City of Kirkland
New Comprehensive Plan Chapter XVI- Shoreline Area
Shoreline Goals and Policies

A. Introduction

The City of Kirkland's Shoreline Master Program consists of shoreline goals and policies contained in this chapter, shoreline regulations contained in KZC Chapters 83 and 141 and the Kirkland Shoreline Restoration Plan. The Program is adopted under the authority of RCW Chapter 90.58 and WAC Chapter 173-26.

Statutory Framework

The City of Kirkland manages the shoreline environment through implementation of the Shoreline Master Program. The Washington State Shoreline Management Act (SMA) provides guidance and prescribes the requirements for locally adopted Shoreline Master Programs. The goal of the SMA, passed by the Legislature in 1971 and adopted by the public in a 1972 referendum, is to "prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines". The SMA establishes a broad policy giving preferences to uses that:

- Protect shoreline natural resources, including water quality, vegetation, and fish and wildlife habitat;
- Depend on the proximity to the shoreline (i.e. "water dependent uses");
- Preserve and enhance public access or increase recreational opportunities for the public along shorelines.

The SMA establishes a balance of authority between local and state government. Under the SMA, Kirkland adopts a shoreline master program that is based on state guidelines but tailored to the specific needs of the community. The program represents a comprehensive vision of how shoreline areas will be used and developed over time.

The Department of Ecology has issued State guidelines for Shoreline Master Programs in WAC 173-26. The guidelines are intended to assist local governments in developing master programs, which must be accepted and approved by the Department of Ecology as meeting the policy objectives of the SMA established under RCW 90.58.020 as well as the criteria for state review of local master programs under RCW 90.58.090.

Vision

The City of Kirkland's identity is strongly influenced and defined by its waterfront setting. Views of Lake Washington give Kirkland its sense of place and the City's integrated network of trails, parks, and open spaces along the shoreline provide abundant opportunities for public access to the shoreline. The City's waterfront parks provide places and host events where people can gather and interact. Kirkland's shoreline commercial districts also provide opportunities for residents and visitors to enjoy the City's unique natural setting along the shoreline. The waterfront provides many varied

recreational opportunities to meet the needs of Kirkland citizens and provides a gateway to the City. It also provides vital habitat for fish and wildlife and the natural systems within the shoreline serve many essential biological, hydrological and geological functions.

The shoreline zone is one of the most valuable and fragile of Kirkland's natural resources and, as a result, the utilization, protection, restoration, and preservation of the shoreline zone must be carefully considered.

The City developed its first Shoreline Master Program in 1974 as a component of the Comprehensive Plan. Key considerations within this plan and subsequent amendments included conservation, public access to the shoreline, and the guidance for water-oriented recreational uses to locate along the Kirkland shoreline. These initial policy objectives are reflected in today's protection of the City's significant natural areas as open space, as well as the extensive shoreline trail system and network of shoreline parks which have been established over time.

Over the significant time that has spanned since the original adoption of the City's first Shoreline Master Program, there have been substantial changes to the lakefront environment. Industrial uses, such as the shipyard previously located at Carillon Point, have left Kirkland's shoreline. The City has added significant publicly owned properties to our waterfront park system, most significantly the Yarrow Bay wetlands, Juanita Bay Park, Juanita Beach Park, and David E. Brink Park. Water quality within Lake Washington, once severely impacted by nutrient loading from sewage, has remarkably improved since regional wastewater treatment plants were constructed and the final plant discharging directly into the lake was closed in 1967.

The lake environment has also been impacted by new challenges. The shoreline character has continued to change over time, as additional docks and bulkheads have been built, contributing to a loss of woody debris and other complex habitat features along the shoreline. Impervious surfaces have increased both within the shoreline area and in adjacent watersheds and this, together with consequent reduction in soil infiltration, have been correlated with increased velocity, volume and frequency of surface water flows. These and other changes have impacted the habitat for salmonids. In 1999, Chinook salmon and bull trout were listed as Threatened under the Federal Endangered Species Act in 1999. The region's response to this listing has resulted in new scientific data and research that has improved our understanding of shoreline ecological functions and their value in terms of fish and wildlife, water quality, and human health.

To address these changes, comply with the mandates of the Shoreline Management Act, and enable the City to plan for emerging issues, in 2008 the City initiated an extensive update of its Shoreline Master Program. The new program responds to current conditions and the community's vision for the future.

In updating the program, the City's primary objectives were to:

- Enable current and future generations to enjoy an attractive, healthy and safe waterfront.
- Protect the quality of water and shoreline natural resources to preserve fish and wildlife and their habitats.
- Protect the City's investments as well as those of property owners along and near the shoreline.
- Have an updated Shoreline Master Program (SMP) that is supported by Kirkland's elected officials, citizens, property owners and businesses, the State of Washington, and other key groups with an interest in the shoreline.
- Efficiently achieve the SMP mandates of the State.

The City of Kirkland, through adoption of the Shoreline Master Program update, intends to implement the Washington State Shoreline Management Act (RCW 90.58) and its policies, including protecting the State's shorelines and their associated natural resources, planning for and fostering all reasonable and appropriate uses, and providing opportunities for the general public to have access to and enjoy shorelines.

The City of Kirkland's Shoreline Master Program represents the City's participation in a coordinated planning effort to protect the public interest associated with the shorelines of the State while, at the same time, recognizing and protecting private property rights consistent with the public interest. The Program preserves the public's opportunity to enjoy the physical and aesthetic qualities of shorelines of the State and protects the functions of shorelines so that, at a minimum, the City achieves a 'no net loss' of ecological functions, as evaluated under the *Final Shoreline Analysis Report* issued in December 2006. The Program also promotes restoration of ecological functions where such functions are found to have been impaired, enabling functions to improve over time.

The goals and policies of the SMA constitute one of the goals for growth management as set forth in RCW 36.70A.020 and, as a result, the goals and policies of this SMP serve as an element of Kirkland's Comprehensive Plan and should be consistent with other elements of the Comprehensive Plan. In addition, other portions of the SMP adopted under chapter 90.58 RCW, including use regulations, are considered a part of the city's development regulations.

Organization

The policies are grouped under seven sections:

- Shoreline Land Use and Activities
- Shoreline Environment
- Parks, Open Space and Recreation
- Shoreline Transportation
- Shoreline Utilities
- Shoreline Design
- Shoreline Archaeological, Historic and Cultural Resources
- Restoration Planning

The Land Use section works together with other policies contained in this Chapter of the Comprehensive Plan. The Land Use section addresses the general distribution and location of shoreline uses, the Shoreline Parks, Open Space and Recreation section more specifically addresses issues of public park operations and maintenance and standards for private shoreline recreation uses and modifications. The Environment section more specifically addresses shoreline critical areas, water quality, vegetation, and shoreline modifications such as filling and dredging. The Transportation section addresses both public access and circulation within the shoreline area. The Utilities section addresses utilities within the shoreline, while the Design section addresses public view corridors and designing for orientation to Lake Washington. The Archaeological, Historic and Cultural Resources addresses identifying important sites and preventing destruction of the sites, and having educational projects and programs to appreciate the important of the shoreline history. The Restoration section addresses the City's adopted Restoration Plan for restoring the shoreline areas to achieve net benefit in ecological conditions.

B. Shoreline Goals and Policies

1. Shoreline Land Use and Activities

Goal SA-1: Provide a high quality shoreline environment where
(1) Natural systems are preserved.
(2) Ecological functions of the shoreline are maintained and improved over time.
(3) The public enjoys access to and views of the lake.
(4) Recreational opportunities are abundant.

The Kirkland shoreline forms the western boundary of the City and encompasses 32,238 lineal feet (6.1 miles) of Lake Washington waterfront. A significant portion of the City's shoreline is area zoned or designated as park/open space. Approximately 57 percent of the area within the shoreline jurisdiction, or a total of 132.7 acres of the shoreline, are within areas designated as park or open space. Except for a few anomalies, the high-functioning portions of the shoreline have been appropriately designated and preserved within these areas. The City's extensive network of parks also provides the public with significant access opportunities throughout the City.

Much of the remaining shoreline is fully developed with single-family residential uses or areas of concentrated, compact development containing commercial, multifamily, or mixed-uses. In general, this pattern of land use is stable and only minimal changes are anticipated in the planning horizon. Redevelopment on some properties may result in single-family residences converting over time to multifamily or with new commercial or mixed-uses replacing existing commercial uses. Given the lack of existing vacant land (only 10 percent of the land within the shoreline is vacant, and much of that is encumbered by sensitive areas), additional housing or commercial square footage within the shoreline area will come over time as redevelopment and additions occur to existing developed properties.

Management of the shoreline area will need to carefully balance and achieve both shoreline utilization and protection of ecological functions. To protect valuable shoreline resources, the Shoreline Master Program limits the extent and character of a number of land uses and activities. Shoreline policies allow for a broad range of uses within the shoreline, while establishing limits to protect these shoreline resources and adjacent uses.

Shoreline policies aimed at protecting the natural environment address issues at both a broader scale, focusing on natural systems, as well as at the scale of ecological functions, which are the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem.

Issues that must be addressed by the Shoreline Use Element include:

- How to manage new growth and redevelopment to be sensitive to and not degrade habitat, ecological systems and other shoreline resources.

- How to foster those uses that are unique to or depend on the proximity to the shoreline or provide an opportunity for substantial numbers of the people to enjoy the shoreline.

- How to ensure that land uses and shoreline activities are designed and conducted to minimize damage to the ecology of the shorelines and/or interference with the public's use of the water

and, where consistent with public access planning, provide opportunities for the general public to have access to the shorelines.

- How to protect the public right of navigation and ensure that uses minimize any interference with the public's use of the water.

Policy SA-1.1: Allow for a diversity of appropriate uses within the shoreline area consistent with the varied character of the shorelines within the city.

The City's shoreline area is a collection of varied neighborhoods and business districts, each containing their own distinctive character as well as biological and physical condition along the shoreline. Kirkland's shorelines contain valuable natural amenities, providing critical habitat for fish and wildlife within the Juanita Bay and Yarrow Bay wetlands, two high-functioning natural areas. The shoreline also contains portions of several business districts, each with its own distinctive identity, including the Central Business District, Juanita Business District, and Carillon Point. Medium to high density residential and commercial uses are located to the south of the Central Business District. The shoreline in these more urban areas is heavily altered with shoreline armoring, overwater coverage, and impervious areas. Single-family residential uses are prevalent in the area north of the Central Business District. The City also contains a system of waterfront parks, which provide a broad range of passive and active recreational activities and environmental protection.

Policy SA-1.2: Preserve and enhance the natural and aesthetic quality of important shoreline areas while allowing for reasonable development to meet the needs of the city and its residents.

These different and unique shoreline areas each contain qualities that contribute to Kirkland's shoreline identity, including waterfront orientation, shoreline public views and access, numerous and diverse recreational opportunities, abundant open space, natural habitat, and waterfront access trails. The Shoreline Master Program should seek to support these and other features which significantly contribute to the City's desired character along the shoreline.

Policy SA-1.3: Maintain existing and foster new uses that are dependent upon, or have a more direct relationship with the shoreline and Lake Washington.

Certain shoreline uses are more dependent on, or have a more direct relationship with the shoreline than others. The Shoreline Management Act requires that shoreline master programs give priority to:

- Water-dependent uses. A water-dependent use is dependent on the water by reason of the intrinsic nature of its operations, and cannot exist in any other location. Examples include swimming beaches, boat launches, boat piers, and marinas. Industrial water-dependent uses, such as ship building facilities, are not currently found nor are planned along the City's waterfront. The Kirkland waterfront contains several facilities that would be considered water-dependent uses. The City contains one public marina and several private marinas. Large private commercial marinas include Carillon Point Marina, Yarrow Bay Marina and Kirkland Homeport Marina. The Yarrow Bay Marina contains a retail fuel service facility for boats, while the tour boat operators working out of the City's public marina provide shoreline tours. The City should encourage these water-dependent uses to remain.

- Water-related uses. A water-related use is dependant on a shoreline location because it has a functional requirement associated with a waterfront location, such as the transport of goods

by water, or uses that support water-dependant uses. Examples include boat sales and outfitters and manufacturers that transport goods by water. These uses are typically not located along Kirkland's shoreline, though the Yarrow Bay Marina contains a boat repair and service facility.

- Water-enjoyment uses. A water enjoyment use is a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use, or a use that draws substantial numbers of people to the shoreline and that provides opportunities, through its design, location or operation, for the public to enjoy the physical and aesthetic benefits of the shoreline. Examples include parks and trails, museums, restaurants, and aquariums. Water enjoyment uses such as restaurants, retail stores, and offices are the primary commercial use along Kirkland's shoreline.

- Single family residential uses. There is a single-family residential neighborhood in the shoreline area within the Market Neighborhood.

- Shoreline recreation. The shoreline contains an extensive network of open spaces and public parks along the shoreline, providing places for fishing, swimming, boating, wildlife viewing and other recreational and educational activities.

<u>Shoreline Environment Designations</u>

Goal SA-2: Provide a comprehensive shoreline environment designation system to categorize Kirkland's shorelines into similar shoreline areas to guide the use and management of these areas.

Environment designations are analogous to zoning designations for areas under SMP jurisdiction. See Figure SMP-1, Shoreline Environment Designations Map. Their intent is to encourage uses that will protect or enhance the current or desired character of a shoreline based on their physical, biological and development characteristics (see Figure SA-1).

Policy SA-2.1: Designate properties as Natural in order to protect and restore those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions that are sensitive to potential impacts from human use.

This type of designation would be appropriate for associated wetlands in and adjacent to Juanita Bay Park, the Yarrow Bay wetlands complex, and the portion of Juanita Bay Park located within shoreline jurisdiction. The following management policies should guide development within these areas:

a. Any use or development activity that would potentially degrade the ecological functions or significantly alter the natural character of the shoreline area should be severely limited or prohibited, as follows:
    1) Residential uses should be prohibited, except limited single-family residential development may be allowed as a conditional use if the density and intensity of such use is limited as necessary to protect ecological functions and be consistent with the purpose of the environment.
    2) Subdivision of the subject property as regulated under the provisions of Title 22 should be prohibited.
    3) Commercial and industrial uses should be prohibited.

4) Nonwater-oriented recreation should be prohibited.
5) Roads, utility corridors, and parking areas that can be located outside of Natural designated shorelines should be prohibited unless no other feasible alternative exists. Roads, bridges and utilities that must cross a Natural designated shoreline should be processed through a Shoreline Conditional Use.

b. Development activity in the natural environment should only be permitted when no suitable alternative site is available on the subject property outside of shoreline jurisdiction.
c. Development, when feasible, should be designed and located to preclude the need for shoreline stabilization, flood control measures, native vegetation removal, or other shoreline modifications.
d. Development activity or land surface modification that would reduce the capability of vegetation to perform normal ecological functions should be prohibited.
e. Limited access may be permitted for scientific, historical, cultural, educational and low-intensity water-oriented recreational purposes, provided there are no significant adverse ecological impacts.

Policy SA-2.2: Designate properties as Urban Conservancy to protect and restore ecological functions of open space, flood plain and other sensitive lands, while allowing a variety of compatible uses.

This type of designation would be appropriate for many of the City's waterfront parks. The following management policies should guide development within these areas:

a. Allowed uses should be those that preserve the natural character of the area and/or promote preservation and restoration within critical areas and public open spaces either directly or over the long term.
b. Restoration of shoreline ecological functions should be a priority.
c. Development, when feasible, should be designed and located to preclude the need for shoreline stabilization, flood control measures, native vegetation removal, or other shoreline modifications.
d. Public access and public recreation objectives should be implemented whenever feasible and significant ecological impacts can be mitigated.
e. Water-oriented uses should be given priority over nonwater-oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses should be given highest priority.
f. Commercial and industrial uses, other than limited commercial activities conducted accessory to a public park, should be prohibited.

Policy SA-2.3: Designate properties as Residential – Low (L) to accommodate low-density residential development.

This type of designation would be appropriate for single-family residential uses from one to nine dwelling units per acre for detached residential structures and one to seven dwelling units per acre for attached residential structures. The following management policies should guide development within these areas:

a. Standards for density, setbacks, lot coverage limitations, shoreline setbacks, shoreline stabilization, vegetation conservation, critical area protection, and water quality should

mitigate adverse impacts to maintain shoreline ecological functions, taking into account the following:
1) The environmental limitations and sensitivity of the shoreline area,
2) The level of infrastructure and services available, and
3) Other comprehensive plan considerations.

b. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
c. Industrial, commercial, multifamily and institutional uses, except for government facilities, should be prohibited.

Policy SA-2.4: Designate properties as Residential - Medium/High (M/L) to accommodate medium and high-density residential development.

This type of designation would be appropriate for detached, attached, or stacked residential uses of up to 15 or more dwelling units per acre. The following management policies should guide development within these areas:

a. Standards for density, setbacks, lot coverage limitations, shoreline setbacks, shoreline stabilization, vegetation conservation, critical area protection, and water quality should mitigate adverse impacts to maintain shoreline ecological functions, taking into account the following:
1) The environmental limitations and sensitivity of the shoreline area,
2) The level of infrastructure and services available, and
3) Other comprehensive plan considerations.

b. Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
c. Visual and physical access should be implemented whenever feasible and adverse ecological impacts can be avoided. Continuous public access along the shoreline should be provided, preserved or enhanced.
d. Industrial uses should be prohibited.
e. Water-dependent recreational uses should be permitted.
f. Limited water-oriented commercial uses which depend on or benefit from a shoreline location should also be permitted.
g. Non water-oriented commercial uses should be prohibited, except for small-scale retail and service uses that provide primarily convenience retail sales and service to the surrounding residential neighborhood should be permitted along portions of the east side of Lake Washington Blvd. NE/Lake Street S.
h. Institutional uses may be permitted in limited locations.

Policy SA-2.5: Designate properties as Urban Mixed to provide for high-intensity land uses, including residential, commercial, recreational, transportation and mixed-used developments.

This type of designation would be appropriate for areas which include or are planned for retail, office, and/or multifamily uses. The following management policies should guide development within these areas:

a. Manage development so that it enhances and maintains the shorelines for a variety of urban uses, with priority given to water-dependent, water-related and water-enjoyment uses. Nonwater-oriented uses should not be allowed except as part of mixed-use

developments, or in limited situations where they do not conflict with or limit opportunities for water-oriented uses or on sites where there is no direct access to the shoreline.

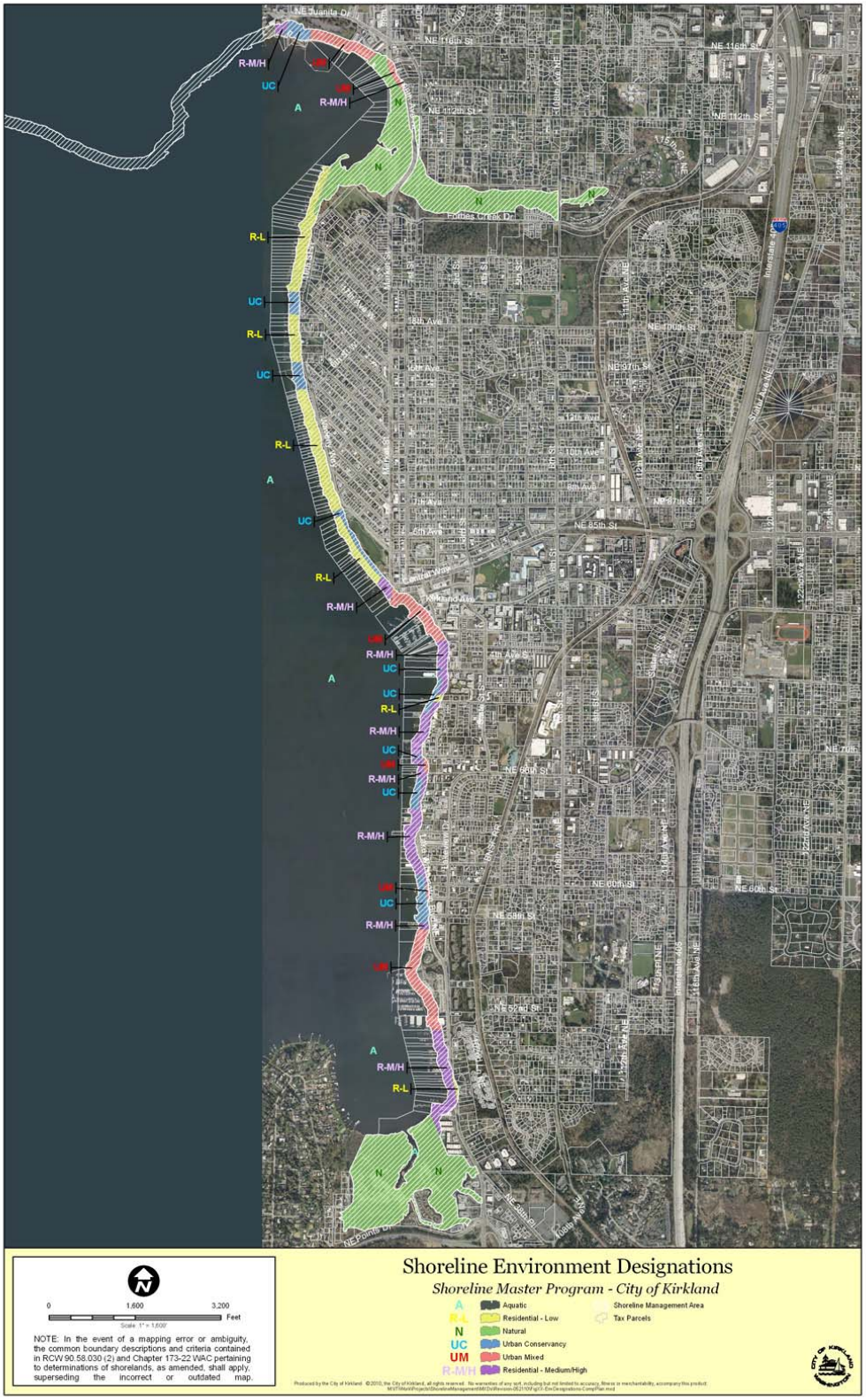
b. Visual and physical access should be implemented whenever feasible and adverse ecological impacts can be avoided. Continuous public access along the shoreline should be provided, preserved or enhanced.
c. Aesthetic objectives should be implemented by means such as sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers.

Policy SA-2.6: Designate properties as Aquatic to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high water mark.

This type of designation would be appropriate for lands waterward of the ordinary high-water mark. The following management policies should guide development within these areas:

a. Provisions for the management of the Aquatic environment should be directed towards maintaining and restoring shoreline ecological functions.
b. Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.
c. All developments and uses on navigable waters or their beds should be located and designed to minimize interference with surface navigation, to minimize adverse visual impacts, and to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration.
d. New overwater structures for water-dependent uses and public access are permitted, provided they will not preclude attainment of ecological restoration.
e. Public recreational uses of the water should be protected against competing uses that would interfere with these activities.
f. Underwater pipelines and cables should not be permitted unless demonstrated that there is no feasible alternative location based on an analysis of technology and system efficiency, and that the adverse environmental impacts are not significant or can be shown to be less than the impact of upland alternatives.
g. Existing residential uses located over the water and in the Aquatic environment may continue, but should not be enlarged or expanded.

Figure SA-1: Shoreline Environment Designations Map



Managing Shoreline Land Uses

Goal SA-3: Locate, design and manage shoreline uses to prevent and, where possible, restore significant adverse impacts on water quality, fish and wildlife habitats, the environment and other uses.

It is important that shoreline development be regulated to control pollution and prevention of damage to the natural environment. Without proper management, shoreline uses can cause significant damage to the shoreline area through cumulative impacts from shoreline armoring, stormwater runoff, introduction of pollutants, and vegetation modification and removal.

Given existing conditions, there is very little capacity for future development within the shoreline. However, it is anticipated that expansion, redevelopment or alteration to existing development will occur over time. With remodeling or replacement, opportunities exist to improve the shoreline environment. In particular, improvements to nearshore vegetation cover and reductions in impervious surface coverage are two key opportunity areas on private property to restore ecological function along the shoreline. Reduction or modification of shoreline armoring and reduction of overwater cover and in-water structures provide other opportunities.

Policy SA-3.1: Establish development regulations that avoid, minimize and mitigate impacts to the ecological functions associated with the shoreline zone.

In deciding whether to allow uses and activities in shoreline areas, the potential adverse impacts associated with uses or activities should be considered and avoided, where possible. This can be done by carefully selecting allowed uses, providing policies and standards to prevent or minimize adverse impacts, and carefully reviewing development proposals to prevent or minimize adverse impacts.

Policy SA-3.2: Provide adequate setbacks and vegetative buffers from the water and ample open space and pervious areas to protect natural features and minimize use conflicts.

The purpose of a setback is to minimize potential impacts of adjacent land uses on a natural feature, such as Lake Washington, and maximize the long-term viability of the natural feature. Setbacks perform a number of significant functions including reducing water temperature; filtering sediments and other contaminants from stormwater; reducing nutrient loads to lakes; stabilizing stream banks with vegetation; providing riparian wildlife habitat; maintaining and protecting fish habitats; forming aquatic food webs; and providing a visually appealing greenbelt and recreational opportunities.

Establishing the width of a setback so it is effective depends on the type and sensitivity of the natural feature and the expected impacts of surrounding land uses. In determining appropriate setbacks in the shoreline jurisdiction, the City should consider shoreline ecological functions as well as aesthetic issues.

Policy SA-3.3: Require new development or redevelopment to include establishment or preservation of appropriate shoreline vegetation to contribute to the ecological functions of the shoreline area.

Shoreline vegetation plays an important role in maintaining temperature, removing excessive nutrients, attenuating wave energy, removing sediment and stabilizing banks, and providing woody debris and other organic matter along Lake Washington.

The *Final WRIA 8 Chinook Salmon Conservation Plan* notes the importance of providing a vegetated riparian/lakeshore buffer and overhanging riparian vegetation to improve the habitat for juvenile Chinook salmon[i]. As a result, when substantial new upland development occurs, the on-site landscaping should be designed to incorporate native plant buffers along the shoreline. Proper plant selection and design should be done to ensure that views are not diminished.

Policy SA-3.4: Incorporate low-impact development practices, where feasible, to reduce the amount of impervious surface area.

Low impact development strives to mimic nature by minimizing impervious surface, infiltrating surface water through biofiltration and bio-retention facilities, retaining contiguous forested areas and maintaining the character of the natural hydrologic cycle. Utilizing these practices can have many benefits, including improvement of water quality and reduction of stream and fish habitat impacts.

Policy SA-3.5: Limit parking within the shoreline area.

Facilities providing public parking are permitted within the shoreline area as needed to support adjoining water oriented uses. Private parking facilities should be allowed only as necessary to support an authorized use. All parking facilities, wherever possible, should be located out of the shoreline area.

Policy SA-3.6: Minimize the aesthetic impacts of parking facilities.

Parking areas should be placed, screened, and buffered to mitigate impacts through use of design techniques, such as location, lidding, landscaping of other similar design features to minimize the aesthetic impacts of parking facilities. Exterior parking areas should be located away the shoreline or attractively landscaped with vegetation that will not obstruct views of the lake from the public right-of-way.

Policy SA-3.7: Limit outdoor lighting levels in the shoreline to the minimum necessary for safe and effective use.

Artificial lighting can be used for many different purposes along the waterfront, including to aid in nighttime activities that would be impossible or unsafe under normal nighttime conditions, for security, or simply to make a property more attractive at night. At the same time, the shoreline area can be vulnerable to impacts of light and glare, potentially interrupting the opportunity to enjoy the night sky, impacting views and privacy and affecting the fish and wildlife habitat value of the shoreline area. To protect the scenic value, views, and fish and wildlife habitat value of shoreline areas, excessive lighting is discouraged. Shoreline development should use sensitive waterfront lighting to balance the ability to see at night with the desire to preserve the scenic and natural qualities of the shoreline. Parking lot lighting, lighting on structures or signs, and pier and walkway lighting should be designed to minimize excessive glare and light trespass onto neighboring properties and shorelines.

Policy SA-3.8: Encourage the development of joint-use overwater structures, such as joint use piers, to reduce impacts to the shoreline environment.

The presence of an extensive number of piers has altered the shoreline. The construction of piers can modify the aquatic ecosystem by blocking sunlight and creating large areas of overhead cover. Minimizing the number of new piers by using joint facilities is one technique that can be used to minimize the effect of piers on the shoreline environment.

Policy SA-3.9: Allow variations to development standards that are compatible with surrounding development to facilitate restoration opportunities along the shoreline.

The City should consider appropriate variations to development standards to maximize the opportunities to restore shoreline functions. For example, reductions in setbacks could be used to facilitate restoration in highly altered areas that currently provide limited function and value for such attributes as large woody debris recruitment, shading, or habitat.

Goal SA-4: Incorporate a variety of management tools, including improvement of City practices and programs, public acquisition, public involvement and education, incentives, and regulation and enforcement to achieve its goals for the shoreline area.

Because Kirkland's natural resources are located on both public and on private land, a variety of approaches is needed for effective management of the shoreline. Kirkland should ensure that it uses a mix of public education and involvement, acquisition, program funding, and improvement of City practices on City land, together with regulation and enforcement.

Goal SA-5: Ensure that private property rights are respected.

A significant portion of Kirkland's shoreline is located in private ownership. Aspects of the Shoreline Master Program, including development regulations, setback requirements, environmental regulations and other similar regulatory provisions may take the form of limitations on the use of private property. In establishing and implementing these types of land use controls, the City should be careful to consider the public and private interests as well as the long term costs and benefits.

Residential

Goal SA-6: Protect and enhance the character, quality and function of existing residential neighborhoods within the City's shoreline area.

Policy SA-6.1: Permit structures or other development accessory to residential uses.

Accessory uses such as garages, sheds, accessory dwelling units, and fences are common features normally applicable to residential uses. They should be permitted if located landward of the ordinary high water mark and outside of any critical area or critical area buffer.

Policy SA-6.2: New overwater residences are not a preferred use and shall not be permitted. Existing non-conforming overwater residential structures should not be enlarged or expanded.

The City contains a number of existing overwater residential structures that were constructed prior to the City's limitation on overwater structures to water dependent uses. These existing structures have created large areas of overhead cover, impacting the aquatic environment. Many of these structures

are likely to be remodeled and modernized in the future and these activities should be carefully reviewed to prevent additional adverse impacts and to improve existing conditions, where possible.

Policy SA-6.3: Manage new subdivisions of land within the shoreline to:

- ***Avoid the creation of new parcels with building sites that would impact wetlands, streams, slopes, frequently flooded areas and their associated buffers.***
- ***Ensure no net loss of ecological functions resulting from the division of land or build-out of the lots;***
- ***Prevent the need for new shoreline stabilization or flood risk measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions; and***
- ***Implement the provisions and policies for shoreline designations and the general policy goals of this Program.***
- ***Provide public access along the shoreline.***

Though there is not a great capacity to add new units to the shoreline area through subdivision, if properties are divided they should be designed to ensure no net loss, minimize impacts, and prevent the need for new shoreline stabilization structures.

Policy SA-6.4: Evaluate new single-family development within areas impacted by critical areas to protect ecological functions and ensure some reasonable economic use for all property within Kirkland's shoreline.

West of and contiguous with the Yarrow Bay wetlands adjacent to the City limits there are a number of properties that were previously platted for residential use but remain vacant, forested, and impacted by critical areas. In addition, a few properties along the Forbes Creek corridor and Juanita Bay may be similarly encumbered. When considering development proposals on these properties, the City should use a process designed to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private property rights.

Commercial

Goal SA-7: Plan for commercial development along the shoreline the will enhance and provide access to the waterfront.

Policy SA-7.1: Permit water-enjoyment uses within the shoreline area of the Central Business District.

Downtown Kirkland is an active urban waterfront which strongly benefits from its adjacency to Moss Bay. The Downtown area has a strong land use pattern that is defined by its restaurants, art galleries and specialty shops, which are connected within a pedestrian-oriented district. These uses draw substantial numbers of people to the Downtown and can provide opportunities, if appropriately designed and located, for the public to enjoy the physical and aesthetic benefits of the shoreline. For these reasons, water-enjoyment uses, such as restaurants, hotels, civic uses, and retail or other commercial uses should be encouraged within the Downtown provided they are designed to enhance the waterfront setting and pedestrian activity.

Policy SA-7.2: Manage development in the shoreline area of the Central Business District to enhance the waterfront orientation.

The Central Business District contains extensive public use and views of the waterfront provided by public parks, street ends, public and private marinas, public access piers and shoreline public access trails. Yet, development along the shoreline has historically "turned its back" to Lake Washington, with active areas located opposite the lake and separated from it by large surface parking lots, limiting the ability to fully capitalize on the Downtown waterfront setting. Future growth and redevelopment along the shoreline in the Downtown should continue to reflect the waterfront setting and ensure that development is oriented to the lake. One key opportunity is to develop a large public plaza over the Marina Park parking lot in order to better connect the Downtown to the lake and the park.

Policy SA-7.3: Maximize public access, use, and visual access to the lake within Carillon Point and the surrounding commercial area.

Carillon Point is a vibrant mixed use development that contains office space, restaurants, and retail space in addition to a hotel, day spa and marina facilities. The site has been designed to provide both visual and physical access to the shoreline, including expansive view corridors which provide a visual linkage from Lake Washington Blvd NE to the lake, as well as an internal pedestrian walkway system and outdoor plazas. The Central Plaza of Carillon Point is frequently used for public gatherings and events. The Plaza is encompassed by a promenade and Carillon Point's commercial uses. If new development or redevelopment occurs on this site, existing amenities related to public access, use and visual access to the lake should be preserved.

Immediately south of Carillon Point, the Yarrow Bay Marina and new office development provides opportunities for public use and enjoyment of the waterfront, including boat rental facilities, a public waterfront trail and waterfront access area with seating and interpretative signs. In addition, public views across the site have been preserved in an expansive view corridor.

If new development or redevelopment occurs in the commercial area, the strong public access to and along the water's edge, waterfront public use areas, water-dependent uses such as the marinas, and views from Lake Washington Blvd should be preserved to the greatest extent feasible.

Policy SA-7.4: Enhance the physical and visual linkages to Lake Washington in the Juanita Business District.

The shoreline area of the Juanita Business District presently contains a mix of retail, office and residential uses. Visual linkages to the lake in the Juanita Business District are limited, with existing development blocking most of the shoreline. Waterfront access trails are missing in several key locations, limiting access between Juanita Bay Park and Juanita Beach Park, which border the Business District on the north and south.

The ability to enhance physical and visual access to the Lake is challenging in this area. Several of the shoreline properties are developed with residential condominiums, which are unlikely to redevelop. Some of the commercial properties are significantly encumbered by wetlands that are associated with Lake Washington. Should properties redevelop in this area, public access should be required as a part of redevelopment proposals, where feasible.

Despite these challenges, future redevelopment along the shoreline in the Juanita Business District should emphasize Juanita Bay as a key aspect of the district's identity, highlighting recreational opportunities available at Juanita Beach Park and providing better visual and pedestrian connections to both Juanita Bay and Juanita Beach Park and Lake Washington.

Policy SA-7.5: Allow limited commercial uses in the area located between the Central Business District and Planned Area 15 if public access to and use of the shoreline is enhanced.

Commercial uses which are open to and will attract the general public to the shoreline, such as restaurants, are appropriate within the urban area located between Downtown Kirkland and Carillon Point. These uses will enhance the opportunity for public access to this segment of the shoreline, and will compliment neighboring shoreline parks and, as a result, should be encouraged. To assure that these uses enhance the opportunity for the public to take advantage of the shoreline, these uses should include amenities where the public can view and enjoy the shoreline. These uses should also be limited and designed to assure that they do not adversely impact the natural environment and interfere with nearby uses.

Policy SA-7.6: Allow limited commercial uses, such as a hotel/motel and limited marina use, within Planned Area 3B.

Planned Area 3B is fully developed with multifamily residential uses and contains a private marina facility. The site is also used for overnight lodging. The site has also been improved with a public trail along its entire perimeter, providing public access to Lake Washington and visual access to the Yarrow Bay wetlands.

Policy SA-7.7: Non-water oriented commercial development may be allowed if the site is physically separated from the shoreline by another property or right-of-way.

There are several commercial properties which do not have direct frontage on Lake Washington, either because they are separated by right-of-way (Lake Washington Blvd NE, Lake Street, and 98th Avenue NE) or by another property. These properties should be allowed a greater flexibility of uses, given the physical separation from the waterfront area.

Policy SA-7.8: Prohibit overwater commercial development other than piers and similar features that support water dependent uses.

Overwater structures can adversely impact the shoreline environment and should be avoided, except where necessary to support water dependent uses, and then only when appropriately mitigated.

Boating Facilities

Goal SA-8: Manage boating facilities to avoid or minimize adverse impacts.

Policy SA-8.1: Locate new boating facilities and allow expansion of existing facilities at sites with suitable environmental conditions, shoreline configuration, and access.

One public marina and several private marinas are located on the lake within Kirkland. The City's public dock is located downtown at Marina Park. Large private marinas include Carillon Point Marina, Yarrow Bay Marina and Kirkland Homeport Marina. Other private marinas providing moorage for multifamily developments are also located along the shoreline.

As new boating facilities are established or existing ones expanded, the facility should be designed to:

- Meet health, safety, and welfare requirements, including provisions for pump-out facilities;

- Mitigate aesthetic impacts;
- Minimize impacts to neighboring uses;
- Provide public access;
- Assure no net loss of shoreline ecological functions and prevent other significant adverse impacts; and
- Protect the rights of navigation and access to recreational areas.

Policy SA-8.2: Require restoration activities when substantial improvements or repair to existing boating facilities is planned.

The Kirkland waterfront has been extensively modified with piers and other overwater structures. These overwater structures impact the nearshore aquatic habitat, blocking sunlight and creating large areas of overhead cover. These impacts, where they exist, should be mitigated when substantial improvements or repair to existing boating facilities are planned.

Restoration activities could include reducing or eliminating the number of boathouses and solid moorage covers, minimizing widths of piers and floats, increasing light transmission through over-water structures, enhancing the shoreline with native vegetation, improving shallow-water habitat, reducing the overall number and size of pier piles, and improving the quality of stormwater runoff.

Goal SA-9: Promote use of best management practices to control pollutants from boat use, maintenance and repair, as well as proper sewage disposal for boats and potential invasive vegetation transfer.

Marinas and the operation, maintenance and cleaning of boats can be significant sources of pollutants in water and sediments, as well as in animal and plant tissues. Significant steps have been taken at all levels of government and in the private sector to reduce the impacts of marinas and boating on the aquatic environment. The federal Clean Water Act provides the federal government with the authority to regulate the discharge of boat sewage. In addition, the Department of Ecology has developed environmentally protective guidelines for the design and siting of marinas and sewage disposal facilities. The State Parks and Recreation Commission's boater education program provides technical assistance and signage and other materials to marinas. At the local level, governments and private businesses participate in boater programs as well, educating their moorage clients and provide them with the means to dispose of their wastes properly. The City should work cooperatively with state agencies, marina operators and boat owners to continue to minimize the impacts of boating on the aquatic environment.

<u>Managing Shoreline Modifications</u>

Goal SA-10: Manage shoreline modifications to avoid, minimize, or mitigate significant adverse impacts.

Significant adverse impacts caused from shoreline modifications should be avoided, minimized, or mitigated in the following sequential order of preference:

- Avoiding the impact altogether by not taking a certain action or part of an action.
- Minimizing the impact(s) by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

- Minimizing or eliminating the impact by restoring or stabilizing the area through engineered or other methods;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
- Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
- Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
- Monitoring the hazard or other required mitigation and taking remedial action when necessary.

Policy SA-10.1: Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions.

Shoreline modifications are man-made alterations to the natural lake edge and nearshore environment and primarily include a variety of armoring types (some associated with fill), piers, and other in-water structures. These modifications alter the function of the lake edge, change erosion and sediment movement patterns, affect the distribution of aquatic vegetation and are often accompanied by upland vegetation loss. Impacts from these shoreline modifications can be minimized by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.

Fill

Policy SA-10.2: Limit fill waterward of the ordinary high water mark to support ecological restoration or to facilitate water-dependent or public access uses.

Fill allows for the creation of dry upland areas by the deposition of sand, silt, gravel or other materials onto areas waterward of the ordinary high water mark. Fill has traditionally been used in the shoreline area to level or expand residential yards and, in many cases, has been associated with armoring of the shoreline. This use of fill has resulted in an alteration of the natural functions of the lake edge and has often been accompanied by a loss of upland vegetation. As a result, this use of fill should be discouraged.

Alternatively, fill can also be used for ecological restoration, such as beach nourishment, when materials are placed on the lake bottom waterward of the ordinary high water mark. This type of fill activity should be encouraged, provided that it is designed, located and constructed to improve shoreline ecological functions.

Land Surface Modification

Policy SA-10.3: Limit Land Surface Modification activities in the shoreline area.

Land Surface Modification activities are typically associated with upland development. These activities have the potential to cause erosion, siltation, increase runoff and flood volumes, reduce flood storage capacity and damage habitat and therefore should be carefully considered to ensure that any potential adverse impacts are avoided or minimized. Impacts from Land Surface Modification activities can be avoided through proper site planning, construction timing practices, and use of erosion and drainage control methods. Generally, these activities should be limited to the

maximum extent necessary to accommodate the proposed use, and should be designed and located to protect shoreline ecological functions and ecosystem-wide processes.

Dredging

Policy SA-10.4: Design and locate new shoreline development to avoid the need for dredging.

Policy SA-10.5: Discourage dredging operations, including disposal of dredge materials.

Dredging is typically associated with a reconfiguration of the lake bed or stream channel to remove sediments, expand a channel, or relocate or reconfigure a channel. For instance, dredging can be used to excavate moorage slips that have been filled in with sediments or are located in shallow water. In other cases, dredging can be used to remove accumulated sediment that has disrupted water flow and, as a result, water quality, as is the case at Juanita Beach Park.

Dredging activities can have a number of adverse impacts, such as an increase in turbidity and disturbance to or loss of animal and plant species. Dredging activities can also release nutrients in sediments, and may temporarily result in increased growth of nuisance macrophytes such as milfoil after construction is completed. Dredging can also release toxic materials into the water column. As a result, dredging activities should be limited except when necessary for habitat or water quality restoration, or to restore access, and where impacts to habitat are minimized and mitigated.

Shoreline Stabilization

Policy SA-10.6: Limit use of hard structural stabilization measures to reduce shoreline damage.

Lake Washington is an important migration and rearing area for juvenile Chinook salmon. The juvenile Chinook salmon using the Lake depend on the following habitat characteristics:

- Shoreline areas with shallow depths (>1m)
- Gentle slope
- Fine substrates such as sand and gravel
- Overhanging vegetation/small woody debris
- Small creeks with a shallow, low-gradient at the creek mouth [ii]

Remaining areas with these characteristics should be protected and maintained, while developed areas along Kirkland's shoreline should be enhanced with these habitat features, where feasible.

Bulkheads and other forms of hard stabilization measures impact the suitability of the shoreline for juvenile Chinook salmon habitat, in particular the slope, depth and substrate materials of the shoreline. Shoreline protective structures such as bulkheads create deeper water with steeper gradient and a coarser bottom substrate. Waves no longer are able to dissipate energy over distance as they hit shallower bottom, rocks, or shoreline vegetation. Rather, the wave reflects off a vertical wall, causing scouring of sediment at the base of the wall. The finer sands are removed as the gravel is eroded away and the bottom substrate becomes coarser. The result is a much deeper and steeper nearshore environment, and often elimination of a beach.

Despite these potential ecological impacts, there are some areas along the City's shoreline, especially on shallow lots with steep banks, which may need some form of shoreline armoring in order to

protect existing structures and land uses. It is the intent of this policy to require that shoreline stabilization be accomplished through the use of nonstructural measures, such as building setbacks or on-site drainage improvements, or soft structural measures, such as bioengineering or beach enhancement unless these methods are determined to be infeasible, based on a scientific or geotechnical analysis. In those circumstances where alternatives are demonstrated to not be feasible, the shoreline stabilization measures used should be located, designed, and maintained in a manner that minimizes adverse effects on shoreline ecology.

Policy SA-10.7: Design, locate, size and construct new or replacement structural shoreline protection structures to minimize and mitigate the impact of these activities on the Lake Washington shoreline.

Shoreline protective structures should be allowed to protect a legally established structure or use that is in danger of loss or substantial damage. The potential for damage must be conclusively shown, as documented by a geotechnical analysis, to be caused by shoreline erosion associated with wave action.

Where allowed, shoreline protection structures should minimize impacts on shoreline hydrology, navigation, habitat, and public access. Shoreline protective structures should be designed for the minimum height, bulk and extent necessary to address an identified hazard to an existing structure. As noted above, vegetation and nonstructural solutions should be used rather than structural bank reinforcement, unless these methods are determined to be infeasible, as documented by a geotechnical analysis.

Policy SA-10.8: Locate and design new development to eliminate the need for new shoreline modification or stabilization.

New development should be located and designed so that new structural shoreline protection features are not needed.

Policy SA-10.9: Encourage salmon friendly shoreline design during new construction and redevelopment by offering incentives and regulatory flexibility to improve the design of shoreline protective structures and revegetate shorelines.

In recent years, many bioengineered techniques have been developed to provide alternative shoreline protection methods. These features may employ the use of gravel substrate material, terraces, large flat rocks, shallow pools, logs, and vegetation to prevent erosion and provide an attractive, usable shoreline. The aim of these designs is to reduce bank hardening, restore overhanging riparian vegetation, and replace bulkheads with sand beaches and gentle slopes. These techniques can provide many ecological benefits, including:

- Less turbulence.
- Shallower grade.
- Protection from predators.
- Finer sandy bottom.
- Increased food source.

The WRIA 8 Conservation Strategy notes the importance of reducing bank hardening, restoring overhanging riparian vegetation, replacing bulkheads and riprap with sandy beaches with gentle slopes to improve the habitat for juvenile Chinook salmon[iii]. In order to facilitate the use of

alternatives to shoreline stabilization composed of concrete, riprap, or other hard structural or engineered materials, the City should identify appropriate regulatory flexibility or offer incentives to shoreline property owners to voluntarily remove bulkheads and to re-vegetate the shoreline.

Policy SA-10.10: Expand outreach to lakeside property owners about shoreline landscape design, maintenance, and armoring alternatives.

The City should evaluate different outreach and education actions to foster stewardship of shoreline property owners and the general public, including, but not limited to the following:

- Distribute educational materials on a range of topics, including salmon habitat needs, household and landscape best management practices, the value of large woody debris, the value of tree cover, and stormwater issues.
- Establish a contact list of shoreline property owners to facilitate educational outreach.
- Offer shoreline property owners workshops on “salmon friendly” design
- Use restoration projects sites for demonstration purposes and provide interpretation at restoration sites, including signage, tours, and other methods.
- Provide information about opportunities for involvement in community stewardship projects
- Offer education to landscape designers/contractors on riparian design.
- Create local informational TV spots that could run on the City’s television channel.
- Focus environmental/science curricula on local watershed issues.

Public outreach efforts should focus on the opportunity to improve existing habitat, but also to the potential benefits that alternative shoreline stabilization can offer, including:

- Easier access to beach and water, especially with a kayak or other human-powered craft.
- Shallow gradient shore and water can be safer, especially for small children.
- More usable shoreline with beach and cove.
- Reduced maintenance.
- Potential for increased property values.

In-stream Structures

Policy SA-10.11: Limit the use of in-stream structures.

"In-stream structure" means a structure placed by humans within a stream waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. Within Kirkland, these features typically include those for flood control, transportation, utility service transmission, and fish habitat enhancement.

In-stream structures should only be used in those circumstances where it is demonstrated to provide for the protection and preservation of ecosystem- wide processes, ecological functions, and cultural resources, including, but not limited to, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. The location and planning of in-stream structures should be determined with due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

Breakwaters and Similar Features

Policy SA-10.12: Limit the use of breakwaters and other similar structures.

A breakwater typically refers to an off-shore structure designed to absorb and/or reflect wave energy back into the water body. Breakwaters can be floating or fixed in location and may or may not be connected to the shore. These modifications are limited within the City, but can be found at Kirkland Homeport Marina as well as at Juanita Beach Park, where a breakwater has been installed around the overwater boardwalk to shelter the swimming area. Breakwaters have the potential to adversely impact the shoreline environment, including impacts to sediment transport, deflection of wave energy, a decrease in water flushing and water exchange, to name a few. As a result, the installation of new breakwaters should be limited to those circumstances when it is shown to be necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose. In these circumstances, the feature should be carefully designed to avoid, minimize, and then mitigate any adverse ecological impacts.

Piers

Goal SA-11: Minimize impacts to the natural environment and neighboring uses from new or renovated piers.

Policy SA-11.1: Design and locate private piers so that they do not interfere with shoreline recreational uses, navigation, or the public's safe use of the Lake and shoreline.

Private piers should be located and designed to provide adequate separation from public parks, other adjoining moorage facilities and adjacent properties in order to limit any adverse impacts to safe navigation or recreational uses.

Policy SA-11.2: Design and construct new or expanded piers and their accessory components, such as boatlifts and canopies, to minimize impacts on native fish and wildlife and their habitat.

The Kirkland waterfront has been extensively modified with piers and other overwater structures. These overwater structures impact the nearshore aquatic habitat, blocking sunlight and creating large areas of overhead cover. Piers and other overwater structures also shade the lake bottom and inhibit the growth of aquatic vegetation[iv]. These types of structural modifications to shorelines are now known to benefit non-native predators (like largemouth and smallmouth bass), while reducing the amount of complex aquatic habitat formerly available to salmonids rearing and migrating through Lake Washington[v]. This can impact juvenile salmonids, in particular, due to their affinity to nearshore, shallow-water habitats. Chemical treatments of pier components, such as creosote pilings, installed prior to today's standards, have also impacted water and sediment quality in the lake.

The combined effect of an overwater structure and a dramatic change in aquatic vegetation results in a behavior modification in juvenile salmonids, which will often change course to circumvent large piers or other overwater structures rather than swimming beneath them[vi]. These behavior modifications disrupt natural patterns of migration and can expose juvenile salmonids to increased levels of predation.

Minimizing overwater coverage and associated support structures can benefit salmon. Studies

related to shading effects from varying types of pier decking indicate that grated decking provides significantly more light to the water surface than traditional decking methods and may lead to improved migratory conditions for juvenile Chinook salmon[vii].

Impact minimization measures, which have been identified by state and federal agencies, include, but are not limited to:

- Shared use of piers;
- Reducing or eliminating the number of boathouses and solid moorage covers (e.g. use of clear, translucent materials proven to allow light transmission for new canopies);
- Minimizing the size and widths of piers and floats;
- Increasing light transmission through any over-water structures (e.g. use of grated decking);
- Maximizing the height of piers above the water surface;
- Enhancing the shoreline with native vegetation;
- Improving shallow-water habitat;
- Reducing the overall number and size of pier piles; and
- Improving the quality of stormwater runoff.

Policy SA-11.3: Minimize aesthetic impacts of piers and their accessory components.

To minimize aesthetic impacts, ensure that lighting does not spillover onto the lake water surface, and minimize glare, piers should make use of non-reflective materials, minimize lighting facilities to that necessary to find the pier at night and focus illumination downward and away from the lake.

Shoreline Habitat and Natural Systems Enhancement Projects

Goal SA-12: Restore shoreline areas that have been degraded or diminished in ecological value and function as a result of past activities.

Policy SA-12.1: Include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low impact development techniques in projects located within the shoreline, where feasible.

Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or enhancing habitat for priority species in shorelines. Such projects may include shoreline modification actions such as modification of vegetation, removal of nonnative or invasive plants, shoreline stabilization, dredging, and filling, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline.

The City's shoreline has been impacted by past actions and, as a result, there are many opportunities available for restoration activities that would improve ecological functions. For example, enhancement of riparian vegetation, reductions or modifications to shoreline hardening, and improvements to fish passage would improve the ecological function of the City's shoreline. Many of these restoration opportunities exist throughout the City on private property, as well as on City property, including parks, open spaces, and street-ends. Both public and private efforts are needed to restore habitat areas. Opportunities include public-private partnerships, partnerships with other agencies and affected tribes, capital improvement projects, and incentives for private development to restore and enhance fish and wildlife habitat.

2. Shoreline Environment

Goal SA-13: Preserve, protect, and restore the shoreline environment.

Kirkland is enriched with valued natural features within the shoreline area that enhance the quality of life for the community. Natural systems serve many essential functions that can provide significant benefits to fish and wildlife, public and private property, and enjoyment of the shoreline area.

Shoreline Critical Areas

Note: The Natural Environment Chapter of the Comprehensive Plan contains a set of policies relating to critical areas, including Goals NE –1, together with related Policies NE-1.1 through NE-1.6, Goal NE-2, together with related policies NE-2.1 through NE-2.7, and Goal NE–4.

Critical areas found within the shoreline area include geologically hazardous areas, frequently flooded areas, wetlands, and fish and wildlife habitat conservation areas. Floodplains, while not a designated critical area, are also addressed in this section due to the relationship with frequently flooded areas within the City. No critical aquifer recharge areas are mapped within the City.

Policy SA-13.1: Conserve and protect critical areas within the shoreline area from loss or degradation.

Environmentally critical areas within the shoreline area are important contributors to Kirkland's shoreline environment and high quality of life. Some natural features are critical to protect in order to preserve the important ecological functions they provide. The City also regulates and restricts development within critical areas because of the hazards they present to public health and safety. This policy is intended to ensure that the ecological functions and ecosystem-wide processes of these natural systems are maintained and improved.

Policy SA-13.2: Locate and design public access within and adjacent to critical areas to ensure that ecological functions are not impacted.

While public access for educational and public access purposes is an important objective, the location and design of public access must be carefully considered to avoid impacts to critical areas.

Geologically Hazardous Areas

Policy SA-13.3: Manage development to avoid risk and damage to property and loss of life from geological conditions.

Geologically hazardous areas include landslide hazard areas, erosion hazard areas and seismic hazard areas. These areas, as a result of their slope, hydrology, or underlying soils, are potentially susceptible to erosion, sliding, damage from earthquakes or other geological events. These areas can pose a threat to health and safety, if development is not appropriately managed and the area studied as a condition of permitting construction.

Wetlands

Policy SA-13.4: Protect and manage shoreline-associated wetlands.

Wetlands are areas that, under normal conditions, are inundated or saturated by surface or groundwater at a frequency and duration to support a prevalence of vegetation typically adapted for life in saturated soils conditions. The wetlands located within the shoreline area perform many ecological functions, including habitat for fish and wildlife, flood control, and groundwater recharge, as well as surface and groundwater transport, storage and filtration. Additionally, wetlands provide opportunities for research and scientific study, outdoor education, and passive recreation.

Kirkland's shoreline contains two extensive high-quality wetland systems: the wetlands located contiguous with the shoreline at Juanita Bay Park and extending up through the Forbes Valley (Forbes 1) and the Yarrow Bay wetlands (Yarrow 1). It is estimated that these wetlands combined are over 156 acres in size. The Forbes 1 wetland has several different vegetation classes, including forested, scrub-shrub, emergent, open water, and aquatic bed. The wetland contains a variety of plant species and types, including native red alder, willow, cottonwood, salmonberry, spiraea, red-osier dogwood, skunk cabbage, buttercup, small-fruited bulrush, lady fern, soft rush, horsetail, cattail, and non-native Himalayan blackberry, reed canarygrass and purple loosestrife. Within the *Final Kirkland Shoreline Analysis Report* (2006), this system has been rated "high quality" for several functions, including habitat, water and sediment storage, water quality improvement, wave energy attenuation and bank stabilization, and nutrient and toxic compound removal.

The Yarrow Bay wetland complex similarly contains a number of wetland classes, including forested, scrub-shrub, emergent, open water, and aquatic bed. The Yarrow Bay complex also contains a mixture of plant species and types, including native red alder, willow, cottonwood, salmonberry, spiraea, red-osier dogwood, and cattail and non-native Himalayan blackberry and reed canarygrass. The *Final Kirkland Shoreline Analysis Report* (2006) also rates this system "high quality" for numerous functions.

The Forbes 1 and Yarrow 1 wetlands are also mapped as priority wetlands by Washington Department of Fish and Wildlife (WDFW) (2006). Priority wetlands are those wetlands that have "[c]omparatively high fish and wildlife density, high fish and wildlife species diversity, important fish and wildlife breeding habitat, important fish and wildlife seasonal ranges, limited availability, [and] high vulnerability to habitat alteration."

This policy is intended to ensure that the City achieves no net loss of wetlands through retention of wetland area, functions and values. Mitigation sequencing is used to ensure impacts to wetlands are avoided, where possible, and mitigated, when necessary.

Wetlands are protected in part by buffers, which are upland areas adjacent to wetlands. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment loads; remove waterborne contaminants such as excess nutrients, synthetic organic chemicals (e.g., pesticides, oils, and greases), and metals; provide shade for surface water temperature moderation; provide wildlife habitat; and deter harmful intrusion into wetlands.

<u>Fish and Wildlife Habitat Conservation Areas</u>

Policy SA-13.5: Protect and restore critical freshwater habitat.

Fish and wildlife habitat conservation areas provides food, protective cover, nesting, breeding, or movement for threatened, endangered, sensitive, monitor, or priority species of plants, fish, or wildlife. Within the City, there are several areas that fall within this classification.

Lake Washington is known to support a diversity of salmonids, including Chinook salmon, steelhead trout, bull trout (listed as threatened under the Endangered Species Act), Coho salmon, sockeye salmon, and kokanee salmon.

Several streams pass through the City of Kirkland, discharging into Lake Washington. Several of these streams are known to support fish use, including Chinook (juvenile use of the mouths of several streams), Coho, sockeye salmon, and steelhead and cutthroat trout. Some of the most prominent fish-bearing streams include Yarrow Creek, Forbes Creek, and Juanita Creek, which are protected within City parks at their outlet to Lake Washington. Salmonid and other fish species are also known to inhabit other Lake Washington tributaries such as Carillon Creek.

The Forbes Creek corridor is designated by WDFW as a priority "riparian zone" because it has been determined to meet these criteria: "[h]igh fish and wildlife density, high fish and wildlife species diversity, important fish and wildlife breeding habitat, important wildlife seasonal ranges, important fish and wildlife movement corridors, high vulnerability to habitat alteration, unique or dependent species."

Both the Yarrow Bay wetlands and Juanita Bay Park extending up the Forbes Creek corridor provide excellent habitat for birds (including songbirds, raptors, and waterfowl), amphibians, mammals and even reptiles. Bald eagles and ospreys regularly perch in trees adjacent to Juanita and Yarrow Bays, and forage in the Bays. Pileated woodpeckers (a State Candidate species) also reportedly nest in the Juanita Bay wetlands, and according to the East Lake Washington Audubon Society, purple martins (a State Candidate species) used nesting gourds installed in early 2006 around the Juanita Bay. Although a bald eagle nest is mapped in the Yarrow Bay wetlands, it was last active in 1999 and the nesting pair relocated to Hunts Point. However, the mapped great blue heron nesting colony is still active.

This policy is intended to ensure that the ecological functions and ecosystem-wide processes associated with critical freshwater habitats are protected to assure no net loss, and that improvements are made through restoration activities. The City has worked to protect these valuable habitat areas through acquisition and management of public areas, as well as development controls, including protection of streams and wetlands and their associated buffers and coordination with federal and state agencies on protection issues associated with listed species.

<u>Frequently Flooded Areas and Floodplains</u>

Goal SA-14: Limit new development in floodplains.

Policy SA-14.1: Regulate development within the 100-year floodplain to avoid risk and damage to property and loss of life.

Frequently flooded areas help to store and convey storm and flood water; recharge ground water; provide important riparian habitat for fish and wildlife; and serve as areas for recreation, education, and scientific study. Development within these areas can be hazardous to those inhabiting such development, and to those living upstream and downstream. Flooding also can cause substantial damage to public and private property that result in significant costs to the public as well as to private individuals.

The primary purpose of frequently flooded areas regulations is to regulate development in the 100-year floodplain to avoid substantial risk and damage to public and private property and loss of life. Lake Washington does not have a floodplain due to its lake elevation control by the Corps. However, floodplains are designated for both Yarrow Creek wetlands in association with Yarrow Creek and the low-gradient riparian area associated with Forbes Creek.

In both cases, the potential channel migration zone is protected as wetlands associated with Lake Washington. This protection limits development and modifications in those areas where the creeks have the potential to migrate. This protection limits the potential for migration to affect existing or future structures.

Water Quality and Quantity

Note: The Natural Environment Chapter of the Comprehensive Plan contains a set of policies relating to water systems and addressing water quality and quantity, including Goal NE-2, together with related policies NE-2.1 through NE-2.7. The Utilities Chapter also contains policies addressing storm water, including Goal U-4, together with related policies U-4.1 though U-4.11.

Goal SA-15: Manage activities that may adversely impact surface and ground water quality or quantity.

While most of the storm water entering streams and the lake do not come from the shoreline jurisdiction, surface water management is still a key component of the shoreline environment, due to the potential of activities in the larger watershed basin to contribute to water quantity and quality conditions in streams and the lake.

As part of the Kirkland's Surface Water Utility, Surface Water Master Plan, and implementation of the NPDES Phase II Municipal Stormwater permit requirements, the City is pursuing activities and programs within the larger watershed basin to address flood protection, water quality improvement, and habitat protection and restoration.

Within the shoreline jurisdiction, the City can regulate development and provide education and incentives to minimize impacts to water quality and limit the amount of surface water runoff entering the lake.

Policy SA-15.1: Manage storm water quantity to ensure protection of natural hydrology patterns and avoid or minimize impacts to streams.

Native forest communities with healthy soil structure and organic contact help to manage the amount and timing of runoff water that reaches streams and lakes by intercepting, storing, and slowly conveying precipitation. As these systems are impacted and forests are replaced by impervious surfaces like roads, parking areas, and rooftops, larger quantities of water leave the developed watershed more quickly. Impervious surfaces affect the amount of water that seeps into the ground and washes into streams; they also affect how quickly the water gets there. When land is covered with pavement or buildings, the area available for rainwater and snowmelt to seep into the ground and replenish the groundwater is drastically reduced; in many urban areas it is virtually eliminated. The natural movement of water through the ground to usual discharge points such as springs and streams is altered. Instead, the natural flow is replaced by storm sewers or by more concentrated entrance points of water into the ground and surface drainages[viii].

Changing the timing and amount of water run-off can lead to too much water going directly into streams in the rainy months of winter instead of soaking into the ground. Consequently, there is not enough water in the ground to slowly release into streams in the dry months of summer. Too much water in the winter causes unnaturally swift currents that can erode stream banks and scour and simplify the stream channels, damaging fragile fish habitat. In contrast, not enough water in streams in the summer leads to water temperatures too high to support fish and isolation of fish in small pools. These fundamental changes to hydrology alter watersheds in several ways, including the following:

- The size, shape, and layout of stream channels change to accommodate the new flow regime, thus changing physical habitat conditions for aquatic species.

- Erosion increases suspended solid concentrations and turbidity in receiving properties which can impair survival of aquatic species, including salmon.

- Opportunities for soils and vegetation to filter pollutants from stormwater are reduced, leading to water quality degradation. Stormwater can also carry heavy metals, household wastes, excess nutrients, and other pollutants to the shoreline area.

- Reduced streamside vegetation can lead to increased water temperatures that reduce survival of aquatic species, including salmon. Fine sediment smothers fish eggs, impacting future populations.

Discharges into the tributary streams, such as Forbes Creek, can have a significant impact on in-stream habitat complexity, peak flow magnitude and duration, bank stability, substrate composition, and a number of other parameters.

Policy SA-15.2: Prevent impacts to water quality.

This policy is intended to prevent impacts that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities or recreational opportunities.

Water is essential to human life and to the health of the environment. Water quality is commonly defined by its physical, chemical, biological and aesthetic (appearance and smell) characteristics. A healthy environment is one in which the water quality supports a rich and varied community of organisms and protects public health. Water quality influences the way in which Kirkland uses water for activities such as recreation and scientific study and education, and it also impacts our ability to protect aquatic ecosystems and wildlife habitats.

The degradation of water quality adversely impacts wildlife habitat and public health. This is particularly relevant to the shoreline, since all of the regulated surface waters, both natural and piped, are discharged ultimately to Lake Washington. The water quality impact of stormwater inputs is also significant. Stormwater runoff carries pesticides, herbicides and fertilizers applied to lawns and sports fields; hydrocarbons and metals from vehicles; and sediments from construction sites, among other things. All of these things can harm fish and wildlife, their habitats, and humans.

Presently, Lake Washington is considered at risk for chemical contamination from hydrocarbon input from the urbanized watershed. The lake has also exhibited problems with levels of fecal coliform, ammonia, and PCBs present (Final Kirkland Shoreline Analysis Report, 2006).

The City has various programs to control stormwater pollution through maintenance of public facilities, inspection of private facilities, water quality treatment requirements for new development, source control work with businesses and residents, and spill control and response. These programs are managed under the Surface Water Utility, whose goals are:

- Flood protection
- Water quality improvement, and
- Habitat protection and restoration.

Kirkland has also adopted a *Surface Water Master Plan* (2005) that sets goals and recommends actions for flood reduction, water quality improvement, and aquatic habitat restoration. This plan contains plans and programs to address water quality and high flow impacts from creeks and shoreline development through a number of mechanisms, including the following:

- Participation in WRIA 8 activities.
- Adoption of regulations and best management practices consistent with the NPDES Phase II permit requirements.
- Increased public education and outreach.
- Construction of projects that address existing flooding problems.
- Increased inspection and rehabilitation of the existing stormwater system.
- Identifying pollution "hot spots" for possible water quality treatment.
- Examining City practices and facilities to identify where water quality improvements can be made.
- Combining flow controls with in-stream habitat improvement projects in Juanita and Forbes creek watersheds.

Policy SA-15.3: Require environmental cleanup of previously contaminated shorelines.

Some of Kirkland's shorelines previously supported industrial or commercial practices that may have resulted in environmental contamination. If not addressed, environmental contamination can continue to impact the environmental quality of Kirkland's shorelines. The potential liability associated with contamination can complicate business development, property transactions or expansion on the property as well. Sites which are suspected of having past activities that may have resulted in environmental contamination should be evaluated and developers should comply with state and federal regulations and programs addressing environmental contamination, including the Model Toxics Control Act, as well as the The Department of Ecology's Voluntary Cleanup Program.

Policy SA-15.4: Support public education efforts to protect and improve water quality.

Many residential yards within the shoreline area are dominated by lawn and landscaping, which can contribute water quality contaminates such as fertilizers, herbicides, and pesticides. Fertilizers and herbicides can affect the aquatic vegetation community, stimulating overgrowth of some species which can have a multitude of deleterious effects and suppress growth of other species. Pesticides also directly affect fish. Fish use their olfactory sense to find their way home. Garden chemicals that get into our lakes and streams may mask the smell fish use for homing. Scientists have found that pesticides also interfere with the ability of salmon to reproduce and avoid predators. Other effects include impaired reproduction, skeletal deformities, decreased swimming ability, and toxicity to salmon food sources.

Presently, nutrient levels in Lake Washington do not represent a problem for salmonids (Final Kirkland Shoreline Analysis Report, 2006). Encouraging natural yard care practices and salmon-friendly landscape design can help to reduce the contaminant load into Lake Washington. Should nutrient levels continue to increase and represent a more significant problem, regulations limiting the use of pesticides, fertilizers and herbicides in the shoreline environment may become necessary.

Boat maintenance can also impact the aquatic environment with hydrocarbons, oils and other chemicals, and solvents. Providing information on boating practices, including operation and maintenance practices that can help prevent harmful substances from entering the water such as gasoline, two-stroke engine fuel, paint, and wood conditioner and other boat related substances, can also improve water quality. The City should also assist property owners by providing information on environmentally friendly methods of maintaining piers and decks.

Finally, the City should continue its efforts to increase the public's awareness of potential impacts of certain practices on water bodies and water quality, including improper disposal of hazardous materials.

Vegetation Management

Note: The Natural Environment Chapter of the Comprehensive Plan contains policies relating to vegetation, including Goal NE-3, together with related policies NE-3.1 through NE-3.3. The Natural Resources Management Plan also addresses issues relating to vegetation management in Section C, Land and Vegetation.

Goal SA-16: Protect, conserve and establish vegetation along the shoreline edge.

Policy SA-16.1: Plan and design new development or substantial reconstruction to retain or provide shoreline vegetation.

Vegetation within the shoreline environment is essential for fish and wildlife habitat, providing habitat complexity and, in the case of riparian vegetation, supporting the insects that provide an important food source for salmon[ix]. Shoreline vegetation is also important in helping to camouflage young salmon as they hide amidst root wads, beneath overhanging vegetation, or within branches that have fallen into the water[x]. Vegetation also helps to support soil stability, reduce erosion, moderate temperature, produce oxygen, and absorb significant amounts of water, thereby reducing runoff and flooding.

Presently, shoreline vegetation and riparian structure are not properly functioning within Lake Washington (Final Kirkland Shoreline Analysis Report, 2006). The intent of this policy is to protect existing shoreline vegetation, in particular existing trees, and establish new vegetation, including native trees, shrubs and groundcover, along the shoreline edge to improve shoreline vegetation and riparian structure and the ecological functions that these shoreline conditions affect.

Policy SA-16.2: Minimize tree clearing and thinning activities along the shoreline and require mitigation for trees that are removed.

As a result of the functions that shoreline vegetation provides, it is important that vegetation conservation measures be implemented along the shoreline. New trees or other appropriate restoration should be installed to replace functions of trees that are removed, either through

development or as part of on-going management of property. Tree removal or topping for the purposes of creating views should be prohibited. Limited thinning of trees to enhance views or for maintenance for health and vigor of the tree may be appropriate in certain circumstances, provided that this activity does not adversely impact tree health, ecological functions, and/or slope stability.

Applicants are encouraged to make trees that are removed available for City shoreline restoration projects.

Policy SA-16.3: Provide outreach and education materials to lakeside property owners about the importance and role of shoreline vegetation.

The City should offer shoreline property owners workshops or other materials to address the value of riparian vegetation, invasive species, erosion control, the value of large woody debris for salmon habitat, and natural yard care practices.

Public outreach efforts should focus on the opportunity to improve existing habitat and on the ability to use shoreline vegetation to:

- Create an attractive landscape that offers variety and seasonal color;
- Reduce maintenance;
- Provide privacy without sacrificing views;
- Increase property values,
- Improved water quality; and
- Reduce use by geese and other waterfowl.

Goal SA-17: Design aquatic vegetation management efforts to use a mix of various control methods with emphasis on the most environmentally sensitive methods.

Noxious weeds of Washington State are non-native, invasive plants defined by law as a plant that when established is highly destructive, competitive or difficult to control by cultural or chemical practices. These plants have been introduced intentionally and unintentionally by human actions. Most of these species have no natural enemies, such as insects or diseases, to help keep their population in check. As a result, these plants can often multiply rapidly. The two most common invasive species that are impacting Lake Washington's and Kirkland's marinas, residential waterfront owners and wildlife are Eurasian watermilfoil and white water lily. Eurasian watermilfoil, an aquatic plant found in lakes and slow-moving streams, can lower dissolved oxygen and increase pH, displace native aquatic plants, and increase water temperature.

Some aquatic weeds are controlled because they interfere with human needs such as boating and swimming in the lakes. Others pose a threat to the environment. The introduction of any non-native species has an effect on native species and habitats, although it is often difficult to predict those effects. However, there is a growing number of non-native aquatic plant and animal species whose current or potential impacts on native species and habitats are known to be significant. Potential threats may be evidenced by the degree of negative impact these species have upon the environment, human health, industry and the economy (WDFW 2001). Potential negative impacts relevant to the Lake Washington environment include:

- loss of biodiversity;
- threaten ESA-listed species such as salmon;

- alterations in nutrient cycling pathways;
- decreased habitat value of infested waters;
- decreased water quality;
- decreased recreational opportunities;
- increased safety concerns for swimmers; and
- decreased in property values.

Non-native species can be controlled through a variety of mechanisms, including mechanical and physical means (hand pulling, hand tools, bottom barrier, weed roller, mechanical cutters, and harvesters) biological controls and herbicides.

In response to the problem of invasive, non-native species entering Washington waters, laws have now been enacted requiring that all boats leaving a Washington boat launch be free of aquatic weeds and other debris, or otherwise risk being ticketed.

Aquatic vegetation management will likely take coordination on a larger-scale to be effective. As a result, the City should work with landowners and neighboring jurisdictions to develop aquatic vegetation management plans on a large-scale basis.

3. Shoreline Parks, Recreation, and Open Space

Public Parks

Note: The Comprehensive Park, Open Space and Recreation Plan provides policies and planning for parks, open space and recreating within the City of Kirkland, including waterfront parks.

Goal SA-18: Provide substantial recreational opportunities for the public in the shoreline area.

With miles of shoreline, the City has preserved significant portions of its waterfront in public ownership as parks. Kirkland's waterfront parks are the heart and soul of the City's park system. They bring identity and character to the park system and contribute significantly to Kirkland's charm and quality of life. The 13 waterfront parks stretch from the Yarrow Bay wetlands to the south to Juanita Bay and Juanita Beach Parks to the north, providing Kirkland residents year-round waterfront access. Kirkland's waterfront parks are unique because they provide citizens a diversity of waterfront experiences for different tastes and preferences. Park activities and facilities include public docks and fishing access, boat moorage, boat launches, swimming, interpretative trails, and picnicking. Citizens can enjoy the passive and natural surroundings of Juanita Bay and Kiwanis Parks and the more active swimming and sunbathing areas of Houghton and Waverly Beach Parks.

Policy SA-18.1: Acquire, develop, and renovate shoreline parks, recreational facilities, and open spaces that are attractive, safe, functional, and respect or enhance the integrity and character of the shoreline.

While Kirkland is blessed with many extraordinary waterfront parks, we should never lose sight of capturing opportunities when additional waterfront property on Lake Washington becomes available. If privately held lakefront parcels adjacent to existing beach parks or at other appropriate locations become available, effort should be made to acquire these pieces. As new shoreline parks are acquired and developed, the ecological functions of the shoreline should be protected and enhanced.

Policy SA-18.2: Encourage water-oriented activities and programs within shoreline parks.

Kirkland's recreational programs provide opportunities for small craft programs such as canoeing/kayaking, sailing, rowing, and sail-boating. Programs oriented around non-motorized boating activities provide excellent opportunities to teach recreation skills emphasizing water and boating safety and should be expanded, where appropriate.

In addition, the City awards contracts to parties interested in occupying dock space in the Kirkland Marina and Second Avenue South Dock for commercial use. The City may also expand concession facilities within its parks. These types of commercial recreational uses, which expand opportunities for the public to enjoy the shoreline, should be encouraged within the City's shoreline parks.

Policy SA-18.3: Continue use of opened waterfront street ends for public access.

Street ends are also wonderful opportunities to expand the public's access to the waterfront. The City has developed four street ends for the public's use and enjoyment. They are located along Lake Washington Boulevard at Street End Park, Settler's Landing, 5th Avenue South and Second Street West. The City has also plans in place for development of the Lake Avenue West Street End Park.

Policy SA-18.4: Explore opportunities for use and enjoyment of unopened street ends.

Presently, two waterfront street ends, 4th Street West and 5th Street West, remain unopened for public use. The ability to use these street ends for public use is presently impacted by a lack of public access from the land to the street end. If the City decides to open the street end for public use, it should work with the community and neighboring residents to prepare and adopt a development and use plan.

Policy SA-18.5: Ensure that development of recreation uses do not adversely impact shoreline ecological functions.

The development of recreational facilities has the potential to adversely impact shoreline ecological functions, for instance by increasing the amount of physical access and activity as well as overwater coverage and motorized watercraft access. As a result, recreational uses shall be appropriately sited and planned to minimize any resultant impacts.

Goal SA-19: Protect and restore publicly owned natural resource areas located within the shoreline area.

Policy SA-19.1: Manage natural areas within the shoreline parks to protect and restore ecological functions, values and features.

Kirkland is fortunate to have two of Lake Washington's largest and most important wetland and wildlife resources in its public park system: Juanita Bay Park and the Yarrow Bay wetlands, both of which have been mapped as priority wetlands by the Washington Department of Fish and Wildlife (WDFW). Both the Yarrow Bay wetlands and Juanita Bay Park extending up Forbes Creek corridor provide excellent habitat for birds, amphibians, mammals and reptiles. The outlets for three of the most prominent streams within the City, Juanita Creek, Forbes Creek and Yarrow Creek, are also located within the City's shoreline parks. These streams are known to support salmonids. In

addition, the Forbes Creek corridor has been designated by WDFW as a priority "riparian zone" due to its high fish and wildlife density, species diversity, important fish and wildlife breeding habitat, important wildlife seasonal ranges, high vulnerability to habitat alteration, and presence of unique or dependent species.

Preserving wildlife habitat, water quality, and forested areas is an important aspect of good park resource management. The existence of these natural areas also offers a variety of opportunities for aesthetic enjoyment, and passive and low-impact recreational and educational activities.

In order to protect wildlife habitat within Juanita and Yarrow Bay, it may be necessary to manage watercraft access, such as establishing restricted areas or limiting vessel speeds or other operations.

Policy SA-19.2: Promote habitat and natural resource conservation through acquisition, preservation, and rehabilitation of important natural areas, and continuing development of interpretive education programs.

The City parks also present an opportunity to implement restoration activities to improve degraded wetlands and habitat, control the spread of noxious plants, and improve the water quality of streams. As noted in the Final Kirkland Shoreline Analysis Report (December 2006), the City has initiated several studies to address restoration opportunities within Juanita Beach Park and Juanita Bay Park. In addition, the City has adopted a 20-Year Forest Restoration Plan to restore Kirkland's urban forests by removal of invasive plants and planting native species for the sustainability of the forest and its habitat. The City has acquired properties within the shoreline area near the Yarrow Bay wetlands impacted by critical areas and will continue to explore similar acquisition opportunities. The Parks Department has also established an interpretative program in Juanita Bay Park and will evaluate appropriate opportunities to expand this type of educational resource within natural areas.

Goal SA-20: Use a system of best management practices and best available technologies in the construction, maintenance and renovation of recreational facilities located in the shoreline environment.

The high visibility and use of Kirkland's waterfront parks require high levels of maintenance, periodic renovation, and security. Swimming beaches, docks, recreational moorage facilities, boat ramps, and shoreline walkways must be kept safe and in good condition for the public's enjoyment and use. Maintenance of these recreational facilities should be done in a way that minimizes any adverse effects to aquatic organisms and their habitats. Renovation of these areas also provides an opportunity to restore areas impacted by historical shoreline modifications such as alteration of shoreline vegetation, construction of bulkheads, and piers and docks.

Policy SA-20.1: Incorporate salmon friendly dock design for new or renovated docks and environmentally friendly methods of maintaining docks in its shoreline parks.

Overwater coverage and in-water structures can adversely impact ecological functions and ecosystem-wide processes. As the City renovates or constructs new overwater structures, it should incorporate impact minimization measures, such as minimizing widths of piers and floats, increasing light transmission through any over-water structures, enhancing the shoreline with native vegetation, improving shallow-water habitat, and reducing the overall number and size of pier piles, in order to minimize the impacts of these structures. Opportunities exist to reduce overwater coverage and in-water structures in a number of shoreline parks, including Juanita Beach Park, Waverly Beach Park,

the Lake Avenue West Street End Park, Marina Park, David E. Brink Park, Marsh Park, and Houghton Beach Park.

Kirkland contains a number of docks and piers within its shoreline parks, including at Houghton Beach Park, Marsh Park, David E. Brink Park, Marina Park, Waverly Beach Park, Juanita Beach Park, Juanita Bay Park, Settler's Landing, and the Second Avenue Right-of-Way in the Downtown. To maintain these docks and piers, replacement of the decking is needed on a routine basis. The City has obtained a Hydraulic Project Approval from the Washington Department of Fish and Wildlife to cover this maintenance activity and, as part of this permit, grating will be installed in lieu of existing solid boards when the boards are replaced, allowing for greater light transmission through these overwater structures.

Policy SA-20.2: Minimize impacts to the natural environment and neighboring uses from boat launch facilities to the greatest extent feasible.

Kirkland's public boat launch at Marina Park contains a one-lane facility for trailerable boats. This facility provides important access to Lake Washington, but has experienced several problems including poor traffic circulation and congestion. The City employs use regulations for this facility in order to minimize impact; these regulations are monitored under the Dock Masters program. Recently, the trailer parking was improved in Waverly Park. Continued management of the facility should be maintained in order to minimize these impacts to the greatest extent feasible.

If, in the future, the boat launch at Marina Park were to relocate, the City should cooperate with other jurisdictions to assure that this regional need is addressed with regional participation and resources.

Policy SA-20.3: Incorporate salmon-friendly landscape design practices in shoreline parks.

The City's parks and natural areas are a reflection of the values of the Kirkland community. The Parks Department strives to ensure that the public landscape remains attractive, while meeting the expectations of our users and preserving our parks and natural spaces for generations to come.

Opportunities exist to improve nearshore native vegetation in a number of shoreline parks, including Juanita Beach Park, Waverly Beach Park, the Lake Avenue West street end park, Marina Park, David E. Brink Park, Settler's Landing, Marsh Park, and Houghton Beach Park. Restoration activities could include such practices as native plant buffers at the shoreline edge, control of noxious and invasive species, implementation of sound horticultural practices, use of Integrated Pest Management (IPM) techniques, organic fertilizers, and natural lawn care practices.

Since 1998, the Kirkland Parks Department has been following an Integrated Pest Management (IPM) program. IPM is a sustainable approach to managing pests by combining cultural, mechanical, biological and chemical methods in a way that provides effective and efficient maintenance of the City's park system.

The objectives of the IPM policy are:

- Protect the health, safety and welfare of the environment and community.
- Provide efficient, cost effective maintenance of the City's park system using non-chemical controls whenever possible.

- Design new and renovate existing landscape areas that suit site conditions with sustainable maintenance practices.
- Restore, create and protect environmentally valuable areas such as wetlands, riparian areas, forests, meadows, and wildlife habitat.

The IPM decision making process brings into play multiple strategies that are utilized as tools to help implement the program, including (but not limited to):

- The use of sound horticultural practices to optimize plant health and suppress insects, disease and weed growth
- Site appropriate design with the use of disease and drought tolerant native plants.
- The use of natural control agents that act as predators or parasites of pest species.
- The use of beneficial organisms that improve plant health by enhancing the soil quality.
- The use of a variety of tools, equipment and, most importantly, people to assist with pest control.

The long-range goal of this program is for the parks and open spaces to be pesticide-free.

The Kirkland Parks Department is undertaking efforts to control invasive vegetation, including eradication and replanting with native vegetation, within Juanita Bay Park, under the recommendations contained within the *Juanita Bay Park Vegetation Management Plan* prepared in 2004 by Sheldon & Associates Inc. It divides the park into 10 management areas by habitat type that are distributed among three landscape zones based on location and historic use. Goals and objectives were established for each landscape zone, and then treatments were suggested for each management area within the landscape zones. The primary objective for the less developed landscape zones is removal of invasive species and replacement with native species, as well as supplementation of existing native vegetation to increase species and habitat diversity.

The Kirkland Parks Department has also initiated a program to install water intakes in Lake Washington for use as irrigation of Kirkland Parks. The water withdrawn from Lake Washington by Parks would be used to irrigate eight parks, which are currently provided with irrigation water from the City's potable water system. In conjunction with this project, the Parks Department plans to install vegetation along the shoreline edge.

Policy SA-20.4: ***Minimize impacts from publicly initiated aquatic vegetation management efforts.***

The Kirkland Parks Department undertakes mechanical aquatic vegetation management efforts at both Houghton and Waverly Beach Parks to control milfoil. After attempts to use biological and mechanical means to control aquatic invasive species at Juanita Bay Park, the Kirkland Parks Department has initiated an herbicide application. Aquatic vegetation management efforts can have potential negative impacts relevant to the Lake Washington environment and therefore control efforts should be designed to use a mix of various methods with emphasis on the most environmentally sensitive methods.

Policy SA-20.5: Control non-native species which impact Kirkland's shoreline.

The City Parks Department periodically undertakes programs to control non-native species along the shoreline. For instance, the Parks Department has planned improvements within Juanita Beach Park to reduce waterfowl impacts at this park. Programs aimed at controlling impacts associated with non-

native species use of the waterfront should continue. Any programs initiated should be designed to minimize any potential impacts to native species.

Policy SA-20.6: Implement Low Impact Development techniques, where feasible, in development of or renovations to recreational facilities along City shorelines.

Low impact development strives to mimic nature by minimizing impervious surface, infiltrating surface water through biofiltration and bio-retention facilities, retaining contiguous forested areas, and maintaining the character of the natural hydrologic cycle. Utilizing these practices can have many benefits, including improvement of water quality and reduction of stream and fish habitat impacts. The Parks Department has successfully incorporated low-impact development techniques with park development efforts, such as Waverly Park and Watershed Park. These techniques should also be considered for any improvements within shoreline parks.

Opportunities exist to reduce impervious surface coverage in a number of shoreline parks, including, Waverly Beach Park, Street End Park, and Marsh Park and LID should be explored as a means to reduce this coverage.

Policy SA-20.7: Reduce or modify existing shoreline armoring within Kirkland's shoreline parks to improve and restore the aquatic environment.

Bulkheads or other types of shoreline armoring can adversely impact ecological functions and ecosystem-wide processes. Kirkland contains a number of structural shoreline stabilization measures, such as concrete or rip-rap bulkheads, within its shoreline parks. Opportunities exist to reduce shoreline armoring in a number of shoreline parks, including Waverly Beach Park, Marina Park, David E. Brink Park, Settler's Landing, Marsh Park, and Houghton Beach Park. If repair or replacement is needed to these existing structures, the Parks Department should explore the use of nonstructural measures. Further, new development within the City's parks should be located and designed to eliminate the need for new shoreline modification or stabilization.

Goal SA-21: Undertake restoration opportunities to improve shoreline ecological functions and ecosystem-wide processes where feasible.

The City's shoreline parks present opportunities for restoration that would improve ecological functions, including reduction of shoreline armoring, reduction of over-water cover and in-water structures, improvement of nearshore native vegetation cover, reduction of impervious surface coverage, control of invasive vegetation, and improvement of fish passage where possible.

In addition, many projects planned under the Surface Water Management Utility would provide wetland enhancement, fish passage improvement, bioengineered streambank erosion, restoration of armored streambanks, flood abatement, and water quality improvement. While many of these projects are planned 'upstream' of shoreline jurisdiction, they can still have positive effects on the shoreline environment.

4. Shoreline Transportation

Note: The Transportation Chapter of the Comprehensive Plan contains a set of goals policies relating to vehicular, bicycle and pedestrian circulation.

Streets

Goal SA-22: Provide for safe and efficient movement of vehicles, bicycles and pedestrians within the shoreline area, while recognizing and enhancing the unique, fragile and scenic character of the shoreline area.

Policy SA-22.1: Maintain a roadway network which will efficiently and safely provide for vehicular circulation within the shoreline area.

The existing vehicular circulation system in Kirkland's shoreline area is largely complete, with several major roadways located within the shoreline jurisdiction, including portions of Lake Washington Boulevard NE/Lake Street South and Market Street/98th Avenue NE, as well as neighborhood access streets and driveways. The City should undertake improvements, as necessary, to address needed safety, capacity or efficiency improvements within the shoreline area.

Policy SA-22.2: Enhance Lake Washington Blvd NE and Lake Street S to improve their function for scenic views, and recreational activities, as well as for local access and as a commute route.

Lake Washington Boulevard is designated as a major arterial and provides the major north-south route through Kirkland south of the Central Business District and west of I-405. The Boulevard also provides local access for a substantial number of residential developments and businesses. The Boulevard functions as a major pedestrian and bicycle corridor, serving waterfront park users, joggers, strollers, and downtown shoppers. The City should continue to manage this network to meet the needs of the broad variety of users, while maintaining the scenic quality of this roadway network.

Traffic along Lake Washington Boulevard and Lake Street S has increased over time, restricting local access to and from these streets and creating noise, safety problems, and conflicts for pedestrians, bicyclists, and adjacent residents. Solutions to these problems should be sought which recognize that these streets have a scenic and recreational function which is as important as its function as a commute route. Improvements to these streets should help accommodate their broader amenity function in such a manner that the safety of all the diverse users is enhanced. Accordingly, the following improvements would be desirable:

- Widening of sidewalks or development of landscape strips or landscaped median islands to separate traffic and provide pedestrian safety.
- Installation of pedestrian crossings at intersections and adjacent to waterfront parks where safety considerations allow such installation.
- Continuation and widening of bicycle lanes.
- Limitations on the number of new curb cuts and consolidation of driveways, where possible.
- Restrictions on turning movements by installation of c-curbs or other techniques, where needed.

Policy SA-22.3: Design transportation improvement projects within the shoreline to avoid, minimize and mitigate environmental impacts.

Transportation facilities should be designed to have the least possible effect on shoreline features. When planning transportation facilities, both public and private, the environmental impacts of the

facility need to be evaluated and minimized, and appropriate mitigation included. Environmental impacts of transportation facilities and services can include wetland and stream encroachment, vegetation removal, air quality deterioration, noise pollution, and landform changes.

Policy SA-22.4: Design transportation improvement projects to maximize opportunities to improve existing shoreline ecological functions.

Transportation improvement projects located within the shoreline should include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low impact development techniques, where practicable and feasible.

Policy SA-22.5: Design transportation improvement projects to enhance scenic amenities and reflect neighborhood character.

Roadways should be designed to maximize views of the lake, where feasible. Shoreline roadways should also be designed with pedestrian improvements, such as widened sidewalks, and amenities such as benches or view stations and public sign systems that identify significant features along the shoreline such as historic or scenic features, parks and public access easements. In addition, appropriate landscaping and street tree selection should be used for rights-of-way with public views to maintain the views as the vegetation matures.

Policy SA-22.6: Incorporate best management practices into road and utility maintenance activities.

Road maintenance activities are necessary to clean out sediment and debris from drainage systems, which provides benefits to salmon habitat by preventing pollutants and sediments entrapped in stormwater facilities from entering surface or groundwater. The activities can also have adverse water quality impacts, directly effecting aquatic species. In order to minimize any potential adverse impacts, the City road maintenance crews should continue to use best management practices, such as those incorporated into the Regional Road Maintenance ESA Program Guidelines, to guide their maintenance activities. The Regional Road Maintenance ESA Program Guidelines (Regional Program) describes physical, structural, and managerial best management practices designed so that when they are used, singularly or in combination, they reduce road maintenance activities' impacts on water and habitat.

Pedestrian/Bicycle Circulation

Goal 23: Provide the maximum reasonable opportunity for the public to view and enjoy the amenities of the shoreline area.

Policy SA-23.1: Provide a public access system that is both physical and visual, utilizing both private and public lands, consistent with the natural character, private rights and public safety.

Public access includes the ability of the general public to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations. Public access is a key component of the Shoreline Management Act and is one of the preferred uses in the shoreline area and should be encouraged, both in private and public developments and public acquisition.

Developing public access to the shoreline area has long been a priority of the City. Except for single-family residential areas or environmentally sensitive areas, the City has sought development to provide public access to the water's edge and along the shoreline as much as possible. Based on this approach, the City has made significant progress towards establishing continuous pedestrian access along the water's edge along portions of the shoreline.

In addition to these public access easements, the City has, over time, acquired many shoreline properties and designated these properties for park/open space and developed access trails.

Policy SA-23.2: Enhance and maintain pedestrian and bicycle infrastructure within the shoreline area.

Pedestrian and bicycle movement on and off roadways in the shoreline area should be encouraged wherever feasible. Access points to and along the shoreline as well as shoreline recreational facilities should be linked by pedestrian and bicycle pathways developed as close to the water's edge as reasonable.

The City should work to infill key gaps in existing shoreline access by connect existing pathways and linking existing access points to and along the shoreline, where feasible. In addition, the City should work to complete bicycle improvements by infilling gaps in existing routes and making any necessary safety improvements.

The following identifies some of the key opportunities available to improve public access. Some of the sites are located within the shoreline area, while others located outside the shoreline jurisdiction are represented since they provide an important connection to the shoreline. These connections should be sought, either through a required condition of development, or, where appropriate, through use of public funds to acquire and develop public pedestrian walkways:

- Connecting Juanita Bay Park and Juanita Beach Park. The city should seek to complete a public pedestrian walkway along the shoreline from Juanita Bay Park to Juanita Beach Park. Because of the presence of wetlands, the walkway should be designed so as to cause the least impact. The City should also pursue improvements to connect the existing bicycle lanes along Market Street to those on Juanita Drive.

- Juanita Bay Park - provide an additional connection from the causeway to the lake if protection of the natural features can be reasonably ensured.

- Forbes Valley Pedestrian Facility – provide a sidewalk adjacent to Forbes Creek Drive to connect Crestwoods Park and Juanita Bay Park.

- 9th Street West – between Market Street and 20th Street across Juanita Bay Park should be improved for both pedestrians and bicycles.

- 10th Street West - connecting Kiwanis Park and Juanita Bay Park.

- Waverly Way – should be improved with sidewalk on the west side of the street. View stations at the unopened street ends at 4th Street West and 5th Street West along Waverly Way should also be considered.

- Lake Avenue West Street End Park – complete a pedestrian pathway across Heritage Park from

Waverly Way to the Street End Park.

- In downtown south of Marina Park. In this area, buildings and parking lots interrupt the shoreline trail system that has been established on adjoining properties. Whenever possible, this shoreline trail system should be completed, in order to build upon this community amenity and open space.

- Lake Washington Blvd NE – gaps in the existing public waterfront trail with connections to the Boulevard should be a required element of all shoreline developments other than single-family homes. Public use areas also should be encouraged adjacent to the westerly margin of Lake Washington Boulevard. The Boulevard is now a popular path for pedestrians, joggers, and bicyclists, and the continued improvement of this corridor as a promenade with wide sidewalks and public use areas, such as benches or view stations, pedestrian scale lighting, and public sign systems, would be a significant public asset.

The City of Kirkland Nonmotorized Transportation Plan (NTP), together with any additional routes identified in Neighborhood Plans, maps most of the bicycle and pedestrian facilities planned for future development. The Capital Improvement budget process prioritizes when routes will receive funding for improvements.

Policy SA-23.3: Require public access to and along the water's edge and waterfront public use areas with new development or substantial redevelopment, except in limited circumstances.

In general, new development or substantial redevelopment should be required to install a public trail along the entire length of the waterfront with connections to Lake Washington Boulevard at or near each end. Areas which are available for other public waterfront activities also should be strongly encouraged. A public trail should not be required associated with the construction of an individual new single-family residence or where it is demonstrated to be infeasible due to impact to the shoreline environment or due to constitutional limitations.

Policy SA-23.4: Minimize impacts on adjacent uses and the natural environment through the appropriate design of public access. Public access should also be designed to provide for public safety.

Developments required to provide public pedestrian access should be designed to minimize the impacts of the public access to adjoining properties, where possible, such as visually or physically separating the public pedestrian access from adjacent private spaces, or by placing an intervening structural or landscape buffer. The city may permit the establishment of reasonable limitations on the time, extent, and nature of public access in order to protect the natural environment and the rights of others.

In addition, public access trails should be located and designed to assure that users are visible and that pathways are well illuminated, if open in hours of darkness.

Public access through sensitive areas should be designed to avoid or minimize impacts to sensitive areas such as wetlands or streams or their protective buffers.

Policy SA-23.5: Cooperate on interagency and public-private partnerships to preserve and enhance water trails along Kirkland's shoreline where feasible.

The Lakes-To-Locks Water Trail is a day use trail with over 100 public places in a series of lake and rivers extending from Issaquah to Elliot Bay to launch and land small non-motorized boats. The Lakes-to-Locks Water Trail contains nearly a dozen launch, landing and rest sites along Kirkland's Shoreline. The City should continue to participate in this type of partnership to increase access and use of the City's shoreline.

Air and Water Access

Goal SA 24: Provide opportunities for transportation alternatives, such as access by land or water.

Policy SA-24.1: Explore opportunities to establish passenger-only ferry service along Kirkland's shorelines.

As the roads and highways in the region have increasingly reached full capacity, there has been renewed interest in re-establishing waterborne transportation in Lake Washington, particularly passenger-only ferries. King County has established a county-wide Ferry District, which plans to consider the delivery of passenger-only ferry services serving destinations in King County, including a route between Kirkland and Seattle. The City should participate in this effort and ensure that issues affecting the businesses and residents of Kirkland, such as location, traffic and parking, and the shoreline environment, are adequately addressed.

Policy SA-24.2: Allow limited floatplane moorage in commercial shoreline areas.

Floatplanes can be used for both commercial and recreational purposes. Commercial operations can include a variety of activities including air charter and scheduled air operations. These activities are water-dependent and should be permitted within high intensity shoreline commercial districts in limited circumstances, if evaluated through a public review process and where it has been determined that the facility or operation has been designed to minimize impacts, including impacts on native fish and wildlife and their habitat, as well as impacts to shoreline views and community character. Further, the operation of these facilities should ensure protection of adjacent development and uses as well as human safety, including limiting noise and other impacts on residential uses. Floatplane facilities should be located so they do not interfere with public swimming beaches or boating corridors. The floatplane operations should comply with state and federal requirements.

Policy SA-24.3: Limit helicopter landing facilities in the shoreline area.

Helicopter operations are not water-dependent and can include significant environmental issues such as noise pollution. As a result, helicopter landing facilities should not be permitted in the shoreline area, except as needed for emergency medical airlift.

5. Shoreline Utilities

Goal SA-25: Manage the provision of public and private utilities within the shoreline area to provide for safe and healthy water and sanitary sewer service, while protecting and enhancing the water quality and habitat value of the shoreline.

Policy SA-25.1: Locate new utilities and related appurtenances outside of the shoreline area, unless this location is reasonably necessary for the efficient operation of the utility.

Utilities are services that produce and carry electric power, gas, sewage, water, communications and oil. The provision of these services and the appurtenances associated with them can create substantial impacts on the landscape and the functioning of the natural ecosystem. To minimize potential impacts, these facilities should be located outside of the shoreline area, and in particular, outside of the aquatic environment, where feasible. If necessary within the shoreline, utility facilities should be located and designed in a manner that preserves the natural landscape and shoreline ecology, and minimizes conflicts with present and planned land uses.

Alternative energy use such as solar- and wind-based energy systems should be encouraged within the shoreline environment, provided that any potential adverse impacts are minimized.

Policy SA-25.2: Minimize impacts from the location, design, and maintenance of utility facilities located within the shoreline.

Careful planning and design is required to address impacts such as soil disturbance and intrusion on the visual setting. Potential adverse impacts should be minimized through the location, design and construction techniques used. For instance, where utility systems cross shoreline areas, clearing for installation or maintenance should be kept to a minimum width necessary to minimize impacts to trees and vegetation. Utilities should also be properly installed and maintained to protect the shoreline environment and water from contamination. The City should require location of utility lines prior to construction to avoid damaging the lines, incurring biological impacts, during construction.

Upon completion of utility installation or maintenance projects on shorelines, the shoreline area should be restored to pre-project configuration, replanted with native species and provided with maintenance care until the newly planted vegetation is established.

Even with revegetation, planting restrictions may limit the species that are replanted. As a result, existing functions may not be able to be fully restored. For this reason, utility corridors should be located outside of the shoreline jurisdiction, where possible.

Policy SA-25.3: Encourage consolidation of utilities within existing rights-of-way or corridors.

In order to minimize the extent of shoreline modified by improvements, utility facilities should utilize existing transportation and utility sites, rights-of-way and corridors whenever practicable, rather than creating new corridors in the shoreline environment. Joint use of rights-of-way and corridors in shoreline areas should be encouraged.

Policy SA-25.4: Locate utility facilities and corridors to protect scenic views and prevent impacts to the aesthetic qualities of the shoreline.

Utility lines and facilities, when they must be placed in a shoreline area, should be located so that they do not obstruct or destroy scenic views. Whenever feasible, these facilities should be placed underground, or designed to do minimal damage to the aesthetic qualities of the shoreline area.

6. Shoreline Design

Goal SA-26: Maintain and enhance Kirkland's orientation to and linkages with Lake Washington.

Policy SA-26.1: Preserve public view corridors along the City's street networks and public parks.

The street and waterfront park system provides a large number of local and regional views. The view corridors that lie within the public domain are valuable for the beauty, sense of orientation, and identity that they provide to Kirkland. The views also maintain the visual connection and perception of public accessibility to the lake. As a result, these views should be kept free of obstruction.

Policy SA-26.2: Locate and design new development to provide view corridors of Lake Washington from Lake Washington Boulevard and Lake Street South south of the Central Business District.

Kirkland's history, identity and character are strongly associated with its proximity and orientation to Lake Washington. Lake Washington Boulevard and Lake Street are the streets from which most residents and visitors view the lake, providing a lasting visual impression and helping to establish the visual identity of the City. As a result, visual access to Lake Washington from Lake Washington Boulevard and Lake Street should be an integral element in the design of development along the west side of these streets. Both public and private development in these areas should be designed to include an open area that provides an unobstructed view of the water beyond. View corridors should be situated on the property to provide the widest view of the lake. Existing structures in some areas block views of the Lake. With renovation of existing structures, opening up of views should be encouraged.

The Central Business District (CBD) is a community activity area focused around its historic waterfront with extensive public use and views of the waterfront provided by public parks, street ends, public and private marinas, public access piers and shoreline public access trails. Because of this configuration and the desire to provide continuous pedestrian-oriented retail activity at the street, view corridors across private properties in the CBD should not be required.

Policy SA-26.3: Explore opportunities to provide visual and pedestrian access from Central Way and Lake Street with redevelopment efforts.

The City should explore opportunities to participate in a public/private partnership to redevelop the commercial block between Kirkland Avenue and Central Way with visual and pedestrian access from a series of at-grade pedestrian connections from Central Way and Lake Street which would open to a large public plaza constructed west of the buildings to enhance the Downtown's lake front setting

Policy SA-26.4: Design water-enjoyment uses to provide significant opportunities for public enjoyment of the aesthetic, natural and recreational amenities of the shoreline.

Water-enjoyment uses, such as restaurants, hotels or other mixed-use commercial projects, bring substantial numbers of people to the shoreline and provide opportunities for the public to enjoy shoreline amenities. These uses are encouraged in urban mixed areas, such as Kirkland's downtown area, and should be designed to respond to their shoreline location through a variety of measures, including the following:

- Architectural or site design elements that connect visually or physically to the lake.
- Orientation of views and windows to the lake
- Orientation of entries, sight lines, buildings, pathways and other design elements to the shoreline.
- Incorporating interpretative signs,
- Locating service areas away from the shoreline.
- Incorporating substantial landscaping and open space.
- Providing outdoor seating or gathering places along the shoreline.
- Designing signs to be compatible with the aesthetic quality of the shoreline.

Enhancement of views should not take precedence over vegetation conservation and, as such, removal of vegetation necessary for shoreline function should not be allowed in cases where views are partially impaired by existing vegetation. New landscaping should be appropriately designed to preserve designated view corridors.

7. Shoreline Archaeological, Historic and Cultural Resources

Goal SA-27: Identify, protect, preserve, and restore important archeological, historical, and cultural sites located in the shoreline area.

Kirkland's shoreline area has a long history, dating back to use of Juanita Bay by Native Americans and use of Lake Washington for fish harvest by the Muckleshoot Tribe. The shoreline area also contains many historic structures, including residential structures and vessels moored along the City's shoreline.

Policy SA-27.1: Prevent destruction or damage to historic, cultural, scientific or educational resources located along the shoreline.

Steps should be taken to identify, recover and preserve any artifacts or other resources that may exist along the City's shoreline. The City should work with property owners and tribal, state, and federal governments as appropriate to assess sites and make arrangements to preserve historical, cultural and archaeological values in advance of planned development. Proposed development should be designed and operated to be compatible with continued protection of the historic, cultural or archaeological resource. If development occurs in areas documented to contain archaeological resources, a site inspection or evaluation by a professional archaeologist in coordination with affected tribes should be required prior to issuance of permits. If archaeological resources are uncovered during excavation, work on the site should immediately stop and notification to the City, the state Office of Archaeology and Historic Preservation, and affected tribes should be made to determine the appropriate course of action.

Policy SA-27.2: Encourage educational projects and programs that foster an appreciation of the importance of shoreline history.

Site development plans should incorporate measures for historic, cultural and archaeological resource preservation, restoration and education with open space or recreation areas whenever possible. Wherever feasible, shoreline development should recognize the former use of much of the city's shoreline area for such uses as boat yards, ferry landings and industrial sites.

8. Restoration Planning

Goal SA-28: Implement the projects, programs and plans established within the Restoration Plan as funding and staffing resources permit.

Restoration planning is an important component of the environmental protection policy of the Shoreline Management Act. Continued improvement of shoreline ecological functions requires a comprehensive watershed approach that combines upland and shoreline projects and programs. The City of Kirkland has adopted a Restoration Plan for the City's shorelines that provides the framework for the community's efforts to restore degraded portions of the City's shorelines.

The Restoration Plan provides multiple programmatic and site-specific opportunities for restoring the City's shoreline areas that outline opportunities to achieve a net benefit in ecological conditions. Ecological benefits that would be realized by implementing this plan include: increased use of soft approaches for shoreline stability and corresponding reductions in low-functioning hard shorelines; increased organic inputs, habitat, and filtration from shoreline riparian vegetation; improved wildlife corridor connectivity; improved habitat for salmon; displacement of noxious vegetation; and eventual introduction of woody debris.

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