ENVIRONMENT & CONSERVATION

a walk in the woods —

my children dancing

atop the big rock

Painting by Anna Macrae
Haiku by Michael Dylan Welch

Environment & Conservation Goals

Goal EC.1 Serve as a leader in environmental stewardship of the natural environment for current and future generations.

Goal EC.2 Protect people, property and the environment in areas of natural hazards.

Goal EC.3 Protect wetlands and other water resources from encroachment and degradation and encourage restoration of such resources.

Goal EC.4 Protect and promote a diversity of plant, pollinator and animal species habitat in Sammamish.

Goal EC.5 Maintain and protect surface water and groundwater resources that serve the community and enhance the quality of life.

Goal EC.6 Improve and preserve air quality.

Goal EC.7 Support regional efforts in mitigating and adapting to climate change.

Goal EC.8 Sammamish is a sustainable city.

Goal EC.9 Increase the sustainability and efficiency of building practices in Sammamish.

Goal EC.10 Maintain and improve the City's forested character.

ENVIRONMENT & CONSERVATION

Introduction

Sammamish is blessed with a great deal of natural beauty. Residents identify streams, lakes, forested areas and other natural features as defining features of the City, and they believe the preservation of these natural features should be an important priority. This priority is expressed through goals and policies that support environmental stewardship, protection of habitat areas and preservation of surface and groundwater quality.

The Environment & Conservation Element addresses numerous sustainability and healthy community goals and policies, including air quality, water quality, climate change, tree cover and sustainable development practices.

This element also addresses public safety and the health of ecological functions. Recognizing that a substantial portion of the City is located in a steep slope area, goals and policies seek to protect people from natural dangers, including geologic hazards. Other portions of the city contain wetland areas, which are important for the storing and cleaning of surface water and for habitat values. Goals and policies seek to protect and restore these valuable wetland areas.

Please look for this icon for goals and policies that focus specifically on sustainability and healthy communities.

Additional information and context for this element is provided in Volume II.C, Background Information for the Environment & Conservation Element. In addition, citations in this chapter connect goals and policies to pertinent sections of the Background Information.

Goals and Policies

Goal EC.1 Serve as a leader in environmental stewardship of the natural environment for current and future generations.

Policy EC.1.1 *Identify critical areas, including wetlands, streams, lakes,100-year floodplains, critical aquifer recharge areas, fish, wildlife and pollinator habitat conservation areas, slopes subject to mass movement, slopes with a grade of 40 percent or more, landslide, erosion or seismic hazard areas, and regulated buffers.*

Policy EC.1.2 *Encourage the retention and connectivity of active and passive open space and areas of natural vegetation to mitigate harmful impacts of development on the city's lakes, streams, wetlands, erosion and other natural hazard areas, fish, wildlife and pollinator habitat to improve the quality of life.*

Policy EC.1.3 *Recognize the inter-relationship between natural systems, natural drainage areas (Erosion Hazard Near Sensitive Water Body Overlays and Wetland Management Areas, in particular) and people, economy and environment. Promote integrated and interdisciplinary approaches for environmental planning and assessment.*

Explaining how invasive holly is a problem in our natural areas (credit: Sammamish Community Wildlife Habitat Project)

History walk through Pine Lake Park (credit: Sammamish Walks)

Policy EC.1.4 *Protect, where appropriate, the following special areas:*

- *a Natural areas including significant trees*
- *b Scenic areas such as designated view corridors*
- *c Urban landscaped areas such as public or private golf courses and parks, and*
- *d Land reserved as open space or buffers tracts as part of development, including parcels subject to density averaging*

Policy EC.1.5 *Work cooperatively with local, state, regional and federal governments, homeowners associations, individual property owners and community organizations to protect and enhance the environment. Encourage participation in local and national organizations such as Tree City USA and the National Wildlife Federation, including its program the Sammamish Community Wildlife Habitat Certification (CWH), Kokanee Work Group and Lake Sammamish Urban Wildlife Refuge.*

Policy EC.1.6 *Promote and lead public education and involvement programs to raise awareness about environmental issues and to encourage the wise use of renewable natural resources while conserving nonrenewable natural resources.*

Policy EC.1.7 *Apply regulations and coordinate with other governing agencies to minimize and, where feasible, eliminate the release of substances into the air, water and soil that may degrade the quality of these resources.*

Policy EC.1.8 *Maintain effective enforcement of the city's environmental critical areas code requirements and its rules and regulations. Evaluate effectiveness of compliance periodically.*

Policy EC.1.9 *Strive to minimize the City's waste stream by reducing purchases, reusing and recycling material and promoting programs to encourage reduction, reuse and recycling.*

Policy EC.1.10 *Promote the disposal of all waste in a safe and responsible manner.*

Fall leaves at the corner of NE 21st Place (credit: Brayden Beaty)

Posted swimming rules and lifeguard hours at Pine Lake Park (credit: Sammamish Walks)

Waste is a resource in the wrong place.

Mahatma Gandhi

Best Management Practices (BMPs) *are physical, structural and/or managerial practices that reflect the current best balanced thinking on how to achieve results.*

King County Public Benefit Rating System (PBRS) *allows property owners to apply for open space classifications that protect the natural environment and, if approved, receive a reduction in market value of the affected property.*

Policy EC.1.11 Promote growth management strategies that protect air, water, land and energy resources.

Policy EC.1.12 Incorporate Best Management Practices (BMPs) and technology in City practices to achieve effective environmental stewardship and continual improvement in environmental management practices.

Policy EC.1.13 Work to maintain and improve environmental quality and ecosystem function to ensure the health and well-being of the complete living ecosystem.

Policy EC.1.14 Recognize and explore evolving technologies and strategies to support environmental stewardship and sustainability.

Policy EC.1.15 Work to ensure that all Sammamish citizens live in a healthy environment.

Policy EC.1.16 Use Best Available Science to inform decision-making on environmental functions and values.

Policy EC.1.17 Conserve and protect environmentally critical areas from loss or degradation.

Policy EC.1.18 Encourage the preservation of open space through incentives, such as the King County Public Benefit Rating System (PBRS), allowing the sale of Transfer of Development Rights (TDRs) generated within Sammamish, or other programs to encourage land donation and conservation in perpetuity. Preservation should focus on important open spaces such as shorelines, landslide and Erosion Hazard Areas Near Sensitive Water Body Overlays, Wetland Management Areas, within or outside of the City.

Policy EC.1.19 Consider the potential for transfer of development rights within, or to areas outside, the City to protect important open spaces within Sammamish such as shorelines, Erosion Hazard Near Sensitive Water Body Overlays and Wetland Management Areas, and others.

Policy EC.1.20 Establish a system of publicly owned, as well as privately owned but protected, natural areas connected to each other to:

a Protect the integrity of fish, wildlife and pollinator habitat and/or conservation sites

b *Strive to protect corridors between natural areas*

c *Preserve outstanding examples of Sammamish's diverse natural heritage*

d *Provide a broad range of opportunities for access to educational, interpretive and recreational programs in protected natural areas in ways that do not negatively impact the primary purpose, and*

e *Facilitate completion of the vision of an Emerald Necklace, an approximately 28-mile non-motorized greenbelt encircling the Plateau, and provide improved public access for Sammamish residents*

Policy EC.1.21 *Identify lands designated as open space under the Current Use taxation open-space established according to King County for tax assessment purposes.*

Policy EC.1.22 *Encourage, where appropriate, direct purchase of land within the City by the City for conservation and environmental reasons.*

Transfer of Development Rights (TDR) *means the transfer of the right to develop or build from sending sites to receiving sites. The sending site is the parcel of land from which development rights will be transferred. After transferring the development rights from the sending parcel, future development is limited. Receiving sites are sites to which development rights are transferred. Typically, these are parcels of land in urban areas where the existing services and infrastructure can accommodate additional growth. Development rights that are "sent" off of a sending site are placed on a receiving site.*

Goal EC.2 Protect people, property and the environment in areas of natural hazards.

Floodplains

Policy EC.2.1 *Protect and, where possible, enhance or restore existing flood storage and conveyance functions and ecological values of frequently flooded areas (areas typically identified as the 100-year floodplain).*

For more information, see the Flood Hazard Areas Section in Volume II.EC, page EC.13.

Policy EC.2.2 *When development occurs in the 100-year floodplain, seek to insure that it is designed to minimize risk to people, property and the environment.*

Geologic Hazards

Policy EC.2.3 *Promote soil stability through retention of existing vegetation and the addition or replacement of plants promoting such.*

For more information, see the Geologically Hazardous Areas Section in Volume II.EC, page EC.17.

Floodplain *means the total area subject to inundation by the base flood, i.e., a flood having a one percent chance of being equaled or exceeded in any given year, often referred to as the* ***100-year flood.***

Erosion hazard areas *means those areas in the City underlain by soils that are subject to severe erosion when disturbed. Such soils include, but are not limited to, those classified as having a severe or very severe erosion hazard according to the USDA Soil Conservation Service, the 1973 King County Soils Survey or any subsequent revisions or addition by or to these sources.*

Landslide hazard areas *means those areas in the City of Sammamish potentially subject to risk of mass movement due to a combination of geologic, topographic and hydrologic factors. These areas are typically susceptible to landslides because of a combination of factors including: bedrock, soil, slope gradient, slope aspect, geologic structure, groundwater or other factors.*

Complete definitions can be found in the City Municipal Code, 21A.15 Definitions

Policy EC.2.4 *Avoid or minimize impacts from new development to erosion hazard areas, Erosion Hazard Near Sensitive Water Body Overlays (and those areas that drain to them), wetland management areas and landslide hazard areas subject to provisions in the Sammamish development code and its rules and regulations.*

Policy EC.2.5 *Periodically assess effectiveness of regulations protecting erosion hazard areas, Erosion Hazard Near Sensitive Water Body Overlays and Wetland Management Areas, landslide hazard areas as well as those areas that drain to them to minimize risk to health and safety of citizens in the event of a geological hazard.*

Policy EC.2.6 *Avoid potential impacts to life and property by strictly limiting land disturbance and development in landslide hazard, steep slopes, and Erosion Hazard Near Sensitive Water Body Overlays.*

Policy EC.2.7 *Support and promote seismic hazard preparedness efforts.*

Goal EC.3 Protect wetlands and other water resources from encroachment and degradation and encourage restoration of such resources.

For more information, see the Wetlands Section in Volume II.EC, page EC.4.

Policy EC.3.1 *To the maximum extent possible, avoid wetland impacts, preserving and maintaining wetlands in their natural state.*

Illahee Trail wetland sensitive area boundary (credit: Sammamish Walks)

Policy EC.3.2 *When avoidance is not feasible, safeguard the long-term biological function and value of the wetland through effective mitigation measures.*

Policy EC.3.3 *When public access to wetlands is proposed, protect sensitive habitats and species, strive for uncompromised public safety and maintain hydrologic continuity.*

Policy EC.3.4 *In cases of small isolated low-quality wetlands, consider opportunities for development flexibility, provided that mitigation can be provided to ensure no cumulative impacts to wetland quality and function.*

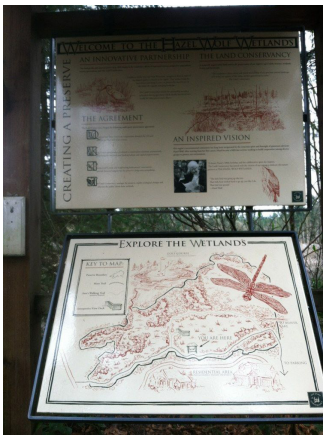
Policy EC.3.5 *Support techniques per Best Available Science (BAS) to protect specific unique and outstanding wetlands, especially bogs.*

Policy EC.3.6 *Pursue opportunities to enhance or restore degraded wetlands, streams and surrounding buffer areas.*

Policy EC.3.7 *Preserve wetlands and protect areas of native vegetation that connect wetland systems to other habitat areas. Whenever effective, use incentive programs. Strive to protect areas of native vegetation that connect wetland systems.*

Policy EC.3.8 *Use as minimum standards the Washington State Wetlands Identification and Delineation Manual, 1997 or its successor, which is adopted by the City Council, and is the scientifically accepted replacement methodology based on better technical criteria and field indicators.*

Vegetation at Evans Creek Preserve (credit: Pauline Cantor)



Informational signs at Hazel Wolf Wetlands Preserve (credit: Adam Lund)

Policy EC.3.9 Establish an overall goal of no net loss of wetland acreage and functions within each drainage sub-basin. Use acquisition, enhancement, regulations and incentive programs independently or in combination with one another to protect and enhance wetlands functions, avoiding negative impacts and subsequent wetland mitigation with the exception of public agency projects. Locate wetland mitigation, when permitted, within the sub-basin if feasible and practicable. The City may authorize mitigation for public agency projects within a Federal, State, County or City approved mitigation bank provided it is at a minimum located in the same basin within the City's incorporated boundaries and meets all City policies, regulations and criteria if feasible and practicable.

Policy EC.3.10 Ensure that development adjacent to wetlands is sited such that wetland functions are protected, an adequate buffer around the wetlands is provided and significant adverse impacts to wetlands are prevented.

Policy EC.3.11 Educate abutting or adjacent property owners, installing signs and fencing as appropriate to maintain and protect wetlands and their buffers.

Policy EC.3.12 When feasible, promote the enhancement or restoration of riparian areas surrounding wetlands where functions have been lost or compromised.

Policy EC.3.13 Encourage enhancement or restoration of degraded wetlands to maintain or improve wetland ecosystem functions through removal of non-native invasive vegetation and installation of native vegetation and habitat features as appropriate. Wetland functions must first be evaluated in a wetland study and adequate maintenance, monitoring, code enforcement and evaluation must be provided and assured by responsible parties. Restoration or enhancement must result in a net improvement to wetland ecosystem functions of the wetland system. Consider providing technical assistance to small property owners.

Policy EC.3.14 Consider allowing alterations to wetlands or buffers as needed to allow public agency or utility development projects that avoid, minimize and mitigate impacts to wetland ecosystem functions to the maximum extent feasible. Allow reasonable use of private property that reflects appropriate impact avoidance and minimization measures, and that provides mitigation that enhances and protects all wetland ecosystem functions. Avoidance and minimization measures should reflect the least harmful and most reasonable alternatives and should provide appropriate mitigation, maintenance and monitoring sufficient to provide lasting protection of affected wetland ecosystem functions.

Wetlands near SE 8th St

Policy EC.3.15 Evaluate mitigation sites to replace or augment the wetland functions to be lost as a result of a project proposal. Wetland mitigation proposals may be approved if they would result in improved overall onsite wetland functions. In order of preference, mitigation should be:

- *a Onsite*
- *b Within the impacted sub-basin*
- *c Outside the impacted sub-basin but inside the basin and city.*
- *d Outside the impacted sub-basin*

Mitigation sites shall be selected based on their ability to mitigate for all wetland functions and values. Locate mitigation sites strategically to alleviate habitat fragmentation in the same sub-basin.

Policy EC.3.16 Preserve in perpetuity land used for wetland mitigation. Require a project proponent to provide monitoring and maintenance in conformance with the City standards until the success of the site is established. Consider the use of open space tracts to further mitigate the detrimental impacts of development to critical areas and lakes. Encourage open space to be located where it will have the maximum environmental benefit such as between a development and adjacent critical area when practicable. Require dedication of open space tracts to the City where appropriate to ensure the maximum environmental benefit is maintained.

Goal EC.4 Protect and promote a diversity of plant, pollinator and animal species habitat in Sammamish.

For more information, see the Wetlands Section in Volume II.EC, page EC.4.

General

Policy EC.4.1 *Work in cooperation with other agencies and organizations, including coordinated regional land use planning, to support regional biodiversity and protection and preservation of native vegetation, wildlife and pollinator habitat.*

Policy EC.4.2 *Protect a large diversity of wildlife, priority species and habitats.*

Policy EC.4.3 *Participate in regional species protection efforts for salmonid fish, including habitat enhancement and restoration.*

Vegetation

Vegetation at Evans Creek Preserve (credit: Pauline Cantor)

Policy EC.4.4 *Protect native plant communities through education, management and control of non-native invasive plants, including aquatic plants.*

Policy EC.4.5 *On public and private projects, properties and facilities, encourage planting of native vegetation to reduce the spread of noxious weeds in the City.*

Policy EC.4.6 *Promote the use of native plants in landscaping and the restoration of stream banks, lakes, shorelines and wetlands on private development projects.*

Policy EC.4.7 *Encourage the use of environmentally safe methods of vegetation control, and minimize use of herbicides.*

Policy EC.4.8 *Encourage the use of a diversity of native plant species for replanting and restoration.*

Wildlife

Policy EC.4.9 *Where appropriate, preserve and encourage restoration of fish and wildlife diversity, including bird, butterfly and other pollinator species in the City.*



Left to right: Deer in a backyard (credit: Sammamish Friends); Black-capped chickadee (credit: Gary Luhn); Kokanee salmon (credit: Roger Tabor, USFWS)



Left to right: Great blue heron (credit: WSPRC); Black-tailed deer at the Sammamish Plateau Water & Sewer District's headquarters (credit: Janet Sailer); Golden crowned kinglet (credit: Brian E. Small)

Policy EC.4.10 Give special consideration to protecting, preserving and enhancing salmonid fisheries, by using the Best Available Science and the adoption of development regulations and watershed management plans that protect the functions and values of critical areas.

Policy EC.4.11 Use existing regulatory tools to protect habitat, including the City's critical area regulations and tree retention ordinance.

Policy EC.4.12 Use measures such as incentives, regulation, acquisition, and other means to preserve habitat, and natural areas critical to wildlife, salmonids and pollinators.

Policy EC.4.13 Preserve and connect pollinator and wildlife habitats via corridors where possible. Corridors may include protected or preserved public and private open space, utility rights-of-way, riparian corridors, wetland buffers, pollinator habitat or corridors and protected critical areas or other features.

Policy EC.4.14 Where feasible, protect habitat and habitat corridors used for or potentially used by wildlife, salmonids and pollinators from the impacts of development.

Policy EC.4.15 Protect aquatic species and habitat by protecting and improving water quality. See Goal EC.5 and supporting policies.

Informational signs at Soaring Eagle Park (credit: Sammamish Walks)

Goal EC.5 Maintain and protect surface water and groundwater resources that serve the community and enhance the quality of life.

Boardwalk at Pine Lake Park (credit: Sammamish Walks)

General

Policy EC.5.1 *Protect and enhance the multiple beneficial water resource functions-including fish, wildlife and pollinator habitat, flood and erosion control, water quality control and sediment transport, water supply and storage, transportation, recreational and scenic beauty.*

Policy EC.5.2 *Incorporate public and private management practices in the built and natural environments that minimize impacts to wildlife, salmonids and pollinator habitat and water quality, such as limiting the use of toxic pesticides and fertilizers, incorporating alternative pest management methods and providing public education about such practices.*

For more information, see the Streams Section in Volume II.EC, page EC.8, the Lakes Section in Volume II.EC, page EC.12 and the Groundwater Section in Volume II.EC, page EC.13.

Watersheds

Policy EC.5.3 *Protect and enhance surface waters, including streams, lakes, ponds and wetlands, on a watershed and sub-basin basis. Include conditions of and impacts to downstream water resources, including receiving beaches and shorelines, in watershed management efforts, where appropriate.*

Policy EC.5.4 *Participate with federal, state, regional, local and tribal agencies in preparing watershed plans for all sub-basins.*

Policy EC.5.5 *Integrate surface water, groundwater, drinking water and wastewater planning into watershed plans to provide efficient water resource management.*

Policy EC.5.6 *As watershed plans are prepared; develop, apply and monitor zoning, regulations and incentive programs as appropriate so that critical habitat in these watersheds is capable of supporting sustainable and fishable salmonid populations. Define how the natural functions of watersheds critical to salmonid are protected in watershed-based plans so that the quantity and quality of water entering the streams, lakes, wetlands and rivers support salmonid spawning, rearing, resting and migration.*

Policy EC.5.7 *Share the responsibility for the costs of Lake Sammamish watershed planning and project implementation including water quality, flood hazard reduction and fisheries habitat protection between the City of Sammamish and other jurisdictions within the watershed and surrounding Lake Sammamish.*

Policy EC.5.8 *Work with adjacent local governments and other agencies on issues of mutual concern regarding development and conservation efforts in the environmentally sensitive areas within the shared Evans Creek and Patterson Creek sub-basins.*

Rivers, Streams and Lakes

Policy EC.5.9 *Protect, preserve and enhance lakes, rivers and streams for their hydraulic, hydrologic, ecological, aesthetic, recreational and other protected functions and values.*

For more information, see the Streams Section in Volume II.EC, page EC.8.

*Lake Sammamish, Pine Lake and Beaver Lake are designated as **shorelines of the state** and regulated through the Shoreline Master Program. See the Shoreline Element of this Comprehensive Plan.*

Dock at Pine Lake Park (credit: Sammamish Walks)

Policy EC.5.10 Promote the health of Lake Sammamish, Beaver Lake and Pine Lake through water quality management plans based on Best Available Science.

Policy EC.5.11 Support development of an on-going efficient and effective water quality management strategy.

Policy EC.5.12 Protect our lakes through management of lake watersheds and shorelines. Protect sensitive lakes including Pine Lake, Beaver Lake and Lake Sammamish through management of nutrients that stimulate algae blooms and aquatic plant growth. Set measurable standards for lake quality and establish management plans to meet the standards.

Releasing kokanee fry into Ebright Creek, Earth Day 2010 (credit: King County)

Policy EC.5.13 Restrict and control the runoff rate, volume and quality of stormwater from all new development and redevelopment. Subject critical drainage or erosion areas within the City limits draining directly to Lake Sammamish, George Davis (a.k.a. Eden) Creek, Ebright Creek, Pine Lake and Beaver Lake to stricter requirements and conditions. Such conditions may include the limitation of the volume of discharge from the subject property to predevelopment levels or preservation and improvement of water quality, preservation of wetlands or other natural drainage features, or other controls necessary to protect the community.

Policy EC.5.14 Use incentives, regulations and programs to manage all water resources (streams, lakes, ponds, wetlands and groundwater) and to protect and enhance their multiple beneficial uses—including fish and wildlife habitat, flood and erosion control, water quality control and sediment transport, water supply, energy production, transportation, recreational opportunities and scenic beauty. Monitor incentives to determine their effectiveness. When using water resources for one purpose preserve opportunities for other uses to the fullest extent possible.

Policy EC.5.15 Ensure development that maintains continued ecological and hydrologic functioning of water resources and does not have a significant adverse impact on water quality, or water quantity, or sediment transport and maintains base flows, natural water level fluctuations, groundwater recharge in Critical Aquifer Recharge Areas and fish and wildlife habitat.

Ducks on Lake Sammamish (credit: flickr user jc.winkler)

Kokanee salmon pair up to spawn in restored habitat in Ebright Creek (credit: Roger Tabor, USFWS)

Ebrigth Creek restoration with native plants adjacent to Sammamish homes

Policy EC.5.16 Protect beneficial uses such as swimming, fishing, boating, hiking, aquatic habitat (fisheries and wildlife), water supply and aesthetics, where applicable, in Lake Sammamish, Pine Lake, Beaver Lake and all tributary waters and wetlands in all basins in the City.

Policy EC.5.17 Support enhancement of water quality through corrective and preventative methods including best management practices (BMPs), education, planning, regulation, enforcement, incentives, capital projects, natural and constructed system maintenance and restoration of degraded natural and constructed systems.

Overlay Districts and Plans

For more information, see Background Figure EC–2 on page EC.9.

Policy EC.5.18 Review the Wetland Management Area and the Erosion Hazards Near Sensitive Water Bodies Overlay requirements for potential amendments and updates to ensure protection of high function or high hazard areas and to make certain the intended protections for these areas are clear.

Policy EC.5.19 In addition to existing policy and regulations, parcels in the Erosion Hazard Near Sensitive Water Body Overlays and Wetland Management Areas are entitled to additional protections and increased storm water controls by the City such as seasonal clearing and grading restrictions, tree retention, reduced impervious surface limits, open space dedication requirements, as well as reduced density and density credit limitations.

Lake Management Districts and Plans

All Lakes

Policy EC.5.20 Support an expanded citizens' lake monitoring program with local community groups, as appropriate.

Winter fog (credit: Sammamish Friends)

Policy EC.5.21 Support a watershed monitoring program to include streams and shallow groundwater, as appropriate.

Policy EC.5.22 In partnership with the Seattle-King County Department of Public Health, support the inventory of existing on-site septic tank/drainfield systems, wetlands, streams and native growth protection easements, and inspections of stormwater detention and treatment facilities.

Policy EC.5.23 Encourage and support lake management plans and policies.

Policy EC.5.24 Support updated watershed/lake modeling analyses to validate lake models and to make new phosphorous loading and lake condition forecasts.

Policy EC.5.25 Involve the local community, in cooperation with the King County Metro, the Seattle-King County Department of Public Health, Washington Lake Protection Association and the Washington State Departments of Health, Ecology and Wildlife, tribes and local and regional agencies in the development and implementation of a program to educate and involve existing and future residents of the watershed regarding wise lake and watershed management practices, BMPs, septic systems, phosphate detergent alternatives, fertilizer and pesticide use, oil and grease impacts, bird feeding, pet waste and the use of waterside vegetation and benefits of natural shorelines at the individual household level.

Policy EC.5.26 Prevent the introduction and treat the presence of nuisance aquatic plants through cooperation with state and other local agencies. Where appropriate, control or eradicate invasive aquatic plant species that have been introduced.

Policy EC.5.27 Strive for no significant increase in the concentration of fecal coliform bacteria.

Policy EC.5.28 Incorporate appropriate water quality improvement strategies to support lake recreational uses, ecological health and scenic values.

For more information, see the Lakes Section in Volume II.EC, page EC.12.

Lake Sammamish

Policy EC.5.29 Support the management goals and incorporate the strategies of the 1994 King County East Lake Sammamish Basin and Nonpoint Action Plan as it may be updated from time to time.

Policy EC.5.30 For the Lake Sammamish drainage basin, require standards to achieve 50% or better phosphorus removal for all new development.

Beaver and Pine Lakes

Policy EC.5.31 For Beaver and Pine Lakes strive for an 80 percent reduction of total phosphorus (above untreated background levels) as a stormwater treatment goal for all future development. Employ AKART, or "all known, available and reasonable methods of prevention, control and treatment," for phosphorus control as a standard to achieve this goal. Do not provide for any exceptions or variances for phosphorous removal treatment requirements.

***AKART:** all known, available and reasonable methods of prevention, control and treatment.*

Policy EC.5.32 Work with local community groups, state, county and other agencies to obtain funding for water quality monitoring and inspection and planning.

Policy EC.5.33 For Beaver and Pine Lakes, provide for sufficient resources for construction inspection and monitoring surveillance before, during and after the construction period of all new development and redevelopment in the watershed.

Policy EC.5.34 Strive to review and update the Beaver Lake Management Plan thoroughly at least once every five years (or more frequently if compelling reasons exist).

Policy EC.5.35 Strive to review and update the Pine Lake Study and Pine Lake Management Plan thoroughly at least once every five years (or more frequently if compelling reasons exist).

Policy EC.5.36 Provide for contingency measures to control nonpoint sources of pollution from site development construction and post-construction stormwater runoff as warranted by monitoring and inspection.

Policy EC.5.37 For Beaver and Pine Lakes, accomplish the goals of the lake management plans for water quality, open space preservation, impervious surface limitation, tree retention, seasonal clearing and grading restrictions and other plan goals.

Policy EC.5.38 Carefully review potential rezones and proposed land use actions such as short plats, subdivisions and building permit applications to verify that these actions will not have a probable significant environmental effect that cannot be reasonably mitigated.

Policy EC.5.39 In conjunction with other agencies with jurisdiction, play an active role monitoring and enforcing all water quality regulations in the Pine Lake and Beaver Lake watersheds. In addition, periodically review the effectiveness of development regulations and enforcement efforts and make modifications as appropriate.

Policy EC.5.40 For Pine Lake and Beaver Lake, where appropriate, periodically update and adopt stricter requirements and conditions based on Best Available Science, which shall include more stringent seasonal clearing and grading limitations, impervious surface limitations, open space requirements, tree retention requirements, preservation or improvement of water quality, reduced density and density credit limitations and AKART to achieve the goal of 80% phosphorous removal from storm water for the entirety of each lake's basin.

Policy EC.5.41 In addition to existing policy and regulations, the Pine Lake and Beaver Lake basins are entitled to additional protections by the City such as seasonal clearing and grading restrictions, tree retention, reduced impervious surface limits, open space dedication requirements, as well as reduced density and density credit limitations.

Surface Water Management

Low-impact development (LID) *is a stormwater and land use strategy that strives to mimic pre-disturbance hydrologic processes. LID measures emphasize conservation, use of on-site natural features, site planning and integration of stormwater management practices into project design.*

Policy EC.5.42 Promote low impact development (LID) measures that preserve natural discharge patterns.

Policy EC.5.43 Promote the retention of existing open surface water systems and the rehabilitation of degraded conditions.

Policy EC.5.44 Maximize vegetation retention, assure environmentally-friendly re-vegetation and apply other best management practices. Encourage the use of vegetation native to the Sammamish area.

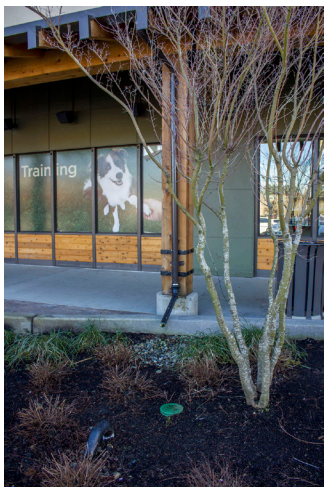
Policy EC.5.45 Prioritize public actions that provide multiple benefits, including preservation, protection and restoration of valuable natural systems.

Policy EC.5.46 Provide outreach and education to improve commercial, public and private compliance with stormwater regulations.

Policy EC.5.47 Where commercial and industrial uses and high levels of vehicular traffic are established, seek to protect and enhance water quality. Store petroleum, solvents and other potential water pollutants in such a way as to prevent entry into the natural drainage systems or groundwater. Require car washes to use biodegradable, environmentally friendly soaps, cleansers and related materials. Encourage and promote water conservation and reuse.

Rain gardens at Sammamish Highlands

Policy EC.5.48 Continue to provide special attention to proper siting and maintenance of existing septic systems to preserve the valuable ecological functions and beneficial uses of water resources. Educate septic users and owners as to proper maintenance of septic systems.



LID stormwater control at Sammamish Highlands

Policy EC.5.49 Manage storm water runoff through a variety of methods, with the goal of:

a Limiting impacts to aquatic resources (including lake and stream life forms), and

b Promoting groundwater recharge.

Include temporary erosion and sediment control, flow control facilities, water quality facilities as required by the City's current Surface Water Design Manual and Sammamish Addendum. These documents are available on the City's website at:www.sammamish.us/government/departments/public-works/

Manage runoff caused by development to prevent adverse impacts to water resources. Develop regulations that favor non-structural storm water control measures when feasible including: vegetation retention and management, seasonal clearing limits, limits on impervious surface, preservation of open space and limits on soil disturbance.

Illahee pond

Policy EC.5.50 In partnership with other agencies, improve surface waters designated by the State as Water Quality Impaired under the Clean Water Act (water bodies included on the State 303(d) list) through monitoring, source controls, best management practices, enforcement of existing codes and Total Maximum Daily Load plans (TMDLs). Maintain and improve the water quality of all other state-classified water bodies through these same measures and other additional measures that may be necessary to ensure there is no loss of existing beneficial uses. When feasible, restore any beneficial uses lost since November 1975, consistent with the Federal Clean Water Act.

Policy EC.5.51 Do not allow development projects to increase or otherwise aggravate existing flood conditions.

Policy EC.5.52 Through regulations, maintenance and enforcement, prevent unmitigated significant adverse impacts to water resources caused by flow rates, flow volumes or pollutants.

Policy EC.5.53 Prepare regulations or rules that direct each development project proposing water treatment features to provide water chemistry data for a two year or longer monitoring period, operations and maintenance (O&M) requirements and a professional report indicating that the installation and O&M program will meet State water quality criteria.

Basins and Sub-Basins Planning Areas

Policy EC.5.54 Update studied sub-basin plans and develop and maintain basin plans and policies within the City. These Sub-basins are: Panhandle Sub-basin, Inglewood Sub-basin, Monohon Sub-basins (3), Thompson Sub-basin, Pine Lake Creek Sub-basin, Laughing Jacobs Sub-basin, Allen Lake Sub-basin, Beaver lake Sub-basin, Patterson Creek Sub-basin, Evans Creek Sub-basin, Mystic Lake Sub-basin and North Fork Issaquah Creek Sub-basin. For each Sub-basin, identify and define the topography, soils, drainage, flow and channel characteristics, biological conditions, utilities, stormwater best management practices and mitigation policies. Coordinate such basin planning with other agencies having jurisdiction.

For more information, see Background Figure EC–3 on page EC.10.

Policy EC.5.55 Prepare and maintain development regulations to implement the sub-basin management plans and policies. Ensure development proposals and approved land use applications are consistent with all applicable regulations and approved basin and sub-basin management plans and policies.

Policy EC.5.56 In developing and updating basin plans, invite the following participants: tribes, representatives of local water and sewer districts; affected neighborhoods; local, state and federal resource agencies; and organizations or agencies with expertise in habitat conservation and restoration, groundwater hydrology, fisheries, wildlife, botany and land use.

Policy EC.5.57 Review and update the boundaries of drainage basins in accordance with an established schedule. In addition, update studies as an interim measure to evaluate development proposals as appropriate.

Groundwater and Aquifer Protection

Policy EC.5.58 Protect critical aquifer recharge areas (CARAs) and the quality of groundwater used for public water supplies to ensure adequate and healthy future potable water.

For more information, see the Groundwater Section in Volume II.EC, page EC.13.

Policy EC.5.59 Protect groundwater quality by utilizing the most current groundwater protection standards.

Policy EC.5.60 Designate areas identified as sole source aquifers or as areas with high susceptibility for groundwater contamination where aquifers are used for potable water as Critical Aquifer Recharge Areas and Areas Highly Susceptible to Groundwater Contamination.

Policy EC.5.61 Protect the quality and quantity of groundwater by: implementing adopted Groundwater Management Plans; reviewing and implementing approved Wellhead Protection zones as identified by the King County Groundwater Management Plan Protection Committees and the Water Districts; and establishing, with affected jurisdictions, best management practices for development based on adopted Groundwater Management Plans and Wellhead Protection Programs. The goals of these practices should be to promote aquifer recharge quality and to strive for no net reduction of recharge to groundwater quantity; and to refine regulations to protect critical aquifer recharge areas and wellhead protection areas using best management practices and infiltration.

Policy EC.5.62 Protect groundwater recharge quantity by promoting methods that infiltrate and treat runoff where appropriate and where site conditions permit, except where potential groundwater contamination cannot be prevented by pollution source controls and storm water pretreatment.

Policy EC.5.63 In reviewing land use actions, take into account the potential impacts on aquifers determined to serve as water supplies. Avoid or mitigate the depletion and degradation of aquifers needed for potable water supplies.

Policy EC.5.64 Support the development, adoption and implementation of Groundwater Management Plans. Adopt a Groundwater Recharge Area map, incorporating information generated by Groundwater Management Plans and purveyor studies.

Policy EC.5.65 Provide measures and regulations to prevent the introduction of contaminants into groundwater aquifers either naturally of by direct injection. Protect groundwater recharge quantity by promoting methods that infiltrate and treat runoff where appropriate and where site conditions permit, except where potential groundwater contamination cannot be prevented by pollution source controls and storm water pretreatment.

Policy EC.5.66 Protect groundwater by preferring land uses that retain a high ratio of permeable to impermeable surface area and, where appropriate, maintain or augment the infiltration capacity of the natural soils. Require standards for vegetation clearing limits, impervious surface limits and infiltration of surface water and amended topsoils.

Policy EC.5.67 All exceptions and variances from sensitive lake standards and protections for new development and redevelopment in a sensitive lake basin shall be considered only as a last resort.

Goal EC.6 Improve and preserve air quality.

For more information, see the Air Quality Section in Volume II.EC, page EC.3.

Policy EC.6.1 Support federal, state and regional clean air policies in cooperation with the Environmental Protection Agency, Puget Sound Air Pollution Control Agency, Puget Sound Regional Council and other agencies as appropriate.

Policy EC.6.2 Assess air quality impacts of proposed land use actions when developing local plans and transportation strategies such as road design and planning, intercity shuttle service and expanded non-motorized network.

Policy EC.6.3 Strive for high air quality through coordinated land use and transportation planning and management, including assessing and mitigating for air quality impacts.

Policy EC.6.4 Support regional efforts to develop alternative vehicle infrastructure, such as charging stations.

Policy EC.6.5 Promote transit, car-sharing, cycling, walking and transit-oriented development (TOD) as a strategy for reducing vehicle-related air pollution.

Transit-oriented development (TOD) *describes a mix of housing, office, retail and amenities integrated into a walkable neighborhood and anchored by high quality public transit.*

Indoor air pollution *describes pollutants found in homes, schools and workplaces. Some examples include radon, second hand smoke, molds, pet dander, pollen, lead dust and asbestos.*

Policy EC.6.6 *Reduce the amount of air-borne particulates through measures such as:*

- *a Continuing and possibly expanding street-sweeping*
- *b Encouraging dust abatement at construction sites*
- *c Promoting low-emission construction practices.*
- *d Conducting public education to reduce the burning of solid and yard waste, and promote the proper use of clean burning wood stoves and fireplaces*
- *e Supporting a transition to a low-emission municipal vehicle fleet*
- *f Promoting the use of clean and efficient burning fuels*
- *g Educating citizens about air quality problems*
- *h Encouraging the planting of trees*

Policy EC.6.7 *Advocate for healthy indoor air quality and support education and outreach on measures individuals can take to protect their health.*

Goal EC.7 Support regional efforts in mitigating and adapting to climate change.

Policy EC.7.1 *Support multi-jurisdictional efforts to address the impacts of climate change.*

Policy EC.7.2 *Seek to meet or exceed climate pledges and commitments made by the City.*

Policy EC.7.3 *Consider a multi-pronged approach to climate change mitigation, including support for energy efficiency, vehicle trip reduction, reforestation, environmental protection and flood control.*

Policy EC.7.4 *Promote administrative practices, land use patterns, transportation systems and building practices that will reduce greenhouse gas emissions.*

Community resilience *is the sustained ability of a community to respond to, withstand and recover from adverse situations, such as climate change impacts.*

Policy EC.7.5 *Assess climate change impacts when conducting review of proposed land use and transportation actions and programs.*

Policy EC.7.6 *Promote community resiliency through the development of climate change adaptation strategies.*

Policy EC.7.7 *Track the best available climate change science to use for planning purposes.*

Goal EC.8 Sammamish is a sustainable city.

Policy EC.8.1 *Develop a strategy for sustainability.*

Policy EC.8.2 *Lead by example in the conservation of natural resources, such as energy, water and trees, and the avoidance of adverse environmental impacts.*

Policy EC.8.3 *Support the City of Sammamish Sustainability Strategy and strive towards continued improvement in sustainability.*

Goal EC.9 Increase the sustainability and efficiency of building practices in Sammamish.

Policy EC.9.1 *Promote the use of environmentally friendly construction practices, such as those specified under certification systems like Leadership in Energy and Environmental Design (LEED), King County Built Green and Living Building Challenge.*

Policy EC.9.2 *Encourage projects that utilize green energy strategies such as smart meters, geothermal, solar and wind systems and other innovative approaches to conserving resources in conjunction with other agencies, as appropriate.*

Policy EC.9.3 *Consider flexibility in regulatory amendments, such as the use of recycled building materials, gray water systems and zero energy homes, to achieve sustainable building practices.*

Policy EC.9.4 *Promote sustainable building management and maintenance practices.*

Policy EC.9.5 *Encourage conversion of existing, low-efficiency building stock to cost-effective and environmentally sensitive alternative technologies and energy sources.*

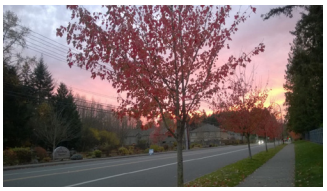
Green building practices *are environmentally responsible and resource-efficient throughout a building's life-cycle.*

Green energy *refers to sources of energy that do not have the same harmful effects as fossil fuels, for instance solar, wind, tidal, wave and geothermal.*

Goal EC.10 Maintain and improve the City's forested character.

Policy EC.10.1 *Preserve and enhance of the City's urban forest. Use trees and other vegetation, both native and non-native, as appropriate, in all restoration.*

Policy EC.10.2 *Preserve trees on all public properties and facilities to the maximum extent possible.*



Fall street trees near Inglewood Middle School (credit: Sammamish Friends)

Evergreen trees on 228th Ave SE

Policy EC.10.3 *Maintain and enhance a street tree maintenance program. Use trees and other vegetation, both native and non-native, as appropriate, in all restoration.*

Policy EC.10.4 *Encourage community residents and property owners to preserve the green and wooded character of existing neighborhoods.*

Policy EC.10.5 *Within the city, allow off-site options for replanting and restoration where not feasible on-site in order to meet tree retention requirements and achieve tree canopy coverage and storm water capture.*

Policy EC.10.6 *Develop and enforce effective regulatory penalties and practices for unauthorized removal or damage of trees.*

Policy EC.10.7 *Prioritize restoration and enhancement of environmentally critical areas and buffers, with the aim of enhancing ecosystem function.*

Policy EC.10.8 *Consider incentivizing retention of trees on existing lots, prioritizing clusters and/or a continuous canopy with trees on adjacent lots when feasible.*

Policy EC.10.9 *Promote regulatory tools that take into consideration the case-by-case context-sensitive nature of tree retention and canopy coverage.*

Policy EC.10.10 *Support and implement the Urban Forest Management Plan.*

Policy EC.10.11 *Develop incentives to prioritize the retention of high value trees, including heritage and/or landmark trees.*

Residential tree coverage