



ENVIRONMENT ELEMENT

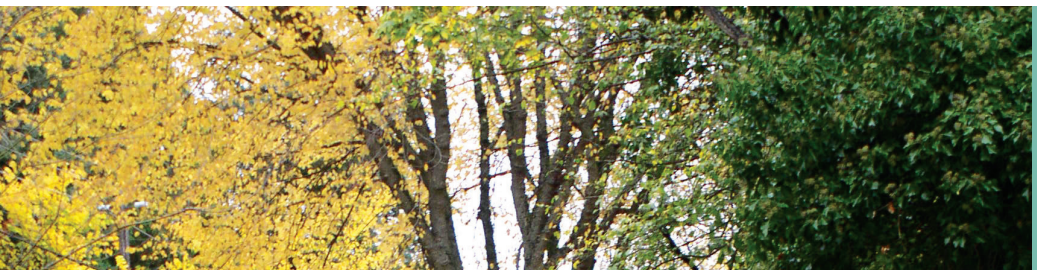
CHAPTER 9



TABLE OF CONTENTS



INTRODUCTION	E-3
SeaTac’s Vision for the Environment	E-5
Purpose of Element.....	E-5
Role in State, Regional, and County Planning Framework.....	E-5
Consistency with Other Elements	E-5
GOALS AND POLICIES	E-6
Overarching Environment Goals.....	E-6
GOAL 9.1 BASE REGULATIONS ON CURRENT SCIENCE.....	E-6
GOAL 9.2 ENHANCE WATER QUALITY.....	E-7
GOAL 9.3 ENHANCE NATURAL DRAINAGE SYSTEMS.....	E-7
GOAL 9.4 IMPROVE AIR QUALITY	E-8
GOAL 9.5 REDUCE GREENHOUSE GAS EMISSIONS AND ADDRESS CLIMATE CHANGE	E-9
GOAL 9.6 ACCESS TO CLEAN AIR, WATER, AND NATURAL ENVIRONMENTS	E-11
Environmentally Sensitive Areas	E-12
GOAL 9.7 PROTECT STREAMS AND LAKES	E-12
GOAL 9.8 ENHANCE WETLANDS.....	E-13
GOAL 9.9 PROTECT GROUNDWATER AQUIFERS	E-17
GOAL 9.10 PROTECT STEEP SLOPE, LANDSLIDE, EROSION, AND SEISMIC HAZARD AREAS.....	E-17
GOAL 9.11 PRESERVE FLOODPLAINS.....	E-22
GOAL 9.12 ENHANCE WILDLIFE HABITAT	E-23
Shorelines	E-24
GOAL 9.13 ENSURE ECONOMIC ACTIVITY RESPECTS SHORELINE ENVIRONMENT	E-24
GOAL 9.14 INCREASE PUBLIC ACCESS	E-25



GOAL 9.15 ENCOURAGE WATER-ORIENTED RECREATION	E-27
GOAL 9.16 MAINTAIN ROUTES TO SHORELINES	E-28
GOAL 9.17 CONSERVE SHORELINE NATURAL RESOURCES	E-28
GOAL 9.18 SYNCHRONIZE LAND USE AND ENVIRONMENT DESIGNATIONS	E-29
GOAL 9.19 PROTECT ARCHEOLOGICAL, HISTORIC, AND CULTURAL SITES	E-31
RECOMMENDED IMPLEMENTATION STRATEGIES	E-32

Maps

Map 9.1 Wetlands and Streams.....	E-14
Map 9.2 Wellhead Protection Areas	E-16
Map 9.3 Erosion Hazard Areas	E-19
Map 9.4 Landslide Hazard Areas.....	E-20
Map 9.5 Seismic Hazard Areas	E-21
Map 9.6 Angle Lake Shoreline Management Area	E-26

INTRODUCTION



SeaTac's Vision for the Environment

In 2044, SeaTac will continually protect and enhance the natural environment as it transforms into a well-connected community of complete neighborhoods. The City will preserve and serve as a steward for critical habitats and ensure that the community has walkable and bikeable access to green spaces and natural areas, as well as enhanced connectivity to transit, improving quality of life and reducing the level of vehicle miles traveled. The City will work to preserve and enhance the urban tree canopy and develop a plan for climate resiliency to guide future policy making and decisions in line with state requirements.

Purpose of Element

This Element addresses the stewardship of SeaTac's environmental assets and guides the development and implementation of environmental policies and regulations. It focuses on maintaining key natural processes and functions that provide the natural and physical foundations for the community, while acknowledging the need to accommodate growth.

Role in State, Regional, and County Planning Framework

While the Environment Element is not a requirement under the Growth Management Act (GMA), the City of SeaTac has chosen to provide this Element given the importance of the environment to the community and its contribution to the well-being of people and protecting the natural systems and habitats critical for a healthy planet.

The GMA requires that critical areas be designated and development regulations be adopted to protect such areas. The GMA states that in drafting comprehensive plans, jurisdictions should "Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water", and "conserve fish and wildlife habitat" (RCW 36.70A.020).

Critical areas are defined as the following areas and ecosystems [RCW 36.70A.030(5)]:

- Wetlands
- Areas with a critical recharging effect on aquifers used for potable water
- Fish and wildlife habitat conservation areas
- Frequently flooded areas
- Geologically hazardous areas

The GMA also directs local governments to identify lands that are useful for public purposes and to identify open space corridors within urban growth areas that are useful for recreation, open spaces, wildlife habitat, trails and connections of critical areas (RCW 36.70A.160).

State legislation passed in 2023 (HB 1181), made significant changes to the GMA regarding the incorporation of climate change into comprehensive plans. By 2029, cities in King County are required to include a climate change and resiliency element with sub-elements focused on greenhouse gas emissions reduction and resiliency.

Puget Sound Regional Council Vision 2050 Multicounty Planning Policies call for supporting a region that cares for the natural environment by protecting and restoring natural systems, conserving habitat, improving water quality, and reducing air pollutants. The health of all residents and the economy is connected to the health of the environment. Planning at all levels considers the impacts of land use, development, and transportation on the ecosystem.

SeaTac's goals and policies in the Environment Element align with the King County Countywide Planning Policies (CPPs) addressing:

- Environmental Sustainability:
- Earth and Habitat
- Flood Hazards
- Water Resources
- Open Space
- Restoration and Pollution
- Climate Change

King County's overarching goal for the Environment – to protect the quality of the natural environment in King County is restored and protected for future generations – guided the development of SeaTac's goals and policies.

Environmental Sustainability

Local governments have a key role in shaping sustainable communities by integrating sustainable development and business practices with ecological, social, and economic concerns. Local governments also play a pivotal role in ensuring environmental justice by addressing environmental impacts on frontline communities and by pursuing fairness in the application of policies and regulations.

Consistency with Other Elements

The Environment Element is coordinated with the Land Use, Transportation, Utilities, Economic Vitality, and Parks, Recreation, and Open Space Elements.

GOALS AND POLICIES



This section contains SeaTac's environment goals and policies. Goals represent the City's general objectives, while policies provide more detail about the steps needed to achieve each goal's intent.

Overarching Environment Goals

GOAL 9.1

Ensure that environmental management policies and regulations are based on the most current scientific information.

The City of SeaTac manages its sensitive areas, including streams and wetlands, based on the most current, reliable, and accurate scientific information available. To keep pace with the best available science, the City periodically reviews its goals, policies and regulations and makes amendments as necessary.

Policy 9.1A

Wetlands, streams, shorelines of the state, fish and wildlife habitats, aquifers and aquifer recharge areas (including wellhead protection areas), landslide, erosion and seismic hazard areas, are all hereby designated as environmentally sensitive areas.

Policy 9.1B

Base regulations on the best available science to protect the functions and values of environmentally sensitive areas.

Best practices for designating and protecting environmentally sensitive areas can change over time based on field and academic research.

Policy 9.1C

Promote the use of low-impact development techniques and other innovative environmentally- sensitive development practices.

Low Impact Development (LID) is a stormwater management strategy that more closely mimics natural hydrologic patterns and emphasizes open space preservation and stormwater infiltration. As the science for LID measures is ever-evolving, the City plans to adapt to the changes in best available science for these techniques as new guidance becomes available.

Policy 9.1D

Coordinate with local jurisdictions, tribes, and King County to develop and implement regionwide interdisciplinary environmental strategies, policies, and programs.

Policy 9.1E

Require development in the city to be located and designed in a manner that minimizes impact to natural features to the extent possible.

Policy 9.1F

Encourage and incentivize environmental stewardship on private and public lands to protect and enhance critical habitats, water quality, and other ecosystem functions.

GOAL 9.2

Preserve and enhance the quality of water resources.

Policy 9.2A

Protect and enhance water quality by preserving the amenity and ecological functions of water features through land use plans, innovative land development, public education, and stormwater regulations.

Clean water in streams, lakes, and wetlands is an amenity within a city. It provides opportunities for water activities (e.g., swimming, fishing, kayaking, etc.) without fear of infections from waterborne bacteria or parasites. Clean water also enhances the image of a city for its livability and its concern for the natural environment. Techniques for protecting and improving water quality include:

1. Provision of sewers for new development and redevelopment.
2. Adequate stormwater flow control and treatment, including low impact development (LID) principles and LID best management practices (BMP), for new development and redevelopment.
3. Public education about how to maintain and improve water quality within natural drainage basins.

Policy 9.2B

Manage water resources to preserve ecosystem services, including recreation, fish and wildlife habitat, flood protection, water supply, and open space.

Clean water in streams and lakes allows for preservation of urban wildlife and healthy ecosystems, which provide health and environmental benefits to the City, increasing the overall livability of SeaTac.

Policy 9.2C

Work with adjacent jurisdictions and other affected entities to enhance and protect water quality in the region.

Enhancing and protecting clean water throughout a stream watershed often requires that many jurisdictions work together to preserve water quality.

Miller and Des Moines Creeks both cross City limits, and many entities have interests in SeaTac's water quality issues, including fisheries industries for SeaTac's salmonid-bearing waterbodies, the Muckleshoot Indian Tribe, and Des Moines and Normandy Park as downstream cities. Affected jurisdictions and entities must coordinate to preserve water quality.

GOAL 9.3

Protect, preserve, and enhance natural drainage systems.

Under predevelopment conditions, rainwater infiltrates into the soil and then flows slowly into the stream or receiving water. Infiltration allows soil and plants to break down and remove many pollutants and regulates peak storm flows, summer low flows, and stream temperatures. When an area is developed, the amount of rainwater that can infiltrate into the soil is often significantly reduced (see Figure 9.1 below). The majority of the remaining stormwater flows over impervious surfaces (e.g., parking lots, sidewalks, street, and buildings). This causes problems such as:

1. High peak storm flows that can scour a stream bed or destabilize stream banks.

Why care about natural drainage?

Stormwater runoff impacts water quality. In developed areas, runoff can carry oil, fertilizers, or a number of other pollutants into the stream channel. Fertilizers provide nutrients for excessive algae growth that can sap the drainage system of oxygen and asphyxiate fisheries resources. Soaps, oils, and other hydrocarbons from streets, parking lots, and driveways are toxic to fish. Controlling the water quality within a drainage basin can preserve fisheries and other resources.

2. In some cases, the summer low flow can be depleted or the stream dries up so that the stream cannot support aquatic life (because there is not enough groundwater flow to maintain stream flow).
3. On hot summer days, parking lots and rooftops build up heat. Stormwater runoff from these surfaces is likewise heated up and subsequently raises stream temperatures. Stream temperatures greater than 68 degrees Fahrenheit can lower a salmonid's resistance to disease or kill fish resources.

The use of green roofs, pervious pavement, and other LID techniques can mitigate the temperature impacts of roofs and paved areas by allowing rainwater to infiltrate into the cool soils. Providing tree canopy to shade parking lots can lower temperatures and mitigate impacts to streams and lakes. Infiltration techniques can minimize impacts on aquatic resources while allowing development.

Policy 9.3A

Consider entire watersheds in surface water management plans, with responsibility shared between SeaTac, other cities, and the County.

Watersheds often exceed jurisdictional boundaries, meaning surrounding jurisdictions should coordinate surface water management plans for consistency.

Policy 9.3B

Protect and enhance natural drainage systems to maintain and improve water quality, reduce public costs, and prevent environmental degradation by using best management construction practices and current stormwater treatment and flow control standards on new and redevelopment projects.

Unmitigated peak storm flows can scour streambeds, destabilize stream banks, impact spawning areas, and significantly degrade habitat. Quality site planning, construction practices, and stormwater management can minimize erosion, sedimentation, and landslides.

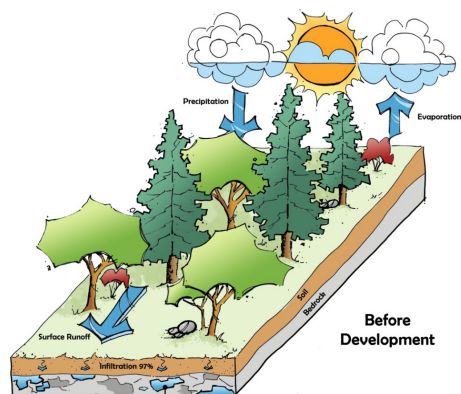
Policy 9.3C

Require resource industries to use management practices that prevent erosion and sedimentation and pollutants from entering ground or surface waters.

Resource industries, such as gravel mining operations, can heavily impact water resources. Proper erosion and sedimentation control practices and pollutant removal should be used to prevent impacts on water resources.

Policy 9.3D

Work to identify and address the impacts of climate change on the city's hydrological systems.



In predevelopment conditions 20-70% of rainwater infiltrates into groundwater.



In post-development conditions only 10-50% of rainwater infiltrates into groundwater.

Figure 9.1 Pre- and post-development hydrologic conditions.

GOAL 9.4

Improve air quality.

Policy 9.4A

Continue to support and rely on the various State, federal, and local programs to protect and enhance air quality.

Regional air quality programs are already in place in the form of the Puget Sound Clean Air Agency and it is up to local jurisdictions to continue to support and promote these programs.

Policy 9.4B

Require vegetation retention and landscaping to provide filtering of suspended particulates and contribute to the sequestering and storage of carbon.

Trees and other vegetation convert carbon dioxide into oxygen, filter out air pollutants, and trap other particulates such as dust.

Policy 9.4C

Support public transportation, non-motorized transportation, and Transportation Demand Management (TDM) programs to reduce Vehicle Miles Traveled (VMT), greenhouse gas emissions, and other locally generated air pollutants.

Reducing VMT and greenhouse gas emissions helps to meet State air quality goals.



See Policy 9.2C above regarding interjurisdictional water quality work.



See related Policies 9.1C on LID best practices and 9.7E on LID techniques.



See Goal 9.10 regarding areas sensitive to erosion and landslides.

GOAL 9.5

Reduce greenhouse gas emissions as a means of addressing the potential adverse impacts of climate change.

SeaTac's existing land use strategy to reduce automobile dependency and VMT focuses on developing dense nodes of jobs and housing around light rail transit stations also supports greenhouse gas reduction efforts. The City Center Plan (1999, update anticipated to be adopted in 2025), S. 154th Street Station Area (2006), and the Angle Lake Station District (2015) Plans, and the accompanying development regulations for each of these subarea plans, help to implement that strategy. The citywide growth strategy additionally promotes the creation of walkable and complete neighborhoods throughout the city.

Policy 9.5A

Support efforts to achieve State of Washington and King County greenhouse gas emissions reduction targets.

Washington state and regional agencies have established a series of greenhouse gas reduction and clean energy economy goals.

- The state greenhouse gas reduction goal is to reach 50% below 1990 levels by 2050.

- King County’s Countywide Planning Policies (2021), in CPP EN-27: establishes the following goals:
 - 50% below 2007 levels by 2030
 - 75% below 2007 levels by 2040
 - 95%, including net-zero emissions through carbon sequestration and other strategies, by 2050
- Puget Sound Regional Council’s VISION 2050 Multi-County Planning Policies (goals for Climate Change section) includes the following:
 - 50% below 1990 levels by 2030
 - 80% below 1990 levels by 2050

The City will work toward alignment with state and regional emission reduction guidance as steps are taken to develop SeaTac-specific goals for greenhouse gas emission reduction, and identify other related strategies, that will be incorporated within a Climate Change Element by 2029, as required by the state.



See Goal 9.5’s greenhouse gas emissions reduction implementation strategies.

Policy 9.5B

Reduce vehicle greenhouse gas emissions by increasing use of electric vehicles and developing more robust bicycle and pedestrian infrastructure.

Policy 9.5C

Reduce energy use in existing buildings, and limit emissions growth in new buildings.

Policy 9.5D

Foster community-wide renewable energy use.

Policy 9.5E

Increase natural carbon storage by increasing tree canopy on city streets and properties and protecting green belts.

Policy 9.5F

Develop and implement actions to reduce greenhouse gas emissions in City operations, such as reducing building energy consumption through retrofit projects.

Climate change has the potential to affect nearly all issues identified in this Plan. Though a global issue, local governments can play an important role in reducing its impacts. For every gallon of gasoline used, automobiles release roughly 20 pounds of carbon dioxide, a primary greenhouse gas contributing to climate change (Puget Sound Clean Air Agency). In the central Puget Sound region, cars and trucks contribute more greenhouse gas emissions than any other source. The other major source is from the heating and cooling of buildings, both residential and commercial. Choosing cleaner fuel alternatives and retrofitting older machinery and buildings to be less polluting are affordable ways to protect our air.

Policy 9.5G

Increase the recycling rate citywide.

Minimizing the waste of resources that have reuse, resale, and recycling value economically benefits the City and its residents, as well as reduces the City’s carbon footprint by reducing the need to manufacture or produce the goods being reused or recycled.



See the Land Use Element’s Healthy, Equitable, and Connected Communities section.



See Utilities Goal 10.6 for examples of the City leading the way in electrical vehicle usage.



See Transportation Element for pedestrian and bicycle strategies.

Policy 9.5H

Develop plans to adapt to the potential effects of climate change.

Current scientific opinion is that the effects of human-induced global climate change cannot be eliminated because of the volume of greenhouse gases already emitted into the atmosphere. Humans can reduce the worst future impacts and slow the pace of change. The Pacific Northwest will see:

1. Higher levels of population growth resulting from in-migration from parts of the country made inhospitable due to the effects of climate change (i.e., “climate refugees”),
2. Declining snowpack negatively affecting regional water supplies,
3. Higher temperatures increasing risks to forestry from wildfires and insect pests,
4. Negative impacts on coastal areas resulting from sea level rise, and
5. Decreasing habitat for cold water fish such as salmon.



See Utilities Element for goals related to efficient resource use.

GOAL 9.6

Recognize that access to clean air, water, and natural environments is a basic human right, and ensure work to ensure equitable access and capacity for current and future generations.

Policy 9.6A

Ensure all residents of SeaTac have access to clean air, water, and other natural resources and elements of a healthy environment, regardless of race, social, or economic status.

Policy 9.6B

Make coordinated effort to reduce and mitigate noise and light pollution caused by transportation, public facilities, light industry, airport operations, and other sources.

Policy 9.6C

Explore and continue to participate in local and regional efforts to better identify and understand potentially adverse environmental impacts of airport operations, such as air quality, that may affect SeaTac as an airport-adjacent city.

The University of Washington and Seattle and King County Public Health have undertaken studies with funding from the state legislature, Port of Seattle, and cities surrounding Sea-Tac International Airport, focused on the impact of air pollution caused by airport operations. The University of Washington’s Mobile Observations of Ultrafine Particles (MOV-UP) study, completed in 2019, analyzed the potential air quality impacts of ultrafine pollution particles from aircraft traffic on communities near and underneath Seattle-Tacoma International Airport (Sea-Tac) flight paths. In the summer of 2020, University of Washington stated a new project, Characterization of Urban Ultrafine Particles, which aims to develop methods to increase understanding of the chemical differences between ultrafine particles from different urban sources.

Policy 9.6D

Prioritize work to reduce impacts to vulnerable populations and communities that have historically been disproportionately affected by noise and air pollution, climate change, or other environmental impact.

Environmental goals are integrally related. Natural drainage systems (described in Goal 9.3) are imperative for protecting water quality (discussed in Goal 9.2), which affects water bodies (addressed here), wildlife habitat (Goal 9.11), and entire ecosystem health.



See LID (i.e., natural drainage) policies above in Goal 9.3.



See Goal 9.12 for additional policies regarding wildlife habitat.

Environmentally Sensitive Areas

GOAL 9.7

Protect the water quality, natural drainage, fish and wildlife habitat, aesthetic values, and recreational functions of streams and lakes.

Policy 9.7A

Preserve an undisturbed corridor wide enough to maintain natural functions and wildlife habitat between new development and streams and lakes. When impacts from new development are unavoidable, ensure that those impacts will not result in the loss of natural functions or wildlife habitat between the new development and streams and lakes.

To preserve the amenities and their water quality and wildlife functions, buffer corridors need to be provided. These corridors filter pollutants, serve as wildlife habitat buffered from adjacent development, and perform an aesthetic function. This policy requires that, as part of the mitigation for any proposed development, stream and creek corridors are buffered to provide long-term water quality, habitat, and recreational benefits.

Policy 9.7B

Preserve, protect, enhance, and restore natural stream channels for their hydraulic, ecological, and aesthetic functions through development regulations, land dedications, easements, incentives, acquisition, and other means.

The natural functions of stream channels can be preserved through several methods, including:

1. Acquisition of stream channels.
2. Buffering of streams.
3. Clustering of development away from stream channels.
4. Control of peak storm flows into streams.
5. Control of everyday runoff through permanent stormwater management plans and construction site mitigation strategies.
6. Public education and involvement.

Policy 9.7C

Use State standards and guidance for the selection of best management practices and techniques for in-channel and in-water construction to protect and restore fish passage and wildlife habitat in natural waterways.

Washington State Department of Fish and Wildlife is the state agency responsible for setting standards and guidelines in stream channels. Their standards and guidance for instream construction are designed to preserve wildlife habitat and protect and restore fish passage.

Policy 9.7D

Rehabilitate degraded stream channels and banks by using public programs and new development or redevelopment, where conditions permit. Require any necessary alteration of creeks to include mitigation and ongoing maintenance which at a minimum address water quality, floodplain protection, fish and wildlife habitat, channel stability, vegetative cover, maintenance of instream flows, and impacts to downstream property owners.

Miller and Des Moines Creeks, plus the smaller unnamed creeks in SeaTac, have been degraded by past development and its resulting uneven urban stormwater flow. Rehabilitating stream channels increases their fisheries values while enhancing the amenity of the stream. Where riparian vegetation has been removed, new development or redevelopment can mitigate their impacts by planting new native vegetation to provide shading for the stream and enhancing the biologic integrity of streams.

Policy 9.7E

Require the use of stormwater infiltration techniques where feasible in private and public developments in order to maintain or restore natural flows in streams and protect fisheries and recreation resources.

GOAL 9.8

Preserve or enhance wetlands important for flood control, drainage, water quality, aquifer recharge, habitat functions, or visual or cultural values.

Policy 9.8A

Preserve and enhance unique, outstanding, peat, sphagnum, forested, or significant wetlands from adjacent new development by providing a buffer around the wetland adequate to protect its natural functions. Encroachments into significant wetlands may be allowed when no feasible alternative exists and enhancements are provided to replace the lost wetland's functions and values.

Wetlands provide valuable habitat functions, but as encroachment on these areas increase, their value decreases. Species, such as blue herons, marsh hawks, and green herons are easily disturbed by human intrusion. Adequate buffers from development need to be provided to protect these species and many others.

Policy 9.8B

Develop public access to wetlands for scientific and recreational use when sensitive habitats are protected.

Access to wetlands increases their value as a community educational and recreational resource. Careful trail and viewing area planning allows public enjoyment of wetlands while assuring safety and preventing environmental problems.







SeaTac encourages school classrooms to visit wetlands to study wetland biology and ecology.

Wetlands and Streams

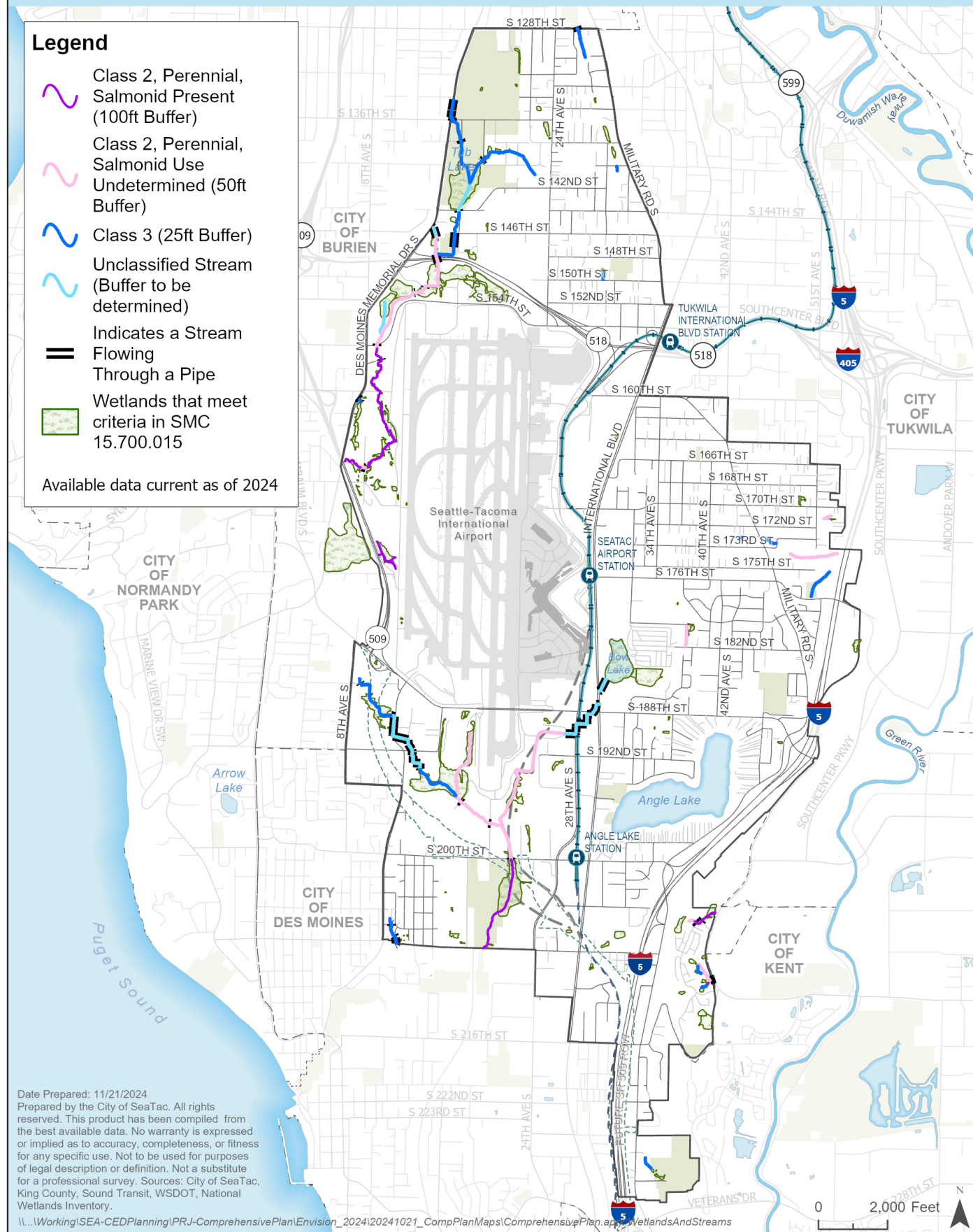
City of SeaTac



Legend

-  Class 2, Perennial, Salmonid Present (100ft Buffer)
-  Class 2, Perennial, Salmonid Use Undetermined (50ft Buffer)
-  Class 3 (25ft Buffer)
-  Unclassified Stream (Buffer to be determined)
-  Indicates a Stream Flowing Through a Pipe
-  Wetlands that meet criteria in SMC 15.700.015

Available data current as of 2024



Date Prepared: 11/21/2024
 Prepared by the City of SeaTac. All rights reserved. This product has been compiled from the best available data. No warranty is expressed or implied as to accuracy, completeness, or fitness for any specific use. Not to be used for purposes of legal description or definition. Not a substitute for a professional survey. Sources: City of SeaTac, King County, Sound Transit, WSDOT, National Wetlands Inventory.

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Map 9.1. Wetlands and Streams

Policy 9.8C

Allow reasonable use of property containing existing wetlands to avoid a “regulatory taking” when the following criteria can be met:

- If existing sensitive area regulations prohibit any use on the property;
- Either due to a court decision or by provision of the codes, a reasonable use of the property is required;
- The development of the wetland and/or its buffer is limited to only that portion of the property to allow a reasonable use, and;
- A soil analysis shows that construction measures can successfully mitigate potential hazards of unstable soil and drainage problems.

In some cases, the application of “Sensitive Areas” regulations regarding wetlands would preclude the possibility to develop a property. Based on court cases, if a reasonable use of the property is not allowed, a “regulatory taking” occurs, and the local government must pay for the property. However, if a reasonable use is proposed (such as a single family residence), it would be allowed provided it minimizes and mitigates impacts to the wetland, which would require special studies to determine those mitigation measures.

Policy 9.8D

Prohibit altering of wetlands for speculative purposes.

Where a wetland is altered or filled in relation to a development proposal, the development proposal can address mitigating measures to decrease impacts to the wetland. If wetlands are filled speculatively, the site’s value is entirely lost until development mitigates the fill.

Policy 9.8E

In wetlands used as stormwater detention sites, maintain water level fluctuations similar to natural conditions, unless plants and animals in the wetland can adapt to new levels as documented by a wetland biologist.

Wetland vegetation and species are adapted to the localized drainage conditions, but changing water levels can upset the balance between the different plants and animals within the wetland, potentially degrading the wetland’s value.

Policy 9.8F

Work cooperatively to meet regulatory standards for floodplain development as these standards are updated for consistency with relevant federal requirements.

Policy 9.8G

Address sea level rise by siting and planning for relocation of essential public facilities and hazardous industries away from the 500-year floodplain.

Wetlands are difficult building foundations

Avoiding building in wetlands is good not only for the environment but also typically for building structural stability. Soil in many wetlands is highly unstable or subject to liquefaction. Many wetlands have underlying layers of peat. During earthquakes, if proper construction practices (such as pilings to load bearing soils) are not used, buildings on top of the peat will be subject to greater ground movement causing extensive damage. Seattle Muck is another type of soil found in the wetlands of SeaTac. These soils are subject to liquefaction during earthquakes. Subsequently, buildings on these soils may suffer extensive damage.

Aquifers supply domestic water.



Legend

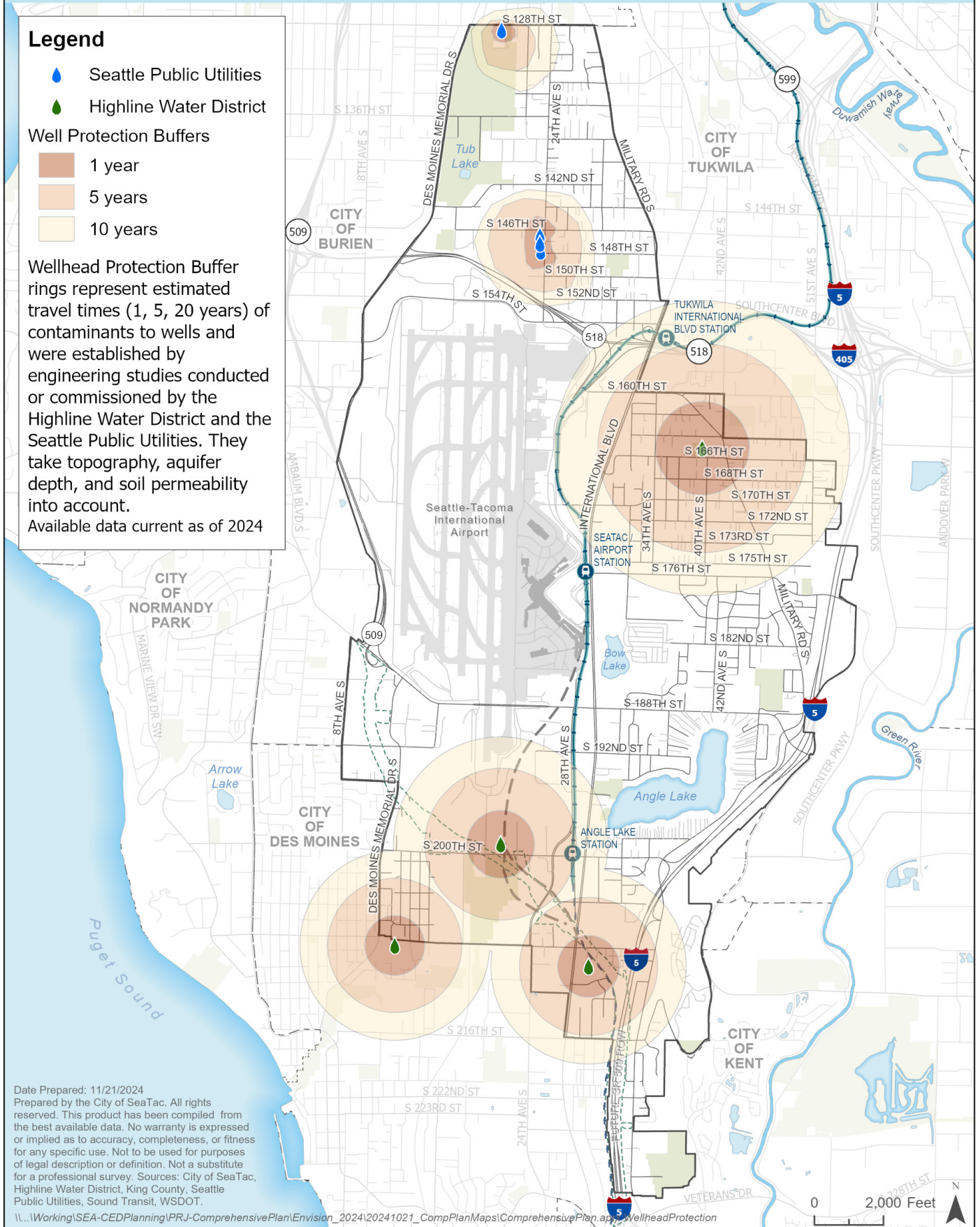
- Seattle Public Utilities
- Highline Water District

Well Protection Buffers

- 1 year
- 5 years
- 10 years

Wellhead Protection Buffer rings represent estimated travel times (1, 5, 20 years) of contaminants to wells and were established by engineering studies conducted or commissioned by the Highline Water District and the Seattle Public Utilities. They take topography, aquifer depth, and soil permeability into account.

Available data current as of 2024



Date Prepared: 11/21/2024
 Prepared by the City of SeaTac. All rights reserved. This product has been compiled from the best available data. No warranty is expressed or implied as to accuracy, completeness, or fitness for any specific use. Not to be used for purposes of legal description or definition. Not a substitute for a professional survey. Sources: City of SeaTac, Highline Water District, King County, Seattle Public Utilities, Sound Transit, WSDOT.

\\...\\Working\\SEA-CED\\Planning\\PRJ-ComprehensivePlan\\Envision_2024\\20241021_CompPlanMaps\\ComprehensivePlan.aprx WellheadProtection

Map 9.2. Wellhead Protection Areas

GOAL 9.9

Protect the quality and quantity of groundwater used for public water supplies.

Policy 9.9A

Protect aquifers, aquifer recharge areas, and wellhead protection areas used for domestic water supply from contamination.

The City of Seattle and the Highline Water District draw water from aquifers within the City to supplement their domestic water supply. Aquifers also provide a valuable function in helping to maintain stream flows and water levels in lakes and wetlands in the summer months.

Policy 9.9B

Work to reduce the use of toxic pesticides, fertilizers, and other environmentally harmful products to protect streams, wetlands, and lakes that serve to recharge aquifers from contamination.

Contamination of aquifers can have serious consequences for humans and wildlife. For example, high concentrations of nitrates in the water supply from fertilizers could cause health problems in infants and children. The presence of toxic compounds in the water deny its ability to be used as domestic water. Contaminated groundwater from aquifers could reach wetlands, streams, and lakes, which could cause health problems for wildlife and the public. Identifying and protecting aquifers, aquifer recharge areas, and wellhead protection areas helps minimize contamination risks.

GOAL 9.10

Protect, preserve, and enhance steep slope, landslide, erosion, and seismic hazard areas due to their sensitivity to human activities, and provide adequate mitigation of adverse environmental impacts.

Policy 9.10A

Design land use development to prevent property damage and environmental degradation, and enhance greenbelt and wildlife habitat values.

Improperly designed land use development impacts steep slopes, landslide, erosion, and seismic hazard areas. Improper or inadequate stormwater runoff drainage systems can lead to large scale erosion or landslides in steep slope areas. Development that does not take topography and natural features into account may increase erosion or landslides and destroy valuable habitat. Sedimentation due to erosion can destroy fisheries habitat. Development that recognizes natural features can preserve valuable habitat (possibly through clustering development) while minimizing impacts on sensitive areas.

Policy 9.10B

Decrease development intensity as slopes increase to mitigate problems of drainage, erosion, siltation, and landslides. Retain slopes of 40 percent or more in a natural state, free of structures and roads. Ensure that developments that create slopes of 40 percent or more provide appropriate drainage, erosion, siltation, and landslide mitigation measures.

As slopes increase, there is an increased likelihood of problems due to drainage, erosion, siltation, and landslides. On slopes of 40 percent or greater, these problems may happen even without development. Generally, the greater the intensity of development in a steep slope area, the greater the impacts.

Policy 9.10C

Preserve severe landslide hazard areas from development.

Policy 9.10D

Require best erosion and sedimentation prevention practices be used on construction projects. These may include:

- 1. Retain or replace native ground cover immediately after the disturbance has ended in development areas subject to erosion hazards;**
- 2. Reduce the site coverage of the development; and**
- 3. Consider limiting construction work to dryer seasons to reduce erosion and sedimentation.**

Where development occurs in steep slope, landslide, or erosion areas, revegetation of the site should take place immediately after site disturbance has ended, as bare slopes easily erode and are less stable without vegetation. Other mitigation methods include tight-lining storm drainage from the slopes and limiting construction in these areas to the dry period of the year.



Also see Goal 9.1 encouraging regulations to be based on best available science.

Policy 9.10E

Require appropriate engineering, building design, and construction measures to minimize the risk of structural damage and fire and injury to occupants, and to prevent post-seismic collapse in areas with severe seismic hazards.

Seismic hazard areas are found in areas where ground movement is great (such as steep slope areas or wetlands). When earthquake resilient building and construction measures are used, such as pilings down to good load bearing soils, earthquake-related structural damage and injuries are minimized.

Policy 9.10F

Require special studies to evaluate seismic risks to reduce the risks to buildings prior to development in severe seismic hazard areas.

In seismic hazard areas, additional studies are necessary to ensure that soils can adequately support the proposed development's type of construction.

Policy 9.10G


Work with adjacent jurisdictions and other affected entities to protect steep slopes, landslide, erosion, and seismic hazard areas.

Most of the steep slopes, landslide, erosion and seismic hazard areas are located on the City's borders, adjoining other jurisdictions, which means that working together with those jurisdictions will likely provide more protection for these areas and result in fewer problems.

Erosion Hazard Areas

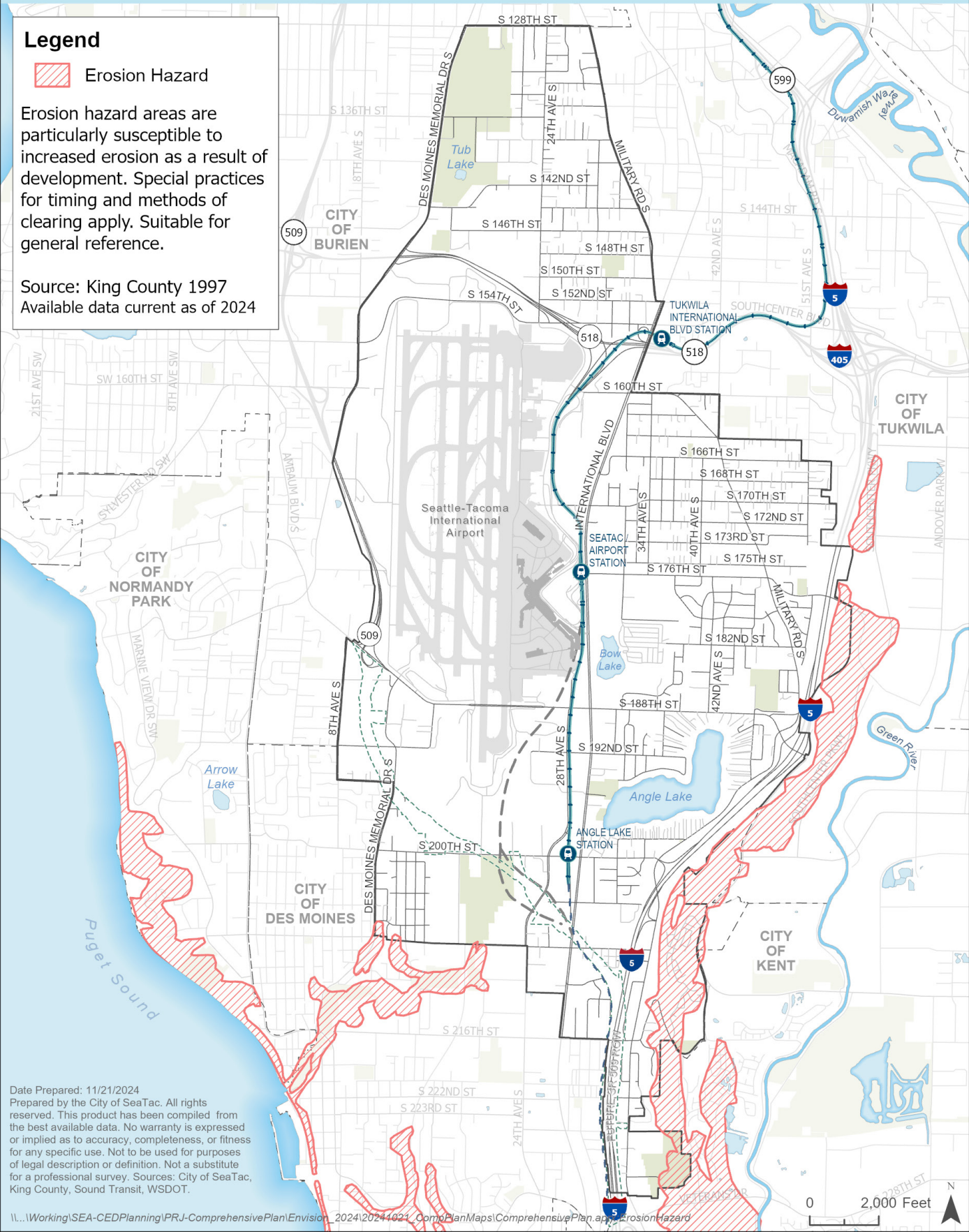


Legend

 Erosion Hazard

Erosion hazard areas are particularly susceptible to increased erosion as a result of development. Special practices for timing and methods of clearing apply. Suitable for general reference.

Source: King County 1997
Available data current as of 2024



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Map 9.3. Erosion Hazard Areas

Landslide Hazard Areas

City of SeaTac

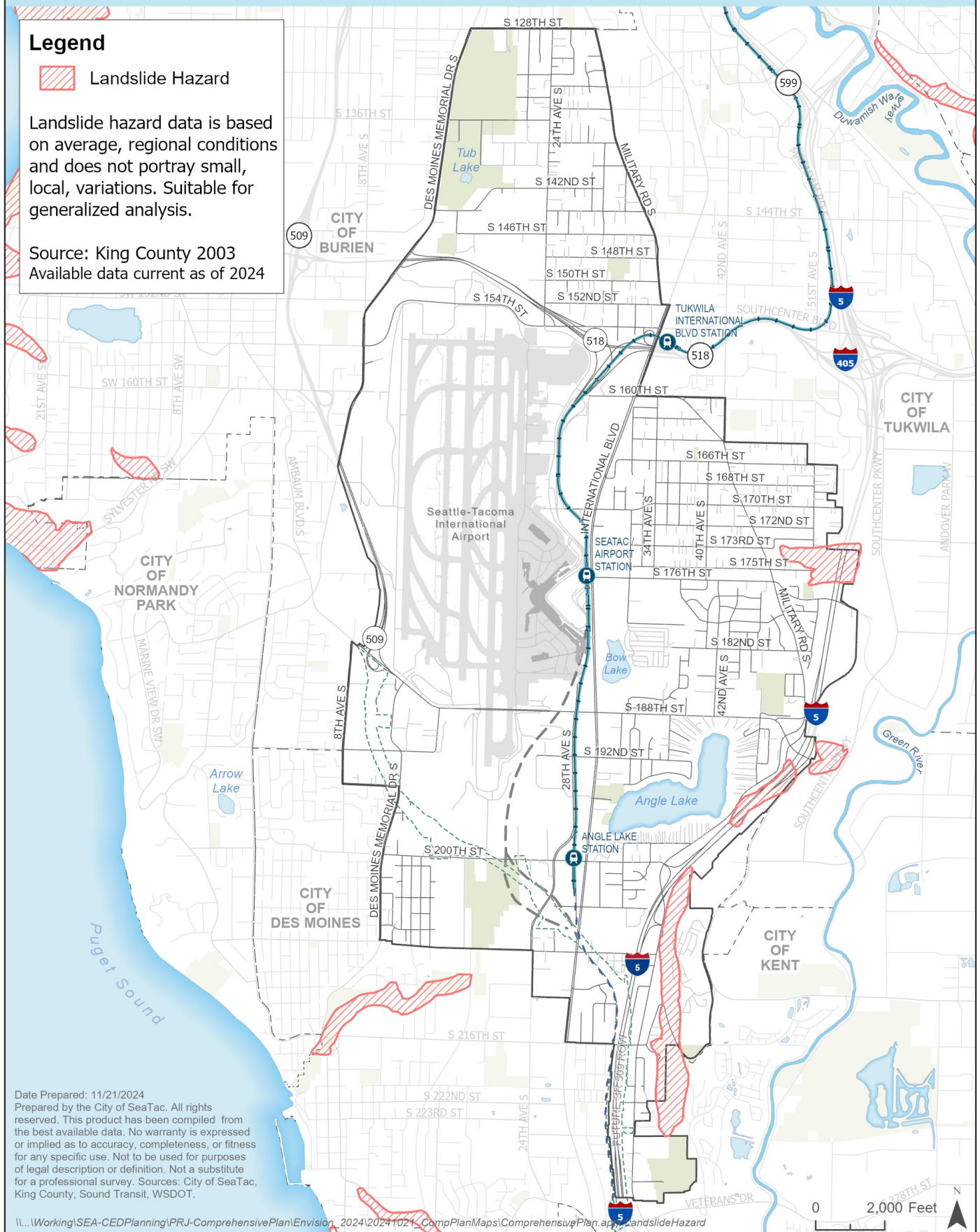


Legend

Landslide Hazard

Landslide hazard data is based on average, regional conditions and does not portray small, local, variations. Suitable for generalized analysis.

Source: King County 2003
Available data current as of 2024



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0 2,000 Feet



Map 9.4. Landslide Hazard Areas

Seismic Hazard Areas

City of SeaTac



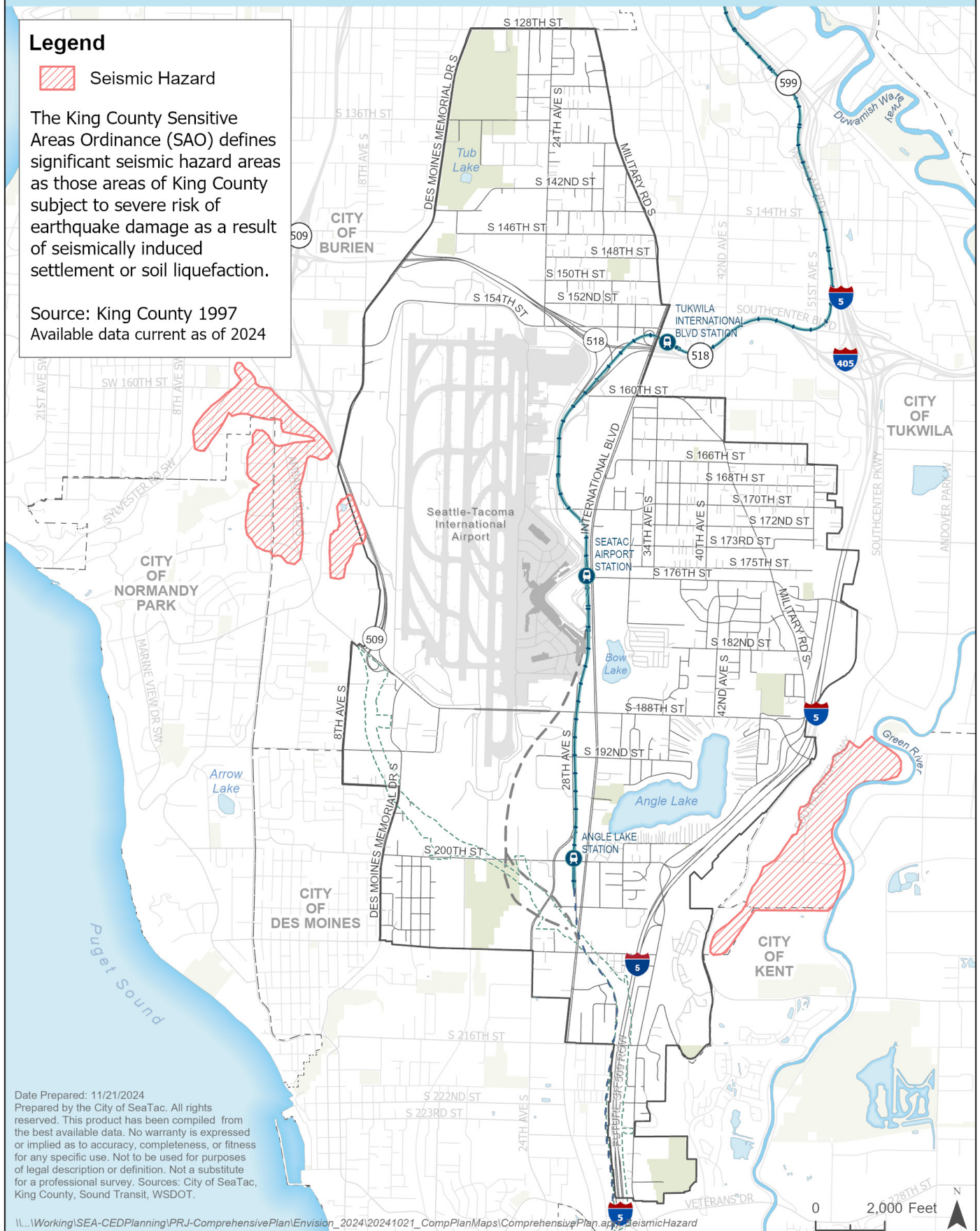
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Seismic Hazard

The King County Sensitive Areas Ordinance (SAO) defines significant seismic hazard areas as those areas of King County subject to severe risk of earthquake damage as a result of seismically induced settlement or soil liquefaction.

Source: King County 1997
Available data current as of 2024



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Why care about structures in floodplains?

Any new structure that is constructed within the floodplain decreases the flood storage capacity within the floodplain. This is similar to placing a number of bricks into a bucket full of water. The volume of the bricks displaces a like volume of water thereby decreasing the carrying capacity of the water bucket.

GOAL 9.11

Preserve and protect the natural flood storage function of floodplains.

Policy 9.11A

Emphasize non-structural methods in planning for flood prevention and damage reduction. Design new developments or land modifications in the 100-year floodplains to maintain natural flood storage functions and minimize hazards.

New development should be designed to maintain natural flood water storage functions. Failing to do so causes nearby properties to flood.

Policy 9.11B

Protect 100-year floodplains by limiting development and encouraging low-impact uses such as open space, trails, and parks, locating roads and structures above the 100-year flood level, and requiring new development to replace existing flood storage capacity lost due to filling.

Increasing the building density in a floodplain decreases the storage capacity of the floodplain.

Policy 9.11C

Allow no permanent structures within the floodway due to risks associated with deep and fast-flowing waters, unless appropriate flood control measures have been taken. Allow no land uses in a floodway that would divert water from the floodway, change flood elevation or obstruct natural flow, unless appropriate flood control measures have been taken such that there are no additional offsite impacts and no degradation of water quality. Allow no development in the floodway fringe that would reduce the existing level of flood storage.

No structures should be allowed in the stream channel (i.e., floodway).

Within the floodway fringe, any new development should be allowed only if the existing level of flood storage capacity is maintained.

Policy 9.11D

Permit no permanent structures, and allow no grading or filling along small streams for which the floodway has not been identified. In such a case, treat the entire floodplain as a floodway.

There are small streams in SeaTac for which no floodway has been defined. To minimize damage to property, no building should be constructed in the entire potential floodway until the floodway is identified.

GOAL 9.12

Maintain wildlife through the preservation and enhancement of fish and wildlife habitat through acquisition, incentives, and other techniques with particular attention to habitat for species that have been identified as endangered or threatened.

Policy 9.12A

Protect and enhance fish and wildlife habitat corridors where steep slopes, wetlands, stream ravines, or stream corridors provide a continuous corridor that provides food, shelter, and water and where there are minimal impacts due to human intrusion.

Continuous undisturbed areas with a water source (wetland), food source (wetlands and forests), and areas of shelter (forested areas) that have minimal intrusion by people provide the best wildlife habitat functions. In SeaTac, these corridors are located along the steep slopes and stream canyons on Des Moines Creek and Miller Creek. Lower development densities are generally recommended in these areas to preserve the extent of the undisturbed areas as much as possible.

Policy 9.12B

When developing on forested property adjacent to steep slopes, wetlands, stream ravines, or stream corridors, encourage development to provide additional buffer areas to provide wildlife and fisheries habitat. Incentives for additional buffers may include density bonuses and lot clustering.

In areas adjacent to wetlands, stream ravines, or streams, clustering of development should be encouraged to allow greater buffers between the development and the sensitive area. This increases the functional and biological value of the sensitive area, provides a greater wildlife habitat area, and provides an amenity for the residents or users of the development.

Policy 9.12C

Foster native vegetation and control invasive species to preserve and enhance fish and wildlife habitat.

Very little habitat in SeaTac remains in an undisturbed, natural state. Exotic, invasive plant species have replaced native vegetation in most areas, providing poor habitat for fish and wildlife. Revegetating with native species improves the ecological value of habitat and provides a public benefit to SeaTac residents.

The Puget Sound Chinook salmon is listed as a threatened species by the US Fish and Wildlife Service. This requires state and local governments to protect and enhance habitat for salmon, which also benefits other anadromous fish.

Only one water body in the City is subject to the Shoreline Management Act: Angle Lake.

Shorelines

In 2019, the City's updated Shoreline Master Program (SMP) was approved by the State. Only one water body in the City is subject to the Shoreline Management Act: Angle Lake. The City's SMP is a stand-alone document with an adoption by reference to applicable portions of the City's Critical Areas Ordinance. Pursuant to RCW 36.70A.480, the goals and policies of the City's Shoreline Master Program are considered an element of the City's Comprehensive Plan. The major goals and policies are contained in this sub-element for topic areas in the Shoreline Master Program that are overarching and comprehensive in nature. For specific policies refer to Chapters 3, 4, and 7 of the Master Program.

As required by the Shoreline Management Act in RCW 90.58.100, the following elements have been considered in the preparation of the Master Program for the City of SeaTac: Economic Development, Public Access, Recreational, Circulation, Shoreline Use, Conservation, and Historic, Cultural, Scientific, and Educational. The goals and policies established for these elements are the basis for policies and regulations included under the general and specific use requirements of the Master Program.

GOAL 9.13

Ensure that any economic activity taking place along the shoreline operates without harming the site's environmental quality or adjacent shorelands and that new non-residential development provides public access to the shoreline for water-enjoyment activities.

Policy 9.13A

Require proposed economic use of the shoreline to be consistent with SeaTac's Comprehensive Plan. Require upland uses on adjacent lands outside of immediate SMA jurisdiction (in accordance with RCW 90.58.340) to be consistent with the purpose and intent of the Master Program as they affect the shoreline.

There are limited opportunities available for residential and commercial development on Angle Lake; however, development should continue to be allowed within the shoreline environment consistent with the underlying zoning and the current nature of development around the lake. Preference should be given to water-dependent and water-related uses in the shoreline management area.

GOAL 9.14

Increase the amount and diversity of public access to the shoreline, including trails, viewing platforms, and improved piers, and preserve and enhance views of the shoreline, consistent with the natural shoreline character, private rights, and public safety.

Policy 9.14A

Provide and enhance shoreline access to Angle Lake through purchase or retention of access easements, signage of public access points, and designation and design of specific shoreline access areas for wildlife viewing. Integrate public access to shorelines as a part of the City's public trail system.

A component of the Shoreline Management Act is to encourage more public access to the water. The greatest opportunity for access to the water are Angle Lake Park, and the Angle Lake Nature Trail, the only public parks on Angle Lake. Any new commercial or multifamily residential development along Angle Lake should, where feasible, allow for public access to the waterfront.

Policy 9.14B

Ensure new public access does not adversely affect the integrity and character of the shoreline, or threaten fragile shoreline ecosystems by locating new access points on the least sensitive portion of the site.

One of the principles of the SMA is protection of natural shoreline functions; therefore, it is important that thoughtful site planning and placement of public access points balances public/private enjoyment of the waterfront and environmental considerations.

Policy 9.14C

Ensure the development of upland areas such as parking facilities and play areas, as well as the development of in-water and near shore structures, such as docks and swimming areas, are located and designed in ways that result in no net loss of ecological function.

There are limited areas around Angle Lake left for either commercial or residential development. On the upland portions of sites adjacent to Angle Lake, outside the shoreline management areas should be designed using the most current stormwater manual such that impacts from upland development will not have an adverse affect on Angle Lake.

Policy 9.14D

Access should be provided for a range of users including pedestrians, bicyclists, boaters and people with disabilities to the greatest extent feasible.

Angle Lake Park accommodates a wide range of users and passive and active recreational opportunities. Future improvements to the park should be designed to continue to accommodate a wide range of users and activities.

Policy 9.14E

Development, uses, and activities on or near the shoreline should not impair or detract from the public's visual or physical access to the water.

The intent of this policy is to design future public access points to maximize waterfront enjoyment, while minimizing visual impacts to the waterfront.

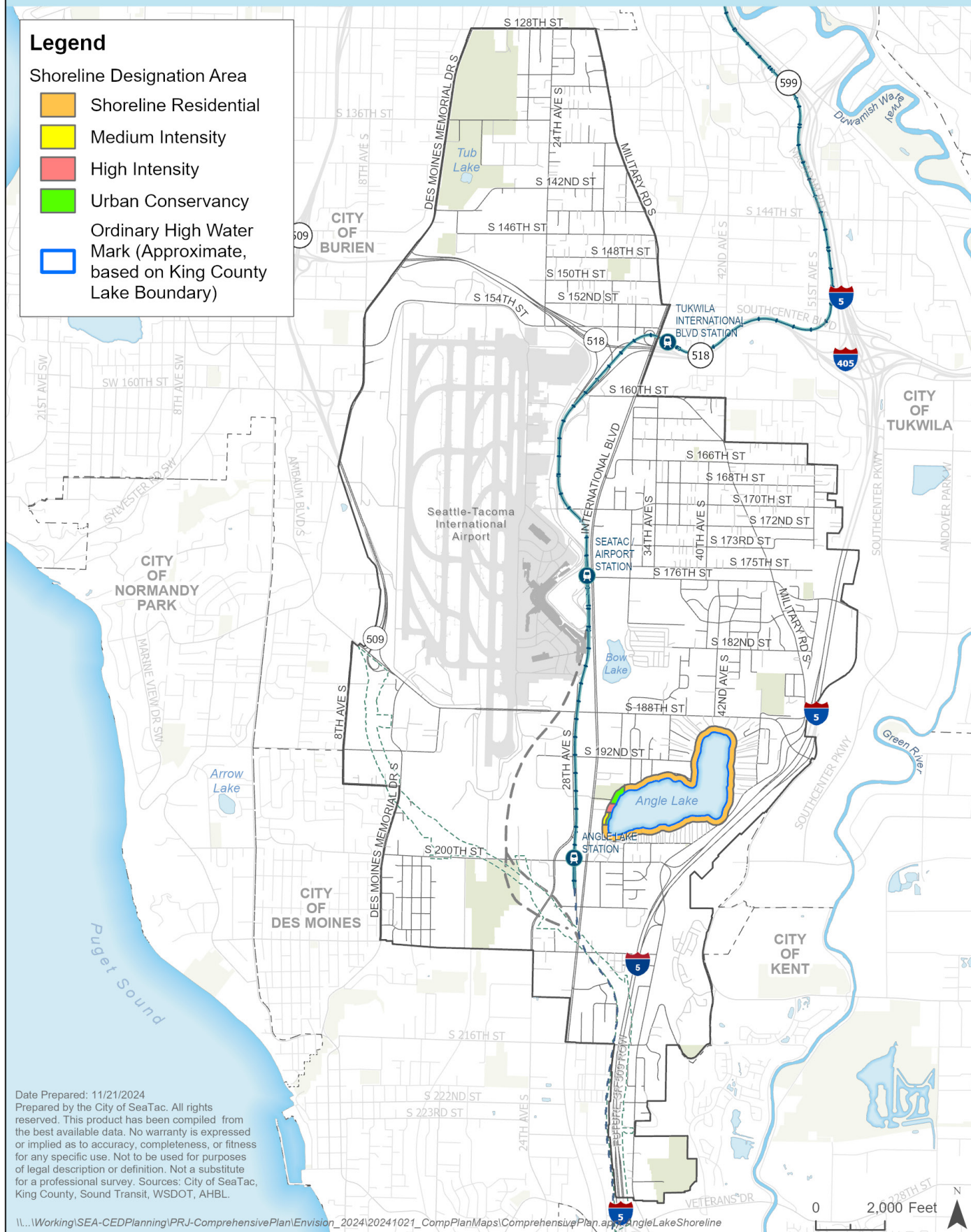


Legend

Shoreline Designation Area

- Shoreline Residential
- Medium Intensity
- High Intensity
- Urban Conservancy

Ordinary High Water Mark (Approximate, based on King County Lake Boundary)



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Map 9.6. Angle Lake Shoreline Management Area

GOAL 9.15

Encourage diverse, water-oriented recreational opportunities in those shoreline areas that can reasonably tolerate such uses without destroying the integrity and character of the shoreline.



See the Parks, Recreation, and Open Space Element for more about Angle Lake.

Policy 9.15A

Maintain and enhance existing shoreline recreation assets at Angle Lake Park, including the existing pier and boat launch.

This policy pertains to future improvements to Angle Lake Park, such as repair or replacement of the existing dock and boat launch, and the addition of a small covered stage for plays and performances in conjunction with ongoing Parks and Recreation programs. The purpose of these improvements is to enhance the enjoyment and use of the park for the citizens of SeaTac. This policy also addresses maintenance of existing facilities to ensure the continued enjoyment of the park by the public.

Policy 9.15B

Pursue additional public access to the shoreline for recreational uses, particularly for trails and passive recreation. Explore opportunities to develop trail links within and between public properties.

Shorelines are a valuable resource in the community, and accessing this resource is necessary for the public to enjoy it.

Policy 9.15C

Ensure existing and proposed recreational uses are of a safe and healthy nature and do not adversely affect the integrity and character of the shoreline or threaten fragile shoreline ecosystems.

Recreational areas on shorelines should provide the maximum benefit to the greatest number of users, and the use of these areas should be accessible to all people and be compatible with each other so as not to conflict with other uses of the shoreline.

Angle Lake Park and the waterfront portion of the Angle Lake Nature Trail are a valuable resource both from a recreation standpoint and, in the case of the Angle Lake Nature Trail, also a habitat standpoint. Future improvements should focus on preserving these resources.

Policy 9.15D

Consider active and passive recreational needs in development of public shoreline access areas.

What is active and passive recreation?

As examples, active recreation might include swimming, boating, and fishing. Passive recreation might include bird watching or simply viewing the lake at sunset.



See the
Transportation
Element for
strategies to connect
to Angle Lake.

GOAL 9.16

Maintain safe, reasonable, and adequate vehicular, bicycle, and pedestrian circulation systems to shorelines and ensure that these routes have the least possible adverse effect on unique or fragile shoreline features and existing ecological systems, while contributing to the functional and visual enhancement of the shoreline.

Policy 9.16A

Locate land circulation systems as far from the land-water interface as feasible to reduce interference with either natural shoreline resources or other appropriate shoreline uses, except when necessary to provide for appropriate public access to the shoreline. Where possible avoid creating barriers between adjacent uplands and the shoreline.

Policy 9.16B

Improve access to Angle Lake through expanded non-motorized connections and transit service.

Transit service connections would be to Angle Lake Park or adjacent properties per se. Expanded non-motorized connections might include sidewalks and bike trails or lanes on local streets that connect to the park.

GOAL 9.17

Preserve, protect, and restore to the greatest extent feasible the natural resources of the shoreline, including but not limited to scenic vistas, aesthetics, and vital riparian areas for wildlife protection.

Policy 9.17A

Protect shoreline processes and ecological functions through regulatory and non-regulatory means that may include acquisition of key properties, conservation easements, regulation of development within the shoreline jurisdiction, and incentives to encourage ecologically sound design.

New development within the shoreline impacts the shoreline environment to varying degrees. By adhering to accepted design standards, such as storm drainage standards, and best management practices (BMPs), these impacts should be minimized.

Policy 9.17B

Reclaim and restore areas which are biologically and aesthetically degraded to the greatest extent feasible while maintaining appropriate use of the shoreline.

Few remaining shoreline areas on Angle Lake retain their natural native vegetation buffer areas. Such areas, where feasible, should be reclaimed and restored, as they provide natural habitat and shoreline protection.

Policy 9.17C

Preserve the scenic aesthetic quality of shoreline areas and vistas to the greatest extent feasible.

Scenic vantage points can be found around the lake, both from private property adjacent to the lake and from public property points such as Angle Lake Park. As properties within all the shoreline designations change or redevelop over time careful consideration should be given to the scenic quality of the lake. In some cases, such as commercial development or multi-family residential development, view corridor implementation studies may be necessary.

Policy 9.17D

Preserve and restore native vegetation along the shoreline to the greatest extent feasible.

Little natural vegetation remains around Angle Lake since the lake is currently heavily urbanized. Where natural vegetation remains, it should be preserved as part of any new development of the adjacent upland properties. Residential properties should be encouraged to remove non-native species and replace them with native plant materials.

Policy 9.17E

Target Angle Lake Park for restoration of shoreline natural resources and functions while ensuring continued public access to the shoreline.

Where feasible, as Angle Lake Park is improved, opportunities to restore the natural shoreline should be considered as part of any redevelopment of the park. Such restoration work should not conflict with the public's ability to access the shoreline and enjoy the park.

GOAL 9.18

Ensure that the land use patterns within shoreline areas are compatible with shoreline environment designations and will be sensitive to and not degrade habitat and ecological systems and other shoreline resources.

Like or compatible shoreline uses should be clustered or distributed in a rational manner to promote the best possible pattern of land and water use consistent with the Shoreline Master Program.

Policy 9.18A

When determining allowable uses and resolving use conflicts within the City's shoreline jurisdiction, apply the following preferences and priorities in the order listed below:

1. Reserve appropriate areas for protecting and restoring ecological functions to control pollution and prevent damage to the natural environment and public health.
2. Reserve shoreline areas for water-dependent and associated water-related uses.
3. Reserve shoreline areas for other water-related and water-enjoyment uses that are compatible with ecological protection and restoration objectives.
4. Locate single family residential uses where they are appropriate and can be developed without significant impact to ecological functions or displacement of water-dependent uses.

5. Limit non-water-oriented uses to those locations where the above described uses are inappropriate or where non-water-oriented uses demonstrably contribute to the objectives of the Shoreline Management Act, including opportunities for ecological enhancements and public access improvements.

This policy addresses the distribution, location, and extent of uses within the shoreline management area. Angle Lake's shorelines are substantially developed, mostly consisting of residential, with a few pockets of commercial and multifamily.



Also see Policy 9.1C regarding LID best practices, Policy 9.7E on stormwater infiltration techniques, and Goal 9.7 on enhancing natural drainage systems.

Policy 9.18B

New residential development should be designed to protect existing shoreline water views.

The original lots between Angle Lake and adjacent roads are long and narrow many of which still remain, while several others have been split into smaller lots. This has created a situation where the construction or reconstruction of a house on the frontage lot on Angle Lake could potentially block views of the houses further inland from the lake. In the construction of a residence on these lots, the impacts to views of the shoreline to upland properties should be taken into consideration.

Policy 9.18C

Only allow development and redevelopment activities within the City's shoreline jurisdiction that is designed to ensure public safety, enhance public access, protect existing shoreline and water views, and achieve no net loss of shoreline ecological functions.

Because Angle Lake is heavily developed, new development and redevelopment should strive to balance public safety, public access, and shoreline and water views with preserving ecological functions.

Policy 9.18D

Encourage and in some cases require the use of low impact development (LID) and green building practices for new development within the shoreline jurisdiction.

The shoreline area around the lake is unique, and as part of any new development or redevelopment within the shoreline management area, development activities should take into account and consider design standards and building techniques, where feasible, that create low impact green buildings.

Policy 9.18E

Do not allow proposed shoreline uses to infringe upon the rights of others or upon the rights of private ownership.

Policy 9.18F

Encourage shoreline uses which enhance their specific areas or employ innovative features for purposes consistent with the Shoreline Master Program.

Development should continue around the lake consistent with the existing development pattern, and residential and commercial development are

encouraged to include green building techniques and materials during construction to produce structures that are more self-sufficient and reduce their impact on Angle Lake.

Policy 9.18G

Encourage restoration of shoreline areas that have been degraded or diminished in ecological value and function as a result of past activities or catastrophic events.

New development or redevelopment should consider restoration efforts that include the removal of non-native plant materials and replace them with native plant materials along the shoreline. Native plant materials are more drought-tolerant, requiring less water to thrive, and they can enhance the natural beauty of the beachfront. Restoration efforts may also include the removal and replacement of traditional bulkheads with softer, more natural materials.

GOAL 9.19

Identify, protect, preserve and restore important archeological, historic, and cultural sites located in the shoreline jurisdiction of SeaTac for their educational and scientific value, as well as for the recreational enjoyment of the general public.

Policy 9.19A

Prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value.

Although there are no known archeological or historical sites within the shoreline management area, should development activity unearth important material, it should be preserved and documented according to State law.

Policy 9.19B

Ensure that new development is compatible with existing historic structures and cultural areas.

No historic structures currently exist within the shoreline management area. If during construction of a site along Angle Lake within the shoreline management area a cultural site be discovered, it should be excavated and documented per State law.

RECOMMENDED IMPLEMENTATION STRATEGIES



This section identifies the specific steps, or **implementation strategies**, that achieve this Element's policies. It also identifies the group(s) with **primary responsibility** for carrying out each strategy and the expected **time frame** within which the strategy should be addressed. Policy summaries are included in the table for reference.

Not all policies require an implementation strategy. In those cases those policies are not reflected in the tables that follow.

As the Primary Responsibility column indicates, many of the implementation strategies will be initially undertaken by a specified board or commission. In most cases, the City Council will analyze the specific board/commission recommendation and make the final decision about how to proceed.

The time frame categories are defined as follows:

- Short-Term: one to five years
- Medium-Term: six to 10 years
- Long-Term: 11 to 20 years
- Ongoing: the strategy will be implemented on a continual basis

The time frames are target dates set annually when the City Council adopts amendments to the Comprehensive Plan. Strategies that have been implemented are noted in brackets, along with the relevant completion date.

The list of proposed implementation strategies is a minimum set of action steps and is not intended to limit the City from undertaking other strategies not included in this list.

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIMELINE
9.1 BASE REGULATIONS ON CURRENT SCIENCE			
9.1B Base regulations on the best available science to protect the functions and values of environmentally sensitive areas.	In reviewing development proposals that may have an impact on any sensitive areas, consult with third party biologist and/or engineer to assess potential impacts and recommend development alternatives or mitigation.	Staff	Ongoing
9.1C Promote the use of low-impact development techniques and other innovative environmentally-sensitive development practices.	Adopt current LID manuals, policies, development standards, regulations and techniques by January 1, 2017.	City Council	Short-Term
9.2 ENHANCE WATER QUALITY			
9.2A Protect and enhance water quality by preserving the amenity and ecological functions of water features through land use plans, innovative land development, public education, and stormwater regulations.	Work with providers to enable sewer services for new development.	Staff	Ongoing
	Provide adequate stormwater detention control for new development, including LID techniques.	Staff	Short-Term
	Update development codes to require and implement low impact development (LID) provisions.	Staff, City Council	Short Term
	Work with school districts to educate the public in how to maintain water quality within the natural drainage basins.	Staff	Ongoing
9.2B Manage water resources to preserve ecosystem services, including recreation, fish and wildlife habitat, flood protection, water supply, and open space.	Enforce regulations that protect water resources while allowing recreational use of those resources.	Staff	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.2B Continued	Revisit and update the June 2000 Bow Lake Joint-Use Facilities Study before proceeding with implementations actions: <ul style="list-style-type: none"> • Develop and carry out a public input process • Conduct an agency outreach process • Further characterize economic impacts and benefits • Identify a preferred alternative • Prioritize development of publicly owned properties • Environmental review 	Planning Commission, City Council	Long-Term
	Monitor storm drain outfalls and adjust water quality maintenance as necessary.	Staff	Ongoing
9.2C Work with adjacent jurisdictions and other affected entities to enhance and protect water quality in the region.	Coordinate implementation strategies (such as regulations) with adjacent jurisdictions. See 9.3A below.	Staff	Ongoing
9.3 ENHANCE NATURAL DRAINAGE SYSTEMS			
9.3A Consider entire watersheds in surface water management plans, with responsibility shared between SeaTac, other cities, and the County.	Work with Burien, Des Moines, Tukwila, and King County to ensure that regulations regarding surface water management are consistent between the cities and County for consistent surface water management.	City Council, Planning Commission	Ongoing
	Continue involvement with watershed planning efforts through participation in the Des Moines Creek Basin Planning Committee, the Miller and Walker Creek Basin Planning Committee, and the Watershed Resource Inventory Area 9 (WRIA 9) Green/ Duwamish River Watershed planning and habitat recovery efforts.	City of SeaTac Planning Commission, Staff	Short-Term

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.3B Protect and enhance natural drainage systems to maintain and improve water quality, reduce public costs, and prevent environmental degradation by using best management construction practices and current stormwater treatment and flow control standards on new and redevelopment projects.	Enforce regulations that prohibit or minimize the degradation of the natural drainage systems.	City Council, Planning Commission	Ongoing
9.3C Require resource industries to use management practices that prevent erosion and sedimentation and pollutants from entering ground or surface waters.	Enforce regulations and methods that would protect quality and quantity of stormwater runoff entering SeaTac's streams and wetlands.	City Council, Planning Commission	Ongoing,
9.3D Work to identify and address the impacts of climate change on the City's hydrological systems.	Enforce regulations and methods that minimize the amount of erosion, sedimentation, and water pollutants created by resource industries.	City Council, Planning Commission	Ongoing,
9.4 IMPROVE AIR QUALITY			
9.4A Continue to support and rely on the various State, federal, and local programs to protect and enhance air quality.	Work with the Puget Sound Air Quality Control Agency and with Federal and State agencies to ensure that air quality is protected within SeaTac.	Staff	Ongoing
9.4B Require vegetation retention and landscaping to provide filtering of suspended particulates and contribute to the sequestering and storage of carbon.	Enforce landscape codes that allow the use of existing vegetation to be used for biofiltration.	City Council, Planning Commission	Ongoing,

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.4C Support public transportation, non-motorized transportation, and Transportation Demand Management (TDM) programs to reduce Vehicle Miles Traveled (VMT), greenhouse gas emissions, and other locally generated air pollutants.	Work with local business to adopt "Transportation Demand Management Programs" (TDM) to encourage their employees to use alternative forms of transportation to reduce vehicle trips and emissions.	City Council, Planning Commission	Ongoing
	Enforce regulations that require new development to adopt TDM programs.	City Council, Planning Commission	Ongoing
9.5 REDUCE GREENHOUSE GAS EMISSIONS AND ADDRESS CLIMATE CHANGE			
9.5A Support efforts to achieve State of Washington and King County greenhouse gas emissions reduction targets.	Advocate for a comprehensive approach that requires responsible, science-based limits on climate pollution and market-based prices for emissions.	City Council	Ongoing
9.5B Reduce vehicle greenhouse gas emissions by increasing use of electric vehicles and developing more robust bicycle and pedestrian infrastructure.	Support statewide clean fuel standards and participate in regional efforts to expand the use of low emission and zero emission vehicles. Partner on catalytic pilot projects such as: <ul style="list-style-type: none"> • Expansion of electric vehicle charging stations available at public facilities, • Incentives that encourage building owners to have EV-ready building systems, and • Construction of bicycle infrastructure such as cycle tracks, dedicated lanes, and greenways. 	City Council	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.5C Reduce energy use in existing buildings, and limit emissions growth in new buildings.	Work with energy utilities to develop a regional retrofit program to lower energy use in existing residential and commercial buildings and coordinate with existing programs.	City Council	Ongoing
	Support implementation of the Washington State Energy Code.	City Council	Ongoing
	Demonstrate innovation in local codes, ordinances, and partnerships to encourage green building, in particular through the Regional Code Collaboration.	City Council, City Staff	Ongoing
9.5D Foster community-wide renewable energy use.	Support implementation of Washington State Renewable Portfolio Standard and strong federal policy on reducing GHG emissions from power production.	City Council	Ongoing
	Work with local utilities to help transition to increasingly renewable and efficient energy resources for electricity and heating.	City Staff	Ongoing
	Remove regulatory barriers to small scale local energy projects.	City Council, Planning Commission, Staff	Ongoing
	Partner on catalytic pilot projects such as pilot incentives to encourage building owners to have solar-ready rooftops.	City Council, Planning Commission, Staff	Ongoing
9.5E Increase natural carbon storage by increasing tree canopy on city streets and properties and protecting green belts.	Develop a street and city lands tree program.	City Staff, City Council	Short Term
	Maintain healthy urban forests, such as those in the Des Moines Creek corridor and around Tub Lake.	City Council, Planning Commission, City Staff	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.5F Develop and implement actions to reduce greenhouse gas emissions in City operations, such as reducing building energy consumption through retrofit projects.	Reduce fuel consumption through efficient fleet management practices.	Staff	Ongoing
	Support ways to create ongoing funding for government agency projects related to energy efficiency, renewable energy, and transportation emissions reduction.	City Council	Ongoing
9.5G Increase the recycling rate citywide.	Work with solid waste utilities on outreach to businesses and city residents and to develop and implement education programs.	Staff	Ongoing
9.5H Develop plans to adapt to the potential effects of climate change.	Review Emergency Management plans and amend as necessary. Climate change-related amendments may include identifying vulnerable areas and developing adaptation measures.	City Council, Staff	Ongoing
9.6 PROTECT STREAMS AND LAKES			
9.6A Ensure all residents of SeaTac have access to clean air, water, and other natural resources and elements of a healthy environment, regardless of race, social, or economic status.	Enforce current regulations and make efforts to continually review and implement best practices to ensure residents have equitable access to clean air, water, and other natural resources.	Staff	Ongoing
9.6B Make coordinated effort to reduce and mitigate noise and light pollution caused by transportation, public facilities, light industry, airport operations, and other sources.	Enforce current regulations that require reduced and mitigated noise and light pollution.	Staff	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.6C Explore and continue to participate in local and regional efforts to better identify and understand potentially adverse environmental impacts of airport operations, such as air quality, that may affect SeaTac as an airport-adjacent city.	Continue participation in local and regional efforts to better understand potential adverse environment impacts of airport-adjacent cities.	Staff	Ongoing
9.6D Prioritize work to reduce impacts to vulnerable populations and communities that have historically been disproportionately affected by noise and air pollution, climate change, or other environmental impact.	See strategy for Policy 9.6C.	Staff	Ongoing
	Prioritize work to reduce impacts to vulnerable populations and communities that have historically been disproportionately affected by noise and air pollution, climate change, or other environmental impact.	City Council, Planning Commission, Staff	Ongoing
9.7 PROTECT STREAMS AND LAKES			
9.7A Preserve an undisturbed corridor wide enough to maintain natural functions and wildlife habitat between new development and streams and lakes. When impacts from new development are unavoidable, ensure that those impacts will not result in the loss of natural functions or wildlife habitat between the new development and streams and lakes.	Enforce regulations that mandate a minimum buffer area between streams, lakes, and wetlands.	City Council, Planning Commission	Ongoing
9.7B Preserve, protect, enhance, and restore natural stream channels for their hydraulic, ecological, and aesthetic functions through development regulations, land dedications, easements, incentives, acquisition, and other means.	Enforce regulations that protect natural stream channels.	City Council, Planning Commission	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.7C Use State standards and guidance for the selection of best management practices and techniques for in-channel and in-water construction to protect and restore fish passage and wildlife habitat in natural waterways.	Update regulations to reference State standards and guidance for in-channel and/or in-water construction, or incorporate state regulations into SMC Chapter 15.30.	Staff	Short-Term
9.7D Rehabilitate degraded stream channels and banks by using public programs and new development or redevelopment, where conditions permit. Require any necessary alteration of creeks to include mitigation and ongoing maintenance which at a minimum address water quality, floodplain protection, fish and wildlife habitat, channel stability, vegetative cover, maintenance of instream flows, and impacts to downstream property owners.	Work with the school district, nonprofit organizations, and other public agencies to implement programs to rehabilitate streams and creeks. Such programs could be implemented separately or combined and may include: <ul style="list-style-type: none"> • Establishing a school curriculum from K-12 that would adopt and rehabilitate a creek. • Working with public agencies or a nonprofit agency, such as the Adopt-A-Stream Foundation, in coordination with school programs. 	Staff	Ongoing
9.7E Require the use of stormwater infiltration techniques where feasible in private and public developments in order to maintain or restore natural flows in streams and protect fisheries and recreation resources.	Update development codes to encourage use of LID techniques.	City Council, Staff	Short Term
	Retain existing wetlands and creeks on the site of new development and require the maintenance of natural features.	City Council, Planning Commission	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.8 ENHANCE WETLANDS			
9.8A Preserve and enhance unique, outstanding, peat, sphagnum, forested, or significant wetlands from adjacent new development by providing a buffer around the wetland adequate to protect its natural functions. Encroachments into significant wetlands may be allowed when no feasible alternative exists and enhancements are provided to replace the lost wetland's functions and values.	Enforce development regulations at significant wetlands.	City Council, Planning Commission	Ongoing
9.8B Develop public access to wetlands for scientific and recreational use when sensitive habitats are protected.	Develop regulations that would allow public access to sensitive areas habitat; provided, that such access does not impact such habitat areas.	City Council, Planning Commission	Ongoing
9.8C Allow reasonable use of property containing existing wetlands to avoid a "regulatory taking" when the following criteria can be met: (See policy for criteria).	Enforce regulations that allow the reasonable use of a piece of property that is totally impacted by a "Sensitive Area."	City Council, Planning Commission	Ongoing
9.8D Prohibit altering of wetlands for speculative purposes.	Enforce specific regulations to prohibit speculative landfills in wetland areas.	City Council, Planning Commission	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.8E In wetlands used as stormwater detention sites, maintain water level fluctuations similar to natural conditions, unless plants and animals in the wetland can adapt to new levels as documented by a wetland biologist.	Enforce regulations that would ensure the water level fluctuations within wetland areas are maintained similar to natural conditions as part of new development.	City Council, Planning Commission	Ongoing
9.9 PROTECT GROUNDWATER AQUIFERS			
9.9A Protect aquifers, aquifer recharge areas, and wellhead protection areas used for domestic water supply from contamination.	Work with the Water Districts, Dept. of Ecology and others to delineate aquifer recharge areas and determine if additional regulations to protect these areas are needed.	Staff	Short-Term
	Update regulations as necessary.	Staff	Short-Term
9.9B Work to reduce the use of toxic pesticides, fertilizers, and other environmentally harmful products to protect streams, wetlands, and lakes that serve to recharge aquifers from contamination.	Enforce regulations to minimize impacts from new development.	Staff	Ongoing
9.10 PROTECT STEEP SLOPE, LANDSLIDE, EROSION, AND SEISMIC HAZARD AREAS			
9.10A Design land use development to prevent property damage and environmental degradation, and enhance greenbelt and wildlife habitat values.	Enforce regulations to minimize impacts from new development.	Staff	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.10B Decrease development intensity as slopes increase to mitigate problems of drainage, erosion, siltation, and landslides. Retain slopes of 40 percent or more in a natural state, free of structures and roads. Ensure that developments that create slopes of 40 percent or more provide appropriate drainage, erosion, siltation, and landslide mitigation measures.	Enforce regulations that would limit or prohibit development on steep areas.	Staff	Ongoing
9.10C Preserve severe landslide hazard areas from development.	Limit development within severe landslide areas.	Staff	Ongoing
9.10D Require best erosion and sedimentation management practices on construction projects. These may include: (See policy for examples).	Enforce regulations that require special construction practices to reduce or prevent erosion and sedimentation in erosion hazard areas.	City Council, Planning Commission	Ongoing
9.10E Require appropriate engineering, building design, and construction measures to minimize the risk of structural damage and fire and injury to occupants, and to prevent post-seismic collapse in areas with severe seismic hazards.	Enforce building and fire codes that require construction to standards that account for the severity and frequency of seismic activity in the Puget Sound area.	City Council	Ongoing
9.10F Require special studies to evaluate seismic risks to reduce the risks to buildings prior to development in severe seismic hazard areas.	Enforce building and fire codes that require construction to standards that account for the severity and frequency of seismic activity in the Puget Sound area.	City Council	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.10G Work with adjacent jurisdictions and other affected entities to protect steep slopes, landslide, erosion, and seismic hazard areas.	Provide notice of development proposals to adjacent jurisdictions when those proposals are within or near these types of sensitive areas on a shared boundary.	Staff	Ongoing
	When reviewing proposals from adjacent jurisdictions in areas where these types of sensitive areas are located, consider potential impacts to these sensitive areas.	Staff	Ongoing
9.11 PRESERVE FLOODPLAINS			
9.11A Emphasize non-structural methods in planning for flood prevention and damage reduction. Design new developments or land modifications in the 100-year floodplains to maintain natural flood storage functions and minimize hazards.	Floodplain areas are designated by the Federal Emergency Management Agency. Enforce regulations that restrict development in such areas.	City Council, Planning Commission	Ongoing
9.11B Protect 100-year floodplains by limiting development and encouraging low-impact uses such as open space, trails, and parks, locating roads and structures above the 100-year flood level, and requiring new development to replace existing flood storage capacity lost due to filling.	Floodplain areas are designated by the Federal Emergency Management Agency. Enforce regulations that restrict development in such areas.	City Council, Planning Commission	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.11C Allow no permanent structures within the floodway due to risks associated with deep and fast-flowing waters, unless appropriate flood control measures have been taken. Allow no land uses in a floodway that would divert water from the floodway, change flood elevation or obstruct natural flow, unless appropriate flood control measures have been taken such that there are no additional offsite impacts and no degradation of water quality. Allow no development in the floodway fringe that would reduce the existing level of flood storage.	Floodplain areas are designated by the Federal Emergency Management Agency (FEMA). Enforce regulations that restrict development in such areas.	City Council, Planning Commission	Ongoing
9.11D Permit no permanent structures, and allow no grading or filling along small streams for which the floodway has not been identified. In such a case, treat the entire floodplain as a floodway.	Identify the floodplain on smaller stream corridors (other than Miller and Des Moines Creeks) and enforce regulations that would control development in the same manner as development within floodplain areas designated by FEMA.	City Council, Planning Commission	Ongoing
9.12 ENHANCE WILDLIFE HABITAT			
9.12A Protect and enhance fish and wildlife habitat corridors where steep slopes, wetlands, stream ravines, or stream corridors provide a continuous corridor that provides food, shelter, and water and where there are minimal impacts due to human intrusion.	Adopt regulations that protect wildlife habitat areas for endangered or threatened species.	City Council, Planning Commission	Ongoing

PROPOSED POLICIES	IMPLEMENTATION STRATEGIES	PRIMARY RESPONSIBILITY	TIME LINE
9.12A Continued	Continue working with King County and City of Des Moines to monitor the performance of the Des Moines Creek Basin Plan.	Staff	Ongoing
	Adopt regulations that would require buffer areas adjacent to wetlands, streams and creeks, and steep slope areas.	City Council, Planning Commission	Ongoing
9.12B When developing on forested property adjacent to steep slopes, wetlands, stream ravines, or stream corridors, encourage development to provide additional buffer areas to provide wildlife and fisheries habitat. Incentives for additional buffers may include density bonuses and lot clustering.	Enforce regulations that allow the clustering of residential units (in both single family and multi-family zones) to preserve as much open space area as possible.	City Council, Planning Commission	Ongoing
9.11C Foster native vegetation and control invasive species to preserve and enhance fish and wildlife habitat.	Develop regulations requiring all new development to establish native vegetation as the dominant plant species in buffers around wetlands, streams, creeks, and steep slope areas.	City Council, Planning Commission	Short-Term
	Develop regulations allowing buffer width reductions for redevelopment situations as part of an approved vegetation management plan.	City Council, Planning Commission	Short-Term
9.12-9.18 IMPLEMENTATION ACTIONS RELATED TO THE SHORELINES POLICIES CAN BE FOUND IN TITLE 18 OF THE SEATAC MUNICIPAL CODE AND THE SEATAC SHORELINE MASTER PROGRAM.			

