

**APPENDIX A.3  
COMPREHENSIVE PLAN GOALS, OBJECTIVES, AND POLICIES  
FOR CRITICAL AREAS**

**2.14 Surface Drainage and Water Quality Policies**

The Growth Management Act (GMA) requires that the Land Use Element include a description of the effects of the land use plan on flooding, surface drainage and water quality, and remedial actions required to prevent or alleviate problems. Frequently flooded areas are identified in GMA as critical areas, and are addressed in Section 2.15 of the Land Use Element.

2.14.1 Surface Drainage. Surface drainage is regulated by the Everett Surface and Storm Drainage Ordinance and the Stormwater Management Manual. In the north end of Everett, stormwater runoff is treated, along with the sanitary sewer system by the Everett Water Pollution Control Facility (sewage treatment plant). In the south end of Everett and in the unincorporated areas of the Everett Planning Area under the jurisdiction of Snohomish County, stormwater runoff is required to be treated by water quality facilities and detained by either on-site or regional storm detention systems before it is allowed to be released into the natural drainage system formed by streams and other drainage courses.

Everett developed Drainage Basins Plans in the 1980s and 1990s that address stormwater issues in individual drainage basins. In 2002, Snohomish County developed Drainage Needs Reports that address stormwater issues in urbanizing basins of Snohomish County, including Everett's Planning Area.

a) The City shall continue to work with neighboring jurisdictions to review drainage problems and update drainage ordinances and program capital improvements to provide adequate drainage for the land uses planned by the Land Use Element.

2.14.2 Water Quality. Water quality is addressed in the Surface Water System Ordinance, Surface and Storm Drainage Ordinance, Stormwater Management Manual, drainage basin plans, and the City's Design and Construction Standards and Specifications. The stormwater runoff in the north end of Everett is treated by the Everett Water Pollution Control Facility (sewage treatment plant). While overflows from this combined system into the Snohomish River and Port Gardner Bay have been a problem in the past, programmed improvements in this system will reduce this problem to an average of one event per year per outfall. In the south part of the Everett Planning Area, both the City and Snohomish County have prepared storm drainage and water quality plans and have identified both structural and nonstructural improvements that can be made to prevent further degradation of water quality.

a) Everett shall continue to monitor the quality of its surface waters and coordinate with neighboring jurisdictions to identify methods to improve the water quality of the waters draining into and out of the Everett Planning Area.

2.14.3 Puget Sound Water Quality Management Plan. The Puget Sound Water Quality Management Plan provides recommendations and guidelines for the protection of water quality

in the Puget Sound basin. Many of the existing programs described above implement various goals of this regional water quality protection plan.

a) The City shall continue to use the Puget Sound Water Quality Management Plan as a guide to developing and implementing programs and improvements that enhance the surface water quality of the Everett Planning Area.

### **2.15 Critical Area Goals, Objectives and Policies**

As a requirement of the Growth Management Act, Everett adopted regulations protecting "critical areas" in 1991. (These areas were called "environmentally sensitive areas" in the 1994 Comprehensive Plan and in EMC 19.37, the City's regulations protecting these areas; since the City had regulations protecting these areas prior to the passage of GMA). Along with the regulations called for by the GMA, the City developed comprehensive plan policies for these areas.

GMA requires that cities review critical area designations and development regulations when adopting their Comprehensive Plans (RCW 36.70A.060(3)). In 1995, the legislature added a new section to GMA that requires the inclusion and consideration of best available science pertaining to critical areas. In designating and protecting critical areas, cities must include the best available science in developing policies and development regulations to protect the functions and values of critical areas. The amendment also requires that cities give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries. (RCW 36.70A.172). The updated policies in this Comprehensive Plan have included the best available science for designating and protecting critical areas.. These policies address only critical areas and do not attempt to address other environmental issues.

**Introduction.** Everett benefits from a diverse and attractive natural environment. Many components of Everett's natural environment are delicate resources, which are sensitive to the impacts of urban development, or that pose hazards to the community if developed. These resources are termed "critical areas", and are comprised of aquatic features, geologic land forms, plant and animal life. GMA requires the designation of certain areas as critical areas (RCW36.70A.170). Critical areas include wetlands; aquifer recharge areas for potable water; fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas. (RCW 36.70A.030 (5)). Everett's water resources include Port Gardner Bay, the Snohomish River and estuary, two fresh water lakes, ground water, and numerous streams and wetlands. Ravines, bluffs, hillsides, and steeply sloping areas are land forms that provide topographic variety and create some spectacular views, which add to the natural amenity of the community. The natural vegetation that is found in these areas also provides wildlife habitat, contributes to slope and soil stability, and filters pollutants from storm water runoff. Riparian corridors adjacent to streams provide shading which helps maintain stream temperature, filter sediment and pollutants, and provide fine and large woody material and nutrients. Overhanging riparian vegetation provides cover and food sources for fish and other aquatic life forms. These areas also provide important habitat for riparian associated wildlife and may provide connections and wildlife travel corridors linking otherwise isolated patches of open space. GMA requires the identification of open space corridors (RCW 36.70A.160). The connections or connectivity of existing open space areas provides increased wildlife habitat areas and function. Almost all of

Everett's critical areas are part of the open spaces addressed in Section IV.C.2.6 of this Land Use Element.

While historic development practices in Everett have converted much of the natural environment to urban use, there are still many critical areas that have been only slightly or moderately disturbed. Everett, being one of the major urban centers of the Puget Sound metropolis, can expect to experience continued population growth and urbanization. This growth will place greater pressures on its critical areas. The City's responsibility to protect critical areas is compatible with and can be integrated into other goals and policies of the City's Comprehensive Plan. Through an integrated policy approach to the natural and developed (human) environment, the City can strive to provide a sustainable urban environment which provides for urban development while protecting the natural environment, including protection of critical areas, providing clean air and water, habitat for fish and wildlife, and comfortable and secure places for people to live and work.

Development in areas, which are hazardous to life and property, such as floodplains and landslide hazard areas can create liability upon the taxpayers, public services and financial resources of the City. Development patterns that avoid critical areas prevent degradation, may enhance natural systems, protect water quality and wildlife habitat, and contribute to community aesthetics. Avoidance of degradation whenever feasible is the best way to protect critical area functions and values.

The location of critical areas within the broader landscape is an important characteristic which determines its function and value. Location within the broader landscape is particularly important when considering functions which provide for the conservation and protection of anadromous fisheries. To be fully effective, management policies need to be directed at multiple levels: from site-specific conditions to the location and function within the watershed. For example, hydrological connectivity is an important consideration in watershed management and the basis for the support of headwater-stream protection. Headwater streams serve as an important resource base to subsidize downstream food webs, and much of the material for export originates in the riparian zone. Restoration of lost functions may be best considered and achieved within a broader landscape/watershed context.

The critical areas of the Everett community that this policy document directly addresses can be generally categorized into two basic elements - earth resources and water resources. Each of these elements is closely related to the other. Critical areas are sensitive because of characteristics associated with one or both of these elements. For example, vegetation of a particular type exists because of the topography, mineral and water resources present in that location. Wildlife habitat areas in Everett exist because of the vegetative, topographic and hydrological characteristics present. Hydrological patterns are influenced by the geological formations present on and below the land surface. Therefore, this policy section is divided into these two basic categories, with related subelements of the environment, such as vegetation and wildlife habitat, addressed in each category. See the Shoreline Land Use Element for additional policies that address critical areas in shoreline jurisdiction.

**Goals for Critical Areas Land Use Policies**

- 2.15.1 To protect, sustain and improve Everett's critical areas () for the present and future generations.
- 2.15.2 To protect the public health, safety and welfare by regulating development of the geologic and soils formations in the city that pose potentially hazardous conditions, including all geologically hazardous areas.
- 2.15.3 To protect, improve, and maintain the quality of Everett's water resources.

**Objectives for Critical Areas Land Use Policies**

- 2.15.1 Require development to protect and preserve critical areas .
- 2.15.2 Promote a land use pattern that will protect the functions and values of critical areas , and prevent hazardous conditions.
- 2.15.3 Provide innovative development design that assures protection of critical areas and that also allows for reasonable use and development of properties.
- 2.15.4 Protect geologically hazardous areas, including steep slope and unstable soils areas from the impacts of development, and protect development from the hazards posed by steep slopes and unstable soils.
- 2.15.5 Ensure land development and construction practices that avoid or minimize disturbance to unstable soils and steep slopes.
- 2.15.6 Encourage development using low impact development practices.
- 2.15.7 Encourage construction and site planning practices that adequately address the physical limitations of topographical and geological features.
- 2.15.8 Insure prompt development, restoration and effective erosion control of property during and after land clearing through the use of phased development, replanting, and other appropriate engineering and construction management techniques.
- 2.15.9 Protect and improve surface and ground water quality.
- 2.15.10 Protect and enhance the natural functions of water resources such as streams, lakes, and wetlands, including water quality maintenance, fish and wildlife habitat, runoff and flood control, ground water recharge and discharge, sediment retention, pollution assimilation, and stream flow.
- 2.15.11 Include incentives for conservation and restoration of critical areas, including restoration of connections between critical areas, and restoration of degraded fish and wildlife habitat.

- 2.15.12 Ensure land development, construction and site planning practices that protect and enhance the city's water resources.
- 2.15.13 Protect and enhance fish and wildlife habitat areas.
- 2.15.14 Reduce impacts of urban development on adjacent critical areas and their buffers, including impacts of noise and lighting.
- 2.15.15 Provide for public access in critical areas and buffers when these activities can be designed in a manner that results in no net loss of functions and values.
- 2.15.16 Provide public educational opportunities such as interpretive trails, signs, and other public information tools, when these activities are designed in a manner that will not compromise the functions and values of critical areas
- 2.15.17 Inventory and designate the critical areas within the city and its designated urban growth areas. Map critical areas based on best available science.
- 2.15.18 Amend the zoning code and other development regulations as needed to properly regulate development in critical areas while still allowing reasonable use of properties.
- 2.15.19 Require that adverse impacts of land use activities on critical areas be identified, mitigated, and monitored as appropriate for all phases of development. (e.g. design, construction, and management.)
- 2.15.20 Include adaptive management tools where appropriate in both regulatory approaches and project specific land use actions to respond to new information and evolving science.

**General Policies for Critical Areas Land Use Policies**

2.15.1 Critical area maps adopted by the City provide general information regarding the location and classification of specific critical areas. Require that site specific review be completed and that critical areas be classified and delineated in conjunction with any development proposal on or adjacent to any critical area.

**Earth Resources.** The natural topography of the city contributes to its overall aesthetic quality and desirability as a place to live, visit, conduct business, and play. Many of the remaining undeveloped areas of the city are located on hillsides or in ravines where steep slopes and unstable soils have discouraged development. Wooded steep slopes and ravines are distinctive natural features that provide open space and wildlife habitat in the urban setting.

However, many of the land forms in Everett pose risks to public safety, life and property, if developed or allowed to be improperly developed. Under GMA lands susceptible to erosion hazard, landslide hazard, seismic hazard, or other geological events, (e.g. mass wasting, debris flows, differential settling) are designated as geologically hazardous areas. Hazards associated with development activities on slopes are a function of geological characteristics, degree of slope, soils stability, and hydrology. The primary geological elements and hazards of concern in

Everett are landslide hazards, seismic hazards, erosion hazards and ground water aquifers. Each of these is discussed below.

**Landslide Hazards.** Landslide hazards exist in areas with certain "unstable" soils on slopes of greater than 15%, slopes of 40% or greater, and in documented areas of previous landslide activity. Several factors are responsible for contributing to landslide hazard conditions. Gravity is the driving force behind landslides. Landslides in the Everett area usually occur in unconsolidated or partially consolidated sediments. When these soils are combined with steep slopes, the soils are left in an unstable condition. When these unstable formations become saturated with water, they become more likely to succumb to the forces of gravity. When unconsolidated soils are underlain by or are inter-bedded with a highly impermeable soil formation such as compacted glacial till, they become saturated during heavy rains, because the water cannot rapidly seep into the underlying nonporous material. Unconsolidated soils, steep slopes, saturation of permeable soils above or beneath impermeable formations combine with gravitational forces to cause landslides. Certain soils and soil formations are subject to high erosion hazard and are potentially unstable as a result. High erosion hazard increases the potential for landslides. Human induced factors can also increase the likelihood of landslides. These actions include diversion of water from rooftops and paved areas, improperly placed and compacted fills, dumping of debris, road and utility cuts into hillsides, excavation for building sites, and failure of retaining walls. When such human activities are combined with the other factors mentioned, the potential for landslides increases.

**Seismic Hazards.** Seismic hazards in the Everett and Puget Sound area consist of two kinds, ground shaking and ground failure. Surficial evidence of faulting has been found in the Puget Sound region (e.g. south end of Whidbey Island). The City will monitor ongoing research on surface faults to assess future needs, if any. Seismic (earthquake) events can cause damage as a result of landslides, soil liquefaction, and/or high amplitude ground shaking.

Landslides that are likely to occur as a result of a seismic event are the same areas and formations where landslides are likely to occur under other non-seismic conditions. Seismic activity may trigger landslides in areas of landslide hazard.

The most damaging effect of an earthquake is strong shaking at the ground surface. It has long been known that ground shaking during earthquakes is strongest in areas of soft soils, such as river valleys or along the shorelines of bays and lakes. Measurements of earthquake ground motions made in the last few decades have allowed seismologists to more fully understand the physics of this phenomenon. Earthquake wave velocity is slower in soils than in the underlying rock of the earth's crust. This difference in wave speed causes the shaking at the ground surface to be amplified. Generally the greater the wave velocity difference, the greater the amplification of ground surface shaking. Consequently, ground shaking in areas of soft soils underlain by stiffer soils or rock is generally stronger than in areas where there is little or no variation between the surface substratum. (Stephen Palmer, et.al., September 2004)

Liquefaction is a phenomenon where soil loses strength and its bearing capacity during an earthquake. This phenomenon is most likely to occur on non-cohesive soils common to post-glacial deposits such as alluvium (as in river floodplains) or in areas that have been filled by

human activities, particularly when these soils have a high moisture content. Such soils are poorly compacted and when moist conditions are present, an earthquake will cause the soil to liquefy. Areas underlain by soils of low density in association with shallow groundwater are liquefaction hazard areas and may include river drainages, beach areas, ponds and lakes. In Everett, these are generally the same areas as those that will endure the strongest ground shaking

The impact of seismic activity can be mitigated through regulatory requirements, including adherence to building codes that require earthquake resistant design and construction. The International Building Code regulates the design and construction of buildings located in seismic hazards areas. No additional zoning requirements are necessary to regulate structural design. Identification of such areas is necessary in order to evaluate development proposals in areas that may be prone to shaking damage or liquefaction. Coastal areas, which have been filled, such as those at the Port of Everett, are candidates for liquefaction during an earthquake. Upland areas where liquefaction may occur are sites that have been filled without proper engineering and compaction, sites affected by river deposited alluvium, and wetland areas. Where the layer of alluvium or fill is thin enough to allow foundations to be placed on structurally sound soils, the liquefaction hazard is minimal

**Erosion Hazards.** Certain types of soils are more prone to erosion than others. As with landslides, erosion is more likely to occur on steep slopes, especially in erosion prone soils types, soils that have been disturbed by human activities, and in the presence of rainfall and storm runoff. Erosion hazards are indicated by the presence of slopes that have certain surface water and geological characteristics. In the City of Everett, erosion hazards exist on all exposed slopes greater than 25%. High erosion hazards may also increase the potential for landslides. The most critical factor for control of erosion is construction management practices that limit clearing, require mitigative controls on development activity, limitation of soil disturbance to dry seasons of the year, revegetation, and maintenance of developed sites to prevent erosion after development.

Urban development which results in the replacement of forested areas, other areas of native vegetation, or pervious areas with impervious surfaces increases both the volume and peak rate of runoff. Drainage features which receive storm water discharge may be subject to erosion hazards. Effective surface water controls may mitigate the erosive effect of increased storm water flows.

**Ground water Aquifers.** Ground water aquifers are a porous, geological formation which hold surface water that has percolated into the soil. Aquifers in Everett are not used as a drinking water source but are important for the moderation of stream flows. As water infiltrates permeable soils it is held during peak storm periods and is slowly released to moderate the flows that would be carried in a stream if no aquifer were present. Urban development reduces the natural infiltration capacity of the soil by covering the earth with impermeable surfaces, compacting soils that are not covered, removing vegetation, and increasing storm water runoff. In some cases, it may be desirable and practical to encourage infiltration of runoff from developed sites to recharge the aquifer. In other instances where the development is near steep slopes or on soils prone to landslides, it would not be advisable to recharge the aquifer, as saturation of such soils would increase the landslide hazard. Ground water infiltration is more

feasible in single-family developments than in other types of developments in which there is a higher percentage of impervious surfaces. The use of low impact development techniques may also be used to reduce the impacts of development by reducing the volume of surface water runoff.

Although there are certain soils constraints or geological limitations that can be overcome through careful engineering practices, not all of the hazards associated with development of steep slopes, landslide or seismic hazard areas, or unstable soils can be solved through engineering solutions. Certain areas of the city simply are not suited for development. While it is not the City's intent to deny reasonable use of property, it must be recognized that not all properties can be developed to the full potential of the land use zone in which they are located. Under GMA, "Geologically Hazardous Areas" means areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to the siting of commercial, residential, or industrial development consistent with public health or safety concerns.(RCW 36.70A.030.(9)). Therefore, these areas are designated as critical areas in order to reduce potential hazards to people and property. The burden to establish adequate long-term safety measures must be on the property owner and not the City.

**Policies for Earth Resources.**

2.15.2 Geologically Hazardous Areas.

Because there are areas in Everett which are susceptible to landslide, seismic and erosion hazards, the City should:

- a) Use best available science to identify and generally map geologically hazardous areas, and consider best available science in the development of policies and regulations applicable to these areas.
- b) Require geotechnical analysis for land use activities (development proposals) within or adjacent to such areas to determine the extent of hazard, identify potential impacts of the proposal, and identify necessary mitigation measures to eliminate significant hazards.
- c) Prohibit or strictly limit development in areas in which significant hazard cannot be avoided.
- d) Adopt building codes, construction standards, zoning requirements, inspection, monitoring and enforcement procedures that assure protection of life, property and critical areas.
- e) Establish seasonal limitations on land use activities, including clearing and grading, adjacent to critical areas as necessary to protect those areas.

2.15.3 Steep Slopes. Because the potential for landslides, erosion and drainage impacts increases when development occurs on or adjacent to steep slopes, the City shall adopt regulations for development of steep slopes which lessen the risk and prevent the occurrence of such problems.

2.15.4 Erosion. Because erosion can result from clearing and development activities on any site, regardless of slope or soil type, the City should require careful and effective erosion control

measures during and after construction. Best Management Practices (BMP's) to control erosion should be required. Development shall not be permitted on high or severe erosion hazard areas when such development would significantly increase the risk of slope failure.

2.15.5 Vegetation. Because vegetation helps to stabilize soil and control erosion, and the removal of vegetation can have a significant effect on the stability of slopes, the City shall prohibit or restrict clearing of vegetation in areas that are susceptible to landslide and erosion and encourage the revegetation of cleared areas.

2.15.6 Ravines. Because many of the ravine areas in Everett are difficult to access and hazardous for building, they remain undeveloped. These ravines areas are a complex combination of steep slopes, geologically hazardous formations, stream systems, springs, and forests that provide valuable habitat for fish and wildlife, open space, and aesthetic benefits. The City should protect these ravine areas for each of the important functions they provide.

2.15.7 Habitat areas. Because the ravine and steep slope areas provide valuable habitat for wildlife, the City should preserve these habitat areas. These areas also provide wildlife corridors and may provide connections with other critical areas with important habitat functions such as streams, shorelines, wetlands and forest areas. The City should map and protect existing open space and wildlife corridors and provide incentives to, where feasible, restore and/or improve connections within and between corridors which could result in substantial improvement in habitat function.

2.15.8 Clearing. Because land modification that is commenced without any specific development proposal in mind can result in greater modification than necessary for development purposes, unnecessarily impact and alter critical areas and their buffers, expose areas to erosion over a greater period of time, and reduce habitat areas, the City should allow clearing, grading and land alteration on sites containing or abutting critical areas only for approved development proposals. The City should establish seasonal limitations to clearing on or adjacent to critical areas as necessary to protect and maintain critical area functions and values. Cleared and/or graded areas should be stabilized and revegetated as soon after construction as practicable, and on slopes, immediately after construction.

**Water Resources.** GMA defines certain aquatic resources as critical areas. Critical areas include wetlands, recharge areas for potable water, fish and wildlife areas and frequently flooded areas. Everett and its designated urban growth area contain a multitude and variety of natural and man modified aquatic resources. These include the Puget Sound, Port Gardner Bay, the Snohomish River and portions of its estuary, floodplain and delta, lakes, streams, wetlands, springs, and aquifers. Each of these features has its own hydrological functions as well as other important and, sometimes competing functions, such as economic, agricultural, recreational, wildlife and fisheries habitat, open space and aesthetic functions.

The quality and type of connection of these aquatic resources to other critical areas and the broader ecological system varies. The streams in southwest Everett drain north to Port Gardner Bay. The wetlands and wooded areas adjacent to the streams provide important riparian habitat, and the steep forested slopes provide additional protection and important fish and wildlife habitat

functions. The streams provide sediment for beach replenishment at their outfalls into Port Gardner Bay. Two streams in south Everett, Swamp Creek and North Creek flow south to Lake Washington. Their headwaters in Everett provide important functions for downstream salmonid habitat. GMA requires that special consideration be given to conservation or protection measures necessary to preserve or enhance anadromous fisheries in these and other streams used by anadromous fish.

Everett's surface waters and ground water aquifers are not used as a source of domestic drinking water (Everett's water supply is surface water piped in from the Sultan basin in the Cascade Mountains). Many of the natural water-resources in Everett have been eliminated or modified over time by urban development. In all areas, the water quality of these features has been degraded by pollutants and development activities. Some efforts have been initiated to improve the quality of degraded waters, such as sewage treatment, storm water containment and treatment, and cleanup operations. Practices to reduce water quality degradation such as implementing best management practices (BMP's) for construction and the regional road maintenance plan have been implemented to help protect water quality and anadromous fisheries. Anticipated growth and development in the Everett area will pose continued threats to aquatic resource critical areas.

All of the stream systems in Everett have been modified by development. Most streams that once supported fisheries have become largely devoid of salmonids as a result of human activities that have permanently paved, built upon, culverted, filled or relocated significant portions of many streams, and their associated wetlands and riparian environments. However, salmonids, including threatened and endangered species, are present to some extent in a number of streams, and in the Snohomish River and estuary in Everett. In the urbanized environment, streams and wetlands still provide many of the same functions and values that they provided in their natural state. These important functions include fish and wildlife habitat, flood control, sediment and pollution control, stormwater detention and conveyance, ground water recharge, open space and recreation.

Wetland functions are generally grouped into three broad categories:

- Biogeochemical functions, related to trapping and transforming chemicals, and functions that improve water quality;
- Hydrologic functions, related to maintaining the water regime in the watershed, including the reduction of flooding; and
- Food web and habitat functions.

The functions that wetlands perform are controlled by environmental factors in the broader landscape as well as within the wetland (climate, morphology, the source and movement of water). Important environmental factors that control wetland functions may occur beyond the wetland boundaries. Recently wetland science has begun to focus on the protection of wetlands within the context of a broader contributing landscape. This has resulted in an understanding that the management and protection of wetlands should occur at different geographic scales: the contributing landscape, the management area, and the site. The City's Snohomish Estuary Wetland Integration Plan (SEWIP) and Salmon Overlay studies, adopted as part of the Comprehensive Plan, are examples of a landscape approach to the management of aquatic

resources. The Southwest Everett Subarea Plan and Planned Action also provides for management of aquatic resources at a subarea, basin plan level. These broader landscape or subarea planning tools provide better options and tools for managing the cumulative effects of urban development on aquatic resources than efforts focused solely on site specific mitigation.

Stream and wetland buffer functions include providing flood control, pollution filtering, sediment removal and erosion control, diverse habitat for wildlife, shading and protection of fish habitat, food sources for fish, open space, and aesthetic benefits. Buffers maintain adjacent habitat that is critical for the life needs of many species that use wetlands, and screen wetlands and streams from adjacent disturbances (light and noise) and intense urban uses.

Nearly all of the stream channel segments in the Everett Urban Growth Area are second order streams or smaller. (The notable exception is the Snohomish River). Small headwater streams provide important food sources for downstream fish bearing waters. Intermittent streams have been found to produce substantial numbers of macroinvertebrates, exceeding those of perennial streams in some cases. (Muchow and Richardson 2000. cited in The Watershed Company, Use of BAS in City of Everett Buffer Regulations: Non-Shoreline Streams, June 2003). Riparian areas exert a strong influence on small streams. Small streams receive most of their energy from allochthonous input (litterfall, terrestrial insects) from the riparian zone. (Naiman et. al. 1987). Most large woody debris comes from the riparian zone. The recruitment of large woody debris maintains channel form and stability, and results in longer water residence time, which improves water quality. Riparian corridors also serve as refuges and travel corridors for wildlife. (Naiman and Decamps 1997). A variety of wildlife species depend upon the riparian zone for all or a portion of their life cycle (e.g. frogs and salamanders, some bird species). Vegetation characteristics are critical factors in the function of the riparian area; and more complex areas with multiple classes of vegetation may be most effective at removing a variety of contaminants and improving water quality. (Shultz, et. al. 1995).

Maintaining and preserving Fish and Wildlife Conservation Areas requires management for maintaining species on suitable habitat within their natural geographic distribution. Habitats of primary association for a species may cross jurisdictional boundaries. In such cases, cooperative and coordinated approaches to management, protection and preservation of critical habitat is key to achieving a successful outcome. Examples of such areas include Swamp Creek and North Creek.

While most of Everett's land areas are designated for urban growth, and while new development as well as redevelopment is encouraged by adopted land use policies, it is critical that the future growth and development occur in a manner that is sensitive to the water resources of the city. Many of the remaining undeveloped properties in Everett contain streams and wetlands. Many of the shoreline areas of the Snohomish River and Port Gardner Bay are expected to undergo redevelopment. Housing needs and population growth are increasing the demand for developable residential land and water oriented open space and recreational amenities. Competing interests must be balanced with protection of these water resources and critical areas.

One of the significant adverse effects of urbanization is habitat fragmentation, which results in decreasing biodiversity. Innovative land use development tools which concentrate and cluster

development on the areas of a site away from critical areas and their buffers can help maintain existing critical areas and connections between these areas and reduce continued fragmentation of natural systems. Low impact development methodologies such as use of pervious surface, clustering, etc. can also reduce the impacts of necessary urban development.

Land development affects the natural hydrological cycle through clearing, grading, filling, covering of land, soil compaction, piping of natural drainage systems, and planting of ornamental landscaping. All of these activities reduce the land's natural capacity to absorb, store and convey storm water. When this capacity is diminished, surface water runoff and the potential for flooding and erosion is increased. Ground water recharge is also reduced. Ground water resources in Everett are valuable for storing rainfall occurring during the wet seasons and slowly releasing it to streams, lakes and wetlands during the dry summer season, that has a moderating and beneficial effect upon stream flows, fisheries and wildlife habitat.

Land that is cleared of vegetation and exposed to rainfall is more susceptible to erosion. Eroded soils can reduce the water storage and conveyance capacity of natural drainage systems, thereby increasing potential flooding and hazards to people and properties. Eroded soils also cause sedimentation which adversely impacts streams used for spawning, and may jeopardize habitat for anadromous fisheries.

Urban land uses and developments can degrade water quality. Deterioration can occur when pollutants such as sediments, fertilizers, organic and toxic materials are discharged into surface runoff. Contaminants from various land use activities, streets and parking areas are carried into the storm drainage system by rainfall. Polluted waters cause health problems, reduce wildlife habitat value and detract from aesthetic qualities of water features. Certain limitations on land use and development activities, as well as controls on the point source pollutant generators can reduce the potential for pollution of water resources. Land use standards that regulate lot coverage, setbacks, preservation and enhancement of native vegetation, and encourage "natural engineering solutions" to control and treat stormwater runoff can protect Everett's water resources by reducing quantities and velocities of stormwater runoff and by removing the pollutants carried into the storm drainage system. Construction management methods that are preventive in nature, use the best technology available, and implement best management practices can be used to reduce drainage and water quality problems. Land use regulations must strike a balance between the variety of public and private needs and the natural constraints of critical areas. The City and private property owners must take into consideration GMA's mandate to protect critical areas, the limitations of the natural environment, and the impacts of land development activities on aquatic resources when determining reasonable use of property.

**Policies for Water Resource Critical Areas.**

2.15.9 Preservation. Because alteration of natural water resource critical areas can result in environmental degradation, increased costs to the public, flooding, erosion, sedimentation, and damage to water quality, fish and wildlife habitat, Everett's natural water resource critical areas should be protected, maintained and enhanced.

2.15.10 The City should encourage participation in landscape level planning efforts, such as the Snohomish Estuary Wetland Integration Plan (SEWIP) and Salmon Overlay, and subarea

planning to manage aquatic resource critical areas at a watershed or subarea planning level when such efforts will provide better overall preservation or protection of aquatic resources within the watershed, basin, or subarea.

2.15.11 The City should continue to participate in regional watershed planning efforts directed toward the protection and preservation of endangered species under the federal Endangered Species Act, and the ESA's goal of delisting endangered species.

2.15.12 The City should provide for innovative land use development tools which concentrate development on the areas of a site away from critical areas and their buffers to maintain and preserve existing critical areas.

2.15.13 Protective Requirements. Because land use and development activities can create adverse impacts upon the quality of streams, lakes, wetlands and ground water aquifers, the City should adopt land use and development regulations that establish adequate protections to water resource critical areas.

2.15.14 Because some types of ongoing activities, including normal and routine maintenance activities could adversely affect water quality and fish habitat, the City should adopt practices to control adverse effects. Land use and development regulations should include:

- a) clearing, grading and filling restrictions in areas where such activities will impact water resources and associated habitat areas.
- b) stormwater runoff controls that will prevent erosion, sedimentation and the discharge of pollutants into the natural drainage system.
- c) preservation and enhancement of vegetation as a means of protecting both water quality and wildlife habitat.
- d) construction management practices that reduce the potential for erosion and water quality impact both during and after land development and construction.

2.15.15 Encourage low impact development methods where appropriate, such as clustering to retain native vegetation, use of permeable pavement, soil amendment, green roofs, green streets, and other methods.

2.15.16 Buffers. Because the buffers adjoining wetlands and streams perform many valuable functions, including soil stabilization and erosion control, filtering of sediments and toxic chemicals, moderating storm runoff impacts, moderating water temperatures, protecting and providing fish and wildlife habitat and food sources, and providing a barrier to encroachment and destruction, the City should require sufficient buffer width and functions to achieve no net loss of critical area functions and values.

2.15.17 Emphasize the protection of those buffer functions of greatest importance within the Urban Growth Area.

2.15.18 Maintain a conservative approach which provides stringent buffer requirements for all streams that exhibit salmonid use.

2.15.19 Protect riparian areas and buffers that have significant connections between other critical areas and/or large blocks of open space.

2.15.20 Provide for buffers with non-linear edges that will increase wildlife functions when proposed development is adjacent to large blocks of existing open space or critical areas with a high function for wildlife.

2.15.21 Recognize that buffers essential to provide wildlife habitat for large mammals do not currently exist except in the Snohomish River estuary, and are not feasible in Everett's urban environment. Provide adequate buffers for species that can adapt to the urban environment.

2.15.22 Compensation/Mitigation. Because streams and wetlands in Everett provide numerous beneficial functions and it is difficult to recreate these functions and values, the City should encourage the retention of streams and wetlands and their buffers in a natural state. Avoidance of adverse impacts is the best way to maintain existing critical area functions. When avoidance is not feasible, and streams or wetlands are permitted to be relocated or altered, the impacts caused by relocation or alteration should be compensated for by replacing the valuable functions each provides. The City shall maintain a policy and regulatory approach that mandates an overall no net loss in functions, values, or area for aquatic resource critical areas. The City's regulations should use the State definition of mitigation including a mitigation sequencing approach: avoid, minimize, rectify, reduce over time, and compensate for unavoidable impacts. The City should continue a policy approach which provides the highest level of protection for the aquatic resource critical areas which have the highest functions and values.

2.15.23 Provide for wetland mitigation banking and support efforts to establish mitigation banks that would result in an overall improvement of aquatic or wetland functions and values within a watershed.

2.15.24 Restoration and Enhancement. Because urban development has degraded the natural condition of many of the wetlands and stream systems in Everett and because new land developments or redevelopment may provide an opportunity for restoration and enhancement of certain wetlands and stream segments, the City should allow wetland or stream alteration when alteration results in restoration or enhancement of functions and values of altered or degraded wetlands and streams. The City should provide opportunities for restoration through watershed, basin, or subbasin mitigation strategies.

2.15.25 Public Facilities. Because it is not always possible to avoid impacting water resources with certain vital public service facilities, encroachment into water resource areas for public facilities such as public streets, utilities, and public safety services should be avoided except when no feasible alternative exists, and such encroachment should be accomplished in a manner that assures the maximum possible protection of the natural system, and assures the safety of persons and properties.

**Fish and Wildlife Habitat Conservation Areas.**

GMA defines Fish and Wildlife Habitat Conservation Areas as Critical Areas, and requires the protection of designated areas. Fish and wildlife habitat conservation is defined as the management of land for maintaining species in suitable habitat within their natural geographic distribution so that isolated subpopulations are not created. This does not mean that all individuals of all species must be protected at all times, but that cooperative and coordinated planning is important between the City and the County. (WAC 365-190-080(5)). In general, fish and wildlife require habitat that provides food; water; vegetation; and areas for breeding, nesting, rest or roosting; and cover.

Fish and Wildlife Habitat Conservation Areas include:

- Habitats Of Primary Association: areas with which state or federally designated endangered, threatened, and sensitive species have a primary association;
- Habitats and species of local importance;
- Commercial and recreational shellfish areas;
- Kelp and eelgrass beds;
- Herring and smelt spawning areas;
- Naturally occurring ponds under 20 acres;
- Waters of the state;
- Lakes, ponds, streams and rivers planted with gamefish;
- State natural area preserves and natural resource conservation areas;
- Land essential for preserving connections between habitat blocks and open spaces.

The U.S. Fish and Wildlife Service and National Marine Fisheries Service maintain current listings of federally designated endangered and threatened species, and the State of Washington Department of Fish and Wildlife maintains a current listing of State designated endangered, threatened, and sensitive species. Additionally, the State Department of Fish and Wildlife maintains priority habitats and priority species lists for the State of Washington.

It is the City's policy to designate and protect Fish and Wildlife Habitat Conservation Areas based upon the consideration of Best Available Science, including specific information pertaining to species and habitat within the City and its UGA. The City will coordinate with Snohomish County regarding species and habitat of primary association that spans City/County boundaries and jurisdiction.

Fish and wildlife habitat areas are an integral part of Everett's environment. However, many areas within the natural systems in the City have been, to some extent, fragmented by urbanization and degraded by past activities. For example, urban streams, compared to streams in a typical Pacific Northwest forested environment are typically degraded by the impacts of urbanization. Likewise, forested areas within the City often do not have the diversity of habitats found in undisturbed forests. Wetlands may have been isolated from the larger ecosystem, and their riparian and buffer areas may be degraded. Small improvements to a degraded urban stream may provide significant benefits for improved functions and values for fish and wildlife. For example, restoration of a stream or shoreline buffer area previously cleared and devoid of

significant vegetation may help reestablish linkages with other open space or critical areas. Removing a fish-passage barrier or armored bank, in combination with other watershed-scale conservation strategies, may provide significant benefits for fish, including salmonid populations.

Some of the Fish and Wildlife Conservation Areas are discussed in other subsections of the Critical Areas Goals, Objectives and Policies. For example, policies protecting streams and wetlands, policies protecting buffer areas, and policies protecting forested geohazardous slopes adjacent to streams are also important policies to protect Fish and Wildlife Habitat Conservation Areas. All of the Critical Area policies apply to Fish and Wildlife Conservation Areas. The policies in this subsection are in addition to policies set forth in other Critical Area Goals and Policies subsections.

The Shoreline Land Use section of the Comprehensive Plan addresses the elements of Fish and Wildlife Conservation Areas that fall within shoreline jurisdiction. These include commercial and recreational shellfish areas; kelp and eelgrass beds; herring and smelt spawning areas; and waters of the state. Protection of these areas is addressed in the Shoreline Land Use section of the Comprehensive Plan and in the City's Shoreline Master Program (SMP). The SMP also includes special protections for anadromous fish, including salmon and bull trout and adopted the Interim Procedures, Endangered Species Act Listing for Chinook Salmon and Bull Trout; and the Snohomish Estuary Wetlands Integration Plan (SEWIP) and SEWIP Salmon Overlay study.

The City's Critical Areas Ordinance (EMC 19.37) contains the City's regulations for Fish and Wildlife Conservation Areas. Development proposals that are located on or within a distance that could impact these areas are required to prepare a Habitat Management Plan (HMP). The HMP must identify measures necessary to protect listed species and habitats of primary association, and mitigation measures identified in the HMP would become project conditions.

#### **Policies for Fish and Wildlife Conservation Areas**

2.15.26 Protect and restore proposed, threatened, or endangered species and their habitat.

2.15.27 Prohibit creating new fish passage barriers and provide incentives to remove existing artificial barriers where feasible.

2.15.28 Consider creating a system of fish and wildlife habitat with connections between larger habitat blocks and open spaces. This system should be mapped and designated as Fish and Wildlife Conservation Area.

2.15.29 Protect riparian areas and riparian ecosystems to help reduce water temperatures by increasing shading, improving soil stability, and increasing terrestrial insect production for fish resources.

2.15.30 Maintain existing continuous high quality riparian areas and buffers which provide continuity of riparian areas and reestablish linkages where feasible to minimize habitat fragmentation, especially along existing linkages and patches of native riparian habitat.

2.15.31 Provide incentives for restoring riparian areas along streams in areas that lack vegetation or are dominated by invasive species to increase the diversity and complexity of native vegetative cover (a mix of native evergreen and deciduous trees, understory shrubs, groundcover).

2.15.32 Implement programs to control nonnative invasive plants and noxious weeds through critical area regulations, education and outreach, and other tools.

2.15.33 Provide incentives for opening piped stream segments during redevelopment where scientific analysis demonstrates that substantial habitat function can be restored.

### **Frequently Flooded Areas**

The Washington State Growth Management Act (GMA) lists “frequently flooded areas” as a critical area that local jurisdictions must designate and protect under their critical area policies and regulations. Floodplains and other areas subject to flooding perform important hydrological functions and may present a risk to persons and property. Classification of frequently flooded areas should include, at a minimum, the 100 year floodplain designations of the Federal Emergency Management Agency (FEMA), and the National Flood Insurance Program (NFIP). In 1968 with the passage of the National Flood Insurance Act, the U.S. Congress created the National Flood Insurance Program (NFIP) as part of the Federal Emergency Management Agency (FEMA). FEMA assesses flood hazard risks and formally delineates flood hazard areas along major river and stream corridors to identify areas that are at risk from floodwaters. Under NFIP, FEMA is required to develop flood hazard information for use in both insurance rating and floodplain management. FEMA uses modeling to identify flood hazard areas, and produces maps of designated flood hazard areas. Frequently flooded areas and special flood hazard areas have the same meaning and include the same areas (“floodplain overlay districts”) within the City in order to comply with federal and state floodplain management requirements and to maintain consistency among GMA plan elements and development regulations, including the Shoreline Master Program and GMA critical area requirements.

Areas that require flood hazard protection typically involve riparian habitat areas and wetlands. Care should be taken that any regulations to prevent flood hazards are also consistent with other regulations to protect critical areas, especially those that give special consideration to anadromous fish. Careful use of mitigation sequencing should lead to compliance with both GMA critical area requirements and NFIP requirements. Local flood hazard area regulations must meet the requirements of the NFIP if the local jurisdiction and individual property owners are to qualify for flood hazard insurance. The City’s regulation of flood hazard areas is integrated with the City’s other Critical Area Regulations and the Shoreline Master Program. The Shoreline Land Use section of the Comprehensive Plan includes goals, objectives, and policies that apply to all flood hazard areas that fall within shoreline jurisdiction. (See SLU II.F. pp. SLU 34-36).

The areas within the Everett Planning Area that are subject to frequent flooding (“special flood hazard areas”) are regulated by the requirements of Section 30 (Floodplain Overlay Districts, including the Floodplain Overlay Zone definitions in Section 4), which are incorporated by reference into Section 37 (Critical Areas) of the zoning code. The special flood hazard areas in

Everett are located in the floodplain of the Snohomish River. The requirements of Section 30 of the zoning code have been approved by the Federal Emergency Management Agency as meeting the requirements of the National Flood Insurance Program

The requirements of Section 37 of the zoning code have been developed in accordance with the Washington State administrative guidelines for critical areas, which are used to implement the requirements of the Growth Management Act. In addition to these two sections of the zoning code, the South Everett Drainage Basin Plans have identified specific flooding problem areas and physical improvements or programs necessary to alleviate flooding.

**Flood Hazard Area Policies**

2.15.34 Use the most current FEMA flood hazard modeling and maps as a basis for the City's flood control regulations.

2.15.35 Prohibit the construction of new permanent structures in the floodway that unduly affect the capacity of the floodway.

2.15.36 Support continued dredging of the settling basin in the Snohomish River to remove accumulated sediment.

2.15.37 Provide for breaching of dikes where flood hazards will not result, and when appropriate and feasible for habitat restoration projects.

2.15.38 Encourage preservation of native vegetation in areas adjacent to the Snohomish River and provide incentives to reestablish vegetated areas in conjunction with redevelopment adjacent to these areas where feasible.

2.15.39 Require land use actions in flood hazard areas to comply with the provisions of the City's Critical Areas Regulations and Shoreline Master Program, when applicable. The City shall continue to use and update Sections 30 and 37 of the zoning code and the South Everett Drainage Basin Plans to control flooding problems.

Potential Implementation of Critical Area Policies. The City shall use the following implementation measures to further the goals, objectives and policies of the Critical Areas land use policies:

1. Inventory. Develop and maintain an inventory of all critical areas within the city and its planning area.
2. Critical Area Regulations. Periodically review and update Section 37 of the Zoning Code, pertaining to protection of critical areas and Section 30 pertaining to flood hazard areas. Use and consider best available science in the development of policies and regulations pertaining to critical areas.
3. Other Development Related Regulations. Periodically review and amend subdivision, drainage, land clearing, grading and other land use and development regulations as needed to

protect critical areas according to their natural sensitivity and to protect the public health, safety and welfare.

4. Wetland Preservation, Alteration and Mitigation. Prohibit alteration of rare and significant wetlands; discourage alteration of important wetlands; and where wetland alteration is allowed, require that the functions and values of the wetlands that are modified be replaced and enhanced.

a. Use a wetland classification system based on best available science that is relevant to wetlands located within the City and its UGA.

b. Take a conservative approach to protection of wetlands performing the highest functions consistent with an objective to achieve no net loss of wetland functions and values.

c. Protect wetlands within watersheds that support species listed in the federal Endangered Species Act. Permit alteration of such wetlands only when an analysis of potential effects on listed species demonstrates that the species are not likely to be adversely effected.

d. Provide a high level of protection to unique wetlands (such as bogs) that cannot be reproduced within reasonable mitigation timeframes.

e. Identify wetland boundaries using the *Washington State Wetlands Identification and Delineation Manual* (RCW 36.70A.175 and WAC 173-22-080).

5. Stream Protection and Avoiding Stream Impacts

a) Periodically update critical area maps to reflect the most current science and information regarding stream systems within the City and its Urban Growth Area (UGA).

b) Use a stream classification system based on best available science, which considers specific scientific information relevant to streams located within the City and its UGA.

c) Require sufficient buffer areas adjacent to streams and ravine areas to protect the functions and values that streams provide.

d) Discourage the crossing of streams with streets or utilities, allowing crossing only when necessary for access to a property and for important public facilities. Public facilities should be designed to avoid critical areas and their required buffers whenever feasible. Where impacts to critical areas are unavoidable, necessary public facilities should be designed to minimize impacts, restore impacted critical areas to the extent possible, and mitigate impacts to the critical areas and required buffer.

e) Prohibit clearing and grading in areas adjacent to salmon bearing streams in the absence of a project specific development proposal and applicable environmental review, including a review of effects on anadromous fish and species protected under the federal Endangered Species Act. Provide a high level of protection for stream riparian areas.

- f) Retain large woody debris in streams to support fish habitat, except when posing an imminent threat to public safety or critical facilities.
  - g) Eliminate human made barriers where feasible (such as culverts that block anadromous fish passage) and prevent the creation of new barriers.
  - h) Maintenance of existing infrastructure in riparian and aquatic corridors should be subject to best management practices that minimize impacts to water quality and riparian habitat.
  - i) Continue participation in the Endangered Species Act based Road Maintenance Program Guidelines.
  - j) Protect and promote healthy riparian areas to help reduce water temperatures by increasing shading, recruit large woody debris, improve soil stability, increase terrestrial food sources for fish, and provide a more diverse wildlife habitat.
  - k) Develop and encourage the use of incentives for actions that help protect and restore watersheds and improve habitat for salmon.
  - l) Consider the adoption of a program that allows tax reductions for private property owners for the protection of riparian areas and restoration of habitat (\*e.g.:the reestablishment of a denuded or substantially degraded riparian corridor).
  - m) Develop incentives for certain low impact development techniques to help reduce the amount of new impervious surfaces and storm water runoff.
  - n) Promulgate and participate in outreach and public information programs to maintain and improve water quality and streams (e.g. publish a list of approved lawn and garden products that are not detrimental to fish).
  - o) Provide for a two-step analysis of development impacts on Fish and Wildlife Habitat Areas. Include procedures that require a biological evaluation to be prepared for any development proposed on or within a distance that could impact a Fish and Wildlife Habitat Conservation area. If the biological evaluation indicates a potentially significant impact, require preparation of a detailed habitat management plan that identifies measures necessary and sufficient to protect the impacted Fish and Wildlife Conservation area. The biological evaluations should emulate procedures contained in the federal biological assessment methodology, and projects should be conditioned to implement recommendations of the biological evaluation.
6. Buffers
- a) Provide and preserve buffers adjacent to critical areas to adequately protect such areas from development and land use impacts.
  - b) Require enhancement of vegetative buffers between sensitive areas and land development to improve the functions of the buffers and wetlands, especially when buffers have been previously disturbed.

- c) Buffer Encroachment. Allow limited activities in buffer areas only when such activities do not reduce the functions and values of the buffer or the resource it protects, or when necessary to allow a reasonable use of property.
  - d) Require development proposals that will impact critical areas, riparian areas, and/or required buffers to complete an analysis of impacts to connections with other critical areas/existing blocks of open space and to maintain existing connections/wildlife corridors.
  - e) Buffer Width Averaging. Allow buffer width averaging only when no net loss of critical area functions and values will be achieved.
  - f) Buffer Width Reduction. Allow buffer to be reduced from those normally required only where such reduction results in no-net-loss of critical area functions where the area subject to the buffer has been previously substantially degraded and the buffers that result from redevelopment of the property will be enhanced. Establish minimum buffer widths for reduced, enhanced buffers. Enhanced buffers should provide multiple classes of vegetation, combining trees, shrubs, and groundcover.
  - g) Provide for the removal of hazard trees in critical areas and their buffers. Require identification of hazard trees in these areas in conjunction with proposed development and require replacement of hazard trees to maintain/improve buffer function.
  - h) Prohibit the introduction and require the removal of existing nonnative invasive species and noxious weeds in critical areas and their buffers.
  - i) In conjunction with the review of proposed land use actions, require that critical areas and their buffers be placed in a separate tract with protective covenants or native growth protection easement.
  - j) Require design and construction that directs light away from critical areas and their buffers.
  - k) Provide for public access in critical areas and their buffers when these activities provide valuable educational or recreational opportunity and can be designed in a manner that results in no net loss of functions and values.
7. Innovative Project Design. Encourage design solutions on properties that contain critical areas and steep slopes, such as planned residential developments, cluster housing, and other innovative techniques, in order to protect the sensitive features/critical areas of a site.
8. Design Flexibility
- a) Allow for deviation from water resource protection requirements when design solutions, including low impact development techniques are proposed that result in either a net improvement in the existing functions and values of streams, wetlands and their buffers, or greater protection than the standards would otherwise provide.

b) Allow for a modification of geologically hazardous area development standards for isolated geohazardous areas when it can be sufficiently demonstrated that a site can be safely developed without hazard to life or property, or impact upon critical areas.

9. Construction Management. Establish sufficient construction management standards to be applied both during and after development that will prevent erosion, sedimentation, siltation and damage to downhill and downstream properties.

10. Watershed Management. Develop and implement strategic watershed restoration and protection plans. Participate in regional watershed planning and landscape level planning efforts to provide improved protection to critical areas, including the protection and restoration of salmonids.

11. Wildlife Habitat Plans. Develop and implement wildlife habitat management plans cooperatively with public and private conservation groups.

12. Acquisition. Evaluate methods other than development regulations that may be appropriate for acquiring or permanently protecting critical areas.

13. Community Involvement. Implement programs that promote public education, intergovernmental cooperation, cleanup campaigns, tree planting, and other innovative methods that will involve participation of a broad base of citizens and civic groups in order to protect the critical areas of the community.

14. Education and Public Awareness. Educate and inform the public on water quality enhancement and erosion control measures such as maintaining vegetation on and adjacent to steep slopes and in natural drainage areas, proper disposal of pollutants, and proper use of fertilizers, herbicides and pesticides, control of nonnative invasive plants and noxious weeds, and other actions that will preserve and restore Everett's critical areas and natural environment.