IV. ENVIRONMENT & CONSERVATION ELEMENT

VISION

The Vision Statement and Vision Ideals provided in the Introduction to this Comprehensive Plan reflect a strong emphasis on the value of and need to protect environmentally sensitive features:

- Preserve trees and green ways by encouraging the preservation or development of large areas of greenery which provide a visual impact as opposed to creating small areas of unusable residue.
- Protect and enhance streams, wetlands and wildlife corridors.
- Maintain a harmonious relationship between the natural environment and future urban development.

This element furthers this vision by providing policy direction for the City's active role in participating in regional environmental protection efforts, developing and applying local environmental regulations, promoting education, and other programs.

PRIMARY ISSUES

Environmental Setting

The large majority of the geographical boundaries for the City of Sammamish are within the East Lake Sammamish Basin with westward flows towards, and into Lake Sammamish. The City also includes portions of the Evans Basin to the northeast, Patterson Creek Basin to the east, and Issaquah Creek Basin to the south. Within each basin are sub-basins (see Figure IV-1 and Appendix A).

The Sammamish Plateau is the distinguishing topographic feature in the City, rising from about 50 feet at the Lake Sammamish shoreline to about 500 feet above Lake Sammamish. There are numerous wetlands, streams, and lakes, including Pine Lake and Beaver Lake. The streams flow in a predominantly western direction from the lake and wetland headwaters over the plateau and then flow down the steep erosive slopes through ravines ultimately discharging to Lake Sammamish. (Tina Miller, King County 1999, "Draft East Lake Sammamish Basin Plan ESA Review").

Regulatory Setting

State Growth Management Act

The Growth Management Act and RCW 36.70A.040 requires that open space be identified and protected as described in RCW 36.70A.160, and that Critical Areas be designated and protected as described in RCW 36.70A.170.

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1 Figure IV-1 is a general representation of drainage basin boundaries based upon King County information developed through basin plans. Some of the basin boundaries could require revision due to additional area-specific review. For example, the “Master Drainage Plan – Patterson Creek Basin: The Beaverdam Property,” identified a basin boundary correction between Evans Creek and Patterson Creek Basins. Other basins are known to have basin limit differences, and remapping is planned.
Figure IV-1  Sub-Basin
The Growth Management Act provides 13 planning goals intended to guide Comprehensive Plans and Development Regulations prepared by location jurisdictions (RCW 36.70A.020). Several GMA goals relate directly or indirectly to the environment and conservation:

(2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

(6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.

(9) Open space and recreation. Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

(10) Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

(13) Historic preservation. Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.

While the GMA does not mandate a Plan Element specifically devoted to the Environment or Historic Preservation, it is understood through the GMA goals, related elements such as land use, best available science provisions, as well as critical area regulation requirements that a community's environmental and historical features should be considered in preparing a Comprehensive Plan. GMA does not limit optional topics and suggests "conservation" as a possible optional element.

**State Shoreline Management Act**

Shoreline Master Programs are required by the State Shoreline Management Act (RCW 90.58) for Shorelines of the State. Shoreline Master Programs must include goals and policies related to shoreline uses, conservation, economic development, public access, recreation, circulation, and housing. Development regulations for specific shoreline uses must be included as well.

To better coordinate Growth Management Act (GMA) and Shoreline Management Act (SMA) requirements, GMA was amended in 1995. The goals and policies found in a Shoreline Master Program are considered an element of the Comprehensive Plan. The development regulations required as part of Shoreline Master Programs are considered part of a jurisdiction’s development regulations.

The Washington State Department of Ecology is preparing new Shoreline Master Program Guidelines, after prior drafts have been appealed. In accordance with State requirements, cities and counties must amend their Shoreline Master Programs within two years of the State completing its guidelines. Unlike other Growth Management Act elements which only receive review and comment from State agencies, Shoreline Master Programs require State approval.

The County's Shoreline Master Program is considered the program in effect for the City of Sammamish. State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State.

**Federal Laws - Endangered Species Act**

In addition to considering the State Growth Management Act (GMA) requirements and State Shoreline Act requirements, the City must be cognizant of the Endangered Species Act. In March 1999, the Puget Sound chinook salmon was listed as a “threatened” species under the Endangered Species Act (ESA).
The Coastal Puget Sound bull trout was listed as threatened in November 1999. It is anticipated that listing of other salmonid species including the native kokanee from Ebright Creek and other Sammamish creeks may follow.

These listings carry with them restrictions on any activities that would significantly affect the aquatic habitat of these species. Activities that alter patterns of runoff, alter water quality, or that physically alter streams or riparian corridors will have harmful effects on fish.

Wild pacific salmon have great cultural, economic, recreational and symbolic importance to the Puget Sound region. It is a regional goal to ensure long-term protection of salmon resources to harvestable levels for today and tomorrow, with the least economic impact possible. Successful restoration and maintenance of healthy salmon populations will require time, money and effort, and collaboration with federal, state, tribal and local governments, as well as businesses, environmental groups, and citizens. To meet this goal, the City will need to consider salmon when making decisions about land use and development, providing facilities and services, maintaining roads, parks, and flood control facilities, and building new capital improvement projects.

Local governments in the Puget Sound region, in cooperation with state and tribal governments and other major stakeholders, have established a Tri County partnership to identify early actions and develop long-term conservation strategies. The early actions will focus on protecting salmon habitat in order preserve options for recovery. The long-term conservation strategy will be developed at the Watershed Resource Inventory Area (WRIA) level. The boundaries of WRIs are defined under state regulations, and generally adhere to the watershed boundaries of major river or lake systems.

Sammamish contains a number of wetlands, river and stream reaches that are important to the viability of fish and wildlife populations and are therefore considered biological, social and economic resources. Salmon-bearing streams do pass through the City of Sammamish, including but not limited to, Ebright Creek, Pine Lake Creek, and Laughing Jacobs Creek.

Some resource areas were previously identified through basin plans and other resource inventory efforts, and are categorized by the County as either Regionally Significant Resource Areas (RSRAs) or Locally Significant Resource Areas (LSRAs). The County indicates the RSRAs contribute to the resource base of the entire Sammamish Watershed by virtue of exceptional species and habitat diversity and abundance, and may also support rare, endangered or sensitive species, including threatened salmonids. The County identified LSRAs as contributing to the aquatic resources within a specific basin, when compared to aquatic and terrestrial systems of similar size and structure elsewhere in the basin. They also provide wetland and stream habitat that is important for wildlife and salmonid diversity and abundance within the basin. As Water Resource Inventory Area plans are prepared in compliance with the Endangered Species Act, additional resource areas will be identified and analyzed to determine appropriate levels of resource protection.

The challenge of this plan is to balance the need to meet density goals, while ensuring all development occurs in accordance with the provisions and requirements of the Endangered Species Act. To meet this challenge, a variety of regulatory and non-regulatory tools and programs will be needed.

**Additional Agency Coordination**

Sammamish needs to coordinate many programs with other groups and agencies. Coordination with the Washington State Department of Ecology and affected jurisdictions is necessary to comply with mandates
of the Clean Water Act that address point and non-point source pollution. Further coordination with air quality agencies, such as the Puget Sound Clean Air Agency and Puget Sound Regional Council, is needed to exchange information and develop consistent programs. Coordination with water service providers who use ground water sources is necessary to protect the region's ground water quantity and quality.

**Air Quality**

The preservation of clean air is essential to the quality of life enjoyed by the residents of Sammamish, to avoid loss of scenic visibility, odor, dirt and unhealthy air. Motor vehicles and wood burning stoves and fireplaces are the primary cause of air pollution.

Panoramic views are treasured as an important part of quality of life in Sammamish. Reduced visibility is caused by weather (clouds, fog, and rain) and air pollution (fine particles and gases). The most important pollution contributor is fine particulate matter (PM2.5) emissions, which are transported aloft and may remain suspended for a week or longer.

Air quality is generally assessed in terms of concentrations of air-borne pollutants being higher or lower than ambient air quality standards set to protect human health and welfare. To measure existing air quality, the Washington State Department of Ecology and PSCAA maintain a network of monitoring stations throughout the Puget Sound region. Based on monitoring information collected over time, state (Ecology) and federal (EPA) agencies designate regions as being “attainment” or “nonattainment” areas for particulate air pollutants. Attainment is a measure of whether National Ambient Air Quality Standards (NAAQS) are being met. Six monitored pollutants are commonly found in the Puget Sound region:

- PM10/PM2.5
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO2)
- Ozone (O3)
- Sulfur Dioxide (SO2)
- Lead (Pb)

At present, the region is in attainment of federal and local air quality standards for the six monitored pollutants. The airshed is close to exceeding the annual standard for PM2.5. The Puget Sound area currently complies with the ozone standard, though by a slim margin. (www.pscleanair.org/airq/pollution)

**Wetlands**

Wetlands are transitional areas between aquatic and upland habitats and are identified based upon three parameters: hydrology, soils and vegetation. Wetlands are formally identified and delineated according to the methods in the *Washington State Wetland Identification and Delineation Manual* (Department of Ecology, 1997). Under normal circumstances, wetlands include the following three components:

- Presence of water (hydrology) or an indication of at least the seasonal presence of water,
- Unique soils (hydric soils) that differ from upland soils due to anaerobic conditions resulting from prolonged or frequent saturation or flooding; and
- A dominance of plants adapted to growing in wet conditions (hydrophytic vegetation).

Wetlands provide a variety of functions. Wetlands retain water, provide time for filtration and settling of suspended solids, and recharge groundwater supplies. Wetlands moderate floodwaters via storage and conveyance. Wetlands also provide habitat for a variety of aquatic and terrestrial plant and animal species.

There are approximately 530 acres of wetlands in the City of Sammamish. Deforestation, filling, drainage, agriculture, or removal of buffers have disturbed almost all of the City’s wetlands to some extent (2001 City of Sammamish Stormwater Comprehensive Plan). The wetlands have been classified according to a wetland rating system developed by King County whereby wetlands of Class 1 are considered the highest functioning and quality and the other Categories 2 and 3 show lower quality/functioning wetlands. The following table identifies wetland acreage as inventoried by King County and reported in the City of Sammamish Stormwater Comprehensive Plan. Figure IV-2 identifies wetlands generally, and Appendix A contains a map from the 1990 King Sensitive Areas Map Folio, which provides the corresponding wetland numbers listed in Table IV-A listed below.
### TABLE IV-A
**INVENTORY OF WETLANDS AND ASSOCIATED LAKES**
**PARTIALLY OR ENTIRELY LOCATED IN CITY OF SAMMAMISH**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location (S,T,R)</th>
<th>Access</th>
<th>Acreage</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evans Creek Sub-basin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evans Creek 27</td>
<td>NW-NW 27, 25N, 6E</td>
<td>229th Avenue NE / NE 21st Street</td>
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<tr>
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<td>228th Avenue NE / NE 20th Street</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Evans Creek 30</td>
<td>SW-NE 27, 25N, 6E</td>
<td>228th Avenue NE</td>
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<td>2</td>
</tr>
<tr>
<td>Evans Creek 31</td>
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<td>244th Avenue NE / NE 14th Street</td>
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<tr>
<td>Evans Creek 32</td>
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<td>NE 8th Street &amp; Pipeline</td>
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<td>2</td>
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<tr>
<td>Evans Creek 37</td>
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<td>Evans Creek 43</td>
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<td>224th Avenue NE</td>
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<tr>
<td>Evans Creek 65a</td>
<td>NE-NE 18, 25N, 6E</td>
<td>192nd Drive NE</td>
<td>19.5</td>
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<td>Evans Creek 66b</td>
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<td>Sahalee Way NE</td>
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<tr>
<td>Evans Creek 70b</td>
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<td>244th Avenue NE / NE 20th Street</td>
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<td>Unclassified</td>
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<tr>
<td>Evans Creek 71b</td>
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<td>244th Avenue NE / NE 14th Street</td>
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<tr>
<td><strong>East Lake Sammamish Sub-basin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Lk. Samm. 2</td>
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<td>2</td>
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<tr>
<td>E. Lk. Samm. 9</td>
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<tr>
<td>E. Lk. Samm. 17</td>
<td>SW-NW 4, 24N, 6E</td>
<td>SE-NE 4, 24N, 6E</td>
<td>212th Avenue SE / SE 14th Street</td>
<td>32.0</td>
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<tr>
<td>E. Lk. Samm. 18</td>
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<td>NE-SE 3, 24N, 6E</td>
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<tr>
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<td>E. Lk. Samm. 21</td>
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<td>SW-NW 1, 24N, 6E</td>
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</tr>
<tr>
<td>E. Lk. Samm. 24</td>
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<td>2</td>
</tr>
<tr>
<td>E. Lk. Samm. 26</td>
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<td>SE-SE 3, 24N, 6E</td>
<td>236th Avenue SE / SE 24th Street</td>
<td>37.0</td>
</tr>
<tr>
<td>E. Lk. Samm. 29</td>
<td>NE-NE 8, 24N, 6E</td>
<td>SE 24th Street</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>E. Lk. Samm. 30</td>
<td>SW-NW 9, 24N, 6E</td>
<td>NE 8, 24N, 6E</td>
<td>212th Avenue SE</td>
<td>67.0</td>
</tr>
</tbody>
</table>
Figure IV-2  Environmentally Sensitive Areas
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### TABLE IV (cont.)

**INVENTORY OF WETLANDS AND ASSOCIATED LAKES**

**PARTIALLY OR ENTIRELY LOCATED IN CITY OF SAMMAMISH**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location (S.T,R)</th>
<th>Access</th>
<th>Acreage</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Lk. Samm. 32</td>
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<td>E. Lake Sammamish Parkway / SE 8th Street</td>
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**Patterson Creek Sub-basin**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location (S.T,R)</th>
<th>Access</th>
<th>Acreage</th>
<th>Class</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Patterson Crk. 16</td>
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<td>SE 27th Street</td>
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<td>2</td>
</tr>
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<td>Patterson Crk. 17</td>
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<td>East Beaver Lake Drive</td>
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<td>1</td>
</tr>
<tr>
<td>Patterson Crk. 18</td>
<td>NE-NW 12, 24N; SE-NW 12, 24N, 6E</td>
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<td>1</td>
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<tr>
<td>Patterson Crk. 24</td>
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<td>Duthie Hill Road</td>
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<tr>
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<td>SW-SW 1, 24N, 6E</td>
<td>Duthie Hill Road</td>
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</tbody>
</table>

Source: King County, March 1990 (further field studies required to confirm wetland delineation), as reported in the *2001 City of Sammamish Stormwater Comprehensive Plan*.

Sammamish has adopted King County’s Sensitive Area Regulations on an interim basis with some modifications (i.e. increasing buffer widths by 50 feet on Class 1 wetlands). For the Class 1, 2, and 3 wetlands, the following buffer requirements apply at the time of this writing:

- Class 1 Wetland – 150 feet
- Class 2 Wetland – 50 feet
- Class 3 Wetland – 25 feet
The regulations allow for the possibility of wetland alteration if certain criteria are met, such as minimizing the area to be altered and if there is wetland creation, restoration or enhancement of wetlands on another portion of the site or within the same drainage basin.

There are special wetland regulations, SO-180, that apply in the East Lake Sammamish basin to nine Class 1 wetlands and the properties in their vicinity, including impervious surface limits, clustering provisions, open space set-asides and grading requirements, in addition to the standard sensitive area regulations which regulate buffers.

**Streams and Lakes**

Within the various drainage basins of the City are stream courses where surface waters produce a defined channel or bed. There are also lakes, the most sizeable of which are Lake Sammamish, Pine Lake, and Beaver Lake. Laughing Jacobs Lake is considered technically an open water wetland due to its small size (East Lake Sammamish Basin Conditions Report - Preliminary Analysis, King County, 1990). Figure IV-2 and Appendix A shows the stream courses and lakes in the City and vicinity.

Class 1 streams are those streams with a mean annual flow of 20 cubic feet per second (cfs) or greater. These streams are regulated as Shorelines of the State under the State Shoreline Management Act. Class 2 streams are smaller than Class 1 streams, flow year-round during years of normal rainfall, or are those used by salmonids. Class 3 streams are intermittent or ephemeral during years of normal rainfall and are not used by salmonids.

At the time of this writing, Sammamish has adopted King County stream regulations on an interim basis with modifications (additional 50 foot buffer for Class 1). The buffer requirements in the City’s sensitive area regulations applicable to streams are:

- Class 1 Streams – 150 feet
- Class 2 used by salmonids – 150 feet
- Class 2 streams not used by salmonids – 50 feet
- Class 3 streams – 25 feet
- Unclassified – a study is required to determine stream class

Class 1 streams are also considered Shorelines of the State. Activities or developments proposed within 200 feet of Shorelines of the State are reviewed under the jurisdiction's required Shoreline Master Program. The Shoreline Master Program applies to Class 1 streams and other State shorelines, specifically streams with mean annual flows of 20 cubic feet per second (cfs) or greater, or lakes 20 acres or greater in size. In Sammamish, lakes regulated under the Shoreline Master Program (Title 25 ISDC) include Lake Sammamish, Pine Lake and Beaver Lake. In addition, wetlands considered “associated” with State Shorelines are also regulated by the Shoreline Master Program. Sammamish, Pine and Beaver lakes are large open water bodies and are not considered wetlands or streams in determining required buffer widths. Where wetlands are associated with these lakes, they are primarily Class 1 wetlands, and would require Class 1 wetland buffers. Lake setbacks are based upon the “shoreline environment designation” of a particular area of a lake. Natural environments are most restrictive in terms of uses and standards and Urban environments are the least restrictive. In the City of Sammamish, two environmental designations dominate: Conservancy (50-foot setbacks for residences) and Rural (20-foot setbacks for residences).
In cases of incorporation or annexation, State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State. The County's Shoreline Master Program (currently considered the regulations in effect for the City of Sammamish) includes environment designations of Urban, Conservancy, Rural and Natural for the regulated water bodies. On all water bodies, the designations change based upon environmental and development conditions. Due to state requirements (pending Shoreline Master Program Guidelines, critical areas regulations to utilize “best available science”) and the recent listings under the Endangered Species Act, it is likely that buffers and setbacks will be revisited for lakes and streams.

The streams and lakes have been characterized in terms of water quality and habitat in the 2001 City of Sammamish Stormwater Management Comprehensive Plan (based on King County source documents) as well as the 2001 and 2002 King County Lake Water Quality reports summarized in the Table below.
<table>
<thead>
<tr>
<th>WATER BODY/CLASS</th>
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</tr>
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<tbody>
<tr>
<td>Pine Lake Creek (WRIA 08-0152); Class 2</td>
<td>Water quality in the base flows of Pine Lake Creek was monitored monthly by King County METRO between May 1987 and April 1988 as part of the development of the Final East Lake Sammamish Basin and Nonpoint Action Plan (King County, 1994). These data showed that bacteria and phosphorus concentrations frequently exceeded water quality standards or recommended guidelines. Monitoring of water quality in storm flow samples from Pine Lake Creek showed bacteria and phosphorus concentrations were the highest recorded in the entire basin (during a May 2, 1990, event), exceeding standards or recommended guidelines by a factor of 157 (bacteria) and 7 (phosphorus). Small farms and residential land uses are the most probable sources of these pollutants. The final 1998 Section 303(d) list included Pine Lake Creek as impaired by fecal coliform. This will require the development of a total maximum daily load (TMDL) for Pine Lake Creek.</td>
<td>Pine Lake Creek (WRIA 08-0152) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, cutthroat trout, and rainbow trout. The King County Water and Land Resources Division web site “Known Freshwater Distribution of Chinook Salmon for Water Resource Inventory Area (WRIA) 8 (<a href="http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm">http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm</a>) lists a 1997 chinook salmon sighting in the lower 0.02 miles of Pine Lake Creek. This sighting was recorded through its Volunteer Salmon Watcher Program. There is an impassable fish barrier located west of 204th Avenue SE and south of SE 8th Street.</td>
</tr>
<tr>
<td>Kanim Creek (WRIA 08-0153); Class 2</td>
<td>Available literature did not list any water quality information specifically for Kanim Creek. However, many of the conditions described for Pine Lake Creek also pertain to Kanim Creek, which is a tributary of Pine Lake Creek.</td>
<td>Kanim Creek (WRIA 08-0153) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, cutthroat trout, and rainbow trout. There is an impassable fish barrier located at the culvert crossing beneath SE 19th Street.</td>
</tr>
<tr>
<td>Many Springs Creek (WRIA 08-0164); Class 2</td>
<td>The only water quality data available in the literature for Many Springs Creek showed minimal problems, except for a high suspended sediment load associated with upstream problems of stream incision and landslides.</td>
<td>Many Springs Creek (WRIA 08-0164) is a Class 2 stream with salmonids downstream (south) of SE 43rd Way (most just outside the City limits). Species identified in this creek are coho salmon and cutthroat trout. Upstream of SE 43rd Way, the mainstem and tributary are categorized as Class 3. There is an impassable fish barrier located upstream of SE 43rd Way.</td>
</tr>
<tr>
<td>Laughing Jacobs Creek (WRIA 08-0166); Class 2</td>
<td>Solids, nutrients, high temperatures, and bacteria associated with both urban and rural land uses are threatening water quality in the Laughing Jacobs Creek subbasin. Water quality criteria or recommendations were exceeded for fecal coliform, enterococcus, total phosphorus (TP), and total suspended solids (TSS) concentrations during storm flow and some base flow monitoring events. Laughing Jacobs Creek is underlain by bedrock. As a result, erosion is less than would otherwise be expected. However, ill-directed runoff from developed areas has resulted in the delivery of significant amounts of hill slope sediments to the channel. Downchannel transport of these sediments contributed to flooding of the East Lake Sammamish Parkway during a January 1990 storm. Both flooding and sedimentation problems will be severely exacerbated by the large projected increases in channel flows. Sediment from several active landslides in the Laughing Jacobs Creek ravine has settled in the flat lower reaches and caused flooding problems in East Lake Sammamish State Park and on East Lake Sammamish Parkway. These flooding problems are caused by discharge of runoff from cleared or developed land in the ravine edge. This situation is aggravated by the historic diversion of the lower channel route to Lake Sammamish, which has reduced the gradient and increased localized sediment</td>
<td>Laughing Jacobs Creek (WRIA 08-0166) is a Class 2 stream with salmonids. Species identified in this creek are coho salmon, sockeye salmon, kokanee salmon, cutthroat trout, and rainbow trout. Chinook salmon have been sighted in several reaches of Laughing Jacobs Creek (likely all downstream of the City limits) between 1995 and 1998 (<a href="http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm">http://dnr.metrokc.gov/WRIAS/8/chindist/distmap.htm</a>). These sightings were recorded through the County’s Volunteer Salmon Watcher Program. There is an impassable fish barrier located outside the City limits (south of Trinity Lutheran College and SE 43rd Way). The kokanee in Ebright and Laughing Jacobs Creek and Lake Sammamish are distinct native populations from other populations in the Lake Sammamish basin.</td>
</tr>
</tbody>
</table>
deposition. This ongoing problem can be addressed by constructing sediment traps in the form of logs and other diversity-fostering structures to the upper watershed.

The intrinsic link between water quality and quantity cannot be ignored because the effects of water quantity are a continual focus of surface water problems in the subbasin.

**TABLE IV-B**
STREAM AND LAKE SUMMARY

<table>
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<tr>
<td>Unnamed Tributaries (07-0111, 08-0143, 08-0145B, 08-0149A, 08-0152A, and 08-0163 systems)</td>
<td>Tributary 08-0152A has been partially channelized, and some diversion structures have been placed. A subdivision and extensive horse pasture contribute nutrient loading. Tributary 08-0163 has several possible fish barriers and numerous culverts, some of which appear to be too small to accommodate projected future flows. No water quality information was available for the remaining unnamed tributaries.</td>
<td>Unnamed tributaries (WRIA 07-0111; WRIA 08-0145B, 0152A, -163, -0164B, 0166D, -0166E) are primarily Class 2 streams without salmonids or Class 3 streams. Stream 08-0163 is a Class 2 with salmonids (coho salmon cutthroat trout, and rainbow trout); systems 08-0166D and 08-0166E both have rearing habitats for cutthroat trout. Many of these unnamed creeks and small tributaries have fish passage barriers, most notably in the lower reaches, near Lake Sammamish.</td>
</tr>
<tr>
<td>Patterson Creek (WRIA # 07-0376) Class 2</td>
<td>Patterson Creek is a Class 2 stream system which provides significant habitat for a number of salmonids including coho, Chinook, steelhead and cutthroat trout. It is located east of the City limits; however a portion of the Patterson Creek Drainage Basin lies in the City limits in the Trossachs vicinity, and Staff indicate that lands within the City limits are the headwaters for the Creek. More than 150 acres of wetlands and forests in two discontinuous stretches along Patterson Creek were purchased as part of the King County Waterways program. The Natural Area is located outside the City of Sammamish City Limits, near the King County Section 36 Park and Carnation Marsh Natural Area, as well as in the vicinity of the Griffin Creek Park Natural Area, also a Waterways 2000 purchase within the Snoqualmie basin. Patterson was targeted by the King County Waterways program for its continuing ability to provide flood moderation and habitat for salmonids and wildlife, despite basin-wide development and agricultural activities. It is part of the larger Snohomish/Snoqualmie system which has, in recent years, contributed up to one-third of the wild coho production of the Puget Sound system. The Natural Area also includes upland and lowland habitat for a variety of terrestrial and aquatic wildlife, including pileated woodpecker, river otter, and black bear.</td>
<td></td>
</tr>
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<tr>
<td>Pine Lake (Class 1)</td>
<td>Trophic state indicators for the period 1999-2000, measured May to October each year, indicate Pine Lake is low to moderate in productivity (borderline oligotrophic to mesotrophic) consistent with past findings (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Overall the water quality is good at Pine Lake. The slight decrease in lake phosphorous levels over time may be related to the permanent diversion of wetland inflow to the lake outlet which was completed by King County in 1990. To ensure nutrient levels remain lowered, ongoing erosion and nutrient control measures in the watershed remain important as land is developed in the watershed or local shoreline alteration occurs.</td>
<td>Pine Lake, the headwaters of Pine Lake Creek, is not accessible to anadromous salmonids. Rainbow trout are present in the lake because hatchery fish are stocked annually. The lake supports a put-and-take fishery. The lake was planted with kokanee salmon decades ago and a remnant population remains. Cutthroat trout are present as a natural unaugmented population.</td>
</tr>
<tr>
<td>Beaver Lake (Class 1)</td>
<td>Beaver Lake is a series of three lakes, of which the two northern ones are part of the volunteer lake water quality monitoring program through King County. Beaver 2, the middle lake, is considered mesotrophic with values characterized in 1999-2000 (May to October measurements) as an improvement over past years (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Overall water quality is moderately good with both surface water and groundwater flows influencing lake chemistry. Wetland inflows still influence lake water quality at Beaver Lake 2, but to a lesser degree than observed in Beaver Lake 1. Beaver 1, the northernmost lake, is considered eutrophic with low water clarity based on data reported for 1999-2000, measured May to October each year (King County March 2002). In a prior November 2001 report, King County characterized the lake as follows: Beaver 1 is influenced by wetland chemistry which gives the lake its dark color. The eutrophic character of the lake is a natural function of the basin which receives inflow directly from an upstream bog. Ongoing erosion and nutrient control measures in the watershed remain important as land is developed in the watershed or local shoreline alteration occurs. The County has identified the preservation of Wetland 21 (ELS) as critical to the ongoing preservation of the lake. This wetland may require a higher degree of protection. A Beaver Lake Management Plan is in effect for the subbasin.</td>
<td>Beaver Lake is noted as providing habitat for salmonid species in County “report cards” for basins.</td>
</tr>
<tr>
<td>Laughing Jacobs Lake</td>
<td>The 1990 East Lake Sammamish Basin Conditions Report–Preliminary Analysis found that the Laughing Jacobs Lake outfall had high fecal coliform concentrations (5,600 organisms/100 ml) during an April 23, 1990, storm event. In addition, TSS and TP concentrations were also relatively high during that event. These high fecal concentrations are probably related to agricultural activities in the subbasin. The final 1998 Section 303(d) impaired waters list included Laughing Jacobs Creek fecal coliform impairment. A total maximum daily load (TMDL) will be required for Laughing Jacobs Creek.</td>
<td>Laughing Jacobs Lake is inaccessible to anadromous salmonids because of blockage that is present low in the system. The lake contains rainbow trout and cutthroat trout.</td>
</tr>
<tr>
<td>Lake Sammamish (Class 1)</td>
<td>Lake Sammamish is the sixth largest lake in Washington and the second largest in King County. The basin of the lake is a long, uniform trough with steeply sloping sides and a maximum depth of 32 meters (105 feet). These characteristics are fjord-like, but the lake lacks the extreme Lake Sammamish supports resident populations of rainbow trout, cutthroat trout, and kokanee salmon. The lake is a primary rearing habitat for juvenile sockeye salmon and potentially incidental or secondary rearing habitat for chinook and coho</td>
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**TABLE IV-B**

**STREAM AND LAKE SUMMARY**

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<td>depth of most fjord lakes. Annual average precipitation is approximately 90 centimeters, with about 75 percent of that occurring during extended periods of non-intensive rainfall events from October through March. Land use changes in the watershed alter the quantity, quality, and timing of rainfall runoff. As forests are cleared and the area of impervious (paved) surfaces increases, the water storage capacity of the soils decrease and the rate of runoff increases. These changes increase the high wet weather flows in the streams and reduce the summer low flows. The increased wet weather flows cause additional erosion and instability in the stream channels and carry sediment into the lake. Decreased dry weather flows in the same streams reduce the amount and quality of in-stream habitat. Lake Sammamish is subject to the cumulative impacts of all of the land use changes in the watershed and the alterations to the influent streams. Lake Sammamish did meet the mean summer transparency goal of 4.0 meters in summer 1996 at mid-lake stations 611 and 612, but not at station 614, which is located offshore of the mouth of Issaquah Creek. The lake did not meet the mean summer chlorophyll-a goal of 2.8 mg/L in 1996 at stations 611, 612, and 614. Lake Sammamish was placed on the 1998 Section 303(d) impaired waters list due to fecal coliform and will require a total maximum daily load (TMDL). salmon. The lake serves as a migratory corridor for anadromous species such as chinook, coho, and sockeye salmon and for steelhead and sea-run cutthroat trout destined for spawning areas upstream of the lake. Kokanee salmon in Lake Sammamish are thought to be a discrete and currently depressed population.</td>
<td>salmon. The lake serves as a migratory corridor for anadromous species such as chinook, coho, and sockeye salmon and for steelhead and sea-run cutthroat trout destined for spawning areas upstream of the lake. Kokanee salmon in Lake Sammamish are thought to be a discrete and currently depressed population.</td>
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</table>

Other lakes affected by development within Sammamish are in unincorporated King County but adjacent to Sammamish. These include Allen Lake (once known as Mud Lake) and Mystic Lake.

In addition to Sensitive Area Regulations and Shoreline Master Program regulations, the City protects water quality and quantity with its 2001 *Stormwater Management Comprehensive Plan*. The Plan identifies local stormwater quantity and quality problems as well as capital improvement and other methods to address identified issues. The *Stormwater Management Comprehensive Plan* also includes a new stormwater code with regulations designed to minimize surface water impacts of new development through requirements for impact studies, detention, biofiltration, etc.

**Flood Hazard Areas**

The State minimum guidelines to classify critical areas in WAC 365-190 defines flood hazard areas as:

“Frequently flooded areas are lands in the floodplain subject to a one percent or greater chance of flooding in any given year. These areas include, but are not limited to, streams, rivers, lakes, coastal areas, wetlands, and the like.”

The WAC guidelines note that: "Floodplains and other areas subject to flooding perform important hydrologic functions and may present a risk to persons and property. Classifications of frequently flooded areas should include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program."
King County's critical areas inventories indicate no designated 100-year floodplains in the City with the exception of small areas along Lake Sammamish and near SR 202 at the northern City limits (refer to Figure IV-2). Further, the King County 1990 *East Lake Sammamish Basin Conditions Report - Preliminary Analysis* indicates that no special flood hazards (i.e. areas within the 100-year flood boundary) have been identified on the King County Flood Insurance Rate Map for the East Lake Sammamish Basin, the largest basin included in the City limits. Rather, the area has been designated as Zone "X" or Zone "D". These designations apply to areas that lie outside the 500-year floodplain or where no flood hazard has been determined. The Conditions Report further indicates that this does not exclude the possibility of flooding caused by severe, concentrated rainfall generating runoff volumes larger than the design capacity of local drainage systems, as these systems are not normally considered in flood insurance studies. Of note, the 1993 *King County Flood Hazard Reduction Plan* focuses on the Sammamish River to the north and does not identify or consider more localized issues within the City limits.

The City's 2001 *Stormwater Management Comprehensive Plan* identifies local stormwater quantity and quality problems as well as capital improvement and other methods to address identified local issues.

**Groundwater**

Groundwater is rainwater that has filtered into the ground and stays below the surface in zones called aquifers. The amount of groundwater available and the amount of water available to recharge groundwater is affected by precipitation, land use, population growth and water reuse. With population growth there is an increase in the number of residential and commercial buildings, roads and parking lots that are impervious surfaces which decrease or prohibit groundwater recharge. There is also an increase demand for water. Groundwater withdrawals from aquifer, when combined with an increase in impervious surface area in a recharge zone, can lead to a diminished groundwater supply for drinking water purposes. Because ground and surface water are interconnected, surface water features such as lake levels and the base flow of creeks are impacted by groundwater levels.

Methods to retain recharge are to maintain portions of residential areas in their natural state or permit the planting of vegetation in these areas. Stormwater facilities can be constructed to promote recharge of groundwater provided that the stormwater is first adequately treated so as not to contaminate groundwater. The State of Washington is also currently investigating ways to treat and reuse wastewater.

Maintaining groundwater quality is also a major concern particularly in recharge areas. Contaminants could include: failing septic systems, untreated stormwater, leaking underground storage tanks, quarries, agricultural chemicals, hazardous materials spills, etc.

The City of Sammamish is included in two Groundwater Management Planning Areas, Issaquah Creek Valley and Redmond-Bear Creek Valley, with the City area lying primarily in the Issaquah Creek Valley Planning Area, and this area is the focus of this summary.

Information about groundwater is principally summarized from the December 1998 and March 1999 *Issaquah Creek Valley Groundwater Management Plan* volumes prepared by the Issaquah Creek Valley Groundwater Protection Committee.

**Basin Wide Information**

Groundwater in the Issaquah Creek basin comes from precipitation in the basin. The areas with the highest infiltration potential are those with sand and gravel deposits. The most significant of these areas
lies east of the City of Issaquah on the uplands between the East and North Forks of Issaquah Creek. For the lower Issaquah Valley area (includes Sammamish), in particular the eastern plateau areas of the management area, Grand Ridge and Lake Tradition, do not overlie valley aquifers, but may provide up to 30% of the direct recharge to the lower Issaquah Valley ground water system. Measures such as recharging ground water with surface water facilities and homeowner education materials are being used in this area.

Aquifers are considered to be vulnerable where the soil is permeable, where the ground water depth is shallow, and where a potential contamination source is present. Given the location of wells and nearby development, the lower Issaquah Creek Valley is a vulnerable aquifer system. Even with the potential for contamination, water quality in the lower Valley has been found to be generally excellent; management strategies will be needed to protect the area. The upper Issaquah Creek Valley System (in the southern part of the Groundwater Management Planning Area) has been affected by contamination from the Cedar Hills Landfill and Queen City Farms Industrial Waste site. Both of these site have clean up activities to mitigate the ground water contamination.

**Sammamish Plateau**

Groundwater in the upland area of the Sammamish Plateau moves vertically downward and laterally to discharge points (such as Lake Sammamish). Along the Lake Sammamish boundary, groundwater flows out of the groundwater study area to the west. The results of a seepage study conducted in September 1991 showed that an estimated 3.3 cubic feet per second discharges from the Sammamish Plateau to Lake Sammamish.

In some areas, deeper groundwater flows through some unmapped geohydrologic units, and may flow to the west also, perhaps beneath surface waters such as Lake Sammamish to surface water bodies outside the study area such as Puget Sound. Additional investigation is recommended to confirm these hypotheses.

As of 1999, more than 98 percent, or 1,110 acre feet of the total ground water withdrawals in the Sammamish Plateau went to public water supply systems reflecting the area’s suburban nature. The greatest demand for public water supplies, and therefore withdrawal of groundwater, is during summer and early fall when temperatures are high and precipitation is at a minimum.

Continued growth will require greater volumes of water than is currently withdrawn from the aquifer system. In areas where an aquifer system provides the only source of water to an area, water demand is critical, as is the case with the Sammamish Plateau Water and Sewer District. (The Northeast Sammamish Water and Sewer District is not hindered by water supply concerns although groundwater is its primary source.) It has been difficult for the Sammamish Plateau Water and Sewer District to obtain additional water rights from the Department of Ecology based on the continuity of surface and ground waters in the basin. The Sammamish Plateau District has developed several supply strategies in its Water Comprehensive Plan. The District has also implemented a water allocation process for new development applications to randomly select applications for water certificates of availability.

To address ground water quality, the City of Sammamish will need to consider areas where groundwater is susceptible to contamination due to surficial geology, potential for infiltration, and depth to groundwater. Areas of low, medium and high susceptibility are mapped in Appendix A on a map entitled “Aquifer Susceptibility.” The City will also need to consider wellhead protection zones. Such zones have been mapped by the Sammamish Plateau and Northeast Sammamish Water and Sewer Districts, and these maps also appear in Appendix A: see Sammamish Plateau Water and Sewer District Water Comprehensive Plan “Figure 5-1 Wellhead Protection Areas” and the map titled “Wellhead Protection Areas.”
Program, Northeast Sammamish Sewer and Water District.” To address ground water quantity, the City should identify Groundwater Recharge Areas, and analyze this information with wellhead protection areas to identify critical areas for groundwater recharge. This may include coordinating with adjacent jurisdictions on identifying Critical Aquifer Recharge areas outside of the City limits that serve the City’s population.

Another key to addressing groundwater quantity and quality concerns are through policies and implementing regulations, with the recommended approach being to coordinate with the Groundwater Protection Committees for the Groundwater Management Planning Areas.

**Geologically Hazardous Areas**

**Erosion Hazard**

Soil erosion is a process in which individual soil particles are detached and moved by natural agents such as wind, rainsplash, frost action, or surface water flows. Erosion poses a potential public health and safety hazard to the extent that bodies of water are contaminated with sediment. In addition, erosion can directly and indirectly damage private property as well as valuable habitat and natural areas. The U.S. Department of Agriculture, Soil Conservation Service has identified certain soils as being susceptible to erosion if disturbed. Such soils occur throughout the City with the largest concentration of those on steeper slopes occurring in the western part of the City. Identification of areas subject to moderate or severe erosion hazard support environmental and development regulations since they affect grading and receiving water body quality.

City codes governing clearing and grading activities and erosion hazard areas regulate the timing and extent of clearing for development. Soils having an erosion hazard require that an erosion control plan be approved and implemented before disturbance starts. The plan may stipulate that clearing or grading be done only during the drier season of the year, and that silt fences or other means of preventing sediment movement be in place and functional; a vegetation management plan is required. In subdivisions, clearing for roads and utilities is to occur first with subsequent clearing on individual lots permitted after approval of the associated building permit. A vegetation management plan is required for clearing on individual lots. An erosion plan is required for all development proposals within erosion hazard areas. The use of hazardous substances, pesticides, and fertilizers is not permitted in erosion hazard areas.

**Landslide Hazards**

Landslides, seismically sensitive soil materials, and geologic events pose substantial hazards to public health and safety. Such areas have limited suitability for siting of commercial, residential and industrial structures. Currently, the City regulates these hazard areas through their Sensitive Area regulations adopted on an interim basis from King County regulations. The county classification system is essentially consistent with the State of Washington minimum guidelines.

Many slopes with Sammamish are either naturally unstable or become unstable when disturbed. Areas subject to landslides are mostly along the western slopes of the City. Refer to **Figure IV-2.** The identification of areas susceptible to landslides support environmental and development regulations; they affect foundation design and housing density.

Unconsolidated soil materials with slopes greater than 15 percent that are underlain with impermeable geologic materials, and/or which have seeps are especially subject to slippage of the unconsolidated soil material. Areas which have experienced movement in the past or which are unstable as a result of rapid stream incision, stream bank erosion, or undercutting by wave action, are also susceptible to landslides.
Landslides in such areas can result in enormous public and private costs, severe threats to human health and safety, and severe natural resource and environmental damage. Disturbance in such areas should generally be avoided.

Construction activities on slopes of 40% or greater, also known as Steep Slope Hazard Areas, are regulated because of the propensity for landslides and mass movement. Buffer zones above, below and at the sides of the steep slopes are mandated. Vegetation removal is not permitted unless it is part of an approved alteration activity and the use of hazardous substances, pesticides, and fertilizers is not permitted. Limited land alteration activities, such as surface water conveyance, trails, utilities, bank stabilization or reconstruction activities may be permitted, under certain circumstances. In addition, development activities may occur on steep slope hazard areas if the slope has a vertical rise of less than twenty feet and the City concurs with the soils report prepared by a geologist or geotechnical engineer. Point discharges from surface water facilities onto or upstream of steep Slope Hazard Areas is prohibited except in limited circumstances.

Currently, construction activities on landslide hazard areas with slopes under 40% may be permitted if the development activity will not decrease soil stability on contiguous properties and mitigation is based on best available engineering and geological practices which eliminates the risk of damage, death, or injury resulting from landslides.

In addition, current City regulations (based on King County regulations) have established more strict development conditions in certain sub-basins, such as Panhandle and Monohon, which are particularly impacted by landslides (SO-190). These areas designated sloped areas which drain directly to lakes or streams of high resource value which are particularly sensitive to the impacts of increased erosion. These areas lie along the western edge of the City. The special requirements include:

- The establishment of “no disturbance areas” as identified in the East Lake Sammamish Basin Watershed Management Committee Basin and Non-point Action Plan (King County 1994), as field confirmed.
- Land clearing in the “no disturbance area” is restricted except in limited cases, including the construction of single family residences on pre-existing lots, utility corridors, or road construction may be permitted if the clearing activities will not subject the area to risk of landslide or erosion, that clearing activities will be mitigated, monitored, and bonded, and the clearing activities are limited to the minimal area and duration necessary for construction.
- Applicant must identify suitability of site for on-site surface water infiltration.

**Seismic Hazards**

Seismic hazards include areas subject to “severe risk of earthquake induced ground shaking, slope failure, settlement, soil liquefaction or surface faulting” (WAC 365-190). King County maps seismic hazard areas as “those areas in King County subject to sever risk of earthquake damage as a result of soil liquefaction in areas by cohesionless soils of low density and usually in association with a shallow groundwater table or of other seismically induced settlement.”

The County identified seismic hazard areas in Sammamish along Lake Sammamish and near SR 202. The United States Geologic Survey and the University of Washington also provide information regarding surface faulting and other earthquake induced hazards.
“There are three different sources for damaging earthquakes in the Pacific Northwest. The first of these is the ‘Cascadia Subduction Zone,’ a 1000 km long thrust fault which is the convergent boundary between the Juan de Fuca and North American plates and is the most extensive fault in the Pacific Northwest area. It surfaces about 50 miles offshore along the coasts of British Columbia, Washington, Oregon and northern California. No historic earthquakes have been directly recorded from this source zone. According to recent research, an earthquake estimated to be as large as 8.0 to 9.0 occurred in this zone in January of 1700.

The second source for damaging earthquakes is the Benioff Zone. This zone is the continuation of the extensive faulting that results as the subducting plate is forced into the upper mantle. The Benioff Zone can probably produce earthquakes with magnitudes as large as 7.5. Benioff Zone earthquakes are deeper than 30 km.

The third source consists of shallow crustal earthquake activity (depths of 0 to 20 km) within the North American continental plate where faulting is extensive. Past earthquakes have revealed many shallow fault structures, including the Western Rainier Seismic zone and the Mt. St. Helens Seismic Zone. Our best known crustal fault, the Seattle Fault, runs east-west through Seattle from Issaquah to Bremerton. This fault generated a very large earthquake approximately 1100 years ago. Other crustal faults have been located in the Puget Basin region”.
(Source: http://www.geophys.washington.edu/SEIS/PNSN/INFO_GENERAL/faq.html)

US Geological Survey Maps of the Seattle Fault indicate it trends east-west across the southern portion of the City of Sammamish (see Appendix A). Critical infrastructure including I-90 and I-405, and pipelines (including natural gas pipeline in Sammamish vicinity) could be severely impacted by earthquakes along the Seattle Fault.

The City critical area regulations inherited from King County address development restrictions in seismic hazard areas in areas of potential settlement or liquefaction. The Uniform Building Code addresses building construction requirements to help minimize building damage due to earthquakes. The City would likely participate in any regional emergency management planning.

**Fish and Wildlife**

The Sammamish vicinity contains a diversity of wildlife - mammals, birds, and fish as noted in the 1992 King County East Sammamish Community Plan Update Draft Environmental Impact Statement (EIS). Bird species include bald eagle, osprey and great blue heron, which receive some level of Federal and/or State protection. A variety of mammal species are listed including coyote, cougar, bear, weasels, etc. The presence of fish species is described above under “Streams and Lakes” within this Element. In the King County East Sammamish Community Plan Update (1993), wildlife corridors were mapped to link major wetlands and other environmentally constrained features with good habitat value, primarily trending from the east to the west down to Lake Sammamish. In part due to the identified wildlife corridors, many of these corridor areas were zoned R-1, one dwelling unit per acre.

Wildlife species observed by Jones & Stokes biologists during reconnaissance surveys in 2002 include pileated woodpecker (State Species of Concern—a candidate for listing as threatened or endangered species by WDFW), black-tail deer, great blue heron (State Priority Species), mallard (Anas platyrhynchos), winter wren (Troglodytes troglodytes), American robin (Turdus migratorius), American crow (Corvus brachyrhynchos), and red-tailed hawk.
Historic and Cultural Resources

The Sammamish vicinity contains inventoried historic sites according to King County survey records, with one site adjacent to the City being a designated historic landmark, the Gunnar T. Olson house. A discussion of historic resources and general locations of inventoried historic sites may be found in Appendix A.

The City has an active local Heritage Society as historic and cultural resources are important to the community’s sense of place. In addressing cultural resources, the City recognizes the independent nation status of tribes, and seeks to work cooperatively with governmental agencies at all levels.
GOALS

GOAL EC-1: Practice environmental stewardship by protecting, enhancing and promoting the natural environment in and around the City.

GOAL EC-2: Cooperate regionally and strive locally to improve air quality.

GOAL EC-3: Maintain a surface water and groundwater system that serves the community, enhances the quality of life, and protects the environment.

GOAL EC-4: Protect wetlands from encroachment and degradation and encourage wetland restoration.

GOAL EC-5: Protect life and property in areas of natural hazards.

GOAL EC-6: Protect natural and environmentally sensitive areas, open space, trees, vegetation, natural terrain, and drainage.

GOAL EC-7: Maintain and promote a diversity of species and habitat within the City.

GOAL EC-8: Protect and enhance unique, valuable and critical plants and wildlife.

GOAL EC-9: Recognize and protect historical and cultural resources in the community.
GOALS & POLICIES

GOAL EC-1: Practice environmental stewardship by protecting, enhancing and promoting the natural environment in and around the City.

Critical Areas

ECP-1.1 The City shall identify critical (environmentally sensitive) areas – jurisdictional wetlands, streams, lakes, steep slopes subject to mass movement, and their associated buffers - as defined in RCW 36.70A.030;

   a. Floodways of 100 year floodplains,
   b. Slopes with a grade of 40 percent or more, or landslide, erosion, or seismic hazards,
   c. Wetlands and their protective buffers,
   d. Streams and their protective buffers,
   e. Designated wildlife habitat networks,
   f. Critical Aquifer Recharge Areas; and
   g. Fish and Wildlife Habitat Conservation Areas, and other critical habitat areas identified for protection through Water Resource Inventory Area plans.

ECP-1.2 The protection of lands where development would pose hazards to health, property, important ecological functions or environmental quality shall be achieved through acquisition, enhancement, incentive programs and appropriate regulations. The features in policy ECP-1.1 defining critical areas are particularly susceptible and should be protected.

ECP-1.3 The City shall require all property owners, development proponents, utilities and public services to comply with its critical areas regulations and any regulations concerning habitat of listed species.

Special Overlays

ECP-1.4 The SO-180 Wetland Management Areas Special Overlay District and requirements, and the SO-190, Erosion Hazards Near Sensitive Water Bodies Special Overlay District and requirements, shall be reviewed for potential amendment and updated where appropriate to ensure protection of high function or high hazard areas.

Special Areas Protection

ECP-1.5 The City should identify the following special areas:

   a. Natural areas including significant trees,
   b. Scenic areas such as designated view corridors,
c. Natural drainage areas, including the SO-180 and SO-190 designated locations,
d. Urban landscaped areas such as public or private golf courses and parks,
e. Land reserved as open space or buffers tracts as part of development, including
   parcels subject to density averaging,
f. Lands designated as open space under the Current Use taxation-open space
   established according to King County for tax assessment purposes.

ECP-1.6 The City should protect and enhance natural ecosystems through its Comprehensive Plan,
Policies and Development Regulations that reflect natural constraints and protect
sensitive features. Natural resources and the built environment shall be managed to
protect, improve, and sustain environmental quality while minimizing public and private
costs.

ECP-1.7 Corridors with primary importance for wildlife, and ancillary importance as transitional
buffers between development, should be designated by the City. Such corridors are
defined as permanent low-density lands and/or designated streams and wetlands and their
buffers, which protect adjacent resource lands and environmentally sensitive areas and
which create open space corridors within and between development providing
environmental, visual, recreational and wildlife benefits. The corridors further function as
buffers to provide a visual contrast to continuous development and reinforce the unique
identity of communities. The City should conduct a study to evaluate the effectiveness of
the designated wildlife corridors and may revise the wildlife corridor criteria and/or
boundaries as appropriate.

ECP-1.8 Corridors designated for wildlife and associated purposes should include and link parks
and other lands that contain significant features as defined in ECP-1.7 and/or contain
critical resource protection, contain defining physical features, or contain historic
resources. The residential density for land so designated should be maintained at one unit
per acre.

Planning Areas: Basins and Sub-Basins

ECP-1.9 The City shall prepare a sub-basin management plan and policies for each of the six Sub-
Basins within the East Lake Sammamish Basin, as defined in the East Lake Sammamish
Basin Plan. The topology, soils, drainage, flow and channel monitoring vegetation,
habitat identification, utilities, R/D maintenance, and mitigation policies shall be
uniquely identified and defined for each Sub-Basin. These Sub-Basins are:

- Panhandle Sub-Basin
- Inglewood Sub-Basin
- Monohon Sub-Basins (3)
- Thompson Sub-Basin
- Pine Lake Sub-Basin
- Laughing Jacobs Sub-Basin
ECP-1.10 The City shall prepare sub-basin management plans and policies, in conjunction with other agencies with jurisdiction, for the following sub-basins as appropriate:

- Evans Creek Sub-basins (9)
- Patterson Creek Sub-basin
- Issaquah Creek Lower Sub-basin

ECP-1.11 The City shall establish a schedule for the preparation and implementation of sub-basin management plans and policies.

a. Each sub-basin planning process shall actively include representatives of local water and sewer districts; affected neighborhoods; local, state, and federal resource agencies; organizations or agencies with expertise in habitat conservation and restoration, ground water hydrology, fisheries, wildlife, botany, and land use.

b. The City shall review and update the boundaries of drainage basins in accordance with an established schedule. In addition, the City shall use updated studies as an interim measure to evaluate development proposals as appropriate.

ECP-1.12 The City shall adopt development regulations to implement the sub-basin management plans and policies.

a. Development proposals and approved land use applications shall be consistent with approved basin and sub-basin management plans and policies.

Incentives, Education, Planning and Regulations

ECP-1.13 The City shall apply regulations and coordinate with other governing agencies to minimize, and where practical, eliminate the release of substances into the air, water and soil that may degrade the quality of these resources.

ECP-1.14 The City shall encourage the wise use of renewable natural resources and conserve nonrenewable natural resources through education programs and by example in its own plans, programs and activities.

ECP-1.15 The City shall strive to minimize its own waste, reuse and recycle materials and dispose of all wastes in a safe and responsible manner. The City shall promote to its residents and businesses reuse, recycling materials and disposal of all waste in a safe and responsible manner.

ECP-1.16 The City shall promote growth management strategies that protect air, water, land and energy resources.

Incentives

ECP-1.17 In addition to its regulatory authority, the City should use incentives to protect and restore the natural environment whenever practicable. Incentives should be monitored to
determine their effectiveness.

**Environmental Stewardship/Education/Working Together**

**ECP-1.18** The City shall promote and lead education and involvement programs to raise the public awareness about environmental issues, advocate respect for the environment and demonstrate how individual actions and the cumulative effects of a community’s actions can have significant effects on the environment.

**ECP-1.19** Sammamish should take a regional role in environmental stewardship through direct education, coordinating of educational efforts and establishing partnerships with other entities that share similar environmental concerns or stewardship opportunities.

**ECP-1.20** Sammamish should coordinate with local jurisdictions, federal and state agencies, federally-recognized tribes, citizen interest groups, special districts, and citizens in the development of Water Resource Inventory Area plans for all areas of the City.

**ECP-1.21** Development of environmental regulations and restoration projects should be coordinated with local jurisdictions, federal and state agencies, federally recognized tribes, special interest groups and citizens when protecting and restoring the natural environment.

**Critical/Special Areas Management Policies**

**ECP-1.22** Critical and Special Areas shall be included in an open space system.

**ECP-1.23** There shall be no net loss of wetlands acreage or function. The City shall review its wetland regulations in consideration of Best Available Science and mitigation effectiveness research conducted by King County and the State Department of Ecology or others to determine appropriate regulatory measures to promote and make a priority of wetland avoidance, and where mitigation is allowed, ensure strict wetland mitigation standards apply.

**ECP-1.24**

a. The City should use its regulatory powers to conserve Critical and Special Areas. Where it is unfeasible during development to avoid or conserve a Critical or Special Area, those areas should be integrated into the developed landscape by using innovative planning, design, and management practices; these areas should be integrated into the developed landscape in a manner that conserves their integrity.

b. The City should require, and provide guidance to, private landowners and organizations to protect, restore, or enhance privately owned critical areas, natural areas, scenic areas and natural drainage areas in new developments.

**ECP-1.25** New development shall contribute its fair share to open space preservation through mitigation funds or acreage.

**ECP-1.26** The City should encourage the preservation of open space through the Current Use Taxation Open Space program and other incentives.
ECP-1.27 The City shall provide Basin Plans for all areas of the City by either adopting existing plans or creating new ones, to assure that permitted development will not degrade the surface or ground water resources.

ECP-1.28 The City should use a variety of land development techniques including density averaging and/or “clustering” to preserve and maintain open space corridors. These corridors define urban growth boundaries and provide separation between communities, and between differing land use densities.

ECP-1.29 The City should provide diverse educational, interpretive and recreational programs to promote understanding and enjoyment of Critical and Special Areas by the public.

ECP-1.30 The City should seek to develop effective partnerships between the City, other governmental organizations, and the private sector for the protection and preservation of critical and special areas. It should also seek the cooperation and assistance of citizens, business, community groups, conservation programs, and governmental agencies in the development and implementation of programs to protect and preserve local Critical and Special Areas.

ECP-1.31 The City should manage, maintain, and enhance public Critical and Special Areas to ensure the conservation of native plants and animals in those ecosystems; control the invasion and spread of non-native plants and animals.

ECP-1.32 The City should actively work with local, regional, and State agencies and private entities, to acquire larger tracts of key open lands in the region.

ECP-1.33 The City should establish a system of publicly owned natural areas to:

   a. Protect the integrity of wildlife habitat and conservation sites,
   b. Protect corridors between natural areas,
   c. Preserve outstanding examples of Sammamish’s diverse natural heritage; and
   d. Provide a broad range of opportunities for educational, interpretive, and recreational programs to meet community needs.

ECP-1.34 Environmental standards for development may emphasize flexible development options to allow densities without compromising the intent of the standards to protect the quality of the critical area or natural resource.

ECP-1.35 Mitigating measures should be utilized to serve multiple purposes, such as drainage control, ground water recharge, stream protection, open space, cultural and historic resource protection and landscaping.

ECP-1.36 Critical area regulations should provide sufficient buffer widths consistent with the quality and class of the environmentally sensitive area.
ECP-1.37 Development on floodplains shall be avoided, except where necessary for installation of a public utility right-of-way or roadways.

ECP-1.38 Where clustering is used, the clustered buildings and impervious surfaces should not be located within the following areas:

- Class 1, 2, or 3 wetlands or buffers,
- Class 1, 2, or 3 streams or buffers,
- Lands classified as having a high groundwater recharge potential,
- Zero-rise or one foot rise floodways,
- High hazard and Very High hazard landslide hazard areas,
- Erosion hazard areas,
- Within a required sensitive area setback or buffer; and
- Locations likely to block or interrupt designated scenic vistas seen from public streets where other lands on the site can still accommodate the density allowed on that property.

Environmental Land Use Plans and Regulations

ECP-1.39 Sammamish shall use updated Sub-areas, Sub-basin and functional plans and Water Resource Inventory Area plans to provide guidance to regulations and incentives to protect and restore environmental quality.

ECP-1.40 Environmental quality and important ecological functions shall be protected and hazards to health and property shall be minimized through development reviews and implementation of land use plans, Water Resource Inventory Area plans, surface water management plans and programs, and park master plans. These plans shall also encourage restoration of critical areas as defined in the Growth Management Act, and include an adaptive management approach.

ECP-1.41 Regulations to prevent unmitigated significant adverse impacts will be based on the importance and sensitivity of the resource. The presence of a species listed as endangered or threatened by the federal government may be considered an unusual circumstance and the City may use its authority under the State Environmental Policy Act (SEPA) to mitigate for significant adverse environmental impacts to that habitat that supports those species, pending approval by the National Marine Fisheries Service and/or the United States Fish and Wildlife Service (the "Services") of a Tri-County plan for compliance with a 4(d) rule issued by either of the Services and subsequent adoption of specific regulations by the City. Following approval by the Services and adoption of the specific regulations to protect listed salmonid species, the City shall rely upon the regulations to protect endangered and/or listed species, rather than SEPA.

ECP-1.42 As part of Comprehensive Plan or Zoning Amendments, the City should evaluate the
likely cumulative habitat impacts of new roads and infrastructure that will be needed to serve areas if built out under different scenarios.

ECP-1.43 Sammamish should incorporate the Best Management Practices Plan approved by King County, and ensure that all proposed projects are carried out in a manner which protects the critical resource and mitigates adverse impacts.

ECP-1.44 City regulations should promote minimization of the amount of new impervious surfaces and reductions in existing impervious surface in re-development when feasible.

ECP-1.45 The City shall review the R-1 through R-8 Zones, including the table of permitted uses and development standards to determine what, if any, revisions should be made to further protect the critical areas and other features found in these zones.

ECP-1.46 The City shall periodically review and evaluate the effectiveness of critical area regulations and City enforcement efforts.

**Interpretation and Application**

ECP-1.47 The City should ensure that any variances and reasonable-use exceptions issued do not undermine the ecological functions and values that regulations are trying to protect. The City should monitor variances and reasonable-use exceptions for cumulative effects on achieving ecological objectives. If necessary, the City may provide funds to purchase property rights to avoid property-taking situations.

**GOAL EC-2: Cooperate regionally and strive locally to improve air quality.**

ECP-2.1 Air pollution associated with land uses should be reduced by:
   a. Promoting the use of clean and efficient burning fuels,
   b. Educating citizens about air quality problems,
   c. Encouraging the planting of trees,
   d. Encouraging the proper use of wood stoves and fireplaces; and
   e. Providing alternatives to burning yard waste, such as curbside collection services and convenient yard waste site collection facilities at a reasonable cost.

ECP-2.2 Air quality impacts of proposed land use actions shall be assessed when developing local plans and transportation strategies.

ECP-2.3 Sammamish shall join in the regional effort to improve indoor air quality.

ECP-2.4 Emissions from construction and land clearing activities should be minimized.

ECP-2.5 Sammamish should participate in, explore and support efforts to reduce or eliminate emissions of harmful pollutants and construction and land clearing policies, which favor
chipping debris instead of burning debris.

ECP-2.6 Sammamish should coordinate with other agencies and groups to provide information to the public on air quality problems and measures that each person can take to improve air quality.

GOAL EC-3: Maintain a surface water and groundwater system that serves the community, enhances the quality of life, and protects the environment.

Water Resource Protection

ECP-3.1 Sammamish shall use incentives, regulations and programs to manage its water resources (streams, lakes, freshwater wetlands and ground water) 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, transportation, recreational opportunities and scenic beauty. Use of water resources for one purpose should, to the fullest extent practical, preserve opportunities for other uses.

ECP-3.2 Development shall support continued ecological and hydrologic functioning of water resources and should not have a significant adverse impact on water quality, or sediment transport and should maintain base flows, natural water level fluctuations, ground water recharge in Critical Aquifer Recharge Areas and fish and wildlife habitat.

Watersheds

ECP-3.3 Watershed plans shall integrate freshwater surface water, ground water, drinking water and wastewater planning to provide efficient water resource management.

ECP-3.4 As watershed plans are developed, zoning, regulations and incentive programs may be developed, applied and monitored so that critical habitat in the Sammamish watershed is capable of supporting sustainable and fishable salmonid populations. Watershed-based plans should define how the natural functions of watersheds critical to salmonid are protected so that the quantity and quality of water entering the streams, lakes, wetlands and rivers support salmonid spawning, rearing, resting, and migration.

ECP-3.5 Sammamish shall protect and enhance surface waters, including streams, lakes, wetlands and shorelines for and receiving waters to Lake Sammamish. Conditions of and impacts to the downstream receiving beaches and shorelines shall be included in watershed management efforts.

ECP-3.6 Responsibility for the costs of watershed planning and project implementation including water quality, flood hazard reduction and fisheries habitat protection, should be shared between Sammamish and other jurisdictions within the watershed and surrounding Lake Sammamish.
ECP-3.7 The City recognizes the environmentally sensitive areas within the shared Evans Creek and Patterson Creek basins, and shall work with adjacent local governments and agencies on issues of mutual concern regarding development and conservation efforts.

Cooperative Resource Planning and Protection

ECP-3.8 In partnership with other federal, state, regional, local, and tribal agencies the City should participate in watershed management plans, Water Resource Inventory Area plans, and master drainage plans. These plans should apply a tiered system of protection that affords a higher standard of protection for more significant resources. The City should consider other agency plans that identify resource categories including Regionally Significant Resource Areas (RSRAs), Locally Significant Resource Areas (LSRAs), Fish and Wildlife Habitat Conservation Areas, and remaining resources.

ECP-3.9 For shared resource planning and protection efforts, the City should review its plans and regulations for compatibility with the Regionally Significant Resource Areas (RSRAs) and Locally Significant Resource Areas (LSRAs) designated by King County and protected within the basin and sub-basin plans as actions towards salmon conservation and recovery under the ESA.

Shorelines

The County's Shoreline Master Program is considered the program in effect for the City of Sammamish. State law provides that Shoreline Master Programs of the prior governing body apply until a new Shoreline Master Program is prepared by the new jurisdiction and approved by the State.

The following Shoreline subsection includes the King County Shoreline Master Program goals and incorporates by reference the full Shoreline Master Program goals, objectives and policies as an interim approach.

Goal EC-3a: Preserve or develop shorelines, adjacent uplands and adjacent water areas in a manner that assures a balance of shoreline uses with minimal adverse effect on the quality of life, water and environment.

Goal EC-3b: Shoreline dependent development should provide long range benefit to man and his economic pursuits while assuring compatibility with the environmental and physical goals for shoreline areas.

Goal EC-3c: Increase public access to shoreline areas provided that private rights, public safety and the natural shoreline character are not adversely affected.

Goal EC-3d: Assure preservation of unique and non-renewable natural resources and assure conservation of renewable natural resources for the benefit of existing and future generations and the public interest.

Goal EC-3e: Provide additional shoreline dependent and water oriented recreation opportunities.
that are diverse, convenient and adequate for the regional population, consistent with the carrying capacity of the land and water resource.

Goal EC-3f: Shoreline features having historic, cultural, scientific or educational value locally or regionally, should be designated and then retained and protected.

Goal EC-3g: Circulation systems in shoreline areas should be limited to those which are shoreline dependent or would serve shoreline dependent uses and the physical and social environment shall be protected from the adverse effect of those systems on the quality of water, life or environment.

Goal EC-3h: Shoreline residential areas shall permit a variety of housing types and design with densities and location consistent with the ability of physical and natural features to accommodate them.

ECP-3.10 The City shall prepare a Shoreline Master Program in accordance with the Shoreline Management Act and the forthcoming State Department of Ecology Shoreline Master Program Guidelines. As an interim approach, the City shall implement the King County Shoreline Master Program, and hereby incorporates its full goals, objectives and policies into this Element.

Rivers and Streams

ECP-3.11 River and stream channels, stream outlets, headwater areas, and riparian corridors should be preserved, protected and enhanced for their hydraulic, hydrologic, ecological and aesthetic functions, including their functions in providing woody debris sources to salmonid-bearing streams.

General Lake and Water Policies

ECP-3.12 Lakes should be protected through management of lake watersheds and shorelines. Lakes sensitive to nutrients shall be protected through the management of nutrients that stimulate algae blooms and aquatic plant growth. Measurable standards for lake quality should be set and management plans established to meet the standards. Formation of lake management districts or other financing mechanisms should be considered to provide the financial resources necessary to support actions for protection of sensitive lakes.

ECP-3.13 The City should restrict the runoff rate, volume and quality for all new development and redevelopment. 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 should be subject to stricter requirements and conditions. Such conditions may include the limitation of the volume of discharge from the subject property to predevelopment levels, preservation of wetlands or other natural drainage features or other controls necessary to protect against community hazard.

ECP-3.14 The City shall use incentives, regulations and programs to manage its water resources
Use of water resources for one purpose should, to the fullest extent possible, preserve opportunities for other uses.

ECP-3.15 Development shall support continued ecological and hydrologic functioning of water resources and shall not have a significant adverse impact on water quality or water quantity, or sediment transport and should maintain base flows, natural water level fluctuations, ground water recharge in Critical Aquifer Recharge Areas and fish and wildlife habitat.

ECP-3.16 The City shall protect and should enhance surface waters, including streams, Lake Sammamish and other lakes, ponds, wetlands on a watershed and/or sub-basin basis by analyzing water quantity and quality problems and their impacts to beneficial uses, including fish and wildlife habitat and flood and erosion control. Conditions of and impacts to the downstream receiving waters shall be included in watershed and/or sub-basin management efforts. The City shall continue to participate in the Central Puget Sound Water Resource Planning effort.

ECP-3.17 The City should protect beneficial uses where applicable including swimming, fishing, boating, aquatic habitat (fisheries and wildlife), water supply and aesthetics in Lake Sammamish, Pine Lake, Beaver Lake and all tributary waters and wetlands in all basins in the City.

ECP-3.18 The City should enhance 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.

ECP-3.19 The City should explore creating a consolidated Beaver-Pine Lake Management District and/or other water quality entities or approaches for creating an efficient and effective water quality management strategy, such as a Citywide Water Quality Control Commission.

Non-Point Source-Specific Policies

ECP-3.20 Through City regulations and community involvement and participation, stormwater quality and quantity should be controlled before it is discharged into public drainage systems and natural water bodies by:

a. Implementing and enforcing improved erosion control BMPs and water quality standards;

b. Implementing an education program for residents and businesses regarding their impacts on water quality;

c. Improving compliance with regulations prohibiting the disposal of toxic materials to natural water bodies and storm drains;
d. Improving design and maintenance of existing and future stormwater systems;

e. Improving training of field staff;

f. Implementing and enforcing Critical Area regulations;

g. Encouraging environmentally-friendly commercial/residential fertilizer use;

h. Implementing pet waste recycle/disposal program; and

i. Reducing the use of detergents and soaps containing phosphorus.

ECP-3.21 The City should consider land use controls for development in areas of groundwater quality concern.

ECP-3.22 The City should implement clearing and grading education program for developers, construction workers, enforcement officers, and citizens.

ECP-3.23 The City should reduce erosion and sedimentation impacts to water quality from land clearing through BMP implementation.

ECP-3.24 The City should encourage environmentally friendly road maintenance, commercial, and residential use of pesticides and fertilizers through development and implementation of education programs, technical assistance, and use of alternative methods.

ECP-3.25 The City should, in conjunction with community leaders, encourage environmentally friendly types, application, and timing of pesticides and fertilizers.

ECP-3.26 The City should improve commercial, public, and private compliance with existing regulations through education programs.

ECP-3.27 With solid waste service providers and agencies, the City should implement an education program for watershed residents and businesses regarding the impacts of small quantity hazardous waste generation on water quality, facilitate the collection and proper disposal of household hazardous waste, and promote alternative cleaning products and hazardous waste substitutes.

ECP-3.28 Together with responsible agencies and property owners, the City should encourage routine inspections of underground storage tanks for leakage and require replacement of older and failing underground storage tanks, ensure that all underground storage tanks are registered with the State Department of Ecology, and implement an education program for Underground Storage Tank users.

ECP-3.29 The City should implement BMP programs to inform livestock owners about their impacts on water quality, focusing attention on areas such as:

a. Animal access to streams,

b. Revegetation of denuded pastures and pasture management,

c. Proper disposal of animal waste,
d. Use of environmentally-friendly pesticides and fertilizers,
e. An incentives program to encourage the utilization of BMPs; and
f. Animal density limitations.

ECP-3.30 With Utility Districts, the City should educate homeowners and other onsite septic operators regarding proper maintenance and functioning, and promote repair and replacement of septic systems and use of sewers where needed provided that any repair and replacement of septic systems is consistent with the City and Utility District regulations pursuant to Policy CFP-3.5 and CFP3.6.

ECP-3.31 With State and County agencies, the City should implement an education program for boat owners and users, including use, handling, storage, and transfer of above ground fuel.

ECP-3.32 To reduce erosion and phosphorous transport from individual buildings lots, the City should review and amend its building and clearing regulations as appropriate to limit the percent of building lots to be cleared, assuring environmentally-friendly revegetation of newly graded lots, and applying other erosion control best management practices.

Lake Sammamish

ECP-3.33 a. The City shall support the management goals of the 1994 King County East Lake Sammamish Basin and Nonpoint Action Plan to:

1. Reduce surface water problems that threaten public health and safety;
2. Protect the value of waterbodies for recreation, fish and wildlife habitat, and aesthetic enjoyment; and
3. Reduce the contribution of nonpoint source pollution to these surface-water problems.

b. The City should incorporate the strategies within the 1994 King County East Lake Sammamish Basin and Nonpoint Action Plan in its plans and regulations as appropriate.

ECP-3.34 The City should review the City plans and regulations for consistency with the 1998 King County prepared Lake Sammamish Water Quality Management Project, and incorporate appropriate water quality improvement strategies to support the lake’s recreational uses, ecological health, and scenic values.

Beaver Lake

Beaver Lake Watershed Management Goals

Beaver Lake is sensitive to potential increases in phosphorus and other pollutant loading from existing and proposed residential development in the watershed. Therefore, the Beaver Lake Management Plan establishes a non-degradation policy interpreted in the context of the following specific goals:

Goal EC-3i: Preserve Trophic Status: There should be no significant increase in the annual
external phosphorus load to Beaver Lake and the present trophic status of each lake basin should be maintained.

Goal EC-3j: Preserve Public Health Status: There should be no significant increase in the concentration of fecal coliform bacteria in Beaver Lake.

Goal EC-3k: Prevent Nuisance Aquatic Plant Infestation: Introduction of nuisance aquatic plants to Beaver Lake should be prevented.

Goal EC-3l: Preserve The Beaver Lake Fishery: The water quality of Beaver Lake should be managed in such a manner as to continue to support a viable mixed fishery.

Goal EC-3m: Educate And Involve The Beaver Lake Community: The local community, in cooperation with the City of Sammamish, 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, should develop and implement a program to educate and involve existing and future residents of the watershed regarding wise lake and watershed management practices at the individual household level.

**Beaver Lake Management Policies**

**ECP-3.35** Management Plan Adoption: The City of Sammamish should pursue incorporation of the Beaver Lake Management Plan by reference into the Comprehensive Land Use Plan.

**ECP-3.36** Phosphorus Removal: An 80 percent reduction of total phosphorus (above background levels) should be established as a stormwater treatment goal for all future development. AKART or “all known, available, and reasonable methods of prevention, control, and treatment” for phosphorus control should be employed as a standard to achieve this goal.

**ECP-3.37** Lake Classification System: The City of Sammamish should work with the Washington State Department of Ecology and King County to develop a county-wide lake classification system.

**ECP-3.38** Interim Monitoring: The City of Sammamish should work with local community groups to obtain funding for interim water quality monitoring and inspection.

**ECP-3.39** Construction Inspection and Monitoring: The City of Sammamish should provide increased construction inspection and monitoring surveillance before, during, and after the construction period of all new development in the watershed.

**ECP-3.40** Citizen Lake Monitoring: The City of Sammamish should establish an expanded citizens’ lake monitoring program with local community groups.

**ECP-3.41** Watershed Monitoring: The City of Sammamish should establish a watershed monitoring program to include streams and shallow groundwater.
ECP-3.42  **Inventory and Inspections:** The City of Sammamish and Seattle-King County Department of Public Health should conduct inventories of existing on-site septic tank/drainfield systems; wetlands, streams, and native growth protection easements; and inspections of stormwater detention and treatment facilities.

ECP-3.43  **Beaver Lake Management District:** The City of Sammamish should encourage and support the Beaver Lake Management District.

ECP-3.44  **Homeowner Education & Involvement Programs:** Workshop handbooks, and videos should be used by the City of Sammamish and other organizations to convey homeowner BMPs (ECP-3.45) to existing and future residents in the watershed.

ECP-3.45  **Homeowner Best Management Practices (BMPs):** A variety of homeowner BMPs should be conveyed by the City of Sammamish and Seattle-King County Department of Health to existing and future watershed residents.

ECP-3.46  **Modeling Analysis:** The City of Sammamish should conduct updated watershed/lake modeling analyses to validate the model and to make new loading and lake condition forecasts.

ECP-3.47  **Beaver Lake Management Plan Update:** The Beaver Lake Management Plan should be reviewed thoroughly at least once every five years (or more frequently if compelling reasons exist) and updated by the City of Sammamish if needed.

ECP-3.48  **Contingency Stormwater Treatment:** The City of Sammamish should implement contingency measures to control nonpoint sources of pollution from site development construction and post-construction stormwater runoff as warranted by monitoring and inspection.

ECP-3.49  **Contingency Wastewater Management:** Consistent with the City and Utility District regulations pursuant to Policy CFP-3.5 and CFP 3.6 the City of Sammamish should consider alternative on-site wastewater designs or extension of sewers, in the event that monitoring results indicate violation of either water quality standards or watershed goals resulting from conventional on-site wastewater disposal systems.

ECP-3.50  **In-Lake Contingency Plan:** In the event that application of source controls and structural BMPs in the watershed fail to maintain lake management goals for trophic status, fisheries, or aquatic plant control, alternative in-lake control methods should be reviewed by the City of Sammamish, the State Department of Ecology and Wildlife, and the Beaver Lake Management District to determine the feasibility of implementation.

**Pine Lake**
Interim Pine Lake Watershed Management Goals

The City recognizes the importance of Pine Lake as an environmentally sensitive natural resource that should be protected and enhanced. As an interim measure, pending the establishment of a Pine Lake Management District by the property owners in the Pine Lake Watershed, the City adopts the following non-degradation goals and policies:

Goal EC-3n: Preserve Trophic Status: There should be no significant increase in the annual external phosphorus load to Pine Lake and the present trophic status of the lake basin should be maintained or improved. Methods to reduce existing phosphorus load in the lake should be explored.

Goal EC-3o: Preserve Public Health Status: There should be no significant increase in the concentration of fecal coliform bacteria in Pine Lake.

Goal EC-3p: Prevent Nuisance Aquatic Plant Infestation: Introduction of nuisance aquatic plants to Pine Lake should be prevented.

Goal EC-3q: Preserve the Pine Lake Fishery: The water quality of Pine Lake should be managed in such a manner as to continue to support a viable mixed fishery.

Goal EC-3r: Educate and Involve the Pine Lake Community: The local community, in cooperation with the City of Sammamish, 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, should develop and implement a program to educate and involve existing and future residents of the watershed regarding wise lake and watershed management practices at the individual household level.

Interim Pine Lake Watershed Management Policies

ECP-3.51 The City recognizes that there is no substitute for the direct involvement of property owners in the Pine Lake Watershed in the protection and enhancement of the water quality in Pine Lake. As a result, the following policies are adopted not as a substitute for the creation of a Pine Lake Management District, but rather to provide interim protections, pending the development of a Pine Lake specific water quality strategy:

a. The City supports the creation of a Lake Management District by the Pine Lake community in a timely manner and community efforts to secure funding for a Pine Lake Water Quality Study,

b. The City supports the preparation of a comprehensive and customized Pine Lake Water Quality Strategy and development regulations based on the approved findings of a Pine Lake Water Quality Study,

c. The City should, as an interim measure, extend all appropriate Beaver Lake specific water quality regulations to the Pine Lake Drainage Basin,

d. The City should, when adopting the interim Pine Lake Water Quality Standards, limit the interim extension to a specified period of time in order to provide an
appropriate opportunity to establish the Pine Lake Management District and to conduct the special studies necessary to prepare a Pine Lake specific strategy. In addition, the interim regulations should provide an opportunity to apply for variances in those instances where conditions in Pine Lake are clearly different than at Beaver Lake,

c. The City should promote the use of educational materials and citizen meetings to foster an understanding of lake water quality and maintenance of septic systems, phosphate detergent alternatives, fertilizer and pesticide use, oil and grease impacts, bird feeding, and the use of waterside vegetation and benefits of natural shorelines,

f. The City should 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,

g. The City should, in conjunction with other agencies with jurisdiction, play an active role monitoring and enforcing all water quality regulations in the Pine Lake Watershed. In addition, the City should periodically review the effectiveness of development regulations and enforcement efforts and make modifications as appropriate.

h. The City shall adopt development regulation measures necessary to implement these goals and policies prior to the adoption of this Comprehensive Plan. If these regulations have not been adopted in this timeframe, the City shall adopt up to a six-month moratorium on new development in the Pine Lake drainage sub-basin to provide the time required to do so.

Ground Water and Aquifer Protection

ECP-3.52 Areas identified as sole source aquifers or as areas with high susceptibility for ground water contamination where aquifers are used for potable water are designated as Critical Aquifer Recharge Areas, entitled Areas Highly Susceptible to Ground Water Contamination.

ECP-3.53 The City should protect the quality and quantity of ground water by:

a. Implementing adopted Ground Water Management Plans;

b. Reviewing and implementing approved Wellhead Protection zones as identified by the King County Ground Water Management Plan Protection Committees and the Water Districts.

c. Developing, with affected jurisdictions, best management practices for development based on adopted Ground Water 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 ground water quantity; and

d. Refining regulations to protect critical aquifer recharge areas and wellhead protection areas using best management practices and infiltration.
ECP-3.54 The City should protect ground water recharge quantity by promoting methods that infiltrate runoff where site conditions permit, except where potential ground water contamination cannot be prevented by pollution source controls and storm water pretreatment.

ECP-3.55 Land use actions shall take into account the potential impacts on aquifers determined to serve as water supplies. The depletion and degradation of aquifers needed for potable water supplies shall be avoided or mitigated.

ECP-3.56 The City shall support the development, adoption and implementation of Ground Water Management Plans. The City shall adopt a Groundwater Recharge Area map, incorporating information generated by Ground Water Management Plans and purveyor studies.

ECP-3.57 The City shall determine which portions of mapped recharge areas and Wellhead Protection Areas should be designated as critical; and the City shall update critical area maps as new information about recharge areas and Wellhead Protection Areas becomes available.

ECP-3.58 The City shall not permit the introduction of contaminants into ground water aquifers.

ECP-3.59 The City should protect ground water by:

a. Preferring land uses that retain a high ratio of permeable to impermeable surface area and that maintain or augment the infiltration capacity of the natural soils; and

b. Requiring standards for vegetation clearing limits, impervious surface limits, and where appropriate, infiltration of surface water and amended topsoils.

**Surface Water Management**

ECP-3.60 The City should encourage an open channel citywide storm water collection, treatment and conveyance approach, protecting natural systems and corridors (lakes, streams, and wetlands).

ECP-3.61 The city shall require concurrency for development of necessary stormwater treatment facilities to obtain development approval.

ECP-3.62 The City shall place high priority on both existing exceptional natural systems in need of protection, such as Ebright Creek, Beaver Lake and Pine Lake as well as high priority on natural systems not adequately protected in the past decade now in need of recovery, such as wetlands, Inglewood Sub-basin/George Davis Creek, and Lake Sammamish.

ECP-3.63 The City shall strive to maintain the delicate balance between surface water and subsurface water natural systems.

ECP-3.64 Through a City program of ongoing storm water facility planning, design and
maintenance the city will seek to create the best community fit within each sub-basin. (Natural Open Pond Systems in natural areas and Closed Underground Systems in more urban areas).

ECP-3.65 For new and redevelopment, City regulations and programs should manage storm water to preserve natural hydrographs through low impact development standards, and/or best management practices and site design requirements that provide for active storm water management. Storm Water Management Programs shall closely emulate natural hydrologic processes and protect water quality. Such programs should outline standards for development activities for both the construction and post-construction phases, including management of storm water runoff and maintenance of storm water facilities.

ECP-3.66 The City should adopt ordinances that will encourage the use of low impact drainage or development techniques. The ordinances may include incentives for the use of these techniques.

Surface Water Policies

ECP-3.67 The City should promote the retention of existing open surface water systems in a natural state and rehabilitation of degraded conditions.

ECP-3.68 Where commercial and industrial uses and high levels of vehicular traffic are established, water quality should be protected and enhanced. Petroleum, solvents, and other potential water pollutants should be stored in such a way as to prevent entry into the natural drainage systems or ground water. Car washes shall be required to use biodegradable, environmentally friendly soaps, cleansers and related materials.

ECP-3.69 Proper siting and maintenance of septic systems should continue to receive special attention for existing development to preserve the valuable ecological functions and public beneficial uses of water resources.

ECP-3.70 Storm water runoff shall be managed through a variety of methods, with the goal of limiting impacts to aquatic resources, protecting and enhancing the viability of agricultural lands and promoting groundwater recharge. Methods of storm water management shall include temporary erosion and sediment control, flow control facilities, water quality facilities as required by the Surface Water Design Manual, and Best Management Practices as described in the Storm water Pollution Control Manual. Runoff caused by development shall be managed to prevent adverse impacts to water resources. Regulations shall be developed that favor non-structural storm water control measures when feasible including: vegetation retention and management; seasonal clearing limits; limits on impervious surface; and limits on soil disturbance.

ECP-3.71 In partnership with other agencies as appropriate, surface waters designated by the State as Water Quality Impaired under the Clean Water Act (water bodies included on the State 303(d) list) should be improved through monitoring, source controls, best management practices, enforcement of existing codes, and Total Maximum Daily Load plans
(TMDLs). The water quality of all other state-classified water bodies should be maintained or improved through these same measures, and other additional measures that may be necessary to ensure there is no loss of existing beneficial uses. Any beneficial uses lost since November 1975 should be restored, consistent with the Federal Clean Water Act.

ECP-3.72 For planning and development regulation implementation purposes, recreationally used and salmonid bearing waters within and directly received from the City shall have their beneficial use determined.

ECP-3.73 A development project should not increase existing flood conditions.

ECP-3.74 Through regulations, maintenance, and enforcement prevent unmitigated significant adverse impacts to water resources caused by flow rates, flow volumes or pollutants.

ECP-3.75 The City should prepare regulations or rules that direct each development project proposing water treatment features to provide water chemistry data for a sufficient 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.

GOAL EC-4 Protect wetlands from encroachment and degradation and encourage wetland restoration.

ECP-4.1 The City shall preserve and maintain wetlands in a natural state.

ECP-4.2 The City shall 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.

ECP-4.3 The City's overall goal for the protection of wetlands is no net loss of wetland acreage and functions within each drainage sub-basin. Acquisition, enhancement, regulations, and incentive programs shall be used independently or in combination with one another to protect and enhance wetlands functions, avoiding wetland mitigation with the exception of public agency projects. Wetland mitigation, when permitted, should be located within the sub-basin. 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.

ECP-4.4 Development adjacent to wetlands shall be sited such that wetland functions are protected, an adequate buffer around the wetlands is provided, and significant adverse impacts to wetlands are prevented. Education of abutting or adjacent property owners, signage and fencing should be considered as appropriate to maintain and protect wetlands and their buffers.
ECP-4.5 Areas of native vegetation that connect wetland systems should be protected. Whenever effective, incentive programs shall be used.

ECP-4.6 When feasible, City programs and regulations should promote the enhancement or restoration of riparian areas surrounding wetlands where functions have been lost or compromised.

ECP-4.7 Public access to wetlands for scientific, recreational use, and traditional cultural use may be considered, providing that public access trails or viewing platforms are carefully sited, sensitive habitats and species are protected, public safety is not compromised, and hydrologic continuity is maintained.

ECP-4.8 Enhancement or restoration of degraded wetlands may be allowed to maintain or improve wetland functions provided that all wetland functions are evaluated in a wetland management plan, and adequate monitoring, code enforcement and evaluation is provided and assured by responsible parties. Restoration or enhancement must result in a net improvement to the functions of the wetland system. Technical assistance to small property owners should be considered.

ECP-4.9 Alterations to wetlands may be allowed to:

   a. Accomplish a public agency or utility development or road crossing,
   
   b. Enhance the function of an existing wetland and/or consecutively connected wetlands and open water corridors; or
   
   c. Avoid a denial of all reasonable use of the property.

Provided, all wetland functions are evaluated, the least harmful and reasonable alternatives are pursued, affected significant functions are appropriately mitigated, and mitigation sites are provided with monitoring.

ECP-4.10 Mitigation sites should replace or augment the functions to be lost as a result of the project proposal. Wetland mitigation proposals may be approved if they would result in improved overall wetland functions within a sub-basin as identified in ECP-4.3 and ECP-4.11. All wetland functions should be considered. Mitigation sites should be located strategically to alleviate habitat fragmentation.

ECP-4.11 Mitigation projects should contribute to an existing wetland system or restore an area that was historically a wetland. The goal for these mitigation projects is no net loss of wetland acreage and functions per sub-basin. Wetland mitigation, when permitted, should be located within the sub-basin. 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.

ECP-4.12 Land used for wetland mitigation shall be preserved in perpetuity. The project proponent shall provide monitoring and maintenance in conformance with the City standards until the success of the site is established.
GOAL EC-5  Protect life and property in areas of natural hazards.

Floodplains

ECP-5.1 The existing flood storage and conveyance functions and ecological values of floodplains, wetlands, and riparian corridors shall be protected, and should, where possible, be enhanced or restored.

ECP-5.2 Sammamish’s floodplain land use and management activities shall be carried out in accordance with the King County Flood Hazard Reduction Plan.

ECP-5.3 The City should promote bioengineering techniques (including placement of large woody debris) that protect and enhance salmon habitat into flood control and bank stabilization measures undertaken by agencies, developers, or other parties.

ECP-5.4 The City should permit new development in the floodplain only when it has been demonstrated that the new development will not:

   a. Increase flood elevations,
   b. Decrease storage capacity,
   c. Restrict the natural erosion and accretion processes associated with channel migration,
   d. Impair natural channel condition; and
   e. Restrict adult or juvenile access to habitat at any flow level.

In addition, it should be demonstrated that no feasible alternative exists. If development is permitted in the floodplain, restoration and enhancement may be necessary.

ECP-5.5 The City of Sammamish should coordinate with the Patterson Creek Flood Control Board to address issues of common concern within the Patterson Creek basin land in the City limits and in adjacent unincorporated areas.

Erosion Hazard Areas

ECP-5.6 Land uses permitted in Erosion Hazard Areas shall minimize soil disturbance and should maximize retention and replacement of native vegetative cover.

ECP-5.7 Slopes with a grade of 40 percent or more should not be developed. No disturbance zones shall be designated where basin plans identify the need to prevent erosion damages in areas that are extremely sensitive to erosion impacts. Properly designed storm water tightlines may be allowed within designated no-disturbance zones.

Landslide Hazard Areas

ECP-5.8 Landslide Hazard Areas should not be developed. Development proposed adjacent to landslide hazard areas shall be reviewed and mitigated to ensure development does not increase landslide or erosion hazards that would adversely impact downstream properties.
or natural resources.

**Seismic Hazard Areas**

ECP-5.9 Utilizing relevant Federal, State and County resources, the City shall identify the location of seismically active areas (liquefaction areas) and fault zones susceptible to damage in the event of an earthquake. The City shall identify escape routes and evacuation alternatives for emergency preparedness.

**GOAL EC-6** Protect natural and environmentally sensitive areas, open space, trees, vegetation, natural terrain, and drainage.

**Soil Conservation**

ECP-6.1 Conservation of native soils should be accomplished through various mechanisms to ensure soils remain healthy and continue to function as a natural sponge and filter, minimizing erosion and surface water runoff. Native soils should be retained on site and reused on site to the maximum extent possible.

ECP-6.2 Areas in which the native soils have been disturbed should have uniformly pervious loamy or coarser soils for the finished grade surface soil material throughout the minimum thickness of 12 inches. Ideally, such soil material would be from the affected area; however, loamy soil materials may be imported. Care must be exercised to prevent compacting any of the finish grade soil material. If the soil/geologic material below the loamy surface soil is only slowly or very slowly permeable, the developer shall ensure adequate drainage of the affected area.

ECP-6.3 The City shall promote and encourage the beneficial use of organic materials, including but not limited to their use in the following activities: agriculture and silviculture; road, park and other public project development; site development and new construction; restoration and remediation of disturbed soils; nursery and sod production; and landscaping. Organic materials do not include fly ash.

**Grading and Clearing**

ECP-6.4 The City shall review its clearing and grading regulations. These ordinances should set seasonal clearing restrictions that severely limit clearing and grading activities from October to April. Critical areas, including sloped and riparian areas, should not be exposed during this time.

ECP-6.5 City regulations and programs should support forest retention and impervious surface restrictions to maintain hydrologic function.

ECP-6.6 City regulations and programs should strive to reduce excess nutrient loading in areas that are sensitive to excessive nutrient loading, for example, Lake Sammamish, or excessive primary production.
ECP-6.7 Clearing and grading shall be limited on all short plats, plats, commercial projects, and all non-residential projects to protect water quality, maintain hydrologic functions or wetlands, attenuate surface water runoff, limit erosion, and maintain fish and wildlife habitat and visual buffers. Seasonal limits shall restrict clearing and grading to the driest months. Tree retention shall be required for soil stability, significant trees, and buffering of development.

ECP-6.8 Grading and construction activities shall implement erosion control Best Management Practices and other development controls as necessary to reduce sediment and pollution discharge from construction sites to minimal levels.

**Vegetation**

ECP-6.9 The City should protect native plant communities by encouraging management and control of non-native invasive plants including aquatic plants.

ECP-6.10 The City should actively encourage the use of environmentally safe methods of vegetation control, and herbicides should be minimized.

ECP-6.11 The use of native plants should be encouraged in landscaping requirements, erosion control projects, and the restoration of stream banks, lakes, shorelines and wetlands.

ECP-6.12 The City shall prepare regulations to preserve and protect trees in easements, rights-of-way, parks, and potentially, under certain circumstances, private property. These regulations shall include, but shall not be limited to, guidelines for utility providers, private firms, City contractors and staff, as well as private individuals and neighborhood associations regarding appropriate practices for the pruning, maintenance, and/or removal of trees.

**GOAL EC-7**  
Maintain and promote a diversity of species and habitat within the City.

Fish and Wildlife policy objectives are to 1) identify and protect critical fish and wildlife habitat conservation areas, 2) link those critical habitat areas and other protected lands through a network system, and 3) integrate fish and wildlife habitat and conservation goals into new and existing developments.

ECP-7.1 The City shall strive to maintain the existing diversity of fish and wildlife species and habitats in the City through maintenance of a quality environment.

ECP-7.2 Fish and wildlife should be maintained through conservation and enhancement of terrestrial, air, and aquatic habitats associated with such fish and wildlife.

ECP-7.3 Habitats for species, which have been identified as endangered, threatened, or sensitive by the state or federal government shall not be reduced and should be preserved.

ECP-7.4 The City shall analyze wildlife corridors identified during County planning efforts to determine the impact of historic and recent development on its function and value. Mitigation measures or actions that can be taken to restore the corridor functions and
values should be considered. Studies should also examine appropriate boundaries for the corridor and alternative boundaries, increasing or decreasing, and whether the corridor can function in two portions.

ECP-7.5 The City shall designate and protect, through measures such as regulations, incentives, capital projects or acquisition, the following Fish and Wildlife Habitat Conservation Areas found in the City:

   a. Habitat for federal, state or county listed Endangered, Threatened or Sensitive species,
   b. Wildlife habitat networks designated by the City and/or County,
   c. Riparian corridors; and
   d. Habitat for candidate species, as listed by the Washington Department of Fish and Wildlife, found in the City.

ECP-7.6 The City should designate and protect species of local importance, as listed by the Washington Department of Fish and Wildlife and listed by the City. Protection should be accomplished through regulations, incentives or acquisition.

ECP-7.7 Development proposals shall be assessed for the presence of fish and wildlife habitat conservation species and species of local importance. A comprehensive assessment should follow a standard procedure or guidelines and shall occur one time during the development review process.

ECP-7.8 Stream and wetland buffer requirements may be increased to protect species of local importance and their habitats.

ECP-7.9 The City should protect salmonid habitats by ensuring that land use and facility plans (transportation, water, sewer, electricity, gas) include riparian and stream habitat conservation measures developed by the county, cities, federally-recognized tribes, service providers, and/or state and federal agencies. Development within basins that contain fish enhancement facilities shall consider significant adverse impacts to those facilities.

ECP-7.10 In addition to providing for fish passage, capital improvement, conservation or enhancement projects should provide for stream flows and transport of sediment and organic matter at stream crossings.

ECP-7.11 Dedicated open spaces and designated sensitive areas help provide wildlife habitat. Habitat networks for Threatened, Endangered and Priority species of local importance shall be designated and mapped. Habitat networks for other Priority Species should be designated and mapped. Planning should be coordinated to ensure that connections are made with adjacent segments of the network. The City should provide incentives for new development within the networks to incorporate design techniques that protect and enhance wildlife habitat values.

ECP-7.12 The City should promote voluntary wildlife habitat enhancement projects by private
individuals and businesses through educational and incentive programs.

ECP-7.13 The City may use its authority under the Growth Management Act, including its authority to designate and protect critical areas, such as fish and wildlife habitat conservation areas, to preserve and protect critical habitat listed for salmonid species by developing and implementing development regulations and non-regulatory programs.

GOAL EC-8 Protect and enhance unique, valuable and critical plants and wildlife.

ECP-8.1 The City should continue to participate in the Tri-County partnership and Water Resource Inventory Area planning efforts. These plans shall:

a. Identify early actions and long-term projects and programs that will lead to information on habitat conditions in Sammamish which can enable the recovery of endangered or threatened salmonids, while maintaining the economic vitality and strength of the region,

b. Be comprehensive and science-based,

c. Address water quality, water quantity and channel characteristics,

d. Be developed in coordination with key decision-makers and stakeholders; and

e. Provide an adaptive management approach.

ECP-8.2 The City should evaluate programs and regulations to determine their effectiveness in contributing to ESA listed species conservation and recovery, and update and enhance programs where needed including evaluation of the zoning code, the Sensitive Areas Code, the Shoreline Master Program, the Clearing and Grading Code, the landscaping Code, the Surface Water Design Manual, best management practices for vegetation management and use of insecticides, herbicides and fungicides. The City may amend these regulations and best management practices to enhance their effectiveness in protecting and restoring salmonid habitat.

ECP-8.3 Through the Watershed Resource Inventory Area planning process, geographic areas vital to the conservation and recovery of listed salmonid species shall be identified. The City shall evaluate this information to determine appropriate short and long-term strategies, including, but not limited to: designation of Fish and Wildlife Habitat Conservation Areas, development regulations (special district overlays, zoning, etc.), acquisitions, and capital improvement projects.

ECP-8.4 The City may use its authority under the Growth Management Act, including its authority to designate and protect critical areas, such as fish and wildlife habitat conservation areas, to preserve and protect critical habitat listed for salmonid species by developing and implementing development regulations and non-regulatory programs.

ECP-8.5 City regulations should prohibit the removal of in-channel large woody debris as well as large woody debris on adjacent banks, except in situations where public health and safety and/or significant infrastructure are threatened. In these cases, relocate large woody debris to sites, preferably within the same basin where it can provide similar benefits.
ECP-8.6 City regulations should promote avoidance of new bank hardening projects in locations where natural bank conditions currently exist. Where and when opportunities exist, the City should promote the removal or retrofit of existing hardened bank stabilization projects with softer, more environmentally compatible bank treatments to increase riparian functional values. City regulations should promote the minimization of construction, fill, armoring, dikes and overwater structures that would either disrupt normal migration rates and patterns or limit access to shallow-feeding and refuge areas.

ECP-8.7 For new or redevelopment, City regulations should require establishment, enhancement, restoration, and/or protection of appropriately sized riparian buffers around rivers, streams, wetlands, lakes, and near shore areas such that salmon conservation is not compromised. Buffers should be based on scientific data, principles of landscape ecology and ecosystem and conservation biology, and long-term feasibility. Riparian buffers should be required to be re-established and replanted during redevelopment of streamside properties.

ECP-8.8 Shoreline plans, programs, and regulations should strive to maintain the existing natural shorelines of rivers, lakes, and near shore areas by evaluating whether existing policies, regulations, and enforcement are adequate to protect them and shallow water habitats used by juvenile salmon.

GOAL EC-9 Recognize and protect historical and cultural resources in the Community.

Tribes and Agencies

ECP-9.1 The City should coordinate with local jurisdictions, federal and state agencies, federally-recognized tribes, citizen interest groups, special districts, and citizens to develop a Historical and Cultural Preservation Plan.

ECP-9.2 Development of Preservation and Conservation regulations and restoration projects should be coordinated with adjacent jurisdictions, federal and state agencies, federally recognized tribes, special interest groups and citizens when protecting and restoring existing sites and facilities.

Structures and Landmarks

ECP-9.3 The City should establish a Landmark Preservation Board.

ECP-9.4 The preservation, restoration, acquisition, and adaptive re-use of historic, archeological, and cultural resources should be encouraged in order to maintain the unique character of the Sammamish community and to preserve tangible reminders of the area’s history and cultural roots.
ECP-9.5 The City should create criteria for Key Historic Landmarks that meet the following:

a. The structure or site is either 40 years old or is less than 40 years old but commemorates an important aspect of Sammamish’s cultural history,

b. The structure or site has an important connection to a historic person, historic event, or was designed or built by a notable builder, designer, or architect,

c. The structure or site makes an important contribution to the visual character of Sammamish due to its location or design; and

d. The structure or site possesses integrity of location or design.

ECP-9.6 The City should form a partnership with King County, State of Washington, tribes, other governmental agencies, and local historical societies to conduct a comprehensive historic resources survey that inventories historical sites 40 years or older and archaeological resources for the purpose of identifying any of potential historic significance to the Sammamish community and to guide resource planning and decision making. The City should strive to utilize volunteer resources to the extent feasible to promote community involvement and to make efficient use of resources.

ECP-9.7 An ongoing process of survey and evaluation should be established by the City in partnership with King County, State of Washington, tribes, other governmental agencies, and local historical societies.

ECP-9.8 The City may provide incentives such as tax reductions, current use taxation, technical assistance, and transfers of development rights to protect significant historic and archeological resources and Historic Landmarks. An evaluation system shall be established to prioritize the use of incentives based on the importance of the site. Public and semi-public uses should not be granted transfers of development rights.

ECP-9.9 The development of parks and trails and acquisition of open space should be coordinated with the preservation, restoration, and use of heritage sites.

ECP-9.10 When opportunities arise to acquire historic or cultural resources, the City should evaluate feasibility of purchase or lease. This may include exploration of cost sharing of acquisition, restoration, or maintenance with other public or private agencies or governments.

REFERENCES

This element was developed with data from: the Bellevue Comprehensive Plan, the King County Comprehensive Plan, the East Sammamish Community Plan, the East Lake Sammamish Basin Plan, the King County Countywide Planning Policies, Lake Washington/Cedar/Sammamish Watershed WRIA8, Sammamish Heritage society, the Beaver Lake Management District and other sources. Specific data sources also include:


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