

ENVIRONMENTAL RESOURCES ELEMENT

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INTRODUCTION

Lynnwood is located on terrain characterized by gently rolling hills and valleys. Lund's Gulch is a prominent natural feature at the northwestern corner of the city and connects to the marine shoreline of Puget Sound.

The city is extensively developed and has few remaining "natural" or forested areas. A significant percentage of the city's land area is covered with buildings, asphalt and other impervious surfaces. Because of the large amount of commercial and multiple-family development, Lynnwood's proportion of impervious surface is higher than would be found in a community having less commercial development and mostly single-family homes.

Lynnwood is located within, or partially within, at least five watersheds: Swamp Creek, Scriber Creek, Lund's Gulch, Hall Creek and Puget Sound. Much of the environmentally sensitive land in Lynnwood is located along Scriber Creek and its tributaries. With Chinook salmon listed as a threatened species, and other valued species in danger of joining the list, protecting our remaining natural environment is an increasing concern as our community continues to grow and develop.

The quality of the environment that surrounds us is essential to maintaining a high quality of life for the citizens of Lynnwood. It is important to find new and innovative ways to preserve as much of the remaining natural environment as possible as new development occurs. Creative design with sensitivity to the natural environment will help reduce flooding, pollution and erosion; create habitat for plants and animals; and preserve the natural aesthetic values that often get lost in the urban landscape.

GOAL

The goal for the Environmental Resources Element of the Comprehensive Plan is:

To minimize loss of habitat functions and to maintain, protect and enhance the functions of fish and wildlife habitat, water quantity and quality, wetlands and other water bodies; and to integrate the nonhuman natural environment with the urban environment.

PLANNING CONTEXT

Growth Management Act (GMA)

RCW 36.70A.070 requires at least the following mandatory elements:

Land Use
Housing
Capital Facilities
Utilities
Transportation

GMA does not require an Environmental Resources Element. However, state planning goals do require the protection of the environment and the enhancement of the state's high quality of life, including air and water quality. In addition, the GMA requires that we protect sensitive areas, which include wetlands, aquifer recharge areas, fish and wildlife habitat areas, frequently flooded areas and geologically hazardous areas.

Each of the thirteen GMA planning goals was considered in the development of the City's Comprehensive Plan and this element of the Plan. Of those, the following goals were found to have the greatest and/or most direct influence on environmental matters and on the Environmental Resources Element:

GMA Goal 2. Reduce Sprawl: Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

GMA Goal 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.

GMA Goal 7. Permits: Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.

GMA Goal 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.

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

GMA Goal 11. Citizen participation and coordination: Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.

Regional Planning Policies

The Puget Sound Regional Council (PSRC) established a multi-county planning policy framework, *Vision 2020*, as the regional growth strategy. Implementation of these policies will create a regional system of central places framed by open space.

Environmentally healthy communities adjacent to open space represent the environmental piece of the vision. Important objectives of *Vision 2020* are to conserve farmlands, forests and other natural resources when possible. Other policies are intended to conserve and enhance natural resources, to retain open space, to conserve fish and wildlife habitat, to increase access to natural resource lands and water, and to provide recreational opportunities. The *Comprehensive Plan* of the City of Lynnwood is consistent with and furthers the regional plan.

Countywide Planning Policies

The Natural Environment Element of the Snohomish County *General Policy Plan* addresses general environmental issues including: aquatic ecosystems; vegetation, fish and wildlife; flood hazards; geologic hazardous areas; air quality; energy; and noise.

The Comprehensive Plan of the City of Lynnwood also addresses these main themes and is consistent with the County's planning policies. In addition, it is the policy of Snohomish County to provide greenbelts and open space to provide separation from adjacent urban areas. The City will continue to work with the County on planning issues.

SUMMARY OF ISSUES

The environmental concerns, hazards, and resource-related issues in Lynnwood fall into the following categories: energy and water conservation, recycling and waste disposal, geologic hazards, water resources, fish and wildlife, trees and plant life, air quality, view protection, light pollution and noise pollution.

Each aspect of the Environmental Resources Element is interconnected with various aspects of other Comprehensive Plan elements. For example, trees cannot survive without the proper care of the soil. Fish cannot survive without proper care of water and stream habitat. Surface water and ground water are closely interconnected. Certain types of wildlife cannot survive without a network of open spaces and connecting corridors.

The goal of the element is to minimize loss of habitat functions and to maintain, protect and enhance the functions of fish and wildlife habitat, water quantity and quality, wetlands and other water bodies; and to integrate the nonhuman natural environment with the urban environment.

ENVIRONMENTAL PROTECTION AND ENHANCEMENT

Since local governments can affect the well being of their residents, they must consider the totality of the circumstances affecting the community. The City provides public facilities and services and encourages development in appropriate locations consistent with the Growth Management Act, Lynnwood's Comprehensive Plan and local development regulations.

Part of our responsibility is the protection and enhancement of the natural environment. We know that trees help filter and improve air quality, so we undertook a major review and update of our tree regulations in 2002 to find better ways to protect and preserve trees. A number of outside government agencies and organizations in addition to the City of Lynnwood are involved in protecting and enhancing the natural environment.

The city plays many different roles in preserving, protecting and enhancing the environment. It is responsible for complying with certain state and federal regulations that apply within the community. These regulations may require Lynnwood to undertake certain activities and manage its operations in ways that protect the environment.

The City is a regulator, effectively implementing and enforcing appropriate legal or regulatory requirements through land use and building codes. The City is also an educator that can teach by example. We show through our daily operations how to cost-effectively protect the environment. The City can promote knowledge and awareness of the personal choices and decisions that impact the environment.

Finally, the City can act as a catalyst for businesses and individuals to improve the environmental outcomes of their activities, by providing technical assistance and incentives for actions that contribute to our environmental goals.

Best Available Science

The new section of the Growth Management Act, RCW 36.70A.172, requires the City to consider best available science in developing policies and development regulations to protect the functions and values of critical areas. The best available science requirement will help ensure that reliable scientific information is considered when cities and counties adopt policies and regulations related to the protection of critical areas. Science can play a central role in:

- Delineating the functions of critical areas and determining their value,
- Recommending strategies to protect their functions and values, and
- Identifying the risks associated with alternative approaches to their protection.

To be considered "best available science", valid scientific processes must be consistent with criteria set out in WAC 365-195-900 through WAC 365-195-925. Characteristics of a valid scientific process include *peer review*, *documented methodology* that is clearly stated and able to be replicated, *logical conclusions and reasonable inferences*, *quantitative analysis*, information that is placed in proper *context*, and *references*.

CONSERVATION AND RECYCLING

As an employer and as a provider of services, the City of Lynnwood has many opportunities to conduct its operations in an environmentally responsible manner. In carrying out its operations, the City can make choices that favor improvements in air and water quality and noise levels, conserve resources, preserve and enhance wildlife habitat, and minimize greenhouse gas emissions.

One of the best ways to have a positive impact on the environment is to promote the more efficient use of natural resources. The City provides leadership in a number of ways. For example, double-sided copying of reports, agenda, minutes, etc., reduces paper. The City also uses recycled products and recycles materials.

Lynnwood is also faced with the need to properly dispose of large quantities of packaging and products each year. The City should promote the reuse of these materials and recycle whenever possible, thus reducing the strain on natural systems caused by the producing and disposing of more products. The city also should continue to encourage residents and businesses to reduce waste and recycle in programs such as the Waste Prevention and Recycling Program.

As the population of the City and region grows, we will face increasing demands on water, energy and other resources. The City should encourage more efficient use of resources and create and continue effective reuse and recycling programs. Benefits from energy conservation include reductions in greenhouse gas emissions, additional water in rivers for wildlife and other uses, and reduction in other types of pollution.

NATURAL LANDSCAPE AND VEGETATION

Existing ordinances administered by the building and engineering departments provide standards for safe development with respect to slope stability and the suitability of soil-bearing capacity for placement of structures. Development may comply with engineering standards yet fail to minimize the disturbance of existing vegetation, soils and natural landscape, thereby affecting the use and amenities of nearby properties and the community in general (for example, by use of retaining structures, a project may be "safe" even though the natural landscape and vegetation are greatly disturbed).

GEOLOGIC HAZARD AREAS

Landslide Hazard Areas

Landslides are a result of slope instability and loading which causes the slope to fail. Lynnwood is located in the Puget Lowlands, which generally are characterized by glacial soils on steep slopes. Glacial soils are prone to debris flows and shallow landslides. Lynnwood, however, contains few landslide hazard areas. Most areas of concern are located adjacent to Lund's Gulch.

The conditions that lead to landslides are usually predictable. Most damage in urban areas occurs on land that has shown past landsliding or recent instability. Planning to reduce landslide hazards involves the identification of hazardous slopes and an assessment of future hazards. Much of that work has already been done and mapped.

Development in areas of high landslide hazard potential should be avoided. The City's Sensitive Areas Ordinance regulates development in these cases and requires building setbacks from steep slopes. Site-specific buffers can be established on less hazardous sites to separate out the buildable lands. The type and extent of a buffer can be determined by

geotechnical analysis, which measures the type and speed of the landslide, and distance of the deposition of material (CTED, 1999).

Erosion Hazard Areas

Erosion involves the transport of soil by wind, water and other natural agents. Erosion hazard areas are generally identified as particular soil types that are likely to experience severe to very severe erosion hazards. These areas are generally associated with susceptible soil types, exposure to wind and water or steep slopes.

Development of these areas can cause extreme erosion problems which result in clogging streams, flooding nearby properties, smothering salmon eggs and other aquatic plants and animals. Sediment in streams also charges growth of algae that reduces water clarity and available oxygen.

A number of counties and cities have adopted guidelines for such areas, including increased storm water retention/detention requirements, seasonal clearing and grading restrictions and significant tree retention requirements.

The City of Lynnwood ensures the minimization of erosion during development through implementation of development regulations during plan review and the SEPA process, and through inspection of construction sites.

Seismic Hazard Areas

Earthquakes occur with great frequency within the Puget Sound lowlands. Since 1840, over two hundred earthquakes have been strong enough to be felt in the Puget Sound Region. Most are small enough that we cannot feel them, but each is strong enough to weaken unstable and "fill" soils.

The United States is divided into seismic hazard zones based upon historic documents. These zones range from 1 to 4, with 4 representing the highest risk. Until 1994, the Puget Sound area fell into category 3. Since 1994, the United States Geologic Survey has done extensive research on the lowland area and found that the risks are greater than they had first expected. This moved us into category 4, which means that the Lynnwood building code must have the highest standards.

The Lynnwood Sensitive Areas Map does not currently include Seismic Hazard Areas. The Snohomish County Sensitive Areas Ordinance includes Swamp Creek as an area that is especially prone to liquefaction. Swamp Creek lies outside of the Lynnwood City limits but within the urban growth area. Liquefaction hazard areas usually coincide with soft or loose saturated soils having a shallow ground water table. These areas are located mostly in river valleys and floodplains.

Considering earthquake hazards in land-use decisions can often reduce future earthquake damage. The use of appropriate engineering and construction design reduces the hazard, as well as involving communities in earthquake preparedness programs. The consequences of building in areas exposed to earthquake hazards should be a consideration in land use decision-making. Property owners in hazardous areas may be at greater risk of injury and loss during an earthquake (Division of Geology and Earth Resources, 1988). Developers must meet all building codes related to seismic events.

Frequently Flooded Areas

Flooding is often caused when eroded soil from cleared land or unstable slopes reduces a waterway's natural ability to disperse runoff. Construction and development within the floodplain is particularly damaging. Flooding can damage buildings within the floodplain and also destroy aquatic and riparian habitat. Persons living or working within the floodplain are at risk of injury from floods and from the diseases spread by floodwaters.

Construction within a floodplain also may harm neighboring properties. Buildings and embankments can backup water behind them, flooding neighboring properties. If floodwaters destroy a building or wash away materials stored on site, these materials can strike against other buildings or bridges within the flood plain and damage them.

Appropriate land uses within a 100-year flood plain (land that has a 1% chance of flooding each year) include open space, parks and other uses that don't involve buildings or storage of materials, etc. Pervious surfaces can better absorb extra water runoff. Lynnwood's mapped 100-year flood plain is located around Scriber Creek. The City participates in the National Flood Insurance Program which includes adoption and enforcement of an ordinance which regulates development within the 100-year floodplain.



WATER RESOURCES

Human activity in and near water bodies affects the quality of the water. Sources of water pollution that the city can influence and potentially regulate include storm water from several non-point sources: automobile emissions; animal waste; rooftops; parking lots, streets, chemicals and sediment from landscaping and lawns; construction and industrial site run-off; and smaller discharges into storm drains, including their use for improper disposal of used oil and chemicals.

Lynnwood's water resources include all streams within the City, as well as Scriber Lake, Hall Lake and ground water. Streams, lakes and wetlands are impacted by urbanization. The City should protect, preserve and restore, where feasible, these areas in order to have them function in the most beneficial manner possible in an urban environment. In order to most efficiently manage these resources, they should be viewed as a whole and not as separate pieces (projects).

Historically, the modification and use of our water resources has caused flooding, erosion, degradation of water quality, loss of fish and wildlife habitat and a loss of aesthetic beauty. We can avoid repeating past mistakes through good responsible planning and implementation of effective regulations.

In 1972, Congress enacted the first comprehensive national clean water legislation in response to growing public concern for serious and widespread water pollution. The Clean

Water Act is the primary federal law that protects our nation's waters, including lakes, rivers, aquifers and coastal areas.

The Clean Water Act's primary objective is to restore and maintain the integrity of the nation's waters. This objective translates into two fundamental national goals:

Eliminate the discharge of pollutants into the nation's waters;
Achieve water quality levels that are fishable and swimmable.

The Clean Water Act focuses on improving the quality of the nation's waters. It provides a comprehensive framework of standards, technical tools and financial assistance to address the many causes of pollution and poor water quality, including municipal and industrial wastewater discharges, polluted runoff from urban and rural areas, and habitat destruction.

The Clean Water Act:

- Requires major industries to meet performance standards to ensure pollution control.
- Charges states, cities and tribes with setting specific water quality criteria appropriate for their waters and developing pollution control programs to meet them.
- Provides funding to states and communities to help them meet their clean water needs and protect valuable wetlands and other aquatic habitats through a permitting process that ensures development and other activities are conducted in an environmentally safe manner. (From Clean Water Act Summary, EPA)

The City will be required by the Clean Water Act as a Phase II city to meet the National Pollutant Discharge Elimination System (NPDES) stormwater standards. The standards require a stormwater program which includes public education, outreach and participation, illicit discharge detection and elimination, construction site stormwater runoff control, post-construction stormwater management, and pollution prevention for municipal operations.

The City also has a Comprehensive Flood and Drainage Management Plan, dated 1998, which describes the City's water resources and proposes solutions to identified problems with water resources.

WATERSHEDS/STREAMS

Watershed management is an important part in preserving the environment. It reduces problems associated with flooding, sedimentation, erosion, and pollution resulting from the rapid growth in the Lynnwood area.

Over the years, most forested land and wetland areas have been converted to streets, parking lots, buildings and other impervious surfaces. Rainwater runs off these surfaces instead of soaking into the ground naturally.

Lynnwood has 18 major drainage areas, which feed several small creeks and lakes within the city. The tributaries of Swamp Creek (Scriber, Poplar and Golde Creeks) cover a major portion of the city.

In the Lynnwood stream rating system, Scriber Creek, Swamp Creek, Hall Creek and Lund's Creek are all Category I streams. The Sensitive Areas Ordinance requires buffers from the nearest development.

Category II streams, including Golde Creek and Poplar Creek, are smaller watercourses that are used by salmonids at any portion of the stream.

Category III streams are not used by salmonids in any portion of the stream.

The Washington State Department of Fish and Wildlife (WDFW) has recommended buffers much larger than those in Lynnwood's Sensitive Areas Ordinance. The City will consider WDFW's stream management recommendations when reviewing best available science on urban stream protection.

Additional information on the major watersheds within the City of Lynnwood (Scriber Creek Watershed, Hall Creek Watershed, Golde Creek Watershed, Poplar Creek Watershed, Swamp Creek Watershed, and Lund's Gulch Creek Watershed) can be found in *the Comprehensive Flood and Drainage Management Plan (1998)* and in *the Stream Habitat Analysis, dated October, 2000*.

Impaired and Threatened Water Bodies

Every two years the state is required to identify its polluted water bodies and submit the list to the Environmental Protection Agency (EPA). These water bodies are those that do not meet state surface water quality standards. These standards are set so that water in our state can be used for fishing, swimming, boating, drinking, fish habitat and agricultural uses. Scriber Lake was listed on the Department of Ecology's Final 1998 List of Impaired and Threatened Water Bodies, the 303(d) list. 303(d) represents Section 303(d) of the Federal Clean Water Act. Scriber Lake was listed for failing to meet water quality standards in regard to total phosphorous. The EPA requires the state to set priorities for cleaning up impaired waters and establishes a Total Maximum Daily Load (TDML) for each. A TDML is a cleanup plan that analyses how much pollution a water body can handle and still remain healthy for the above uses. The TDML also includes recommendations for controlling pollution and monitoring the water quality.

Swamp Creek, which lies outside of the Lynnwood City limits, was listed along with Scriber Lake on the 1998 303(d) list of impaired waters. The creek failed to meet water quality standards regarding both fecal coliform and dissolved oxygen. In the 1994 Swamp Creek Management Plan (Sno Co) the creek was found to have poor suitability for recreational use. Fecal coliform levels are too high even for safe wading. The key findings and recommended actions of the Swamp Creek Watershed Management Committee (1994), especially concerning nonpoint pollution, are summarized in the *Background Report*.

Wetlands

Not too long ago, wetlands were often viewed as undesirable mosquito-breeding swamps. Filling them in was considered "progress".

Today, we know that wetlands are transitional areas between aquatic and upland habitats. They include the presence of water, unique hydric soils and hydrophytic vegetation (plants adapted to growing in very wet conditions). And, they are vitally important.



Natural wetlands help clean and improve the water quality of surface water. They create detention areas for water overflow, keeping the land from flooding. They also provide habitat for many animal and plant species.

In 1989 there were 107 acres of wetlands in Lynnwood. Approximately 15 percent was open water, 3 percent palustrine emergent, 40 percent palustrine scrub/shrub, and 42 percent forested. Much of the wetland areas in Lynnwood are showing signs of degradation. Large impervious surfaces, parking lots, street run-off and other effects of nearby development are often the source of the problem.

Urbanization has affected both water quality and the functionality of our water resources. Preserving more wetlands could reduce flooding problems in and around Lynnwood while improving water quality and wildlife habitat areas.

One of the best opportunities for preserving wetlands is during the process of subdividing land. Lynnwood's Sensitive Areas Ordinance already requires that existing wetlands be set aside or otherwise carefully treated during the planning and development process. The Sensitive Areas Ordinance offers a buffer credit which allows more development density. Other opportunities are available beyond the requirements of code which could be considered, including clustering of new development on smaller lots, transferring density to another part of a site, or offering density bonuses for innovative conservation applications.

The City should promote various ways to preserve wetlands as well as the economic value and development potential of the land. The wetlands of highest value can be read about in more detail in the Lynnwood Comprehensive Flood and Drainage Management Plan. Information on the major wetlands within the City of Lynnwood (North Scriber Creek Wetland, Scriber Creek Wetland, Scriber Lake Park Wetland, Hall Lake Wetland, and the 44th and I-5 Wetland) also can be found in the *Background Report*.

Wetland Retention

It is important to preserve wetlands to protect water quality, riparian zone restoration, tree planting and other enhancements.

- Support property tax relief to landowners with wetlands on their property so that they are not taxed as though the whole property is developable.
- Allow for increased density for portions of upland areas in exchange for protecting wetland buffer zones.
- Support actions of local Land Trusts to protect local areas through conservation easements and/or acquisitions.
- Discourage development in and near wetlands through critical areas ordinances.
- Acquire wetlands, when feasible, to provide open space, recreational opportunities, and preserve biological diversity.

Buffers

The Sensitive Areas Ordinance sets standard buffer widths for wetlands. The Washington State requirement to update critical area ordinances using Best Available Science will necessitate Lynnwood to reassess its buffer widths. Ultimately, buffers need to be wide enough to provide adequate protection to wetlands. At the same time, there is an optimum width of buffer that provides adequate protection, but still allows practical use of the adjacent land.

Wetland Mitigation

Mitigation is required by the Sensitive Areas Ordinance, or by the Army Corps of Engineers on jurisdictional wetlands when a development creates loss of stream system or wetland functionality. It refers to actions required or recommended to avoid or compensate for impacts to habitat other aquatic resources. Mitigation can be on-site, in-kind, off-site, or out-of-kind. A detailed explanation concerning mitigation can be found in the *Background Report*. Mitigation should be considered and implemented in the following order of preference to ensure no loss of habitat, fish or aquatic resources.

Avoiding the Impact

Minimizing the Impact

Compensating for the Impact (through creation, restoration, enhancement of similar resource areas)

Ground Water

Ground water is the water present underground in the tiny spaces in rocks and soil. Underground areas where ground water accumulates in large amounts are called aquifers. Aquifers can store and supply water to wells and springs.

Most ground water moves slowly — usually no more than a few feet a day. Ground water in aquifers will eventually discharge to or be replenished by springs, rivers, wells, precipitation, lakes, wetlands, and the oceans as part of the Earth's water cycle.

Ground water accounts for over 95 percent of the nation's available fresh water resources, and is the drinking water source for half the people in this country. Many households, towns, cities, farms, and industries use ground water every day, or depend on lakes and rivers that receive part of their water supplies from ground water. In Lynnwood, though, groundwater is not the source of our public water supply. Alderwood Water District does maintain an artesian groundwater well on 164th Street SW (outside of the City limits). The well does not tie directly into the water supply system, but it is open to any person who wants to come and fill containers. Studies by the District has shown that a portion of the aquifer recharge area extends into the City of Lynnwood.

A study done in 1997 by the US Geological Survey found that 94% of the ground water in South Snohomish County was considered soft to moderately hard. No appreciable widespread ground-water contamination was found at the time of the study, and most of the region's water quality problems were a result of natural conditions. Concentrations of arsenic, iron and manganese were the most widespread problems.

The population growth in Snohomish County has increased dramatically in the last 10 years and has affected the quantity and the quality of groundwater. Most ground water recharge in Snohomish County is from infiltration of precipitation, and impervious surfaces prevent infiltration. Consequently, there is less water available. Water quality has been affected by increased septic tank use, increased use of private lawn fertilizers, and increased industrial and commercial activities.

Stormwater

Lynnwood is relatively rich in commercial and business development. Alderwood Mall, strip commercial areas and other business areas consist of large buildings served by expansive areas of paved parking. The result is a high percentage of impervious surface and excessive stormwater runoff in some areas of Lynnwood. Flooding, water quality degradation, and erosion of streambanks from increased flows have been a problem in some areas. Because Lynnwood is mostly built-out, it is not anticipated that drainage problems will increase much more beyond existing conditions.

Increased impervious surfaces and related frequency and severity of flooding are among the most severe causes of damage to salmon habitat in urban areas. The Washington State Department of Fish and Wildlife "strongly urges" Lynnwood to limit the amount of impervious surface area through regulations and/or incentives. Although Lynnwood has adopted a Comprehensive Flood & Drainage Management Plan (1998) and regulations to handle stormwater and protect critical areas, there are always opportunities for further improvement.

To decrease the effects of urban flooding and water quality degradation, the City has constructed, or participated in constructing large regional stormwater facilities. The Swamp Creek Regional Stormwater Facility, at the junction of I-5 and I-405, is about a 100-acre facility that was constructed with Snohomish County and provides flood attenuation for Swamp Creek. The North Scriber Regional Pond, located on 18 acres just west of SR 99 at 17th Street SW, provides regional stormwater detention in the Scriber Creek basin.

The City also requires development to meet the stormwater detention and water quality requirements of the latest version of the Washington State Department of Ecology Stormwater Manual.

FISH AND WILDLIFE

Wildlife diversity is often an indicator of the environmental health of the area. Protecting wildlife requires the protection of habitat and the creation and protection of wildlife corridors between habitat areas.

Wildlife habitat is judged to be fair to poor in Lynnwood, as it typically is in urban areas. Extensive wildlife corridors no longer exist. This creates a loss of biodiversity by generating areas too small for many species, which leads to interbreeding and disappearance of plants and animals. The Lynnwood Parks and Recreation Department has been working on a project to acquire lands surrounding Lund's Gulch Creek to create a habitat corridor. The City also has a Sensitive Areas Ordinance which requires critical areas to be protected and preserved when adjacent development occurs.

Through urbanization we have lost certain types of habitat that are critical for some species. This type of habitat is referred to as critical wildlife habitat, which the state and federal government has designated as endangered, threatened, sensitive, candidate or other priority species.

Use of Lynnwood's streams by anadromous fish species has been documented by Jones and Stokes Biologists in the Stream Habitat Analysis dated October 2000. The analysis verified

that Lynnwood's streams do contain some fish habitat but also stressed that streams have experienced dwindling fish populations due to the effects of urbanization.

Priority Habitat and Species of Concern

The Washington State Department of Fish and Wildlife (WDFW) publishes lists of priority habitat species (PHS) and species of concern (SOC). The PHS list includes habitats and species that need special consideration for conservation. Priority Species include all State Endangered, Threatened, Sensitive and Candidate species that are listed in the Washington Administrative Codes. Additionally, the PHS list includes vulnerable species that are susceptible to decline and those species that are of recreational, commercial or tribal importance. Priority Habitat includes habitats that harbor diverse or unique animal species or unique vegetation.

Lynnwood provides (or likely provides) habitat for the following species listed by the WDFW: **Great Blue Heron, Wood Duck, Columbian Black-tailed Deer, and Bald Eagle.** Additional information about these species is available in the Comprehensive Plan's *Background Report*. Other species that may occur in the Lynnwood area that are listed as Candidate or Threatened species include the following: **Little Willow Flycatcher, Northern Red-legged Frog and Spotted Frog.**

Other species of animals that have been seen by residents and biologists include raccoon, opossum, coyote, rabbit, squirrel, geese, muskrats, red winged blackbird, red tailed hawk, woodpeckers, numerous rodent species and passerine birds. Passerines include such bird species as finches, warblers, tanagers, wrens, swallows, nightingales, crows, vireos and flycatchers.

Only species that can tolerate an extensive amount of human disturbance and considerable noise will be unaffected by further development of forests, wetlands and riparian areas. Wildlife habitat has been found to be poor to fair within the study area (Lynnwood) (RW Beck, 1998) (Salmonid Habitat Assessment, Jones and Stokes, 2000). Extensive development has eliminated most of the suitable habitat. Extensive wildlife corridors no longer exist. Habitat is isolated and available to a very small number of wildlife.

Federal Threatened and Endangered Species

The Endangered Species Act (ESA)

"The purposes of (the) Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in (the ESA)." (Endangered Species Act, Section 2, 5b).



Policy

"(1) It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.

(2) It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." (Endangered Species Act, Section 2, 5c).

The ESA prohibits the "taking," or harming, of protected species and their habitat. Violating this could leave the violator(s) open to federal fines and penalties.

The U.S. Fish and Wildlife Service listed Bald Eagles as threatened. In 1995 they were taken off of the Endangered Species List because of successful recovery. They have been seen on their migratory route in Lund's Gulch.

On July 10, 2000, the National Marine Fisheries Service (NMFS) published a final rule under Section 4(d) of the Endangered Species Act (ESA) which prohibits actions that take or harm certain Northwest salmonid species listed as threatened, including the Chinook salmon. Bull trout were also listed as threatened by the U.S. Fish and Wildlife Service. Coho, chum and sockeye salmon have been listed as threatened in other areas of the Pacific Northwest. Steelhead trout have also been listed as threatened, and according to NMFS they will be protected in a separate Federal Register document. Coho salmon have been recently seen in Lynnwood's streams and lakes, however the Puget Sound Coho are not currently listed as an endangered Evolutionarily Significant Unit (ESU), and therefore are not as high a priority as other salmonid ESU's.

Jones and Stokes Biologists completed a Salmon Habitat Assessment (2000) and found no presence of listed species in Lynnwood. Swamp Creek has historically supported Puget Sound Chinook salmon that will be protected and steelhead trout that may soon be protected under a separate federal ruling.

TREE PRESERVATION

Preservation and Enhancement of Trees & Soils

Trees are often seen as obstacles in the way of new development. Many people do not realize the importance of trees. They help moderate temperature, wind speed and reduce pollution in the air. They help to stabilize soil and prevent erosion and provide habitat for birds and animals. Trees clean the air and water, slow global warming, and increase aesthetics. Water transpires from trees and cycles through back into ground water.

Numerous studies have also linked higher home prices with the presence of trees on the site (Planning Advisory Service report 489-90).

Trees that live next to streams, lakes and wetlands provide important habitat. The trees shade the water and reduce temperatures. Trees also help slow stormwater and flooding during storms, therefore reducing erosion. Tree roots stabilize stream bank soils, and the leaves and insects falling off trees into the waterways provide food for fish and other creatures.

Preservation of a stand of trees instead of a few lone trees on a new development site significantly improves the trees' chances of survival. It has been proven that leaving lone trees where there once were many can cause more harm than good. When the trees are



suddenly subjected to higher winds and root damage from the removal of surrounding trees they will be more likely to blow down in windstorms.

Replacement of trees removed from a site is another common form of urban forestry conservation. Furthermore, requiring more trees to be planted than were initially removed is legally enforceable because a large mature tree is generally considered to be worth more.

Deciding to preserve trees is only the beginning on a construction site. Careless construction activities can cause trees to eventually die anyway. Bulldozing, digging, or even driving large construction trucks over a tree's roots can result in death of the tree. Severe grade changes around trees can also be very harmful. Soil is also an important part of preserving trees, and often during construction the soil is compacted and cleared away. This causes trees to suffocate from lack of oxygen and nutrients in the soil.

After construction is over, it is important to maintain the preserved trees. The developer should replace preserved trees that die because of construction, and they should plan for the fertilization, irrigation and pruning of the living trees.

The City presently has a tree ordinance whose purpose is to preserve and protect significant trees. The ordinance is currently being rewritten to incorporate many of the ideas outlined above, understanding the City's other obligations, such as allowing properties to develop to urban standards. The draft emphasizes that trees saved during development must be appropriate trees for long-term survival in the urban landscape. The draft code also requires replanting of appropriate tree species at a minimum ratio of 1:1, to provide no net loss of trees. The draft requires protection of significant trees during and after construction.

AIR QUALITY

Considering Lynnwood's high volumes of traffic, congestion and close proximity to major freeways, air quality is a concern, particularly at congestion points. Gasoline and diesel-powered vehicles and equipment are a large source of air pollution in Lynnwood. Air pollution also contributes to water pollution when rainwater picks up air pollutants and runs off into water bodies.

The City can take a lead role in encouraging other modes of transportation by using more efficient vehicles and alternative-fueled vehicles in its own fleet and by promoting transit use among its employees with transit subsidies and restrictive parking policies. While the city is not the regulator of automobile emissions, the City can encourage alternatives to gasoline powered automobile transportation by promoting improvements to the public transit system, increasing incentives for car-pooling, bicycling and walking, and by limiting the amount of parking that may be included in some new developments. The City can advocate with Community Transit and Sound Transit in designing public transportation systems and stations that help maximize the use of such systems.

The agency primarily responsible for monitoring and regulating air quality in this area is the Puget Sound Clean Air Agency. The city will cooperate with the Puget Sound Clean Air Agency to achieve high standards for air quality.

To measure existing air quality, DOE and Puget Sound Clean Air Agency (PSCAA) maintain a network of monitoring stations throughout the Puget Sound. Based on monitoring

information, regions are designated as “attainment” or “non-attainment” areas for particular air pollutants. Once an area has been designated as a non-attainment area it is considered as an air quality “maintenance” area until attainment has been reached for 10 consecutive years. The City of Lynnwood is within a carbon monoxide and ozone “maintenance” area, both established in 1996.

The amount of ozone, inhalable particulate matter (PM10) and carbon monoxide (CO) are growing in our environment. Population growth and dependence on motor vehicles affects Lynnwood’s air quality more than any other factors. The areas in Lynnwood with the worst air quality are directly linked to high traffic volumes, specifically, 196th St SW, 200th Ave W, 44th Ave W and Highway 99. Coincidentally, one of the Puget Sound Clean Air Agency monitoring stations is located on 44th Avenue West (the other one is on 59th Place West).

Ozone

Ozone is a highly reactive form of oxygen that is created by sunlight activated chemical transformations of hydrocarbons and nitrogen oxides in the air. The EPA designated Snohomish County as a non-attainment zone for ozone in 1990. Lynnwood is still regarded as a maintenance zone.

Particulate Matter

There are two categories for measuring the amount of particulate matter in the air: particulate matter less than or equal to 10 micrometers in diameter (PM10) and fine particulate matter less than or equal to 2.5 micrometers in diameter (PM 2.5). Industrial activities, residential wood burning, and motor vehicle engines most commonly produce particulate matter. Lynnwood is part of a PM10 attainment zone and is expected to stay at attainment levels.

Carbon Monoxide

Modeled Intersection	Time	1998 Conditions
SR 99 & 196 th St SW	1 hour	13.2
	8 hour	9.2
48 th Ave W & 196 th St SW	1 hour	11.0
	8 hour	7.7
44 th Ave W & 196 th St SW	1 hour	13.2
	8 hour	9.2
37 th Ave W & 196 th St SW	1 hour	9.7
	8 hour	6.8
Alderwood Mall Pkwy & 196 th St SW	1 hour	12.6
	8 hour	8.8
44 th Ave W & 200 th St SW	1 hour	13.5
	8 hour	9.5

Note: Eight-hour concentrations were calculated from the modeled 1-hour CO concentration with a 0.7 persistence factor. Bold font represents a calculated CO concentration over the 8-hour ambient air quality standard of 9.0 ppm.

Carbon monoxide (CO) is a by-product of incomplete combustion, largely generated by motor vehicles and wood burning. Carbon monoxide is the pollutant of greatest concern because it is being emitted in the largest measurable quantity.

There are two air quality standards for CO, a 1-hour average of 35 parts per million (ppm) and an 8-hour average of 9 ppm. If these levels are exceeded more than once a year the attainment standard will be violated. Lynnwood is located within a CO maintenance area established in 1997. This requires the Department of Ecology and PSCAA to develop a work plan to comply with the standards. The intersections of most concern are 196th Street and

Highway 99, 196th and 44th Ave, and 200th St and 44th Ave.

Future Conditions

Washington's population is expected to increase by approximately 2.5 million people over the next 25 years. Traffic will grow with the increase of population, and with it motor vehicle emissions will cancel out air quality gains made in recent years, unless people stop driving and start using mass transit or we reduce the amount of motor vehicle emissions.

Tree preservation is an integral part of protecting air quality. Trees improve air quality by intercepting particles and removing gaseous pollutants. These pollutants include nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), and particulate matter. Conservation of trees should be encouraged through City regulations and incentive mechanisms.

Greenhouse Gas Emissions

The Environmental Protection Agency is now required to consider carbon dioxide (CO₂) to be an air pollutant under the Clean Air Act, putting control of this most prevalent greenhouse gas on an equal footing with the traditional criteria pollutants. In accordance with this finding, and the Energy & Sustainability Element Policy E&S2.2.1, the City will evaluate proposed actions subject to the State Environmental Policy Act (SEPA) for their greenhouse gas emissions. After appropriate action by the City Council, the City may adopt measures consistent with policies E&S 2.2.1 and ER-8.7 to require mitigation of greenhouse gas impacts.

VIEW PROTECTION AND LIGHT POLLUTION

Views may be protected through height restrictions, sign controls, view corridor requirements and landscaping regulations. View corridors are openings in the urban landscape that allow views of important features such as historical buildings, mountains, shorelines and parks. Lynnwood's topography provides limited views of the Olympic and Cascade Ranges and Mount Rainier.

View protection is often linked with the natural environment. Lynnwood's Tree protection ordinance plays a major role in both aesthetic value and natural resource protection. Trees provide beautification while helping to clean the air and stabilize the soil, but trees also block views if not carefully placed.

Roadway protection programs are also common, and usually restrict sign size, lighting (no neon or excessive bright light), and have minimum landscaping requirements. Lynnwood could select streets that have the best views to become street view corridors. Burying power lines could be a first step in improving the aesthetics of the chosen streets. Strict enforcement of sign codes, the prevention of cell towers in view corridors, and appropriate landscaping would also improve local views.

Glare is strong, steady light that extends beyond the area intended for illumination. Glare interferes with views and, in extreme cases, may interfere with the normal use of nearby properties. Night lighting is an important safety feature. However, lighting should be designed and directed to minimize glare. Night lighting is a necessity but, through good

design and code enforcement, it's possible to maintain darker skies in the residential neighborhoods of Lynnwood and to enhance our views of stars and planets.

NOISE POLLUTION

Noise is a pollutant that can have a significant negative impact on humans and other animals. Excessive noise makes neighborhoods and communities less desirable and can cause neighborhood deterioration. Noise also impacts people's physical and mental health.

The City of Lynnwood needs to pay particular attention to noise levels within residential neighborhoods, in order to protect the residents' comfort and quality of life. Neighborhood protection and enhancement are high priorities of the City Council (2001 and 2002), and are emphasized in the 2020 Comprehensive Plan.

The new College District Mixed-Use zone allows a mix of residential, office and commercial uses. Design and development code provisions were drafted to control land uses, densities, design and construction to hold noise and traffic to acceptable levels.

Residential areas that are directly adjacent to commercial uses, industrial uses, I-5 or Highway 99 should have the benefit of more protection measures. Fences and concrete noise walls can greatly reduce sound, but the aesthetics of the community also need to be preserved. When they are not designed with aesthetics in mind, concrete walls can produce a negative feeling of enclosure. Cities abutting freeways can work with the Dept. of Transportation to mitigate freeway noise while addressing aesthetic concerns. In addition, building standards can be modified to require noise attenuating walls and windows to decrease noise impacts on adjacent residents.

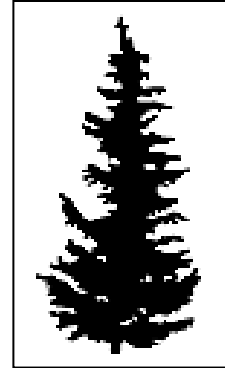
ENVIRONMENTAL ENFORCEMENT

- Most health-related services are provided by the Snohomish County health district which includes the City of Lynnwood.
- Activities that involve the use, processing and /or storage of hazardous materials are regulated by the Lynnwood Fire Department.
- Any activity with the potential to expose the public to health or safety hazards not covered by the regulations of the health department, fire department or other public agencies should be discouraged.
- Any permitted activity with the potential to expose the public to health or safety hazards should be carefully monitored.

GOALS, OBJECTIVES AND POLICIES

GOAL:

To minimize loss of habitat functions and to maintain, protect and enhance the functions of fish and wildlife habitat, water quantity and quality, wetlands and other water bodies; and to integrate the nonhuman natural environment with the urban environment.



Subgoal ER-1: Environmental Protection and Enhancement

A city government that strives to reduce impacts to the environment, considers impacts of policy on the environment, leads educational programs about the environment, cooperates with government agencies on environmental issues, and strives to improve the City's achievement of environmental goals.

Objective ER-1.1 Meet all state and federal mandates regarding critical areas ordinances, such as the incorporation of best available science. The current compliance date for the state requirements is September 2004.

Policy ER-1.1 In managing City government operations, take reasonable steps to reduce impacts to the environment.

Policy ER-1.2 Consider the environmental impacts of policy, regulatory and service decisions in the context of the City's commitment to provide for the public safety and a high quality of life in a sustainable environment.

Policy ER-1.3 Consider and integrate best available science in development regulations that are concerned with critical areas.

Policy ER-1.4 Encourage hazardous waste cleanups within the city. To encourage such cleanups, Lynnwood should ensure that its regulations and standards are flexible, do not duplicate state and federal requirements and provide for expeditious approval where local review is required.

Policy ER-1.5 Promote and lead educational programs to raise public awareness of environmental issues, encourage respect for the environment and show how individual actions and the cumulative effects of a community's actions can have significant effects on the environment.

Policy ER-1.6 Cooperate with other local governments, state, and federal agencies and nonprofit organizations to protect and enhance the environment.

Policy ER-1.7 Ensure that environmental impacts resulting from policy, regulatory and service decisions are consistent with the goals and objectives of other Plan elements that

pertain to a high quality of life in Lynnwood, and specifically to the Housing Element's "Neighborhood Preservation" subgoal.

Subgoal ER-2: Conservation of Resources and Recycling

A city government that strives to reduce consumption of resources, minimizes waste, reduces pollution, uses new technologies, promotes conservation, reuse, and recycling, encourages non-automotive transportation, and promotes the use of alternative fuels.

Objective ER-2.1 Recycle and conserve resources through the implementation of the following policies:

Policy ER-2.1 Strive to design, construct, and operate City facilities to limit environmental impacts, such as by incorporating energy efficiency, water conservation, waste minimization, pollution prevention, or resource-efficient materials throughout a facility's life.

Policy ER-2.2 Seek to minimize the quantity and toxicity of materials used and waste generated from City facilities and operations through source reduction, reuse, and recycling.

Policy ER-2.3 Use, where feasible, new technologies that demonstrate ways to reduce environmental impacts.

Policy ER-2.4 Promote energy and water conservation.

Policy ER-2.5 Use education to promote reuse and recycling of used or waste materials by residents, businesses and City employees.

Policy ER-2.6 Work to reduce emissions of greenhouse gases from transportation by encouraging the use of non-automotive transportation by city employees and the public and measures that reduce vehicle miles traveled.

Policy ER-2.7 Promote the use of alternative fuels in vehicles and equipment by the City, transit operators, fleet operators, and the public.

Policy ER-2.8 Promote the use of innovative conservation measures, such as low-impact development techniques.

Subgoal ER-3: Natural Landscape and Vegetation

Minimize the disturbance of existing vegetation, soils and natural landscape to protect the use and amenities of nearby properties and the surrounding community.

Policy ER-3.1 Encourage land development practices that minimize disturbance to vegetation, soils, and the natural landscape. Development plans should respect natural topographical and landscape features where feasible. Avoid disturbance of steep slopes, where the visual impact, erosion potential and opportunity for landslides is greatest.

Policy ER-3.2 Ensure prompt restoration of land after grading and vegetation removal through phased clearing and grading, hydro-seeding, and other appropriate re-vegetation and engineering techniques.

Policy ER-3.3 Native vegetation on undeveloped land should not be removed unless an application has been submitted to the city for development, unless permitted by the Lynnwood Municipal Code (LMC) or required in the interest of health, safety and welfare.

Policy ER-3.4 Avoid clearing of native vegetation that maintains slope stability, reduces erosion, shades shorelines, buffers wetlands and stream corridors, and provides aquatic habitat.

Policy ER-3.5 Encourage the incorporation of open space into development through setbacks, view corridors and recreation areas. Preserve areas with natural or scenic value within development sites to achieve open space amenities.

Subgoal ER-4: Geologic Hazard Areas

Protected geologic hazard areas including steep slopes with significant landslide or erosion potential, soils unsuited to development, areas of significant seismic hazard, and properties within 100-year floodplains.

Policy ER-4.1 Seek to retain and designate as open space significant areas of steep slopes that may be critical erosion or landslide hazard areas.

Policy ER-4.2 Avoid where possible the creation of lots with building sites entirely within these areas, following the requirements of the Sensitive Areas Ordinance: Landslide hazards; Soils unsuited to development, and 100-year floodplains. Direct uses that require substantial improvements or structures away from the following areas not already characterized by urban development: critical erosion hazard areas; landslide hazard areas; seismic hazard areas; areas with soils unsuitable for development; areas within the 100-year floodplain.

Policy ER-4.3 Manage development in both erosion and landslide hazard areas to minimize erosion and landslide probabilities during both construction and use.

Policy ER-4.4 Regulate development in the 100-year floodplain to avoid substantial risk and damage to public and private property and loss of life. These regulations shall, as a minimum, comply with state and federal requirements for floodplain regulations.

Subgoal ER-5: Water Resources

Enhanced water quality and protected environmentally sensitive areas including wetlands, natural streams and lakes, riparian vegetation, and buffers required by sensitive areas regulations; Enhanced pervious surface and vegetative cover in the city; Decreased use of pesticides and herbicides.

Objective ER-5.1 Review and update, as necessary and as required by state and federal mandate, the City's Sensitive Areas Ordinance to ensure maximum protection of known sensitive areas and wildlife habitat. The state's current compliance date for updating Critical Areas Ordinances and integrating best available science is Sept., 2004.

Policy ER-5.1 Work to maintain or improve water quality, through appropriate land use and transportation policies.

Policy ER-5.2 Seek to retain and designate significant areas of wetlands as open space.

Policy ER-5.3 Strive to increase the amount of total pervious surface and vegetative cover in the city balancing the need to provide urban densities, with the needs to promote groundwater replenishment and decrease surface water runoff and the pollution it collects from roads, rooftops and sidewalks.

Policy ER-5.4 Limit the use of pesticides and herbicides on City-owned property, which can result in polluted stormwater run-off, and provide education for other landowners to do the same.

Policy ER-5.5 Protect and enhance surface water quality. The flow of nutrients (especially phosphorus), heavy metals and other pollutants into streams, rivers, lakes and natural

wetlands should be controlled. Treatment measures shall be required where the development results in discharges to surface or ground waters.

Policy ER-5.6 Reduce transportation-related water quality degradation by promoting less polluting transportation alternatives.

Policy ER-5.7 Include Low Impact Development stormwater treatment technologies to roadways, parking lots, public plazas, sidewalks, and pathways where practicable, and encourage low-impact developments by providing incentives for developments that utilize low-impact development principles.

Policy ER-5.8 Conserve and protect environmentally sensitive areas from loss or degradation following the requirements of the Sensitive Areas Ordinance. In areas planned for substantial urban development, sensitive areas may be modified where they have low ecological value and the function and values will be fully replaced or where the impact on the resource may be reduced to acceptable levels. Land uses and developments that are incompatible with environmentally sensitive areas shall be restricted within those areas.

Policy ER-5.9 Encourage Planned Unit Developments (PUDs), clustering and density transfers for both commercial and residential development to help retain significant natural features and sensitive areas as open space.

Policy ER-5.10 Preserve wetlands following the requirements of the Sensitive Areas Ordinance. The size and value of the wetlands shall determine the amount of development allowed, if any. On a citywide, long-term basis, Lynnwood shall strive to achieve no net loss of wetlands function and value. Maintain wetlands acreage over the long-term. In undertaking public projects and deciding development applications, Lynnwood shall first seek to avoid wetlands impacts. Where impacts cannot be avoided, the impacts shall be minimized and any adverse impact mitigated. On-site, in-kind mitigation generally is preferred. Other forms of mitigation may be allowed where consistent with these policies and Lynnwood's sensitive areas regulations.

Policy ER-5.11 Enhance and restore degraded wetlands where possible.

Policy ER-5.12 Protect and enhance natural streams, lakes and wetlands, including riparian and shoreline habitat, to protect water quality, reduce public costs, protect fish and wildlife habitat and prevent environmental degradation. The protected features should include natural hydraulic and ecological functions, fish and wildlife habitat, recreational resources and aesthetics.

Policy ER-5.13 Avoid development-related impacts to riparian corridors following the requirements of the Sensitive Areas Ordinance. Protect riparian vegetation. Require the enhancement and rehabilitation of these areas if they are impacted by development and encourage enhancement and rehabilitation when development takes place on adjacent uplands.

Policy ER-5.14 Avoid alteration of streams following the requirements of the Sensitive Areas Ordinance. Do not reduce the capacity of natural drainage courses. Minimize the enclosure of natural drainage ways and discourage relocation. Where relocation or alteration is necessary, the flood control and habitat values of the drainage course shall be fully replaced and enhancement shall be encouraged. In the case where the City accepts alteration of a stream to increase the usability of a site, enhancement shall be required.

Policy ER-5.15 Restore, where feasible, natural drainage channels that have been placed within culverts and have had their capacity or habitat value reduced as development or redevelopment occurs.

Policy ER-5.16 Using best available science, restore, where feasible, Scriber Creek, Scriber Lake, and other adversely effected water bodies.

Policy ER-5.17 Support public education to protect and improve surface and ground water resources by: Increasing the public's awareness of potential impacts on water bodies and water quality; Encouraging proper use of fertilizers and chemicals on landscaping and gardens; Encouraging proper disposal of materials; Educating businesses on surface and ground water protection best management practices in cooperation with other government agencies and other organizations; Educating the public and businesses on how to substitute materials and practices with a low risk of surface and ground water contamination for materials and practices with a high risk of contamination.

Policy ER-5.18 Encourage development practices that respect and preserve the city's watercourses and wetlands. Integrate, wherever possible following sensitive areas regulations, stormwater control facilities and streams, lakes, ponds and wetlands into project design to preserve and improve water quality, control sedimentation and to preserve and enhance the aesthetic quality of the sensitive areas and nearby developments.

Policy ER-5.19 Seek to identify all wetlands, streams, and water bodies, and areas of biological significance and designate as environmentally sensitive areas according to LMC sensitive areas criteria.

Subgoal ER-6: Fish and Wildlife

As feasible, and in balance with the requirements of an urban area, protect urban forests and wildlife habitats, including salmon habitat; open space and parkland network linking habitat for wildlife and native ecosystems; restore, protect, and enhance habitat areas.

Objective ER-6.1 Maximize, as feasible, fish and wildlife habitat through the implementation of the following policies:

Policy ER-6.1 Where suitable habitat potential exists, work to maintain and enhance Lynnwood's urban forests and wildlife habitats and the plants and animals native to the region.

Policy ER-6.2 Consistent with the overall goals of the Growth Management Act, support the preservation of regional habitat and bio-diversity with land use patterns that encourage growth near the city center and in areas characterized by urban development rather than in undeveloped areas.

Policy ER-6.3 Protect the habitat of native and migratory wildlife by acquiring open space, encouraging the conservation of beneficial habitat, and providing for the growth of native species of trees and other native vegetation.

Policy ER-6.4 Minimize habitat fragmentation by linking wildlife habitats. Use greenways, stream corridors and other natural features to connect natural habitat, parks, and other open space features.

Policy ER-6.5 On city property, both on-land and in-water, cultivate native ecosystems that encourage native wildlife and encourage replacement of invasive, non-native vegetation. Native ecosystems are more diverse and therefore more resilient to insects, disease, and climate changes.

Policy ER-6.6 Maintain the health of natural habitats on private property through a combination of education, incentives and development review practices.

Policy ER-6.7 Land use plans and developments should avoid impacts on critical wildlife habitats and restore and enhance degraded or lower quality critical wildlife habitats whenever possible.

Policy ER-6.8 Encourage environmental protection and enhancement practices among Lynnwood's residents and City personnel through education, training, and continued volunteer participation in the care of Lynnwood's plant and wildlife habitats. Involve citizens, community groups, and nonprofit organizations in the care and enhancement of the urban forests and wildlife habitat.

Policy ER-6.9 Consider best available science in making decisions regarding habitat preservation and restoration efforts.

Subgoal ER-7: Urban Forestry

A net increase of healthy, diverse tree cover including sizable tree clusters, forested slopes and treed gullies, as well as trees preserved within stream, wetlands and lake buffers; and selected arterial streets designed to give preference to pedestrian and non-motorized traffic with street trees and other natural elements.

Objective ER-7.1 Complete the major revision of the City's tree protection regulations and continue to monitor and update these regulations as necessary.

Policy ER-7.1 Strive to achieve a net increase of healthy, diverse tree cover throughout the city by requiring developers to save trees worthy of retention and to replant appropriate species for the urban environment at a ratio of at least one tree planted for every tree removed.

Policy ER-7.2 To help preserve the natural environment and Lynnwood's remaining forested lands, Lynnwood shall promote the retention of sizable tree clusters, forested slopes, treed gullies and specimen trees that are of species that are long-lived, not dangerous, well-shaped to shed wind and located so that they can survive within a development without other nearby trees.

Policy ER-7.3 Preserve trees within stream, wetlands and lake buffers.

Policy ER-7.4 Promote planting of suitable native trees and native vegetation within degraded stream, wetlands and lake buffers as well as within gullies.

Policy ER-7.5 Street trees within street right-of-way shall be encouraged along selected arterial streets and local streets. Where street trees are not practical, neighborhood policies may also designate areas where trees shall be planted on developable lots.

Policy ER-7.6 Designate streets that give preference to pedestrian and non-motorized traffic and that include street trees and other natural elements. Consider this designation for new streets in the City Center or existing, underused streets that could be re-configured to serve primarily pedestrian needs. The design may include such elements as large planting beds, wide paths and seating areas to encourage pedestrian use and neighborhood revitalization. The roadway should be diminished in importance when vehicular capacity is not an issue, with narrowed and restricted lanes to slow traffic and less space dedicated to parking. Unique features should be designed into the streetscape to help users form a mental connection with the place and feel a sense of pride and ownership.

Policy ER-7.7 Street trees shall be planted in planter strips or tree wells located between the curb and sidewalk, where feasible. Tree species and planting techniques shall be selected to create a unified image for the street, provide an effective canopy, avoid sidewalk and utility damage and minimize water consumption. The trees required as street trees shall be deciduous shade trees that are suited to the climate and to planting along streets and sidewalks.

Policy ER-7.8 On City property, protect selected trees, utilize proper pruning and tree care, and improve conditions in order to achieve long-term benefits from the urban forest – and encourage private landowners to do the same.

Policy ER-7.9 Lynnwood should provide information to community residents and property owners to encourage them to plant appropriate trees on their properties and to care for the trees properly.

Policy ER-7.10 Existing significant trees (as defined in the Lynnwood Municipal Code) to be preserved and removed in conjunction with development should be evaluated by a Certified Arborist prior to removal. Trees to be preserved well beyond limits of construction do not need to be evaluated.

Policy ER-7.11 Removal of significant trees (as defined in the Lynnwood Municipal Code) should be mitigated by the planting of replacement trees. The number, size and species of replacement trees depend on the number, size, species and condition of the trees to be removed and the circumstances requiring removal.

Subgoal ER-8: Air Quality

Raise Lynnwood's level of livability by supporting efforts to reduce urban environmental air pollution and increase indoor environmental quality in city-owned buildings.

Objective ER-8.1 Support the reduction of urban environmental air pollution to established standards.

Policy ER-8.1 Strive to reduce air pollution from all sources, including transportation, wood burning and industrial activities through appropriate land use and transportation policies.

Policy ER-8.2 Support regional growth management activities that help reduce the need for automobile transportation and related air pollution.

Policy ER-8.3 Promote clean-burning, alternative-fueled vehicles for use by large fleet operators, transit operators, and the public as a way of reducing impacts on air quality.

Policy ER-8.4 Strive to ensure beneficial indoor environmental quality (which can increase health, welfare and productivity of workers or residents) in all renovations and new construction of City-owned facilities and promote design conditions that enhance beneficial indoor environmental quality in private construction.

Policy ER-8.5 Comply with federal and state air pollution control laws and improvements to regional air quality in cooperation with the Puget Sound Clean Air Agency and the Puget Sound Regional Council.

Policy ER-8.6 Mitigate the emissions of any odors which are not otherwise prohibited by law, but which are detrimental or disturbing to surrounding property or individuals. –Before-and-after observations and measurement of particulate matter and gases may be required by independent air quality consultants as a means of monitoring and insuring compliance, and requiring corrections.

Policy ER-8.7 The City shall evaluate proposed actions subject to the State Environmental Policy Act (SEPA) for their greenhouse gas emissions. The City may exercise its substantive authority under SEPA to condition or deny proposed actions in order to mitigate associated individual or cumulative impacts to global warming.

Subgoal ER-9: View Protection and Light Pollution

Significant public natural scenic views and dark night skies in Lynnwood's residential neighborhoods.

Policy ER-9.1 In planning for parks, give consideration to siting and developing parks so that the public can see significant views from them, including the Cascades to the east, the Olympics to the west, and Mt. Rainier to the south.

Policy ER-9.2 Measures may be taken to improve views, but do not remove or prune trees within parks or protected areas to improve views.

Policy ER-9.3 Design and construct night lighting to minimize excessive glare. Night lighting should not spill over onto nearby properties.

Policy ER-9.4 Light sources, including signs, shall be shielded or shaded to prevent glare on surrounding areas or cast excessive light on any residential use or street.

Policy ER-9.5 Materials with high light reflective qualities should not be used in construction of buildings where reflected sunlight or artificial light would throw intense glare on adjacent areas or streets.

Subgoal ER-10: Reduction of Noise Pollution**Minimize, to the extent practical, noise pollution through the implementation of the following policies:**

Policy ER-10.1 Enforce the City's noise emission standards.

Policy ER-10.2 Limit noise to levels that protect the public health and that allow residential, commercial and manufacturing areas to be used for their intended purposes through noise regulations.

Policy ER-10.3 In city operations, reduce where possible, the use of noise-polluting equipment.

Policy ER-10.4 Support the use of technologies and engineering practices to lessen noise produced by traffic, aircraft, construction, and commercial and industrial facilities located near residential areas.

Policy ER-10.5 Support the reduction of noise and mitigation measures to reduce the noise and visual impacts of freeways and arterials on residential areas. Promote actions, such as sound attenuating surfaces and reductions in traffic speed, by the city and other agencies that reduce the noise impacts of freeways and arterials within the city.

Policy ER-10.6 Promote actions, such as equipment modifications and operational limits, that reduce noise from transportation modes, construction sites, industrial uses, and commercial business establishments.

Policy ER-10.7 Require buffering or other noise reduction and mitigation measures to reduce noise impacts from commercial and industrial areas on residential areas. Doors and windows, and any exterior mechanical equipment should be located or buffered to minimize noise impacts to surrounding properties.

Policy ER-10.8 Work with businesses and the community to provide education about the impacts of noise pollution on health and our quality of life.

Subgoal ER-11: Environmental Health and Hazardous Activities:

Discourage any activity with the potential to expose the public to health or safety hazards. Carefully monitor any permitted activity with the potential to expose the public to health or safety hazards.

Policy ER-11.1 Any activity with the potential to expose the public to health or safety hazards not covered by the regulations of the health department, fire department or other public agencies should be discouraged.

Policy ER-11.2 Any permitted activity with the potential to expose the public to health or safety hazards should be carefully monitored.

Policy ER-11.3 Proposals involving the potential risk of an explosion or the release of hazardous substances should include specific measures to prevent any environmental health hazards and ensure the public health, safety and welfare.

