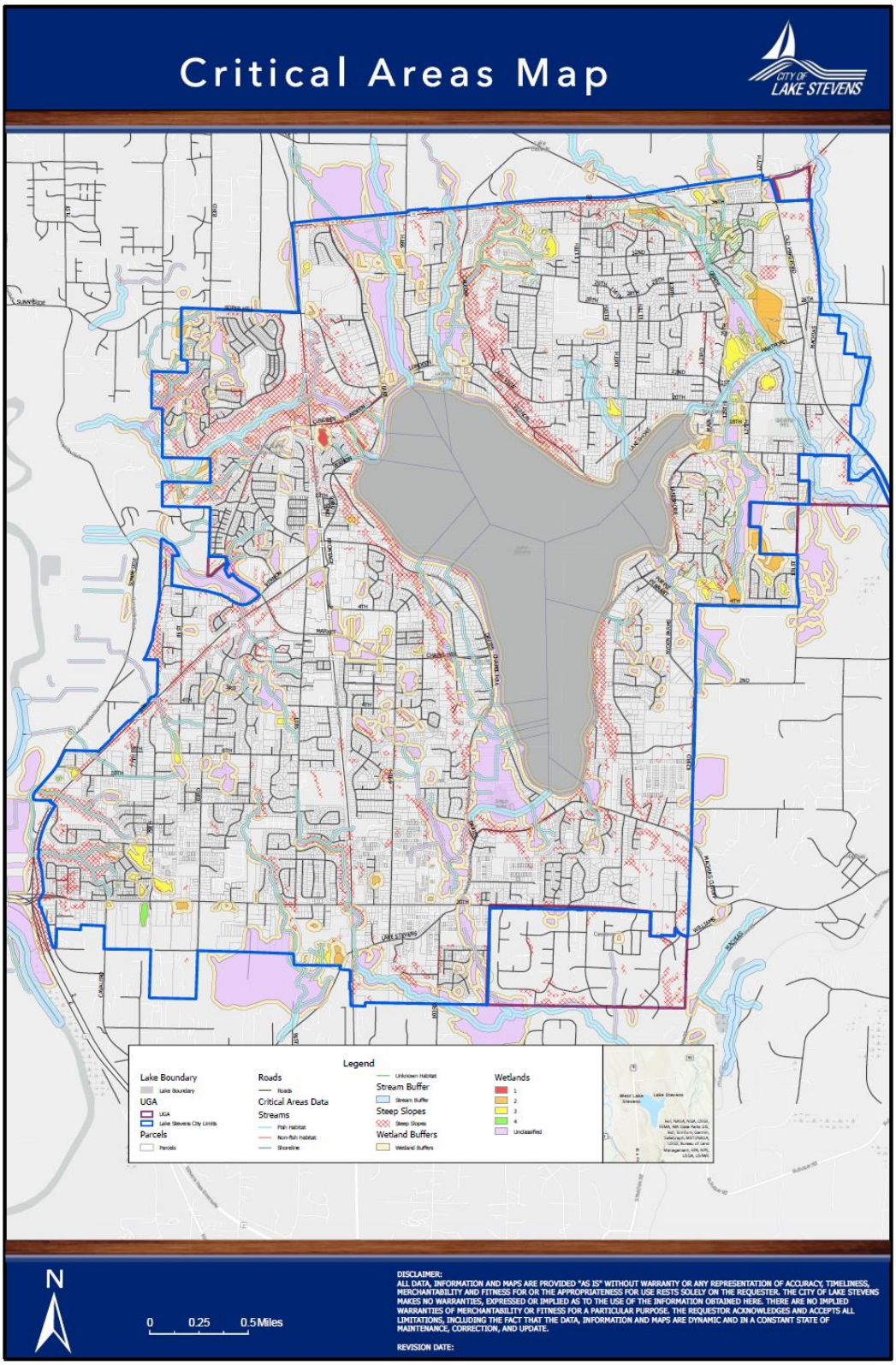
The city regulates flood hazard areas through Chapter 14.64 LSMC and Chapter 14.88 – Part V, which was last updated in 2020 to comply with FEMA model regulations. Additional updates are expected in the future. Efforts to remap the FIRM areas associated with the lake outlet channel may present opportunities for increased floodplain restoration in the lower Stevens Creek area, and the city is exploring grant opportunities to complete this work.

Geologically Hazardous Areas

The geologically recent retreat of glaciers from the Snohomish County landscape has left many steep hillsides that are susceptible to naturally occurring landslides, earthquakes, erosion, and other geological events. Steep slopes are present within the community adjacent to the western boundary of Lake Stevens, and within the northwestern portion of the city. Proposed developments within 200 feet of any area that is designated as geologically hazardous are subject to the requirement for a geological assessment that analyzes the potential impacts of said development on or off site.

Wetlands

Wetlands are fragile ecosystems which assist in the reduction of erosion, flooding and ground and surface water pollution. Wetlands also provide an important habitat for wildlife, plants, and fisheries. Wetlands also provide invaluable functions in aquifer recharge and groundwater storage. Extensive wetlands have been identified throughout Lake Stevens and the UGA – some on a very general basis from aerial mapping. Others have been precisely mapped where development has occurred over the past few years. Generally, as properties develop the wetlands are more accurately delineated and mapped based on site-specific report. The city's local regulations comply with federal and state standards and encourages development that avoids or mitigates wetland impact and discourages the alteration of land that results in significant degradation of wetlands.


Critical Areas Map
CITY OF LAKE STEVENS
Legend
Lake Boundary
UGA
Parcels
Roads
Critical Areas Data
Streams
Stream Buffer
Steep Slopes
Wetland Buffers
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REVISION DATE:

Figure 4.4 - Critical Areas in Lake Stevens

Transfer of Development Rights

The city of Lake Stevens has adopted Transfer of Development Rights (TDR) regulations in Chapter 14.88 LSMC to encourage density in key locations and limit development in environmentally critical areas. LSMC 14.88.920 contains provisions for designating critical areas as sending and receiving districts. These regulations have been utilized infrequently since their adoption, but the city anticipates more frequent use as future development becomes increasingly reliant on sites encumbered by critical areas. The city may also pursue programs such as the Landscape Conservation and Local Infrastructure Program (LCIP).

SHORELINE MASTER PROGRAM

The city of Lake Stevens manages the shoreline environment through implementation of the Shoreline Master Program (SMP). The Washington State Shoreline Management Act (SMA), passed in 1971, provides guidance and prescribes the requirements for locally adopted Shoreline Master Programs. The SMA establishes broad policy areas within its jurisdiction (200 feet of the ordinary high-water mark of the water body), giving preferences to uses that:

- Protect shoreline natural resources, including water quality, vegetation and fish and wildlife habitat;
- Depend on the proximity to the shoreline (i.e., "water-dependent uses); and
- Preserve and enhance public access or increased recreational opportunities for the public along shorelines.

SMA, Lake Stevens The SMA establishes a balance of authority between local and state government. Under the adopted a Shoreline Master Program that is based on state guidelines but tailored to the specific needs of the community. The program represents a comprehensive vision of how shoreline areas will be used and developed over time.

Areas within SMA jurisdiction are assigned a shoreline environment designation in the city's SMP, based on site conditions and prevalent land uses. As shown in Figure 4.4, most areas along the shores of Lake Stevens have a designation of Shoreline Residential, reflecting the residential nature of the waterfront area. Parks such as North Cove Park, Sunset Park, and Davies Beach have a designation of Urban Conservancy, which aim to "protect and restore" ecological functions and allow for public access. The Natural designation applies to wetland

complexes adjacent to Lake Stevens and Stitch Lake, while the High Intensity designation applies to limited areas with commercial and industrial uses, most notably along Little Pilchuck Creek within the Lake Stevens Industrial Center.

The city of Lake Stevens' identity is strongly influenced and defined by its setting around the lake. The lake provides varied recreational opportunities for residents and visitors. Therefore, the utilization, protection, restoration and preservation of the shoreline must be considered for all development within shoreline areas.

Historically, the city and Snohomish County shared jurisdiction of Lake Stevens, with the city regulating uses and development within city boundaries and the county within the unincorporated areas. Following a series of annexations between 2006 and 2021, the city now has jurisdiction over all areas along the lake within SMA jurisdiction, as well as the lake itself.

The city adopted Snohomish County's SMP in 1974. Over the five decades since the original adoption of a SMP, the lake-front environment has substantially changed with additional single-family homes and subdivided lots, additional docks and bulkheads and the loss of habitat along the shoreline. Impervious surfaces have increased both within the shoreline area and in adjacent watersheds, thus increasing surface water flows and impacting water quality and habitat for fish and other animals.

To address these changes, comply with the mandates of the Shoreline Management Act, and enable the city to plan for emerging issues, the city initiated an extensive update of its SMP in 2009, with final adoption in 2014. This was followed by a state-mandated periodic update in 2019 The city is currently scheduled to complete its next SMP periodic update by 2027, and has undertaken efforts to simplify shoreline management and development in recent years, including the development of a User's Guide in 2023.

Overall, the SMP aims to preserve the public's opportunity to enjoy the physical and aesthetic qualities of Lake Stevens, Catherine Creek and Little Pilchuck Creek while protecting the functions of the shorelines so that at a minimum, the city achieves a "no net loss" of ecological functions as required for shorelines of the State.

SURFACE WATER PROGRAM

The City's Surface Water Program was created to meet NPDES requirements and establish municipal code provisions allow for permitting for stormwater impacts according to the

current Stormwater Management Manual. The objective of the program is to anticipate and prevent further degradation of receiving waters from stormwater, with a higher goal of improving downstream water quality. The city has implemented or coordinated with various habitat restoration projects within the city and has adopted the Department of Ecology Stormwater Management Manual for Western Washington to address appropriate minimum requirements for new and existing development.

The city has implemented or coordinated with various habitat restoration projects within the city. The city has adopted the 2024 Department of Ecology Stormwater Management Manual for Western Washington to address appropriate minimum requirements for new and existing development. The surface water program implements a variety of activities and ensures compliance with maintenance standards, so the City's stormwater infrastructure protects downstream water quality. The program also provides information and assistance to help implement best management practices (BMPs) that protect water quality, offered to residents through a campaign called "I Love Lake," and to businesses by way of the Source Control Inspection program. Pollution sources from spills and dumping are identified and tracked in the Illicit Discharge and Detection Elimination system (IDDE) which includes opportunities for public reporting of possible issues to be investigated and corrected.

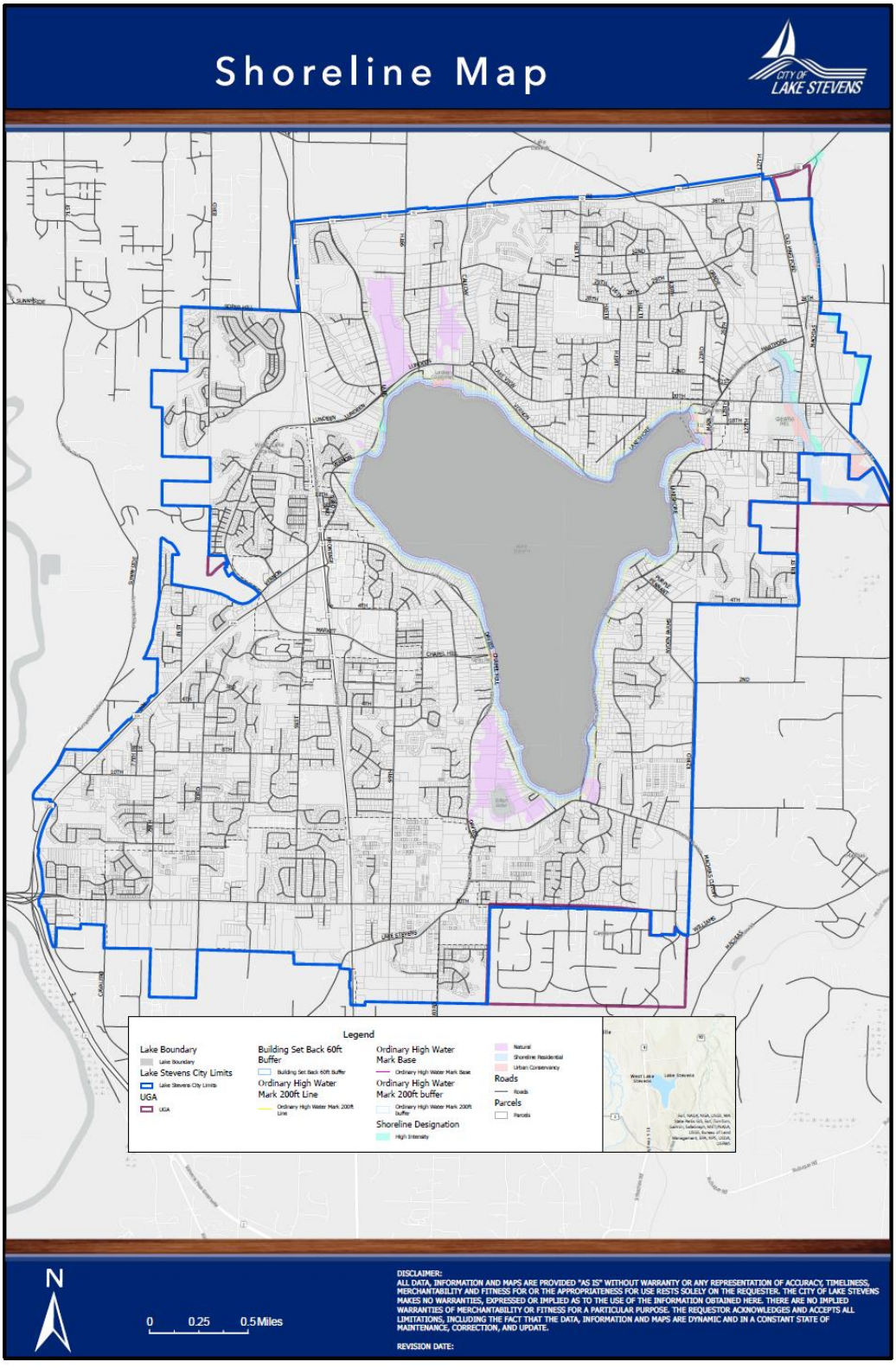

Figure 4.5 – Shoreline Designations

GOALS AND POLICIES

GOAL 4.1 SUSTAIN ENVIRONMENTAL QUALITY THROUGH THE PRESERVATION AND CONSERVATION OF THE NATURAL ENVIRONMENT AND RESOURCES AND BY REQUIRING DEVELOPMENT TO BE SENSITIVE TO SITE CHARACTERISTICS AND PROTECT NATURAL AND CULTURAL RESOURCES

Policies

4.1.1 Continue to prioritize the protection of wetlands, streams and creeks, lakes and ponds, aquifer recharge areas, geologically hazardous areas (e.g., steep slopes and erosion areas), significant trees, fish and wildlife habitat areas and corridors, cultural resources, and frequently flooded areas through land use policies, regulations (including the Critical Areas Ordinance and Shoreline Master Program) and decisions based on best available information and in coordination with state and regional priorities.

4.1.2

GOAL 4.2 IMPLEMENT THE STATE SHORELINES MANAGEMENT ACT ALONG SHORELINES OF STATEWIDE SIGNIFICANCE IN THE CURRENT OR ULTIMATE CITY LIMITS OF LAKE STEVENS. PROTECT AND ENHANCE SHORELINE VISUAL AND PHYSICAL ACCESS CONSISTENT WITH PUBLIC TRUST DOCTRINE PRINCIPLES

Policies

4.2.1 New development within the shoreline jurisdiction shall meet the procedural, building and development land use requirements as consistent with the adopted Shoreline Master Program.

4.2.2 Promote development of convenient recreational opportunities, activities and public access to public shorelines as consistent with the adopted Shoreline Master Program.

4.2.3 Extend appropriate shorelines designations to areas within shorelines jurisdictions as they annex into the city.

4.2.4 Educate property owners within shorelines jurisdictions on the proper maintenance of docks and decks, grass and gardens and driveways or cars to reduce the types of pollutants potentially reaching the lake or creeks as consistent with the adopted Shoreline Master Program

4.2.5 Recognize that most of the shoreline property is in private ownership and encourage the creation of easements to allow public access through donation or purchase, particularly in areas adjacent to publicly owned shorelines.

4.2.6 Acquire land for permanent public access to the water and protect open space as consistent with the adopted Shoreline Master Program and Critical Areas Ordinance.

4.2.7 Consider the compatibility of proposed upland uses with those allowed in each adjacent shoreline environment as defined in RCW 90.58.340.

4.2.8 Consider potential shoreline impacts from cumulative development actions of upland properties.

4.2.9 Provide adequate access, utilities and public services to meet current and future needs for uses along the shoreline as consistent with the adopted Shoreline Master Program.

4.2.10 Encourage "soft" shorelines on Lake Stevens featuring natural vegetation and materials and promote the removal of bulkheads where alternative designs are feasible.

GOAL 4.3 PROTECT SURFACE WATER, GROUND WATER AND AQUIFER RECHARGE AREAS AND CONSERVE ALL CRITICAL AREAS INCLUDING WETLANDS, SHORELINES, LAKES, CREEKS/STREAMS, GEOLOGICAL HAZARD AREAS AND WILDLIFE HABITATS BY LOCATING DEVELOPMENT WITHIN GEOGRAPHICALLY SUITABLE AND GEOLOGICALLY STABLE AREAS, AND COORDINATE LOCAL DEVELOPMENT REGULATIONS WITH REGIONAL, STATE AND FEDERAL POLICIES

Policies

4.3.1 Review critical areas regulations which reflect the Best Available Science (BAS) pursuant to the GMA. These regulations must protect the functions and values of these areas and not unduly reduce property rights by requiring greater protection measures which offer diminishing beneficial returns.

4.3.2 Ensure compatibility of land uses with topography, geology, soil suitability, surface water, ground water, frequently flooded areas, wetlands, climate and vegetation and wildlife.

4.3.3 Identify and protect wildlife corridors and improve habitat connectivity both inside and outside the UGA through critical areas avoidance, protection and mitigation, and map

and plan for wildlife movement in coordination with transportation system improvements.

4.3.4 Maintain a current inventory of critical areas in the city.

4.3.5 Support wetlands protection through non-regulatory approaches such as the adopt-a-wetland conservation program and low impact development.

4.3.6 Work with the non-profit conservation groups and similar organizations to protect wetlands and other critical areas and explore the creation of a city-led environmental workgroup to coordinate natural resource management in the city.

4.3.7 Support the restoration of degraded shorelines and other critical areas to help minimize erosion, sedimentation and flooding and provide critical habitat for salmon and other species.

4.3.8 Protect natural drainage systems and courses associated with floodways, floodplains, or other areas subject to flooding.

4.3.9 Coordinate planned habitat restoration, surface water drainage, and water quality improvements as part of the city's capital improvement program.

4.3.10 Evaluate ecosystem services (the direct and indirect benefits that ecosystems provide humans) when developing natural resource regulations and protections for different land uses.

GOAL 4.4 WORK WITH PUBLIC AGENCIES AND PRIVATE PARTNERS TO DEVELOP STRATEGIES TO PREPARE FOR AND MITIGATE POTENTIAL IMPACTS OF CLIMATE CHANGE, BOTH ON CITY GOVERNMENT OPERATIONS AND THE GENERAL LAKE STEVENS COMMUNITY

Policies

4.4.1 Implement and periodically update the actions and strategies in the city's Climate Sustainability Plan.

4.4.2 Develop adaptive mitigation strategies that can be used by both the public and private sectors to help mitigate the potential impacts of new and ongoing development and operations.

4.4.3 Review comprehensive, strategic and specific plans to determine if city policies are appropriately targeted to prepare for and mitigate potential impacts of climate change.

4.4.4 Make energy efficiency and resource conservation a priority through retrofitting city facilities, promoting recycling or waste reduction behaviors, and automating energy conservation in facility operations.

4.4.5 Conserve fossil fuels and support federal and state policies and legislation that will lead to the reduction of greenhouse gas emissions.

4.4.6 Develop adaptive land use policies and development regulations that result in reduced greenhouse gas emissions for new development and redevelopment.

4.4.7 Monitor and evaluate opportunities to utilize state tools and resources to stay compliant with state environmental and energy strategies.

4.4.8 Support Snohomish County PUD in efforts to improve climate resilience by constructing new water storage systems to provide back-up water supplies during droughts.

4.4.9 Track and monitor tree canopy coverage in the city to better capture carbon dioxide and stormwater runoff and increase shading.

4.4.10 Consider and prioritize equity and affordability in climate adaption and mitigation strategies and actions, such as increased tree canopy coverage in lower income communities and other vulnerable populations.

4.4.11 Work with local schools, tribes, environmental organizations and partner agencies to educate the public on the impacts of, and strategies for addressing, climate change.

4.4.12 Encourage climate-resilient vegetation and landscaping and the preservation of existing vegetation.

4.4.13 Incorporate emissions reduction and other environmental requirements into the city's contracting process.