
DRAFT

**Shoreline Restoration Plan Component of the Shoreline Master
Program for the City of Kirkland**

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June 2009

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SHORELINE MASTER PROGRAM UPDATE SHORELINE RESTORATION PLAN

1. INTRODUCTION

Shorelines are a major feature in the City of Kirkland, providing both a valuable setting for land use and recreation and performing important ecological functions. Development along the shoreline is addressed through the City's Shoreline Master Program, the local goals and policies adopted under the guidance and provisions of the Shoreline Management Act (SMA) of 1971. Under the SMA, each city and county with "shorelines of the state" must adopt a Shoreline Master Program (SMP) that is based on state laws and rules but tailored to the specific geographic, economic and environmental needs of the community. The goal of the SMA is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." To implement this goal, the SMA and its implementing guidelines, provide guidance and requirements to local governments addressing how shorelines should be developed, protected, and restored. The SMA has three broad policies:

- 1) encourage water-dependent uses,
- 2) protect shoreline natural resources, and
- 3) promote public access.

The City's SMP was developed in 1974 to help regulate shoreline development in an ecologically sensitive manner with special attention given to public access. These policy objectives are reflected in today's protection of significant natural areas within the City's shoreline area as open space, as well as the extensive shoreline trail system and network of shoreline parks which have been established over time.

Over the time that has spanned since the original adoption of the City's SMP, there have been substantial changes to the lakefront environment. Industrial uses, such as the shipyard previously located at Carillon Point, have left Kirkland's environment. The City has added publicly owned properties to its 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 from the lake was closed.

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, riparian vegetation, 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 the consequent reduction in soil infiltration, have been correlated with increased velocity, volume, and frequency of surface water flows into the lake. These and other changes have impacted the habitat for salmonids. In 1999, chinook salmon and bull trout were listed as Threatened species under the Federal Endangered Species Act. 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.

Kirkland's SMP is being updated to comply with the SMA requirements (RCW 90.58), and new SMP Guidelines (Washington Administrative Code [WAC] 173-26, Part III), which went into effect in 2003. One of the key objectives that the SMP must address is "no net loss of ecological shoreline functions necessary to sustain shoreline natural resources" (Ecology 2004). The no net loss goal, if carried out successfully, would maintain the existing ecological condition of shorelines within the City of Kirkland. However, SMP updates seek not only to maintain conditions, but to improve them:

"...[shoreline master programs] include planning elements that when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county (WAC 173-26-201(c))."

The SMP Guidelines require that local governments develop SMP goals that promote restoration of impaired shoreline ecological functions and a "real and meaningful" strategy to implement restoration objectives. Local governments are also encouraged to contribute to restoration by planning for and supporting restoration of shoreline functions through the SMP and other regulatory and non-regulatory programs.

Restoration planning is an important component of the environmental protection policy of the Act. The City of Kirkland's SMP includes shoreline protection and restoration elements achieved through planning, regulation, preservation of high quality shoreline areas, and the provisions established in this Restoration Plan, which provides the framework for the community's efforts to restore degraded portions of the City's shorelines.

The City's Shoreline Inventory and Characterization (The Watershed Company, December 2006) describes how natural shoreline processes have been modified and identifies the restoration potential and opportunities within each shoreline reach. This Shoreline Restoration Plan builds on that analysis to further identify overall goals and priorities for restoration, as well as projects and programs that are designed to contribute to local restoration goals, and mechanisms or strategies to ensure that restoration projects and programs will be implemented.

This document represents the Restoration Plan that, done in conjunction with mitigation resulting from implementation of the new regulations and policies, will result in improvements to the shoreline ecology along the Kirkland shoreline. This plan represents a long-term vision for restoration that will be implemented over time, resulting in incremental improvement over the existing conditions.

2. PURPOSE OF RESTORATION PLAN

A jurisdiction's Shoreline Master Program applies to uses and activities in the jurisdiction's shoreline zone. To assure no net loss of shoreline ecological functions, master programs are required to include provisions that require proposed individual uses and developments to analyze environmental impacts of the proposal and include measures to mitigate environmental impacts not otherwise avoided or mitigated by compliance with the master program and other applicable regulations. Despite these efforts, it is recognized that the impacts from all reasonably anticipated activities and uses cannot be fully mitigated under the SMP regulations. For instance, some allowed uses and developments, such as a new pier, cannot always be mitigated fully, resulting in incremental and unavoidable degradation of the baseline condition.

How then can the shoreline be improved over time in areas where the baseline condition is severely, or even marginally, degraded?

Section 173-26-201(2)(f) of the State Guidelines says:

“master programs shall include goals and policies that provide for restoration of such impaired ecological functions. These master program provisions shall identify existing policies and programs that contribute to planned restoration goals and identify any additional policies and programs that local government will implement to achieve its goals. These master program elements regarding restoration should make real and meaningful use of established or funded nonregulatory policies and programs that contribute to restoration of ecological functions, and should appropriately consider the direct or indirect effects of other regulatory or nonregulatory programs under other local, state, and federal laws, as well as any restoration effects that may flow indirectly from shoreline development regulations and mitigation standards.”

However, degraded shorelines are not just a result of pre-Shoreline Master Program activities or allowed uses or activities that cannot be fully mitigated, but also of unregulated activities and exempt development. The new Guidelines also require that “[l]ocal master programs shall include regulations ensuring that exempt development in the aggregate will not cause a net loss of ecological functions of the shoreline.” While some actions within shoreline jurisdiction are exempt from a permit, the Shoreline Master Program should clearly state that those uses and actions are not exempt from compliance with the Shoreline Management Act or the local Shoreline Master Program. Because the shoreline environment is also affected by uses and activities taking place outside of a specific local master program’s jurisdiction (e.g., outside of city limits and outside of the shoreline zone within the city), review of actions, programs and policies that affect the greater area outside of the shoreline jurisdiction is essential for understanding how the City overall fits into the larger watershed context. The latter is critical when establishing realistic goals and objectives for improving the dynamic and highly interconnected environments.

As directed by the State Guidelines, the following Restoration Plan provides a summary of baseline shoreline conditions, lists restoration goals and objectives, discusses existing or potential programs and projects that positively impact the shoreline environment, and provide a ranking analysis of designated projects based on both ecological benefit and overall feasibility. Finally, funding options and a monitoring plan of these various comprehensive restoration projects and programs are provided. In total, implementation of the Shoreline Master Program (with mitigation of project-related impacts) in combination with this Restoration Plan (for restoration of lost ecological functions that occurred either prior to a specific project or as part of a project that cannot fully mitigate its own impacts) should result in a net improvement in the City of Kirkland’s shoreline environment in the long term.

In addition to meeting the requirements of the Guidelines, this Restoration Plan is also intended to support the City’s or other non-governmental organizations’ applications for grant funding, and to provide the interested public with contact information for the various entities working within the City to enhance the environment.

3. SHORELINE INVENTORY SUMMARY

3.1 Introduction

The City conducted a comprehensive inventory of its Lake Washington shoreline in 2006. The purpose of the shoreline inventory was to facilitate the City of Kirkland's compliance with the SMA and updated SMP Guidelines. The inventory describes existing physical and biological conditions in the Lake Washington shoreline zone within City limits, including recommendations for restoration of ecological functions where they are degraded. The *Final Shoreline Analysis Report* is summarized below.

3.2 Shoreline Boundary

As defined by the Shoreline Management Act of 1971, shorelines include certain waters of the state plus their associated "shorelands." Shorelands are defined as:

"those lands extending landward for 200 feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward 200 feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter...Any county or city may determine that portion of a one-hundred-year-floodplain¹ to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet therefrom (RCW 90.58.030)"

Shorelands in the City of Kirkland include only areas within 200 feet of the ordinary high water mark, as established by the U.S. Army Corps of Engineers for Lake Washington, and any associated wetlands within shoreline jurisdiction. Lake Washington does not have a floodway or floodplain. As part of the shoreline jurisdiction assessment, Forbes Creek, Juanita Creek, and Yarrow Creek were reviewed. All features were found to have mean annual flows of less than 20 cubic feet per second and thus are not subject to regulation under the Shoreline Management Act. Two areas of known associated wetlands were identified, one contained within Juanita Bay and extending up the lower Forbes Creek riparian corridor, and the second within the lower Yarrow Bay wetlands. The shoreline jurisdiction extends up to the wetland boundary in these two areas and up to 200 feet from the Lake Washington ordinary high water mark in all other areas.

3.3 Shoreline Inventory

The shoreline inventory is divided into five main sections: Introduction, Current Regulatory Framework Summary, Shoreline Inventory, Conditions by Inventory Segment, and Analysis of Ecological Functions and Ecosystem-wide Processes. Four segments were established (A through D), and have been delineated based on existing land use and current location within either the City or the Potential Annexation Area (PAA). For the purposes of this Restoration

¹ According to RCW 173-220-030, 100-year floodplain is "that land area susceptible to being inundated by stream derived waters with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulation maps or a reasonable method which meets the objectives of the act;"

Plan, the City has not included the PAA (Segment A), which has been separately addressed by King County.

3.3.1 Land Use and Physical Conditions

1. Existing Land Use: The City of Kirkland shoreline area is fully developed, with existing land uses largely consistent with planned land uses as illustrated in the Comprehensive Plan. Areas not occupied by residential or commercial/office developments are either formal and informal City parks and open spaces, or large wetland areas. The City's shoreline contains a total of 336 lots. Of these, only 32 undeveloped lots remain within shoreline jurisdiction. The majority of these undeveloped lots are located within Segment B (24); two are located in Segment C and six in Segment D. In Segment B, the relatively large number of undeveloped lots is due to a number of lots along the southwest corner of the Yarrow Bay wetlands. These figures indicate that only 10 percent of all properties within the shoreline area are vacant. This also illustrates that if future development occurs, it will likely be in the form of redevelopment consistent with adopted plans and regulations. Except for a few properties held in private ownership, the high-functioning portions of the shoreline have been appropriately designated and preserved as park/open space. The privately held properties have been protected through critical areas provisions, including buffers. Land uses along the shoreline are only expected to change minimally, if at all, although re-builds, substantial remodels, and some redevelopment of one type of commercial into another type of commercial, multi-family or mixed-use are anticipated.
2. Parks and Open Space/Public Access: Developing public shoreline access is a priority of the City, as evidenced by the goals and policies included in the Public Access element of the City's SMP, prepared in the early 1970s and last amended in 1989. Except for single-family residential areas or environmentally sensitive areas, the prior SMP required that all development provide public access to the water's edge and along the shoreline as much as possible. As a result of this requirement, the City has made significant progress towards establishing continuous pedestrian access along the water's edge in Segment D as many of the multi-family and commercial properties have redeveloped. Overall, the City has approximately 6.8 miles of trails within shoreline jurisdiction. The trails and parks combined provide 2.5 miles of public waterfront access. The SMP continues these provisions in order to allow for any gaps in this system to be infilled as redevelopment occurs.

The City contains twelve designated parks or street-ends, some with extended areas of open space, such as the Forbes Creek riparian corridor. Juanita Beach Park is one of the City's largest multi-use parks located on the Lake Washington waterfront. The City commissioned the *Juanita Beach Park Draft Master Plan Report* (J.A. Brennan Associates, PLLC 2005) after assuming ownership from King County in 2002. The *Master Plan Report* includes goals for a number of areas, including environmental stewardship and recreation. The plan addresses potential day boat moorage, swimming beach improvements (to address water and sediment quality and excessive sediment deposition), a new non-motorized boat rental facility, hand-carried boat launch, and restoration of Juanita Creek, its buffer, and wetlands.

3. Shoreline Modifications: A combination of recent aerial photographs and a field inventory conducted by boat in March 2006 were used to collect information about shoreline

modifications in the City. The Kirkland shoreline is heavily modified with approximately 60 percent of the overall shoreline armored at or near the ordinary high water mark and an overall pier density of approximately 26 piers per mile. However, these numbers include the undeveloped shorelines in Segment B. Considering just Segments C and D, these numbers would rise to 86 percent armoring and 39 piers per mile. Comparatively, an evaluation of the entire Lake Washington shoreline found 71 percent of the shoreline armored and with approximately 36 piers per mile (Toft 2001). Thus, for Kirkland overall, both pier density and shoreline armoring are slightly lower than the lake-wide figures. However, when evaluating the developed shorelines of Segments C and D, these figures exceed the lake-wide average. Many of the piers have one or more boatlifts, and approximately one-quarter of the boatlifts have canopies.

As expected, the urban segment (Segment D) has the most altered shoreline, with 90 percent armored with either vertical or boulder bulkheads, and Juanita and Yarrow Bays (Segment B) have the least altered shorelines, with only 7 percent armoring. The residential segments (Segments A and C) are 76 and 83 percent armored, respectively. It is not uncommon around Lake Washington for some historic fills to be associated with the original bulkhead construction, usually to create a more level or larger yard. Most of these shoreline fills occurred at the time that the lake elevation was lowered during construction of the Hiram Chittenden Locks.

Also as expected, the highest amount of overwater cover per lineal foot of shoreline can be found in Segment D, which is nearly triple the amount of cover found in the residential segment (C). This can be attributed to the presence of several marinas, large park-associated piers, multiple large piers that serve condominiums, and a couple of overwater condominiums. However, the total number of individual pier/dock structures in the urban segment is about half of that in the residential segments, due to the abundance of single-family residential pier structures. Segment B had the lowest area of overwater cover and the lowest number of overwater structures.

The full shoreline inventory includes a more in-depth of discussion of the above topics, as well as information about transportation, stormwater and wastewater utilities, impervious surfaces, and historical/archaeological sites, among others.

3.3.2 Biological Resources and Critical Areas

With the exception of the Yarrow Bay wetlands and the Forbes Creek/Juanita Bay wetlands, the shoreline zone itself within the City of Kirkland is generally deficient in high-quality biological resources and critical areas, primarily because of the extensive residential and commercial development and their associated shoreline modifications. There are numerous City parks, but these are mostly well manicured and include extensive shoreline armoring and large pier and dock structures. There are few forested areas along the lakeshore, as most forested areas are surrounded by development and are not generally contiguous with Lake Washington. Landslide hazard areas are located within the shoreline zone along Segment C, between the south end of Rose Point Lane and Heritage Park. Wetlands mapped within shoreline jurisdiction include both the Yarrow Bay wetlands and the Forbes Creek/Juanita Bay wetlands. Additional unmapped areas of wetland fringe may also exist. Important fish-bearing streams in the shoreline zone include Juanita Creek, Forbes Creek, and Yarrow Creek. These streams are used by salmon, but have been impacted extensively by basin development, resulting in increased peak flows,

unstable and eroding banks, loss of riparian vegetation, and fish and debris passage barriers. These changes have altered their contributions of sediment, organic debris, and invertebrates into Lake Washington. Each of these systems continues to be targeted for restoration by one or more local or regional restoration groups. There are also other mapped smaller streams in the shoreline zone, including Carillon Creek and Cochran Springs.

WDFW mapping of Priority Habitat and Species (WDFW 2006) also indicates the presence of other Fish and Wildlife Habitat Conservation Areas and Priority Habitats within and adjacent to the shoreline zone. These include pileated woodpecker breeding areas, historic and current bald eagle nest locations, great blue heron nest colony, wetlands, urban natural open space, and riparian zones.

4. RESTORATION GOALS AND OBJECTIVES

4.1 Introduction

The City of Kirkland is located within the Lake Washington/Cedar/Sammamish Watershed. The Lake Washington/Cedar/Sammamish Watershed is home to three populations of Chinook salmon: Cedar River, North Lake Washington, and Issaquah. Studies indicate that Chinook salmon in this watershed are in trouble; they are far less abundant now than they were even in recent decades, and all three populations are at high risk of extinction. In March 1999, the federal government listed Puget Sound Chinook salmon as threatened under the Endangered Species Act (ESA).

The salmon's decline is an indicator of the overall health of the watershed. Concerned about the need to protect and restore habitat for Chinook salmon for future generations, 27 local governments in the watershed, including Kirkland, signed an interlocal agreement in 2001 to jointly fund the development of a conservation plan to protect and restore salmon habitat. The Final Chinook Salmon Conservation Plan is the result of this collaborative effort and is the conservation strategies and implementation efforts are referenced herein as a result of the City's commitment to this conservation strategy.

According to the *Lake Washington/Cedar/Sammamish Watershed (WRIA) Near-Term Action Agenda For Salmon Habitat Conservation*, Lake Washington suffers from "Altered trophic interactions (predation, competition), degradation of riparian shoreline conditions, altered hydrology, invasive exotic plants, poor water quality (phosphorus, alkalinity, pH), [and] poor sediment quality" (WRIA 8 Steering Committee 2002). Kirkland's *Final Shoreline Analysis Report* (The Watershed Company 2006) provides supporting information that validates these claims specifically in the City's shoreline jurisdiction. The *WRIA 8 Action Agenda* established four "ecosystem objectives," which are intended to guide development and prioritization of restoration actions and strategies. The objectives are as follows:

- "Maintain, restore, or enhance watershed processes that create habitat characteristics favorable to salmon.
- Maintain or enhance habitat required by salmon during all life stages and maintain functional corridors linking these habitats.

- Maintain a well-dispersed network of high-quality refuge habitats to serve as centers of population expansion.
- Maintain connectivity between high-quality habitats to allow for population expansion into recovered habitat as degraded systems recover.”

The WRIA 8 restoration objectives, in combination with the results of the City’s *Final Shoreline Analysis Report*, the direction of Ecology’s *Shoreline Master Program Guidelines*, and the City’s commitment (Appendix A) to support the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*, are the foundation for the following goals and objectives of the City of Kirkland’s restoration strategy. Although the *WRIA 8 Action Agenda* and the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan* are salmon-centered, pursuit of ecosystem-wide processes and ecological functions performance that favors salmon generally captures those processes and functions that benefit all fish and wildlife. Therefore, the results of these efforts are appropriate tools for Kirkland, and are consistent with the intent of the Shoreline Management Act

4.2 Goals and Objectives

The Goals and Objectives of the Restoration Plan are as follows:

Goal 1 – Maintain, restore or enhance watershed processes, including sediment, water, wood, light and nutrient delivery, movement and loss.

Goal 2 – Maintain or enhance fish and wildlife habitat during all life stages and maintain functional corridors linking these habitats.

Goal 3 – Contribute to conservation and recovery of chinook salmon and other anadromous fish, focusing on preserving, protecting and restoring habitat with the intent to recover listed species, including sustainable, genetically diverse, harvestable populations of naturally spawning chinook salmon.

4.2.1 System-wide Restoration Objectives

- Continue to work collaboratively with other jurisdictions and stakeholders in WRIA 8 to implement the Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan.
- Use the scientific foundation and the conservation strategy as the basis for local actions recommended in the Chinook Salmon Conservation Plan and as one source of best available science for future projects, ordinances, and other appropriate local government activities.
- Use the comprehensive list of actions, and other actions consistent with the Chinook Salmon Conservation Plan, as a source of potential site-specific projects and land use and public outreach recommendations.

- Use the start-list to guide priorities for regional funding in the first ten years of Chinook Salmon Conservation Plan implementation, and implementing start-list actions through local capital improvement projects, ordinances, and other activities.
- Continue to work to implement the goals and recommended actions for flood reduction, water quality improvement and aquatic habitat restoration contained within the City of Kirkland Surface Water Master Plan.
- Seek funding for various restoration actions and programs from local sources and by working with other WRIA 8 jurisdictions and stakeholders to seek federal, state, grant and other funding opportunities.
- Continue the City's efforts to develop and implement a public education plan to inform private property owners in the shoreline zone and in the remainder of the City about the effects of land management practices and other unregulated activities (such as vegetation removal, pesticide/herbicide use, car washing) on fish and wildlife habitats.

4.2.2 Lake Washington Restoration Objectives

- Improve Lake Washington and Lake Washington tributary stream health by managing the quality and quantity of stormwater runoff, consistent at a minimum with the latest Washington Department of Ecology *Stormwater Management Manual for Western Washington*. Make any additional efforts to meet and maintain state and county water quality standards in Lake Washington tributary streams.
- Improve Lake Washington tributary stream health by eliminating man-made barriers to anadromous fish passage, preventing the creation of new barriers, and providing for transport of water, sediment and organic matter at all stream crossings.
- Improve Lake Washington and Lake Washington tributary stream health by identifying hardened and eroding lakeshores and streambanks, and correcting to the extent feasible with bioengineered stabilization solutions.
- Improve Lake Washington and Lake Washington tributary stream health by increasing large woody debris recruitment potential through plantings of trees in the riparian corridors, particularly conifers. Where feasible, install large woody debris to meet short-term needs.
- Increase quality, width and diversity of native vegetation in protected corridors adjacent to stream and lake habitats to provide safe migration pathways for fish and wildlife, food, nest sites, shade, perches, and organic debris. Strive to control non-indigenous plants or weeds that are proven harmful to native vegetation or habitats.
- Reconnect and enhance small creek mouths as juvenile rearing areas.
- Habitat in small Lake Washington tributaries, such as those in the City of Kirkland, should be restored for coho so that production of cutthroat trout, which prey on juvenile chinook salmon in Lake Washington, is reduced.

- Decrease the amount and impact of overwater and in-water structures through minimization of structure size and use of innovative materials such as grated decking.
- Participate in lake-wide efforts to reduce populations of non-native aquatic vegetation.

4.2.3 Restoration Objectives for Properties owned by City of Kirkland

The following projects (Table 1) are developed from a list of opportunity areas that are described in more detail as part of Section 6.2 of this report. These programs are currently or have previously been listed as funded or unfunded projects in the Parks Capital Improvement Program.

- By 2016, initiate and, where possible, complete the following restoration activities on properties managed by the City of Kirkland:

Table 1. List of potential shoreline restoration projects on City property

Site Number	Park	Restoration Type	Description
1	Juanita Beach Park	Redesign breakwater	Remove or redesign the breakwater in order to improve migratory conditions for juvenile salmonids and water circulation.
2	Juanita Beach Park	In-stream habitat improvement	Potential in-stream habitat improvements to Juanita Creek, including large woody debris installation and improvements to native vegetative cover.
3	Forbes Creek - Juanita Bay Park	Remove invasive vegetation	Invasive vegetation, primarily reed canarygrass, purple and garden loosestrife, and Himalayan blackberry in the terrestrial zones.
9	Waverly Beach Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
10	Waverly Beach Park	Enhance shoreline vegetation	Supplementation of nearshore native vegetation to improve habitat conditions for juvenile salmonids.
11	Waverly Beach Park	Reduce stormwater runoff	The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious materials, relocation, or minimization.
17	David Brink Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
Various	Various	Reduce overwater cover	Reducing overwater cover through the installation of deck grating on the existing piers and removing pier skirting

Site Number	Park	Restoration Type	Description
			as feasible.
Various	Various	Enhance shoreline vegetation	Improving nearshore native vegetation.

As these projects are completed, the City will look for opportunities to promote the value of the improvements in benefitting shoreline conditions, as well as demonstrate potential techniques for reducing bank hardening, restoring overhanging riparian vegetation, and for incorporating deck grating into pier surfaces.

5. LIST OF EXISTING AND ONGOING PROJECTS AND PROGRAMS

The following series of existing projects and programs are generally organized from the larger watershed scale to the City-scale, including City projects and programs and finally non-profit organizations that are also active in the Kirkland area.

5.1 Water Resource Inventory Area (WRIA) 8 Participation

The City was one of 27 members of the WRIA 8 Forum, which participated in financing and developing the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*. The *Chinook Salmon Conservation Plan* includes the City of Kirkland's implementation commitment in the form of City Council Resolution R-4510, approved 21 June 2005 (Appendix A).

The City's preparation of the *Shoreline Analysis Report Including Shoreline Inventory and Characterization of the City of Kirkland's Lake Washington Shoreline* (The Watershed Company 2006) and this *Shoreline Restoration Plan* are important steps toward furthering the goals and objectives of the WRIA 8 *Chinook Salmon Conservation Plan*. In its Resolution, the City committed to, among other things, "using the scientific foundation and the conservation strategy as the basis for local actions recommended in the plan and as one source of best available science for future projects, ordinances, and other appropriate local government activities." The City's Resolution also states that the City will use the "comprehensive list of actions, and other actions consistent with the *Chinook Salmon Conservation Plan*, as a source of potential site specific projects and land use and public outreach recommendations." The City's Shoreline Master Program update products rely heavily on the science included in the WRIA 8 products, and incorporate recommended projects and actions from the WRIA 8 products (Table 2).

Table 2. WRIA 8 Action Start-List for Lake Washington and Status of Implementation in Kirkland

Action Item	Kirkland Implementation
<i>Reduce predation to outmigrating juvenile Chinook by: reducing bank hardening, restoring overhanging riparian vegetation, replacing bulkhead and rip-rap with sandy beaches with gentle slopes, and use of mesh dock surfaces and/or community docks.</i>	
<ul style="list-style-type: none"> Encourage salmon friendly shoreline design during new construction or redevelopment by offering incentives and regulatory flexibility to improve bulkhead and dock design and revegetate shorelines. 	<p>The SMP includes incentives for homeowners to improve nearshore ecological functions.</p>
<ul style="list-style-type: none"> Increase enforcement and address nonconforming structures over long run by requiring that major redevelopment projects meet current standards. 	<p>Code enforcement is responsible for enforcing regulations which address public health and safety issues, including regulations related to rubbish, garbage, specific nuisances, removal of vegetation, zoning, housing, dangerous buildings, and inoperable and unlicensed vehicles on private property. Enforcement actions are taken both proactively and in response to requests for action received from citizens.</p>
<ul style="list-style-type: none"> Discourage construction of new bulkheads; offer incentives (e.g., provide expertise, expedite permitting) for voluntary removal of bulkheads, beach improvement, riparian revegetation. 	<p>The SMP includes limitations on construction of new bulkheads and promotes voluntary improvements to nearshore ecological functions.</p>
<ul style="list-style-type: none"> Support joint effort by NOAA Fisheries and other agencies to develop dock/pier specifications to streamline federal/state/local permitting; encourage similar effort for bulkhead specifications. 	<p>The SMP includes dimensional and material standards which are intended to be in-line with state and federal permitting guidelines.</p>
<ul style="list-style-type: none"> Promote value of light-permeable docks, smaller piling sizes, and community docks to both salmon and landowners through direct mailings to lakeshore landowners or registered boat owners sent with property tax notice or boat registration tab renewal. 	<p>Kirkland has implemented this Action Item through development of its updated Shoreline Master Program, both in public outreach conducted during the update process and in the pier regulations.</p>
<ul style="list-style-type: none"> Offer financial incentives for community docks in terms of reduced permit fees, loan fees/percentage rates, taxes, and permitting time, in addition to construction cost savings. 	<p>Currently, incentives are not a tool used by the City to encourage community docks.</p>
<ul style="list-style-type: none"> Develop workshop series specifically for lakeshore property owners on lakeside living: natural yard care, alternatives to vertical wall bulkheads, fish friendly dock design, best management practices for aquatic weed control, porous paving, and environmentally friendly methods of maintaining boats, docks, and decks. 	<p>King County has led this effort Kirkland has also implemented training as part of the shoreline tour conducted as part of the SMP update process.</p>
<i>Protect and restore water quality in tributaries and along shoreline. Restore coho runs in smaller tributaries as control mechanism to reduce the cutthroat population. Reconnect and enhance small creek mouths as juvenile rearing areas.</i>	

Action Item	Kirkland Implementation
<ul style="list-style-type: none"> Address water quality and high flow impacts from creeks and shoreline development through NPDES Phase 1 and Phase 2 permit updates, consistent with Washington Department of Ecology's 2001 Stormwater Management Manual, including low impact development techniques, on-site stormwater detention for new and redeveloped projects, and control of point sources that discharge directly into the lakes. 	<p>The City implements Ecology's 2005 <i>Stormwater Management Manual for Western Washington</i> through its NPDES Phase II permit. The NPDES Phase II permit is required to cover the City's stormwater discharges into regulated lakes and streams. Under the conditions of the permit, the City must protect and improve water quality through public education and outreach, detection and elimination of illicit non-stormwater discharges (e.g., spills, illegal dumping, wastewater), management and regulation of construction site runoff, management and regulation of runoff from new development and redevelopment, and pollution prevention and maintenance for municipal operations.</p>
<ul style="list-style-type: none"> Encourage low impact development through regulations, incentives, education/training, and demonstration projects. 	<p>The Comprehensive Plan and the SMP contain provisions which promote LID. Implementation of the 2005 <i>Stormwater Management Manual for Western Washington</i> also places greater emphasis on LID strategies. The City has incorporating LID techniques in a number of demonstration projects and has completed education/training for both homeowners and developers. The City's Planning Department coordinates the implementation of the <i>Natural Resource Management Plan</i>, which recognizes the complexity of the interaction of its water, land and air systems and identifies action items intended protect Kirkland's environmentally sensitive areas.</p>
<ul style="list-style-type: none"> Protect and restore water quality and other ecological functions in tributaries to reduce effects of urbanization and reduce conditions which encourage cutthroat. Protect and restore forest cover, riparian buffers, wetlands, and creek mouths by revising and enforcing critical areas ordinances and Shoreline Master Programs, incentives, and flexible development tools. 	<p>The City updated the Critical Areas Ordinance in 2003, and revised it further as part of the SMP update process for application in shoreline jurisdiction. Management of the City's critical areas using these regulations should help insure that ecological functions and values are not degraded, and impacts to critical areas are mitigated.</p>

Action Item	Kirkland Implementation
	The City will also update its Critical Areas Ordinance, as needed. The next current update is scheduled to be completed by December, 2011.
<ul style="list-style-type: none"> Promote through design competitions and media coverage the use of "rain gardens" and other low impact development practices that mimic natural hydrology. 	The City's <i>Currently Kirkland</i> cable program airs a show of local residents installing a rain garden at the Forbes House located at Juanita Beach Park. The City offers educational seminars and events on LID practices as part of its Green Building Program and Developer's Forum series. The City has also prepared a brochure highlighting different LID techniques as well as a map of different installations that are available for viewing.

5.2 Comprehensive Plan Policies

In 1995 and again in 2004, the City completed major updates of the Kirkland Comprehensive Plan pursuant to Growth Management Act requirements. Additional amendments have been made to the Comprehensive Plan since 2004, most recently in 2008 which included amendments to the *Natural Environment Element*. The updated Comprehensive Plan contains a number of general and specific goals and policies that direct the City to permit and condition development in such a way that the natural environment is preserved and enhanced. The specific goals in the *Natural Environment Element* include:

- Goal NE-1: Protect natural systems and features from the potentially negative impacts of human activities, including, but not limited to, land development.
- Goal NE-2: Manage the natural and built environments to achieve no net loss of the functions and values of each drainage basin; and, where possible, to enhance and restore functions, values, and features. Retain lakes, ponds, wetlands, and streams and their corridors substantially in their natural condition.
- Goal NE-3: Manage the natural and built environments to protect and, where possible, to enhance and restore vegetation.
- Goal NE-4: Manage the natural and built environment to maintain or improve soils/geologic resources and to minimize risk to life and property.
- Goal NE-5: Improve air quality and reduce Kirkland's contribution to climate change.

Techniques suggested by the various policies to protect the natural environment include requiring setbacks from sensitive areas, preserving habitats for sensitive species, preventing adverse alterations to water quality and quantity, promoting low impact development,

preserving existing native vegetation, educating the public, and mitigating necessary sensitive area impacts, among others.

5.3 Natural Resources Management Plan

In 2003, the City adopted its Natural Resource Management Plan that calls for strategies intended to comprehensively manage Kirkland's natural resources. The Plan identifies three compelling reasons for managing natural resources in Kirkland: (1) the community's vision could not be attained without it, (2) the law requires it, and (3) without it, community assets become liabilities. The Plan recognizes the complexity of the interaction of its water, land and air systems and identifies action items intended protect Kirkland's environmentally sensitive areas.

The Natural Resources Management Plan contains a number of general and specific goals and policies that address the shoreline, such as:

Look for opportunities to enhance the ecological functions of the Lake Washington shoreline wherever feasible. Actions that would aid recovery of the salmonids in Lake Washington include:

- Identify areas where it will be feasible to protect and restore natural lake shorelines and shallow water habitat and to remove bank armoring and docks.
- Identify, protect, and restore tributary mouths entering the lake. Studies show that juvenile chinook salmon hold and feed near the mouths of tributaries, even very small streams and drainages, during rearing and migration.
- Construct demonstration projects on public lands at key locations, such as at the mouth of Juanita Creek in Juanita Beach Park or where street ends meet the shoreline. Remove bulkheads, regrade shorelines, improve substrate, and plant overhanging vegetation in order to enhance rearing and refuge habitat for juvenile Chinook. Monitor to evaluate stability, sedimentation rates, and juvenile/adult use and predation. Consideration of containment issues in site selections is important.
- Identify opportunities to preserve, enhance, or restore lakeshore wetlands.
- Identify opportunities to treat stormwater entering Lake Washington through biofiltration or other water quality techniques. Consider experimental projects.
- Explore alternative dock design/migration packages that use bank softening to replace docks and bank armoring.
- Identify critical areas of juvenile and adult Chinook salmon migration for aquatic weeds management; control invasive aquatic weeds in those parts of the lake.

The Plan also addresses the need to integrate local, state and federal regulations for lakes, shorelines, streams, wetlands and aquifer recharge areas.

5.4 Critical Areas Regulations

The City of Kirkland critical areas regulations are found in Kirkland Zoning Code Chapter 90. In the early 1990s, Kirkland adopted regulations to designate and protect critical areas pursuant to the Washington State Growth Management Act (GMA) (RCW 36.70A). In response to later GMA amendments, the City adopted in 2002 a revised Critical Areas Ordinance (CAO) contained in the KZC consistent with best available science and all other requirements of the GMA. All activities which require a substantial development permit, conditional use or variance under the SMP or are exempt from a permit under the SMP are reviewed under the City's CAO for consistency. As stated above, if there is a conflict between the CAO and SMP, the regulations that offer the greatest environmental protection apply.

The regulations categorize streams based on salmonid use and duration of flow, with standard buffers ranging from 25 feet to 75 feet. Wetlands are classified into three categories based on size, presence of habitat for listed species or the species themselves, relationship to Lake Washington, general habitat function and value, and soils. Buffers range from 25 to 100 feet; all wetlands contiguous with Lake Washington have a 100-foot buffer.

As part of the SMP update, the critical areas regulations that apply in shoreline jurisdiction were updated to include Ecology's wetland rating system, increased wetland buffers and mitigation ratios, and other changes consistent with the latest scientific information.

Management of the City's critical areas both inside and outside of shoreline jurisdiction using these regulations should help insure that ecological functions and values are not degraded, and impacts to critical areas are mitigated. These critical areas regulations are one important tool that will help the City meet its restoration goals.

5.5 Stormwater Management and Planning

Although much of the City of Kirkland's Surface Water Utility's jurisdiction is outside of the shoreline zone, all of the regulated surface waters, both natural and piped, are discharged ultimately into Lake Washington and thus affect shoreline conditions. There are more than 70 outfalls directly into the shoreline area, and many more that discharge just outside of shoreline jurisdiction, but subsequently flow into the shoreline area (The Watershed Company 2006). The City's 2005 *Surface Water Master Plan* contains the following goals:

Flood Reduction – minimize existing flooding and prevent increase in future flooding through construction of projects that address existing problems, increased inspection and rehabilitation of the existing system, and increased public education.

Water Quality Improvement - increase efforts to maintain and improve water quality by increasing public education (source control), identifying pollution "hot spots" for possible water quality treatment and by examining City practices and facilities to identify where water quality improvements could be achieved.

Aquatic Habitat – increase efforts to slow the decline of aquatic habitat and create improved conditions that will sustain existing fish populations. Combine hydrological controls, such as regional detention, with in-stream habitat improvement projects in Juanita and Forbes creeks watersheds that currently support fish populations.

Since preparation of the first *Surface Water Master Plan* in 1994, the Utility has accomplished a number of actions that further achieve its goals (excerpted from the 2005 *Surface Water Master Plan*).

Flood Reduction

- Eliminated most major flooding problems.
- Mapped surface water infrastructure.
- Implemented a program to inspect and clear flooding "hot spots" during storm events

Water Quality

- Adopted an ordinance to prohibit illicit discharges (spills and dumping), require use of pollution prevention practices, require maintenance of private drainage facilities, and require pre- and post-development control of stormwater runoff.
- Established a water quality monitoring program.
- Implemented a volunteer program to conduct water quality monitoring, planting of native vegetation, and other activities.
- Increased frequency of system cleaning, resulting in removal of an average of 200 cubic yards of sediment per year
- Conducted regional water quality related outreach programs in Kirkland, including "Natural Yard Care" and "Horses for Clean Water."
- Distributed educational brochures regarding pollution prevention, car washing practices, and leaf blower use.
- Conducted storm drain stenciling with community groups.

The City applied for coverage under the Western Washington permit which was issued by Ecology and became effective on February 16, 2007. The NPDES Phase II permit is required to cover the City's stormwater discharges into regulated lakes and streams. Under the conditions of the permit, the City must protect and improve water quality through public education and outreach, detection and elimination of illicit non-stormwater discharges (e.g., spills, illegal dumping, wastewater), management and regulation of construction site runoff, management and regulation of runoff from new development and redevelopment, and pollution prevention and maintenance for municipal operations.

The City subsequently released a Stormwater Management Program (SWMP) in February 2008 (City of Kirkland 2008-a) which details implementation of the NPDES Phase II permit. The SWMP identifies programs to reduce pollutants in stormwater to the "maximum extent possible" by conducting programs and activities in the following program areas:

- Public Education and Outreach

- Public Involvement
- Illicit Discharge Detection and Elimination
- Construction and Post-construction runoff controls
- Pollution Prevention and Municipal Operations and Maintenance
- Monitoring

In 2007, the Department of Ecology published information about toxics levels in fish, including fish sampled in Lake Washington (Department of Ecology 2007). Lake Washington ranked second only to the Wenatchee River near Leavenworth for a site contaminant score. Although this report does not identify specific point sources, it represents a clear need to better understand contaminant sources and control.

5.6 Kirkland's Green Building Program

Kirkland's Green Building pilot program offers a priority permit processing incentive designed to encourage sustainable building in the construction of new single family residential development. Additionally, the program offers educational resources, such as this website, and hosts seminars on green building topics to help educate builders and the public about the benefits of sustainable building.

The goal of the Green Building Program, through certain design and construction techniques, is to reduce the environmental impact of buildings by:

- Protecting environmentally sensitive lands and plant species
- Minimizing the size of the building footprint
- Incorporating energy efficiency in the design and construction
- Using environmentally-friendly building materials that will create a healthy indoor and outdoor environment
- Providing for efficient water use
- Reducing the generation of solid waste

5.7 Comprehensive Park, Open Space and Recreation Plan 2001

The 2001 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.

The three primary goals of the Parks and Community Services Department are to:

- acquire, develop, and renovate a system of parks, recreational facilities, and open spaces that is attractive, safe, functional, and available to all segments of the population,

- enhance the quality of life in the community by providing services and programs that offer positive opportunities for building healthy productive lives, and
- protect and preserve publicly-owned natural resource areas.

The Plan contains policies and goals that address waterfront access and waterfront parks, including the following:

Policy 1.4 (KCP Policy 2.2): Small craft water-oriented activities/programs should be encouraged along the shoreline where appropriate and consistent with public interest and needs.

Policy 1.11 (KCP Policy 3.1): The City should work cooperatively with numerous resource management agencies and citizens to care for streams, enhance degraded forests and wetlands, improve wildlife habitat, and provide limited public access.

Policy 1.12 (KCP Policy 3.2): The City should preserve opportunities for people to observe and enjoy wildlife and wildlife habitats.

5.8 Green Kirkland Partnership

The Green Kirkland Partnership is an alliance between the City, the Cascade Land Conservancy, and the local community focused on restoring natural areas within the City, including many City parks located along Lake Washington. This partnership aims to remove invasive plants in City parks and replant with native species, while enhancing community stewardship by coordinating volunteer efforts to restore natural open spaces.

This partnership includes a 20-year Forest Restoration Plan (City of Kirkland 2008b), which focuses on protecting Kirkland's forests for a sustainable future. Implementation of this plan includes coordination of volunteers to remove ivy and other invasive plants and replant with native plants. In 2008, the Green Kirkland Partnership had 36 volunteer restoration events held in the following City parks: Carillon Woods, Everest, Heritage, Juanita Bay, Kiwanis, McAuliffe, North Rose Hill Woodlands, South Rose Hill and Watershed parks. This work included Kiwanis and Juanita Bay Parks, which are located within the shoreline jurisdiction, but also other upland parks which contain streams and wetlands that drain into Lake Washington.

As part of the Green Kirkland Partnership, the City is also embarking on a multi-year habitat restoration project focusing on improving wildlife habitat in the extensive wetland and forest complex at Juanita Bay Park. Invasive and noxious species such as Himalayan blackberry are a large problem within the park. A Restoration Action Plan has been developed by the Seattle Urban Nature (SUN) that identified restoration priorities and a menu of specific tasks along with planting plans and maintenance schedules necessary to implement these tasks. This action plan is available on their website at: <http://www.seattleurbannature.org/Resources/publications.html>. In Spring 2009, the City of Kirkland hired EarthCorps to organize volunteer events in conjunction with trained crews to implement the projects identified in the Action Plan. This project will remove Himalayan blackberry, English ivy, and Scot's broom (which are all classified as noxious weeds in King County) and replace these with native plants to improved habitat to native and migrating birds and wildlife. Implementation of the plan also relies on the work of five Stewards trained by the Washington Native Plant Society who will lead volunteer

events and involve the community to clear Himalayan blackberry from the trail and wetland buffer.

5.9 Other Parks & Community Services Department Activities

5.9.1 Parks & Community Services Department Planning and Management

The City commissioned the *Juanita Beach Park Master Plan Report* (J.A. Brennan Associates, PLLC 2005) after assuming ownership from King County in 2002. The *Master Plan Report* includes goals for a number of areas, including environmental stewardship and recreation. The plan's Environmental Stewardship goals include:

- Enhance Juanita Creek to create a healthy stream environment. (This could include the reach within the park and up-stream reaches)
- Create a salmon and wildlife friendly shoreline
- Enhance and restore wetlands
- Educate the visitors about habitat values

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 efficient maintenance of the City's park system.

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 being 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.

The Kirkland Parks Department undertakes aquatic vegetation efforts at Houghton and Waverly Beach Parks, as well as Juanita Bay Park.

The City's Parks and Community Services Department has several other programs that could be leveraged to enact additional restoration projects to benefit shoreline conditions, including Juanita Bay Park Rangers, Eagle Scout/Capstone Projects, and the Youth Tree Education Program. All of these programs enable volunteers to donate time and energy to improving the park system.

Contact Information: City of Kirkland Parks & Community Services, (425) 587-3300

5.9.2 Juanita Bay Park Rangers

Juanita Bay Park Rangers provide educational and interpretative services at Juanita Bay Park. Rangers greet visitors, answer questions, monitor park usage, record wildlife activity, perform minor maintenance, and lead park tours.

5.9.3 Eagle Scouts

Eagle Scouts, the highest advancement rank in Scouting, have provided many services to the City's parks system. The Parks and Community Services Department provides project ideas that Eagle Scout candidates may choose from. Potential projects include the installation of park benches, fencing, boardwalks, trail improvements, and landscaping improvements.

5.10 Public Education

The City of Kirkland's Comprehensive Plan, *Natural Environment Element*, identifies the following policy statement based on the goal of protecting natural systems from human impacts (excerpted below). This helps guide City staff and local citizen groups in developing mechanisms to educate the public and broaden the interest in protecting and enhancing local environmental resources.

Goal NE-1: Protect natural systems and features from the potentially negative impacts of human activities, including, but not limited to, land development.

Policy NE-1.5: Provide to all stakeholders information concerning natural systems and associated programs and regulations. Work toward creating a culture of stewardship by fostering programs that support sound practices, such as low impact development and sustainable building techniques. Model good stewardship techniques in managing trees, streams, wetlands, shorelines and other natural features and systems in the public realm.

As part of the City of Kirkland's efforts to abide by this goal and policy, the City supports several volunteer efforts, such as the Green Kirkland Partnership and Eastside Audubon (see description below). Additional specific education efforts are described in other sections of Chapter 5.

5.11 Public Works Programs

The Public Works Department periodically produces educational materials for local citizens, including the quarterly "Reuse – Recycle - Conserve" publication, which is produced in both single-family and multi-family focused issues, and brochures, such as the "Low Impact Development Elements for Residential Stormwater Management." The Department also administers the Adopt a Storm Drain program based on volunteer involvement to reduce flooding by keeping storm drain covers clear of leaves and debris.

Contact Information: City of Kirkland Public Works, (425) 587-3800

5.12 Capital Improvement Program (CIP)

5.12.1 Surface Water Management Utility

The Public Works Department funds a number of Surface Water Management Utility projects through the Capital Improvement Program, including improvements to the City's storm drain system and streambed mitigation on public and private property. The CIP contains both funded and unfunded projects that range in size and scope from maintenance and replacement of aging infrastructure or damaged improvements, planting of riparian understory vegetation along

stream edges to provide shading, as well as maintenance to prevent flooding and property damage, and installation of regional detention in the Forbes and Juanita Creek Basins.

The CIP contains several funded and unfunded projects addressing Juanita Creek to provide flood relief and habitat improvement.

The CIP also funds the annual streambank stabilization program. Goals of the streambank stabilization program are to provide the public benefits of improved water quality and decreased flooding by stabilizing and restoring stream channels which may in many cases be located on private property. Most common stabilization methods funded through this program will be upstream detention and in-stream stabilization/restoration using bioengineering techniques.

Contact Information: City of Kirkland Public Works, (425) 587-3800

5.12.2 Parks

The City of Kirkland Parks & Community Services completes park renovation projects through the Capital Improvement Program. The CIP contains both funded and unfunded projects that range in size and scope from dock renovations, to park renovation, and park and open space acquisition.

The CIP helps to fund the Open Space and Park Land Acquisition Grant Match Program, which assists with or provides funding for acquisition of key sites as they become available. Acquiring more sites would fill gaps in the City's park system, provide open space contiguous to existing parks or provide important linkages. This project also allows the City to remain eligible for State-funded grant programs.

Shoreline Park renovation projects provide an opportunity to complete shoreline or stream restoration, new landscaping, and to implement Low Impact Development (LID) practices within the shoreline parks.

Dock renovations funded through the CIP offer the opportunity to replace dock decking material and conform to environmental regulations pertaining to decking material and construction.

The City of Kirkland Parks & Community Services plans to incorporate the recommended projects provided in Section 6.2 of this report into the CIP as either funded or unfunded projects, in order to assure that these projects are considered for funding as the CIP program is updated in the future.

Contact Information: City of Kirkland Parks & Community Services, (425) 587-3300

5.13 Cascade Land Conservancy

The Cascade Land Conservancy (CLC) has been actively working with the City of Kirkland, partnering with CLC on implementing the Cascade Agenda Vision – a 100-year vision focused on sustaining the local community, natural environment, and economy through the future growth of Puget Sound. The CLC also works with the City through the Green Kirkland Partnership (described above).

Contact Information: <http://www.cascadeland.org/>

5.14 Eastside Audubon

The Eastside Audubon (formerly the East Lake Washington Audubon Society) was formed in 1980 dedicated to the appreciation, study and conservation of birds and their habitats, primarily along the east side of Lake Washington. Volunteers have been instrumental in preserving many areas for birds, including Juanita Bay Park in Kirkland, Lake Hills Greenbelt in Bellevue, and Hazel Wolf Wetlands in King County. Recently, Eastside Audubon has been working with the Green Kirkland Partnership with invasive plant removal at Kirkland's Watershed Park.

Contact Information: <http://www.eastsideaudubon.org/>

5.15 Moss Bay Diving Club

The Moss Bay Diving Club, located in Kirkland, periodically performs in-water SCUBA cleanup events to remove submerged debris from Lake Washington.

Contact Information: <http://www.mossbaydiveclub.org/>

6. LIST OF FUTURE PROJECTS AND PROGRAMS TO ACHIEVE LOCAL RESTORATION GOALS

The following are potential projects and programs that would contribute to achieving the local restoration goals. The potential projects and programs are generally organized from the larger watershed scale to the City-scale, including City projects and programs and WRIA 8 Public Education/Outreach programs.

6.1 Unfunded WRIA 8 Projects

The *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan* (WRIA 8 Steering Committee 2005) includes potential restoration of the mouth of Juanita Creek through the removal of bank armoring and returning the mouth to a more natural outlet as Project C296 on the "Lake Washington - Tier I - Initial Habitat Project List." It is identified as a low-priority project, however, because of its limited benefit to chinook salmon and perceived low feasibility.

6.2 Recommended Projects - Public

The following list of recommended projects (Table 3) is developed from a list of opportunity areas identified within the *Final Shoreline Analysis Report* (The Watershed Company 2006) and is intended to contribute to improvement of impaired functions on public property. The list of potential projects was created after assessing field conditions during the shoreline inventory and characterization phase and later evaluated on a project specific basis during the development of this Restoration Plan. The projects are listed in order from North to South.

Table 3. List of Recommended Projects - Public.

Site Number	Park	Restoration Type	Description
1	Juanita	Reduce	The large overwater boardwalk with skirting, which forms

Site Number	Park	Restoration Type	Description
	Beach Park	overwater cover	the designated swimming area, has the potential for impact reduction by installing deck grating in the pier decking and potentially removing or redesigning the breakwater in order to improve migratory conditions for juvenile salmonids and water circulation.
2	Juanita Beach Park	In-stream habitat improvement	Potential in-stream habitat improvements exist at the mouth of Juanita Creek (delta), including large woody debris installation and improvements to native vegetative cover. The <i>WRIA 8 Chinook Salmon Conservation Plan</i> includes potential restoration of the mouth of Juanita Creek through the removal of bank armoring and returning the mouth to a more natural outlet.
3	Forbes Creek - Juanita Bay Park	Remove invasive vegetation	Invasive vegetation, primarily reed canarygrass, purple and garden loosestrife, and Himalayan blackberry in the terrestrial zones and white water lily in the aquatic zone, is currently growing throughout the Forbes Creek riparian corridor and Juanita Bay Park. 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.
4	Forbes Creek - Juanita Bay Park	Reduce overwater cover	The pedestrian trail/trestle across Juanita Bay to the west of 98 th Street covers the mouth of Forbes Creek, potentially inhibiting salmon migration. The surface of the walkway could be re-decked with a grated material to reduce shading impacts to the aquatic environment.
5	Forbes Creek - Juanita Bay Park	Reduce in-water structures	Many remnant pier piles located within Juanita Bay could be removed.
6	Lake Ave W Street End Park	Remove invasive vegetation	This small street-end park consists of primarily lawn area with a moderate amount of shoreline vegetation (trees and shrubs). An abundance of invasive vegetation (ivy/reed canarygrass) could be removed and replaced with additional native vegetation to improve shoreline conditions for juvenile salmonids.
7	Lake Ave W Street End Park	Reduce in-water structures	An old remnant moorage slip located near the south property line that is not connected to shore could be removed to reduce in- and overwater structures.
8	Waverly Beach Park	Reduce overwater cover	Reduction of overwater cover by the existing pier through the installation of deck grating and removing pier skirting as feasible.
9	Waverly Beach Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
10	Waverly Beach Park	Enhance shoreline vegetation	Supplementation of nearshore native vegetation to improve habitat conditions for juvenile salmonids.
11	Waverly	Reduce stormwater	The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious

Site Number	Park	Restoration Type	Description
	Beach Park	runoff	materials, relocation, or minimization.
12	Marina Park	Reduce overwater cover	Reducing overwater cover through the installation of deck grating on the existing piers.
13	Marina Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
14	Marina Park	Enhance shoreline vegetation	Improving nearshore native vegetation.
15	Street-End Park	Reduce stormwater runoff	This small street-end park consists of an adjacent parking area located within the shoreline jurisdiction that likely drains surface runoff directly to Lake Washington. Future use of pervious material should be explored any time repairs are proposed.
16	David Brink Park	Reduce overwater cover	Reducing overwater cover through the installation of deck grating on the existing piers.
17	David Brink Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
18	David Brink Park	Reduce in-water structures	Removing unused remnant pier piles.
19	David Brink Park	Enhance shoreline vegetation	Improving nearshore native vegetation.
20	Settler's Landing	Enhance shoreline vegetation	This small street-end park contains the opportunity to improve shoreline habitat by improving native vegetative cover.
21	Settler's Landing	Reduce overwater cover	The existing shared use pier (public and private) could potentially be re-decked with grated materials to reduce shading impacts.
22	Marsh Park	Reduce overwater cover	Reduction of overwater cover by the existing pier through the installation of deck grating.
23	Marsh Park	Reduce shoreline armoring	Removal or minimization of shoreline armoring.
24	Marsh Park	Enhance shoreline vegetation	Improvement of nearshore native vegetation.
25	Marsh Park	Reduce stormwater runoff	The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious materials, relocation, or minimization.
26	Houghton Beach Park	Reduce overwater cover	Reducing overwater cover through the installation of deck grating on the existing piers and removing pier skirting as feasible.
27	Houghton Beach Park	Reduce shoreline armoring	Removing or minimizing the impacts of shoreline armoring.
28	Houghton Beach Park	Enhance shoreline vegetation	Improving nearshore native vegetation.
29	Yarrow Bay	Remove invasive	The biological need for control of aquatic invasive species

Site Number	Park	Restoration Type	Description
		vegetation	in Yarrow Bay should be assessed. Both Yarrow Shores Condominiums and the Carillon Point Marina and condominiums have permits from Ecology to use chemical controls on milfoil and white water lily, which have become a nuisance to boaters and swimmers.

After identifying and describing these projects, each proposed action was ranked using evaluation criteria developed for this study and compiled on a questionnaire form. Evaluation criteria were grouped into two sections: (A) ecological considerations and (B) feasibility/public benefit considerations. Scoring was based on assumptions and project understanding within the context of conceptual-level project elements, needs, and requirements. A weighting factor was included, where appropriate, to give certain criteria more or less emphasis than others.

A sample ranking form (Appendix B) is included to show the varying levels of consideration and their respective weighting factors. Notes were developed (Appendix B) to assist with completing the form and ensuring consistency between sites. The ecological considerations were completed with the aid of GIS mapping and best professional judgment. Feasibility/public benefit considerations were completed based on experience with shoreline design and construction projects, familiarity with permit processes, and public input over time. The individual ranking forms with tallied scores for each project are included in Appendix C of this report.

Numerical results from the project ranking are summarized in Table 4 from highest to lowest total score. Based on these results, projects with in-water habitat improvement, reduction of shoreline armoring, and large-scale invasive vegetation removal generally ranked highest in total score. However, it should be noted that the ranking of potential projects is intended to serve as a guide to developing restoration priorities and implementation targets, and does not necessarily require completion in the order presented. Some projects, due to their simplicity, rank high in terms of feasibility, and subsequently may be easier to implement than larger projects which may have high scores for ecological benefit. In general, ecological considerations have been given more weight than feasibility/public benefit considerations and, as a result, larger, more complex projects tend to have higher total scores.

Table 4. Project Ranking Results.

Site Number	Park	Restoration Type	Ecological Score	Feasibility Score	Total Score
2	Juanita Beach Park	In-stream habitat improvement	34.5	6.0	40.5
1	Juanita Beach Park	Reduce overwater cover	23.0	8.0	31.0
27	Houghton Beach Park	Reduce shoreline armoring	22.3	7.5	29.8
29	Yarrow Bay	Remove invasive vegetation	20.0	9.5	29.5
3	Forbes Creek -	Remove invasive	20.0	9.0	29.0

Site Number	Park	Restoration Type	Ecological Score	Feasibility Score	Total Score
	Juanita Bay Park	vegetation			
17	David Brink Park	Reduce shoreline armoring	20.0	7.5	27.5
23	Marsh Park	Reduce shoreline armoring	20.0	7.5	27.5
9	Waverly Beach Park	Reduce shoreline armoring	19.0	8.0	27.0
13	Marina Park	Reduce shoreline armoring	19.0	7.0	26.0
5	Forbes Creek - Juanita Bay Park	Reduce in-water structures	17.5	6.5	24.0
28	Houghton Beach Park	Enhance shoreline vegetation	12.3	11.5	23.8
4	Forbes Creek - Juanita Bay Park	Reduce overwater cover	14.0	9.5	23.5
10	Waverly Beach Park	Enhance shoreline vegetation	10.0	11.5	21.5
19	David Brink Park	Enhance shoreline vegetation	10.0	11.5	21.5
24	Marsh Park	Enhance shoreline vegetation	10.0	11.5	21.5
12	Marina Park	Reduce overwater cover	13.5	7.5	21.0
6	Lake Ave W Street End Park	Remove invasive vegetation	8.8	11.0	19.8
14	Marina Park	Enhance shoreline vegetation	6.5	11.5	18.0
26	Houghton Beach Park	Reduce overwater cover	8.3	8.5	16.8
8	Waverly Beach Park	Reduce overwater cover	7.0	7.5	14.5
16	David Brink Park	Reduce overwater cover	5.0	9.0	14.0
22	Marsh Park	Reduce overwater cover	5.0	8.5	13.5
21	Settler's Landing	Reduce overwater cover	4.8	8.5	13.3
20	Settler's Landing	Enhance shoreline vegetation	2.8	10.0	12.8
7	Lake Ave W Street End Park	Reduce in-water structures	3.0	9.5	12.5
25	Marsh Park	Reduce stormwater runoff	3.0	9.0	12.0
18	David Brink Park	Reduce in-water structures	2.6	9.0	11.6
11	Waverly Beach	Reduce stormwater	3.0	8.5	11.5

Site Number	Park	Restoration Type	Ecological Score	Feasibility Score	Total Score
	Park	runoff			
15	Street-End Park	Reduce stormwater runoff	2.0	6.0	8.0

6.3 Recommended Projects - Private

General: Many shoreline properties have the potential for improvement of ecological functions through: 1) reduction or modification of shoreline armoring, 2) reduction of overwater cover and in-water structures (grated pier decking, pier size reduction, pile size and quantity reduction, moorage cover removal), 3) improvements to nearshore native vegetative cover, and/or 4) reductions in impervious surface coverage. Similar opportunities would also apply to undeveloped lots which may be used as community lots for upland properties or local street-ends and utility corridors. Other opportunities may exist to improve either fish habitat or fish passage for those properties which have streams discharging to Lake Washington.

An example of how shoreline armoring might be reduced on some lots along the City's residential areas is depicted in Figure 1 below. This example displays before and after images of a typical lot in which the existing bulkhead is partially pulled back to create a shallow cove beach combined with natural materials. This example combines the effort to improve habitat conditions with improved access and aesthetics.

The SMP includes incentives for removing bulkheads and similar hard shoreline structures. The incentives allow property owners to reduced buffer widths when they agree to use alternative (soft-shore) armoring. The City could also explore additional development incentives for restoration, such as waiving some or all permit fees when shoreline restoration is included in a project. Further, the City could develop resource materials for property owners that want to be involved in restoration that would provide guidance with permitting and design issues. Examples could include the development of pre-approved plans.

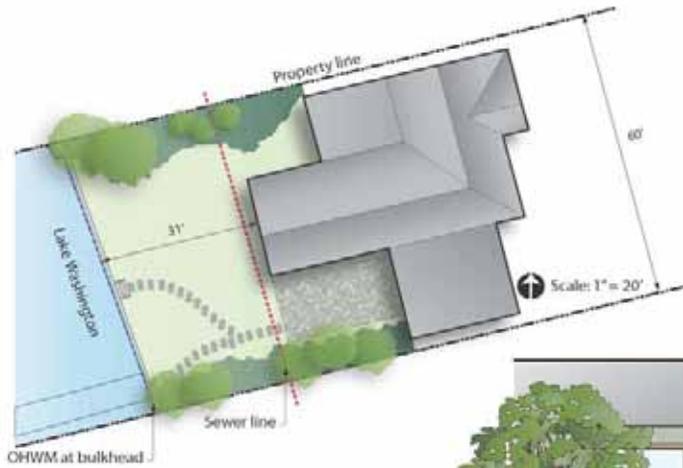
Another potential incentive to encourage property owners to protect habitat and retain forest on their property is the Public Benefit Rating Program (PBRs), a current-use taxation program that reduces property taxes in exchange for property owners protecting habitat beyond what is required by regulations.

Expanded use of incentives programs to achieve restoration on privately owned shorelines should be considered whenever feasible and beneficial.

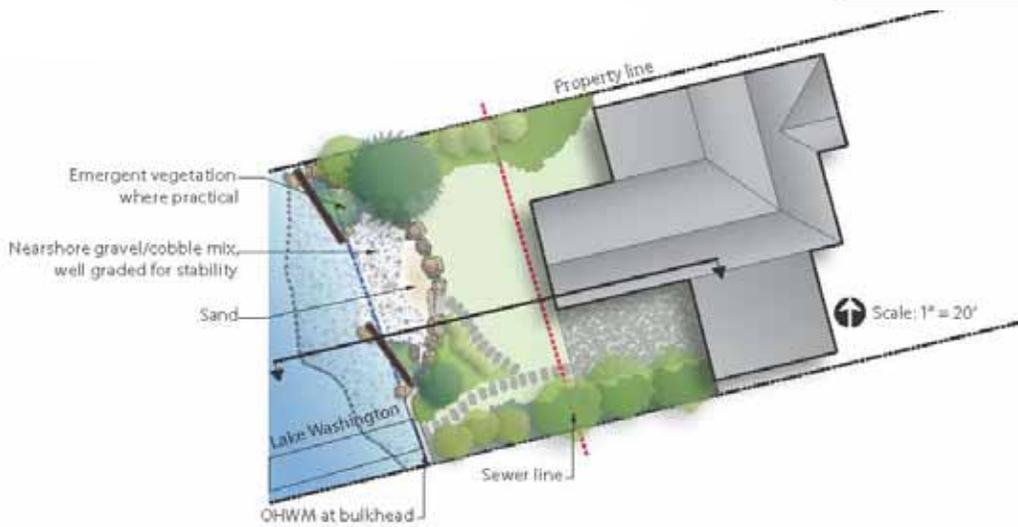
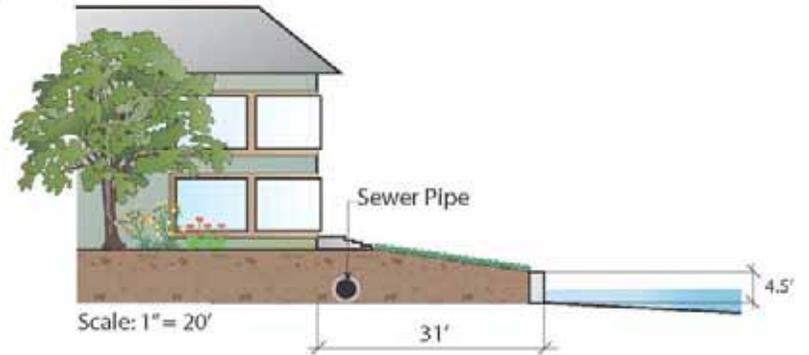
Restoration of Multiple Contiguous Properties: Through grant funding sources, restoration opportunities may be available to multiple contiguous shoreline properties, including residential lots that are interested in improving shoreline function. Restoring shoreline properties that are connected to one another would provide significantly more benefits than a more piecemeal approach. Therefore, priority should be given to restoration projects which involve multiple lots (such as accelerated permit processes).

Figure 1

Before



After



*Figures modified by The Watershed Company from "Green Shorelines," a guidebook prepared by City of Seattle

6.4 Public Education/Outreach

The *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan* includes a table outlining 53 “Outreach and Education Actions” with target audiences for each action ranging from the general public, to shoreline property owners in general, to lakeshore property owners specifically, to businesses, to youth, and others. The complete list of WRIA 8 “Outreach and Education Actions” is included as Appendix D.

The City could also work with other local jurisdictions and the County to establish a Shore Stewards program within King County. Shore Stewards is a program operating in several counties throughout the State and provides a forum for waterfront and stream-side property owners to share ideas, information and resources and sets up guidelines for shoreline residents to preserve and enhance the shoreline environment.

7. PROPOSED IMPLEMENTATION TARGETS AND MONITORING METHODS

As previously noted, the City’s shoreline area is occupied by multi- and single-family residences, commercial, and public recreation/open space areas. Therefore, efforts should be made to improve shoreline ecological function through the promotion of restoration and healthy practices at all levels, from large-scale marina users to single-family property owners. The City of Kirkland already has a very active environmental community with a restoration and education focus. Continued improvement of shoreline ecological functions on the shoreline requires a more comprehensive watershed approach, which combines upland and shoreline projects and programs.

7.1 Implementation Targets

The following table (Table 5) outlines a possible schedule and funding sources for implementation of a variety of efforts that could improve shoreline ecological function, and are described in previous sections of this report.

Table 5. Implementation Schedule and Funding for Restoration Projects, Programs and Plans.

Restoration Project/Program	Schedule	Funding Source or Commitment
5.1 WRIA 8 Participation	Ongoing	The City is an active member of the WRIA 8 Forum and has membership on the Salmon Recovery Council. Membership at this time entails a commitment of staff and Council member time. In addition, the City contributes funding to support watershed salmon habitat recovery.
5.2 Comprehensive Plan Policies	Ongoing	The City makes a substantial commitment of staff time in the course of project and program reviews to determine consistency and compliance with the recently updated Comprehensive Plan. The next full GMA update to the Comprehensive Plan will occur in 2011, but other amendments will be made on an annual basis.

Restoration Project/Program	Schedule	Funding Source or Commitment
5.3 Natural Resources Management Plan	Ongoing	As an implementation measure for this plan, the City has established an interdepartmental team to focus on natural resource issues, requiring a commitment of staff time.
5.4 Critical Areas Regulations	Ongoing with update in 2011	The City makes a substantial commitment of staff time in the course of project and program reviews to determine consistency and compliance with their Critical Areas Regulations. In addition, the City is scheduled to update its Critical Area Regulations in 2011.
5.5 Stormwater Planning	Ongoing	Currently, the City commits to staff time, materials, and projects in its CIP. The City currently follows its <i>2008 Stormwater Management Program</i> which implements the City's Phase II NPDES permit and reports annually to Ecology. The City is also involved in the implementation of the 2005 <i>Surface Water Master Plan</i> , which goals includes flood reduction, water quality improvements and aquatic habitat improvements.
5.6 Green Building Program	Ongoing	Currently, staff time and materials support these programs. A Green Shoreline component may be added to the program to encourage shoreline mitigation beyond what the shoreline regulations could require for building permits. The City is also working with the Master Builders Association to determine whether shoreline restoration strategies could be added to the BuiltGreen certification program.
5.7 Comprehensive Park, Open Space and Recreation Plan 2001	Ongoing, with update underway	Currently, the City commits to staff time, materials, and projects in its CIP.
5.8 Green Kirkland Partnership	Ongoing	Currently, the City commits staff time, materials, and funding through the CIP to support these programs.
5.9 Other Kirkland Parks and Community Services Department Activities	Ongoing, with demonstration projects as funds and opportunity allow	Currently, staff time, materials and funding support these programs. The public parks along the shoreline provide a unique opportunity to create a restoration strategy demonstration area, which can serve as a valuable education tool, providing property owners with information to restore their own property. As the City considers implementation of CIP projects in shoreline parks, it should consider restoration strategies as well as interpretative signage and materials.

Restoration Project/Program	Schedule	Funding Source or Commitment
5.10 Public Education	Ongoing	Currently, staff time and materials are provided in developing public education and outreach efforts, which are highlighted in the Comprehensive Plan policy statement based on the goal of natural resource protection. These items help guide City staff and local citizen groups in developing mechanisms to educate the public and broaden the interest in protecting and enhancing local environmental resources.
5.11 Public Works Programs	Ongoing	Currently, staff time, materials and an unspecified amount of funding support these programs.
5.12 Capital Improvement Program	Ongoing	The City funds a number of projects through its Capital Improvement Program that will minimize impacts to and enhance the shoreline environment, including work within the larger drainage basin to improve water quality as well as park renovation and acquisitions to protect and restore shoreline functions.
5.13 Cascade Land Conservancy	As funds and opportunity allow	These private organizations are either a source of grant funds for restoration projects, an advocate for specific restoration projects, independently obtains grants for restoration projects, or a partner in implementing restoration or education projects.
5.14 Eastside Audubon		
5.15 Moss Bay Diving Club	As volunteer opportunity allow	This organization periodically performs volunteer cleanup services in Lake Washington.
6.1 Unfunded WRIA 8 Projects	As funds and opportunity allow	The City Council passed a resolution in 2005 expressing its approval and support for the <i>Chinook Salmon Conservation Plan</i> (Steering Committee 2005). Projects will be funded by the City, partnering agencies and non-profit organizations, and grants as projects and funding opportunities arise. The City continues to identify funds for the implementation of the WRIA 8 projects in the City of Kirkland
6.2 Recommended Projects - Public	As funds and opportunity allow	Projects identified in this section would likely be implemented either when grant funds are obtained, when partnerships are formed between the City and other agencies or non-profit groups, or as may be required by the critical areas regulations and the Shoreline Master Program during project-level reviews by the City.
6.3 Recommended Projects - Private		
6.4 Public Education/ Outreach	As funds and opportunity allow	On-going and future education efforts should be coordinated with the City and partnering agencies, including funding sources (grant funding, monetary donations, volunteer hours)

7.2 Potential Additional Funding Sources

Potential funding opportunities for restoration projects could include both federal and state grants and legislative funds administered by state agencies, private non-governmental grant

funding, as well as funding through participation in the WRIA 8 Steering Committee, and/or strategic partnering with King County agencies. A list of potential funding sources is included in Appendix E. While this list does not contain an exhaustive review of potential funding opportunities, it is a resource that can continually be maintained and updated.

7.3 Monitoring

In the context of the SMP update, restoration planning is a long-term effort. The SMP guidelines include the general goal that local master programs “include planning elements that, when implemented, serve to improve the overall condition of habitat and resources within the shoreline area” (WAC 173-26-201(c)).

The legislature has provided an overall timeframe for future amendments to the SMP. In 2003, Substitute Senate Bill 6012 amended the Shoreline Management Act (RCW 90.58.080) to establish an amendment schedule for all jurisdictions in the state. Once the City of Kirkland amends its SMP (on or before December 1, 2009), the City is required to review, and amend if necessary, its SMP once every seven years (RCW 90.58.080(4)). During this review period, the City should document progress toward achieving shoreline restoration goals. The review could include:

- Re-evaluating adopted restoration goals, objectives, and policies;
- Summarizing both planning efforts (including application for and securing grant funds) and on-the-ground actions undertaken in the interim to meet those goals, including action on the specific projects identified in Section 4.2.3; and
- Revising the SMP restoration planning element to reflect changes in priorities or objectives.

In preparation and as part of its Shoreline Master Program updates, the City will review project monitoring information and shoreline conditions, and reevaluate restoration goals, priorities and opportunities.

In order to accomplish this task, City planning staff will track all land use and development activity, including exemptions, within shoreline jurisdiction, and shoreline actions and programs of the Parks and Public Works departments as well development activity on private property. A tracking system will be established that provides basic project information, including location, permit type issued, project description, impacts, mitigation (if any), and monitoring outcomes as appropriate. Examples of data categories might include square feet of non-native vegetation removed, square feet of native vegetation planted or maintained, reductions in chemical usage to maintain turf in City parks, linear feet of eroding bank stabilized through plantings, linear feet of shoreline armoring removed, square feet of overwater cover reduced or converted to grating, or number of fish passage barriers corrected.

A staff report will be prepared, on a seven (7) year cycle of adoption of the SMP, that summarizes the information from the tracking system, updates Tables 2 and 5 above, and outlines implementation of various programs and restoration actions (by the City or other groups) that relate to watershed health. The staff report will be used, in light of the goals and objectives of the Shoreline Master Program, to determine whether implementation of the SMP is

meeting the basic goal of no net loss of ecological functions relative to the baseline condition established in the *Shoreline Analysis Report* (The Watershed Company 2006). In the long term, the City should be able to demonstrate a net improvement in the City of Kirkland's shoreline environment.

Based on the results of the assessment in the staff report, the City may make recommendations for changes to the SMP.

8. RESTORATION PRIORITIES

The process of prioritizing actions that are geared toward restoration of Kirkland's shoreline areas involves balancing ecological goals with a variety of site-specific constraints. Briefly restated, the City's environmental protection and restoration goals include: 1) protecting watershed processes, 2) protecting fish and wildlife habitat, and 3) contributing to chinook conservation efforts. Constraints that are specific to Kirkland include a highly developed residential shoreline along Lake Washington with large percentage of public open space/access. While some areas may already offer fairly good ecological functions (Juanita Bay/Forbes Creek wetland and Yarrow Bay wetland), they tend to include some additional opportunities to further enhance ecological functions. These goals and constraints were used to develop a hierarchy of restoration actions to rank different types of projects or programs associated with shoreline restoration.

Programmatic actions, like continuing WRIA 8 involvement and conducting outreach programs to local residents, tend to receive relatively high priority opposed to restoration actions involving private landowners. Other factors that influenced the hierarchy are based on scientific recommendations specific to WRIA 8, potential funding sources, and the projected level of public benefit. Restoration projects on public property, such as those identified in Section 6.2, have received a high priority ranking due to their availability to be funded by a variety of sources, such as CIP program, Parks Department, grants, and non-profit groups.

Although restoration project/program scheduling is summarized in the previous section (Table 5), the actual order of implementation may not always correspond with the priority level assigned to that project/program. This results from the balancing of various interests that must occur with limited funds and staff time. Some projects, such as those associated with riparian planting, are *relatively* inexpensive and easy to permit and should be implemented over the short and intermediate term despite the perception of lower priority than projects involving extensive shoreline restoration or large-scale capital improvement projects. Straightforward projects with available funding should be initiated immediately for the worthwhile benefits they provide and to preserve a sense of momentum while permitting, design, site access authorization, and funding for the larger, more complicated, and more expensive projects are under way.

8.1 Priority 1 – Continue Water Resource Inventory Area (WRIA) 8 Participation

Of basic importance is the continuation of ongoing, programmatic, basin-wide programs and initiatives such as the WRIA 8 Forum. Continue to work collaboratively with other jurisdictions and stakeholders in WRIA 8 to implement the *Final Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*. This process provides an opportunity

for the City to keep in touch with its role on a basin-wide scale and to influence habitat conditions beyond its borders, which, in turn, come back to influence water quality and quantity and habitat issues within the City.

8.2 Priority 2 – Public Education and Involvement

Public education and involvement has a high priority in the City of Kirkland due to the predominance of residential development along the shoreline. Recent outreach efforts by other jurisdictions, such as the handbook *Green Shorelines: Bulkhead Alternatives for a Healthier Lake Washington* (City of Seattle 2008), have begun to change the perception of shoreline aesthetics, use, and ecological health. This and other outreach efforts (i.e. workshops, websites, example projects) are clear motivating and contributing factors for restoration activities on private property.

While many opportunities for shoreline restoration exist within City parks (see Section 6.2), multiple other opportunities also exist along community-owned properties and commercial development. Whether the focus is on single-family residential, community-owned, or commercial properties, providing education opportunities and involving the public is key to success, and would possibly entail coordinating the development of a long-term Public Education and Outreach Plan (Section 6.2). This could also include focusing on gaining public support for restoration along City parks.

Specific projects from the Action Start List include developing a workshop series and website that is tailored to lakeshore property owners, and that promotes natural yard care, alternatives to vertical bulkheads, fish-friendly dock design, best management practices for aquatic weed control, porous paving, and environmentally friendly methods of maintaining boats, docks, and decks. Collaborative efforts with other jurisdictions (i.e. City of Seattle and Bellevue) could be completed to meet the Action Start List goals. Additionally, design competitions and media coverage could be used to promote the use of “rain gardens” and other low impact development practices that mimic natural hydrology. A home/garden tour or “Street of Dreams” type event might serve to showcase these landscape/engineering treatments.

8.3 Priority 3 – Reduce Shoreline Armoring along Lake Washington, Create or Enhance Natural Shoreline Conditions

The preponderance of shoreline armoring and its association with impaired habitat conditions, specifically for juvenile chinook salmon, has been identified as one of the key limiting factors along Lake Washington (Kerwin 2001). Nearly 86 percent of the developed shoreline within the City of Kirkland (not including Juanita Bay and Yarrow Creek Wetland) is armored at or below the ordinary high water mark (The Watershed Company 2006). While there are no specifically identified projects in the *Final Lake Washington/ Cedar/ Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan* that are located within Kirkland, there are many opportunities listed in this Restoration Plan which focus on the potential reduction in shoreline armoring and subsequent restoration and enhancement of shoreline ecological functions. Examples of opportunities to reduce shoreline armoring on public property, in order of priority rank, include (see Section 6.2 and Appendix C):

<u>Site Number</u>	<u>Location</u>
27	Houghton Beach Park

17	David Brink Park
23	Marsh Park
9	Waverly Park
13	Marina Park

However, emphasis should also be given to future project proposals that involve or have the potential to restore privately-owned shoreline areas to more natural conditions. The City should explore ways in which to assist local property owners, whether through technical or financial assistance, permit expediting, or guidance, to team together with restoration of multiple contiguous lots.

Recommendations from the Action Start List reflect this focus and encourage salmon friendly shoreline design during new construction or redevelopment by offering incentives and regulatory flexibility to improve bulkhead and dock design and revegetate shorelines. Other recommendations from the List that support this priority include: 1) increasing enforcement that addresses nonconforming structures over the long run by requiring that major redevelopment projects meet current standards; 2) discouraging construction of new bulkheads and offer incentives (e.g., provide expertise, expedite permitting) for voluntary removal of bulkheads, beach improvement, riparian revegetation; 3) utilizing interpretive signage where possible to explain restoration efforts.

8.4 Priority 4 – Reduction of In-water and Over-water Structures

Similar to Priority 3 listed above, in-water and over-water structures, particularly piers, docks, and covered moorages, have been identified as one of the key limiting factors in Lake Washington (Kerwin 2001). Pier density along the City’s developed shoreline is 39 piers per mile – very similar to a lake-wide average of 36 piers per mile. The density of residential development along the City’s lakeshore is the main reason for the slightly higher-than-average pier density. While the pier density along residential shorelines is much higher than what is typically found along City-owned park property, the overall footprint of each public pier is generally much greater than is found along single-family residential sites. Opportunities exist for reduction in pier size and overall shading impacts through pier modifications on public sites. Examples, in order of priority rank, include (see Section 6.2 and Appendix C):

<u>Site Number</u>	<u>Location</u>
1	Juanita Beach Park
4	Forbes Creek/Juanita Bay Park
13	Marina Park
27	Houghton Beach Park
9	Waverly Park
17	David Brink Park
23	Marsh Park
21	Settler’s Landing

Although no specific privately-owned project sites to reduce in-water and over-water structures within residential areas are identified here, future project proposals involving reductions in the size and/or quantity of such structures should be emphasized. Such future projects may involve joint-use pier proposals or pier reconstruction and may be allowed an expedited permit process.

Action Start List Recommendations in support of Priority 4 above include: 1) supporting the joint effort by NOAA Fisheries and other agencies to develop consistent and standardized dock/pier specifications that streamline federal/state/local permitting; 2) promoting the value of light-permeable docks, smaller piling sizes, and community docks to both salmon and landowners through direct mailings to lakeshore landowners or registered boat owners sent with property tax notice or boat registration tab renewal; and 3) offering financial incentives for community docks in terms of reduced permit fees and permitting time, in addition to construction cost savings. Similarly, the *WRIA 8 Conservation Plan* identified a future project (C302) to explore opportunities to reduce the number of docks by working with private property owners.

8.5 Priority 5 – Restore Mouths of Tributary Streams, Reduce Sediment and Pollutant Delivery to Lake Washington

Although most of the streams and their basins located within the City are outside of shoreline jurisdiction, except the lower sections of Yarrow Creek and Forbes Creek which are both within the boundaries of shoreline associated wetlands, their impacts to shoreline areas should not be discounted. Many of these streams have the potential to provide fish and wildlife habitat. Specific projects in this category include the unfunded WRIA 8 project (C296) listed in Section 5.1 to restore the downstream section and mouth of Juanita Creek which feeds into Lake Washington. This would include working closely with the City's Park Department to provide revegetation, installation of habitat features, and other habitat modifications.

For juvenile chinook, once they enter Lake Washington, they often congregate near the mouths of tributary streams, and prefer low gradient, shallow-water habitats with small substrates (Tabor and Piaskowski 2002; Tabor et al. 2004b; Tabor et al. 2006). Chinook fry entering Lake Washington early in the emigration period (February and March) are still relatively small, typically do not disperse far from the mouth of their natal stream, and are largely dependent upon shallow-water habitats in the littoral zone with overhanging vegetation and complex cover (Tabor and Piaskowski 2002; Tabor et al 2004b). The mouths of creeks entering Lake Washington (whether they support salmon spawning or not), as well as undeveloped lakeshore riparian habitats associated with these confluence areas, attract juvenile chinook salmon and provide important rearing habitat during this critical life stage (Tabor et al. 2004b; Tabor et al. 2006).

Later in the emigration period (May and June), most chinook juveniles have grown to fingerling size and begin utilizing limnetic areas of the Lake more heavily (Koehler et al. 2006). As the juvenile chinook salmon mature to fingerlings and move offshore, their distribution extends throughout Lake Washington. Although early emigrating chinook fry from the Cedar River and North Lake Washington tributaries (primary production areas) initially do not disperse to shoreline areas in Kirkland, any salmon fry from smaller tributaries such as Juanita Creek, Forbes Creek, or Yarrow Creek, would depend on nearshore habitats of the Kirkland waterfront. Later in the spring (May and June), however, juvenile chinook are known to be well distributed throughout both limnetic and littoral areas of Lake Washington, and certainly utilize shoreline habitats in Kirkland.

Action Start List Recommendations in support of Priority 5 above include: 1) addressing water quality and high flow impacts from creeks and shoreline development through NPDES Phase 1 and Phase 2 permit updates, consistent with Washington Department of Ecology's 2005

Stormwater Management Manual, including low impact development techniques, on-site stormwater detention for new and redeveloped projects, and control of point sources that discharge directly into the lakes; and 2) Protecting and restoring water quality and other ecological functions in tributaries to reduce effects of urbanization. This involves protecting and restoring forest cover, riparian buffers, wetlands, and creek mouths by revising and enforcing critical areas ordinances and Shoreline Master Programs, incentives, and flexible development tools.

Priority 6 – Improve Riparian Vegetation, Reduce Impervious Coverage

Similar to the priorities listed above, improved riparian vegetation and reduction in impervious surfaces are emphasized in the *WRIA 8 Conservation Plan*. Nearly all of the specific project sites listed in Tables 3 and 4 include some form of protecting and improving riparian vegetation and several include reduction in impervious surface coverage. Examples of opportunities on public property, in order of priority rank, include (see Section 6.2 and Appendix C):

<u>Site Number</u>	<u>Location</u>
27	Houghton Beach Park (vegetation)
9	Waverly Park (vegetation)
17	David Brink Park (vegetation)
23	Marsh Park (vegetation)
13	Marina Park (vegetation)
21	Settler’s Landing (vegetation)
23	Marsh Park (impervious surfaces)
11	Waverly Park (impervious surfaces)
15	Street-end Park (impervious surfaces)

8.6 Priority 7 – Reduce Aquatic Non-Native Invasive Weeds

While not specifically listed in the *WRIA 8 Conservation Plan*, reduction of aquatic invasive weeds from Lake Washington, particularly Eurasian watermilfoil and white water lily, is emphasized in Section 6.2. In particular, the nearshore areas surrounding both Juanita Bay and Yarrow Bay have large monocultures of these invasive aquatic plants. Growth of white water lily is particularly troublesome near the mouth of Forbes Creek, extending south along the shoreline of Juanita Bay Park.

Additionally, many other areas along the City’s waterfront have also been subject to extensive growth of Eurasian watermilfoil. Not only are aquatic weeds a problem for boats and swimmers, but they also tend to reduce dissolved oxygen to lethal levels for fish, hampering foraging opportunities. As noted previously, nuisance-motivated control of invasive vegetation using herbicides has been approved by Ecology for the Yarrow Shores Condominiums, and the Carillon Point Marina and condominiums through 2011 (The Watershed Company 2006). Long-term control of aquatic non-native invasive plants in Lake Washington will be very difficult to achieve without coordinated inter-jurisdictional collaboration, including involvement and leadership from Washington State..

8.7 Priority 8 – Improve Water Quality and Reduce Sediment and Pollutant Delivery

Although most of the streams and their basins located within the City are outside of shoreline jurisdiction, except the lower sections of Yarrow Creek and Forbes Creek which are both within the boundaries of shoreline associated wetlands, their impacts to shoreline areas should not be discounted. Many of these streams have the potential to provide fish and wildlife habitat. They are also a common receiving body for non-point source pollution, which in turn delivers those contaminants to shoreline waterbodies.

Several actions focused on addressing water quality and stormwater controls include (derived from WRIA 8 watershed-wide actions list).

- Expand/Improve Incentives Programs
- Improve Enforcement of Existing Land Use and Other Regulations
- Increase Use of Low Impact Development and Porous Concrete
- Provide Incentives for Developers to Follow Built Green™ Checklist Sections Benefiting Salmon

These recommendations emphasize the use of low impact development techniques, on-site stormwater detention for new and redeveloped projects, and control of point sources that discharge directly into surface waters. They involve protecting and restoring forest cover, riparian buffers, wetlands, and creek mouths by revising and enforcing critical areas ordinances and Shoreline Master Programs, incentives, and flexible development tools.

8.9 Priority 9 – Acquisition of Shoreline Property for Preservation, Restoration, or Enhancement Purposes

The City should explore opportunities to protect natural areas or other areas with high ecological value or restoration potential via property acquisition. Mechanisms to purchase property would likely include collaboration with other stakeholder groups including representatives from local government, businesses and the general public in order to develop a prioritized list of actions. Many of the undeveloped properties located along the western edge of the Yarrow Bay wetland, which are highly encumbered by the presence of this high quality wetland, may be available for acquisition geared at preserving their overall function. Other properties throughout the more developed shoreline areas within the City may be available for acquisition both for preservation but also to act as a showcase for restoration potential.

8.10 Priority 10 – City Zoning, Regulatory, and Planning Policies

City Zoning, Regulatory, and Planning Policies are listed as being of lower priority in this case simply because they have been the subject of a thorough review and have recently been updated accordingly. Notably, the City's Critical Areas Ordinance was updated (April 2003) consistent with the Best Available Science for critical areas, including those within the shoreline area. For the time being, it is considered more important to capitalize on this Restoration Plan by focusing on implementing projects consistent with the updated SMP policies.

Unimplemented or unused policies, by themselves, will not improve habitat. As time goes by, further review and potential updating of these policies may increase in priority. Policy-related items in this category as listed in previous sections include Comprehensive Plan Policies (Section 5.2), Critical Areas Regulations (Section 4.3), and Stormwater Planning (Section 5.4).

The City received its final NPDES Phase II permit in February 2007 from Ecology. The NPDES Phase II permit is required to cover the City's stormwater discharges into regulated lakes and streams. Under the conditions of the permit, the City must protect and improve water quality through public education and outreach, detection and elimination of illicit non-stormwater discharges (e.g., spills, illegal dumping, wastewater), management and regulation of construction site runoff, management and regulation of runoff from new development and redevelopment, and pollution prevention and maintenance for municipal operations.

The City conducts all of the above at some level already, but significant additional effort may be needed to document activities and to alter or upgrade programs. 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. Monitoring may be required as part of an illicit discharge detection and elimination program, for certain construction sites, or in waterbodies with a Total Maximum Daily Load (TMDL) Plan for particular pollutants. General water quality monitoring concerns include: a) stormwater quality; b) effectiveness of best management practices; and c) effectiveness of the stormwater management program.

9. CONCLUSIONS

This 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. The *Final Shoreline Analysis Report* has documented the following as key ecological impairments within the Kirkland shoreline areas: Lack of riparian vegetation and large woody debris, extensive shoreline armoring, extensive overwater coverage, nutrient and toxic inputs from runoff, and invasive aquatic vegetation. 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.

Restoration planning is a new element of the SMP. As such, implementation of this plan will require additional City efforts and resources to implement the policies of this plan.

10. REFERENCES

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APPENDIX A

**CITY OF KIRKLAND RESOLUTION R-4510
RATIFYING THE WRIA 8 CHINOOK SALMON CONSERVATION PLAN**

RESOLUTION NO. R-4510

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KIRKLAND RATIFYING
THE WATER RESOURCE INVENTORY AREA (WRIA) 8 CHINOOK SALMON
CONSERVATION PLAN

WHEREAS, in March 1999, the National Oceanic and Atmospheric Administration (NOAA) Fisheries listed the Puget Sound Chinook salmon evolutionary significant unit as a threatened species under the Endangered Species Act (ESA); and

WHEREAS, in November 1999, the United States Fish and Wildlife Service (USFWS) listed the Puget Sound bull trout distinct population segment as a threatened species under the ESA; and

WHEREAS, under the ESA, it is illegal to take a listed species, and the ESA defines the term "take" to include actions that could harm listed species or their habitat; and

WHEREAS, actions that are directly or indirectly authorized by local governments could potentially expose local governments to civil or criminal penalties under the ESA; and

WHEREAS, under the ESA, Section 4(f), NOAA Fisheries (for Chinook salmon) and USFWS (for bull trout) are required to develop and implement recovery plans to address the recovery of the species; and

WHEREAS, an essential ingredient for the development and implementation of an effective recovery program is coordination and cooperation among federal, state, and local agencies, tribes, businesses, researchers, non-governmental organizations, landowners, citizens, and other stakeholders as required; and

WHEREAS, Shared Strategy for Puget Sound, a regional non-profit organization, has assumed a lead role in the Puget Sound response to developing a recovery plan for submittal to NOAA Fisheries and the USFWS; and

WHEREAS, Shared Strategy intends that its recovery plan will include commitments from participating jurisdictions and stakeholders; and

WHEREAS, local jurisdictions have authority over some habitat-based aspects of Chinook survival through land use and other policies and programs; and the state and tribes, who are the legal co-managers of the fishery resource, are responsible for addressing harvest and hatchery management in WRIA 8; and

WHEREAS, in WRIA 8, habitat actions to significantly increase Chinook productivity trends are necessary, in conjunction with other recovery efforts, to

avoid extinction in the near term and restore WRIA 8 Chinook to viability in the long term; and

WHEREAS, the City values ecosystem health; water quality improvement; flood hazard reduction; open space protection; and maintaining a legacy for future generations, including commercial, tribal, and sport fishing, quality of life, and cultural heritage; and

WHEREAS, the City supports cooperation at the WRIA level to set common priorities for actions among partners, efficient use of resources and investments, and distribution of responsibility for actions and expenditures;

WHEREAS, 27 local governments in WRIA 8 jointly funded development of *The WRIA 8 Steering Committee Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan* (the Plan), published February 25, 2005, following public input and review; and

WHEREAS, while the Plan recognizes that salmon recovery is a long-term effort, it focuses on the next ten years and includes a scientific framework, a start-list of priority actions and comprehensive action lists, an adaptive management approach, and a funding strategy; and

WHEREAS, the City has consistently implemented habitat restoration and protection projects, and addressed salmon habitat through its land use and public outreach policies and programs over the past five years; and

WHEREAS, it is important to provide jurisdictions, the private sector and the public with certainty and predictability regarding the course of salmon recovery actions that the region will be taking in the Lake Washington/Cedar/Sammamish Watershed, including the Puget Sound nearshore; and

WHEREAS, if insufficient action is taken at the local and regional level, it is possible that the federal government could list Puget Sound Chinook salmon as an endangered species, thereby decreasing local flexibility.

BE IT RESOLVED by the City Council of the City of Kirkland as follows:

Section A: The City hereby ratifies *The WRIA 8 Steering Committee Proposed Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan*, dated February 25, 2005 (the Plan). Ratification is intended to convey the City's approval and support for the following:

1. The following goals for the Plan:
 - a) The Plan mission statement to conserve and recover Chinook salmon and other anadromous fish, focusing on preserving, protecting and restoring habitat with the intent to recover listed species, including sustainable, genetically diverse, harvestable populations of naturally spawning Chinook salmon.

- b) The multiple benefits to people and fish of Plan implementation including water quality improvement; flood hazard reduction; open space protection; and maintaining a legacy for future generations, including commercial, tribal and sport fishing, quality of life, and cultural heritage.
- 2. Continuing to work collaboratively with other jurisdictions and stakeholders in the Lake Washington/Cedar/Sammamish Watershed (WRIA 8) to implement the Plan.
- 3. Using the scientific foundation and the conservation strategy as the basis for local actions recommended in the plan and as one source of best available science for future projects, ordinances, and other appropriate local government activities.
- 4. Adopting an adaptive management approach to Plan implementation and funding to address uncertainties and ensure cost-effectiveness by tracking actions, assessing action effectiveness, learning from results of actions, reviewing assumptions and strategies, making corrections where needed, and communicating progress. Developing and implementing a cost-effective regional monitoring program as part of the adaptive management approach.
- 5. Using the comprehensive list of actions, and other actions consistent with the Plan, as a source of potential site specific projects and land use and public outreach recommendations. Jurisdictions, agencies, and stakeholders can implement these actions at any time.
- 6. Using the start-list to guide priorities for regional funding in the first ten years of Plan implementation, and implementing start-list actions through local capital improvement projects, ordinances, and other activities. The start-list will be revised over time, as new opportunities arise and as more is learned through adaptive management.
- 7. Using an adaptive approach to funding the Plan through both local sources and by working together (within WRIA 8 and Puget Sound) to seek federal, state, grant, and other funding opportunities. The long-term ultimate goal is to fund the Plan through a variety of sources at the current 2004 level plus 50 percent, recognizing that this resolution cannot obligate future councils to financial commitment and that the funding assumptions, strategies, and options will be revisited periodically.
- 8. Forwarding the Plan to appropriate federal and state agencies through Shared Strategy for Puget Sound, to be included in the Puget Sound Chinook salmon recovery plan.

Section B: The City recognizes that negotiation of commitments and assurances/conditions with appropriate federal and state agencies will be an iterative process. Full implementation of this Plan is dependent on the following:

1. NOAA Fisheries will adopt the Plan, as an operative element of its ESA Section 4(f) recovery plan for Puget Sound Chinook salmon.
2. NOAA Fisheries and USFWS will:
 - a) take no direct enforcement actions against the City under the ESA for implementation of actions recommended in or consistent with the Plan,
 - b) endorse the Plan and its actions, and defend the City against legal challenges by third parties, and
 - c) reduce the regulatory burden for City activities recommended in or consistent with the Plan that require an ESA Section 7 consultation.
3. Federal and state governments will:
 - a) provide funding and other monetary incentives to support Plan actions and monitoring activities,
 - b) streamline permitting for projects implemented primarily to restore salmonid habitat or where the actions are mitigation that further Plan implementation,
 - c) offer programmatic permitting for local jurisdiction actions that are consistent with the Plan,
 - d) accept the science that is the foundation of the Plan and support the monitoring and evaluation framework,
 - e) incorporate actions and guidance from the Plan in future federal and state transportation and infrastructure planning and improvement projects, and
 - f) direct mitigation resources toward Plan priorities.

Section C: This resolution does not obligate the City Council to future appropriations beyond current authority.

Passed by majority vote of the Kirkland City Council in open meeting this 21st day of June, 2005.



 Mayor

ATTEST:



 Acting City Clerk

APPENDIX B

BLANK RESTORATION PROJECT RANKING FORM

Ranking Form					
Number					
Site					
Activity					
Description					
Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)			1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)			1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)			2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)			1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).			0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)			1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)			0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).			0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).			0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)			1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)			1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)			1	0.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).			1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter			1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)			0.5	0
Section A Subtotal					0.0
Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)			0.5	0
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)			0.5	0
B3	Cost of the project (high cost = 0, low cost = 5)			0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)			0.5	0
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)			0.5	0
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)			0.5	0
Section B Subtotal					0
Grand Total					0.0

Draft Kirkland Shoreline Restoration Plan

Notes	
A1	Enter the square footage of riparian buffer area that will be enhanced with native vegetation. If the enhancement area is greater than 4,000 square feet, enter 4,000.
A2	Enter the linear footage of shoreline where gradient will be restored. If the project restores gradient over a distance greater than 100 feet, enter 100 feet)
A3	Enter the linear footage of shoreline where armoring will be removed. If the project removes armoring over a distance greater than 100 feet, enter 100 feet)
A4	Enter the square footage of overwater cover that will be removed near the shoreline (0 to 30 feet from the OHWM). If more than 200 square feet of overwater cover will be removed, enter 200.
A5	Enter the square footage of overwater cover that will be removed more than 30 feet from shore. If more than 300 square feet of overwater cover will be removed, enter 300.
A6	Enter the number of piles that will be removed near the shoreline (0 to 30 feet from the OHWM). If more than 20 , enter 20.
A7	Enter the number of piles that will be removed more than 30 feet from shore. If more than 30, enter 30.
A8	If the project increases light transmission through an existing nearshore structure (pier) without reducing its overwater footprint (i.e. by replacing wooden decking with grating), enter the square footage of overwater cover that will be daylighted (0 to 30 feet from the OHWM). If more than 200 square feet of nearshore overwater cover will be daylighted, enter 200.
A9	If the project increases light transmission through an existing off-shore structure (pier) without reducing its overwater footprint (i.e. by replacing wooden decking with grating), enter the square footage of overwater cover that will be daylighted (More than 30 feet from the OHWM). If more than 300 square feet of off-shore overwater cover will be daylighted, enter
A10	Enter the straight-line distance (in feet) to the nearest tributary. If the project is more than 1/4 mile (1,320 feet) from the nearest tributary, enter "0" in the rating column.
A11	Enter the distance, measured along the shoreline in feet, to the edge of the nearest high-quality shoreline habitat. If the project is more than 1/4 mile (1,320 feet) from the nearest high-quality shoreline habitat, enter "0" in the rating column.
A12	Enter 5 if the project has a high likelihood of improving ecological functions in the local area, 3 if the project may improve local ecological functions but there is some uncertainty of success, and 0 if there is little chance of improvement or there is a great deal of uncertainty associated with the success of the project.
A13	Enter "1" if there is some active environmental problem that will be addressed by the project, such as shoreline erosion or flooding.
A14	Enter the number of the shoreline segment where the project is located. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; if it is in Segment C, enter 2; if it is in Segment D, enter 1.

APPENDIX C

PROJECT RANKING FORMS

Number 1
Site Juanita Beach Park
Activity Install deck grating
Description The large overwater boardwalk with skirting, which forms the designated swimming area, has the potential for impact reduction by installing deck grating in the pier decking and potentially removing or redesigning the breakwater in order to improve migratory conditions for juvenile salmonids and water circulation.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	20	1	1	5.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)	30	1	0.5	2.5
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	300	1	1	3.9
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	100	1	1	4.6
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	4	1	4.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					23.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	4	0.5	2
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	2	0.5	1
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8
Grand Total					31.0

Draft Kirkland Shoreline Restoration Plan

Number 2

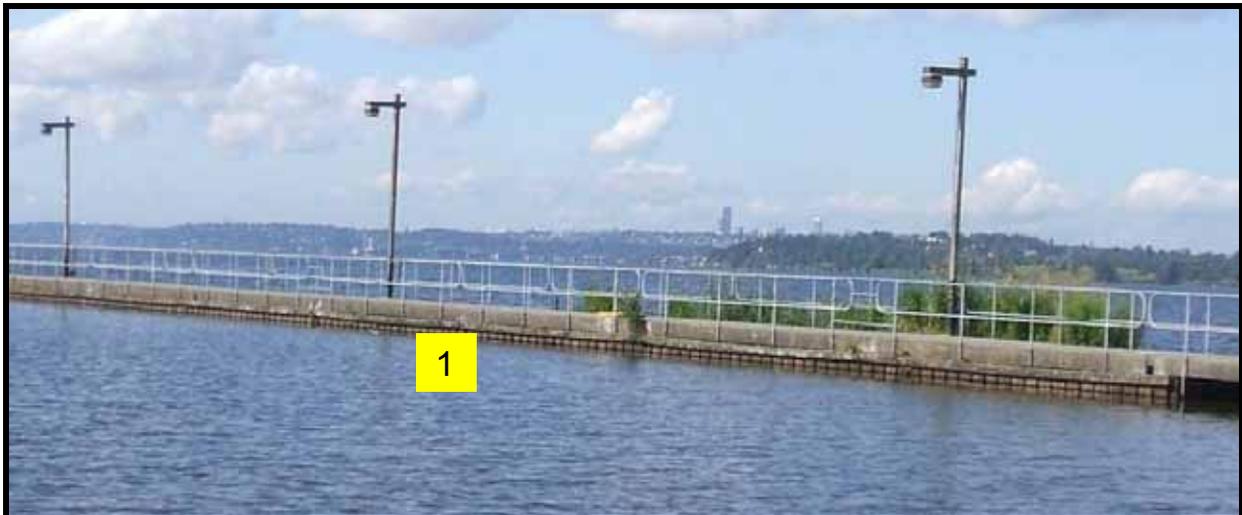
Site Juanita Beach Park

Activity In-stream habitat improvement

Description Potential in-stream habitat improvements exist at the mouth of Juanita Creek (delta), including large woody debris installation and improvements to native vegetative cover. The WRIA 8 Chinook Salmon Conservation Plan includes potential restoration of the mouth of Juanita Creek through the removal of bank armoring and returning the mouth to a more natural outlet.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	0	1	1	5.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	0	1	1	5.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	5	1	5.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	5	0.5	2.5
Section A Subtotal					34.5

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	2	0.5	1
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	1	0.5	0.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	3	0.5	1.5
Section B Subtotal					6
Grand Total					40.5



Draft Kirkland Shoreline Restoration Plan

Number 3

Site Forbes Creek - Juanita Bay Park

Activity Remove invasive vegetation

Description Invasive vegetation, primarily reed canarygrass, purple and garden loosestrife, and Himalayan blackberry in the terrestrial zones and white water lily in the aquatic zone, is currently growing throughout the Forbes Creek riparian corridor and Juanita Bay Park.

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.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	1	1	1	5.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	0	1	1	5.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					20.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	2	0.5	1
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	2	0.5	1
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	3	0.5	1.5
Section B Subtotal					9
Grand Total					29.0

Number 4
Site Forbes Creek - Juanita Bay Park
Activity Improve fish passage and habitat
Description The pedestrian trail/trestle across Juanita Bay to the west of 98th Street covers the mouth of Forbes Creek, potentially inhibiting salmon migration. The surface of the walkway could be re-decked with a grated material to reduce shading impacts to the aquatic environment.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	0	1	1	5.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	0	1	1	5.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	2	1	2.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					14.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	4	0.5	2
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					9.5
Grand Total					23.5

Draft Kirkland Shoreline Restoration Plan

Number 5
Site Forbes Creek - Juanita Bay Park
Activity Old pier pile removal

Description Many remnant pier piles located within Juanita Bay could be removed.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	20	1	1	5.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)	30	1	0.5	2.5
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	800	1	1	2.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	0	1	1	5.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority = 1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					17.5
Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	0	0.5	0
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					6.5
Grand Total					24.0



Draft Kirkland Shoreline Restoration Plan

Number 6
Site Lake Ave W Street End Park
Activity Remove invasive vegetation
Description This small street-end park consists of primarily lawn area with a moderate amount of shoreline vegetation (trees and shrubs). An abundance of invasive vegetation (ivy/reed canarygrass) could be removed and replaced with additional native vegetation to improve shoreline conditions for juvenile salmonids.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	1000	1	1.4	1.8
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)			0	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A	4	1	4.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					8.8

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					11
Grand Total					19.8

Number 7
Site Lake Ave W Street End Park
Activity Reduce in-water structures

Description An old remnant moorage slip located near the south property line that is not connected to shore could be removed to reduce in- and overwater structures.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	30	1	1	0.8
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	56	1	0.5	0.5
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	2	1	1	0.5
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)	3	1	0.5	0.3
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	1	1	1.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					3.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					9.5
Grand Total					12.5



Number 8
Site Waverly Beach Park
Activity Reduce overwater cover

Description Reduction of overwater cover by the existing pier through the installation of deck grating and removing pier skirting as feasible.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	4	1	4.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					7.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	2	0.5	1
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7.5
Grand Total					14.5

Draft Kirkland Shoreline Restoration Plan

Number 9
Site Waverly Beach Park
Activity Reduce shoreline armoring

Description Removing or minimizing the impacts of shoreline armoring.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)	100	1	1	5.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	4	1	4.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					19.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	4	0.5	2
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8
Grand Total					27.0

Number 10
Site Waverly Beach Park
Activity Enhance shoreline vegetation

Description Supplementation of nearshore native vegetation to improve habitat conditions for juvenile salmonids.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					10.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	2	0.5	1
Section B Subtotal					11.5
Grand Total					21.5

Draft Kirkland Shoreline Restoration Plan

Number 11
Site Waverly Beach Park
Activity Reduce stormwater runoff

Description The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious materials, relocation, or minimization.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					3.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8.5
Grand Total					11.5



Draft Kirkland Shoreline Restoration Plan

Number 12
 Site Marina Park
 Activity Reduce overwater cover

Description Reducing overwater cover through the installation of deck grating on the existing piers.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	200	1	1	5.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.5	2.5
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					13.5

Section B: Feasibility Considerations		Area or Distance	Rating	Weighting Factor	Total
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	2	0.5	1
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7.5
Grand Total					21.0

Number 13
Site Marina Park
Activity Reduce shoreline armoring

Description Removing or minimizing the impacts of shoreline armoring.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)	100	1	1	5.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	4	1	4.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					19.0

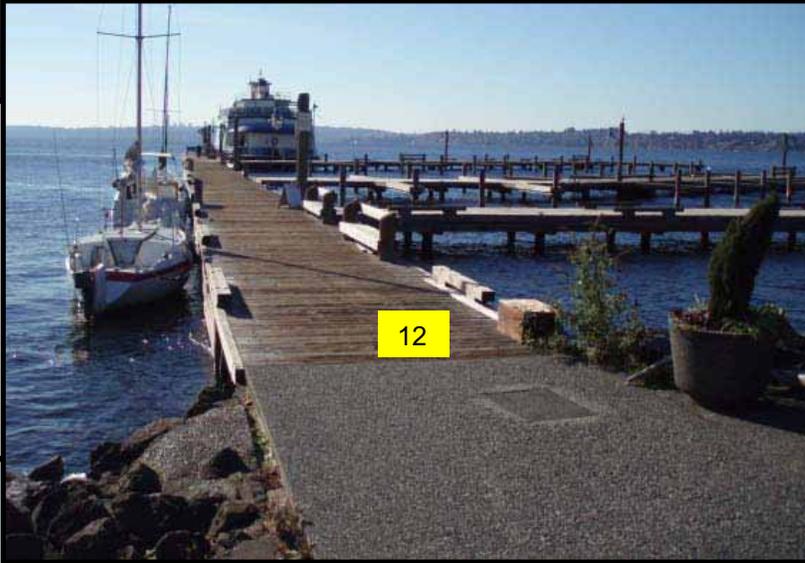
Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	2	0.5	1
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7
Grand Total					26.0

Draft Kirkland Shoreline Restoration Plan

Number 14
Site Marina Park
Activity Enhance shoreline vegetation
Description Improving nearshore native vegetation.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	2000	1	1.4	3.5
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					6.5

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	2	0.5	1
Section B Subtotal					11.5
Grand Total					18.0



Draft Kirkland Shoreline Restoration Plan

Number 15
Site Street-End Park
Activity Reduce stormwater runoff

Description This small street-end park consists of an adjacent parking area located within the shoreline jurisdiction that likely drains surface runoff directly to Lake Washington. Future use of pervious material should be explored any time repairs are proposed.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	2	1	2.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					2.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	1	0.5	0.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					6
Grand Total					8.0



Draft Kirkland Shoreline Restoration Plan

Number 16
Site David Brink Park
Activity Install deck grating

Description Reducing overwater cover through the installation of deck grating on the existing piers.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	2	1	2.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					5.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	4	0.5	2
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					9
Grand Total					14.0

Number 17
Site David Brink Park
Activity Reduce shoreline armoring

Description Removing or minimizing the impacts of shoreline armoring.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)	100	1	1	5.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	5	1	5.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					20.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7.5
Grand Total					27.5

Draft Kirkland Shoreline Restoration Plan

Number 18
Site David Brink Park
Activity Reduce in-water structures

Description Removing unused remnant pier piles.

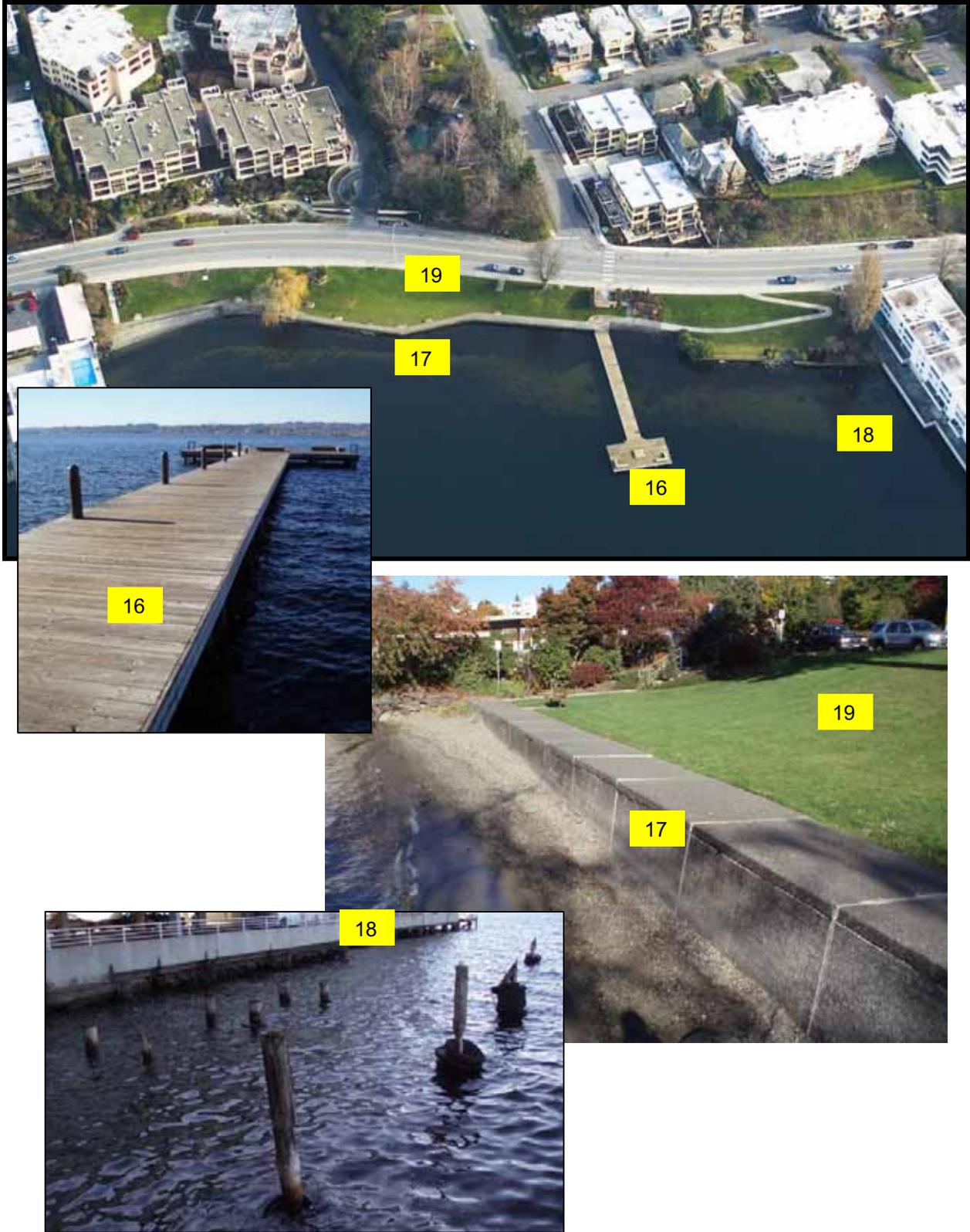
Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)	5	1	1	1.3
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)	4	1	0.5	0.3
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	1	1	1.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A	0	1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					2.6

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	2	0.5	1
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					9
Grand Total					11.6

Number 19
Site David Brink Park
Activity Enhance shoreline vegetation
Description Improving nearshore native vegetation.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					10.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	2	0.5	1
Section B Subtotal					11.5
Grand Total					21.5



Number 20
Site Settler's Landing
Activity Enhance shoreline vegetation

Description This small street-end park contains the opportunity to improve shoreline habitat by improving native vegetative cover.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	1000	1	1.4	1.8
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	1	1	1.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					2.8

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	2	0.5	1
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					10
Grand Total					12.8

Draft Kirkland Shoreline Restoration Plan

Number 21
Site Settler's Landing
Activity Install deck grating

Description The existing shared use pier (public and private) could potentially be re-decked with grated materials to reduce shading impacts.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	180	1	0.4	1.8
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	2	1	2.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					4.8

Section B: Feasibility Considerations		Area or Distance	Rating	Weighting Factor	Total
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8.5
Grand Total					13.3



Draft Kirkland Shoreline Restoration Plan

Number 22
 Site Marsh Park
 Activity Install deck grating

Description Reduction of overwater cover by the existing pier through the installation of deck grating.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	2	1	2.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					5.0

Section B: Feasibility Considerations		Area or Distance	Rating	Weighting Factor	Total
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8.5
Grand Total					13.5

Number 23
Site Marsh Park
Activity Reduce shoreline armoring

Description Removal or minimization of shoreline armoring.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)	100	1	1	5.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	5	1	5.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					20.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7.5
Grand Total					27.5

Draft Kirkland Shoreline Restoration Plan

Number 24
 Site Marsh Park
 Activity Enhance shoreline vegetation

Description Improvement of nearshore native vegetation.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					10.0

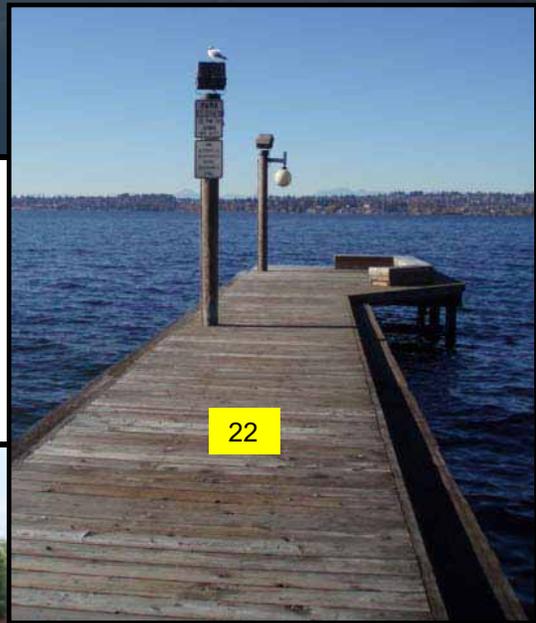
Section B: Feasibility Considerations		Area or Distance	Rating	Weighting Factor	Total
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	2	0.5	1
Section B Subtotal					11.5
Grand Total					21.5

Number 25
Site Marsh Park
Activity Reduce stormwater runoff

Description The impact of existing impervious surfaces (paved parking areas) could be reduced through the use of pervious materials, relocation, or minimization.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)		0	1	0.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					3.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					9
Grand Total					12.0



Number 26
Site Houghton Beach Park
Activity Install deck grating

Description Reducing overwater cover through the installation of deck grating on the existing piers and removing pier skirting as feasible.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).	200	1	0.4	2.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).	300	1	0.2	1.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	700	1	1	2.3
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					8.3

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	4	0.5	2
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					8.5
Grand Total					16.8

Draft Kirkland Shoreline Restoration Plan

Number 27
Site Houghton Beach Park
Activity Reduce shoreline armoring

Description Removing or minimizing the impacts of shoreline armoring.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)		0	1.4	0.0
A2	Project restores shoreline gradient (yes=1, no=0)	100	1	1	5.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)	100	1	2	10.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	700	1	1	2.3
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	5	1	5.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					22.3

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	3	0.5	1.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	3	0.5	1.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	0	0.5	0
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	5	0.5	2.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	4	0.5	2
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	0	0.5	0
Section B Subtotal					7.5
Grand Total					29.8

Number 28
Site Houghton Beach Park
Activity Enhance shoreline vegetation

Description Improving nearshore native vegetation.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	700	1	1	2.3
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)		0	1	0.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					12.3

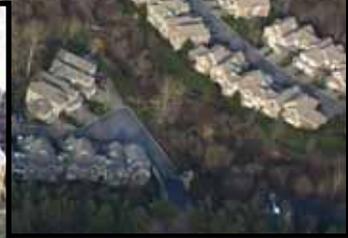
Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	5	0.5	2.5
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	5	0.5	2.5
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	5	0.5	2.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	3	0.5	1.5
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	3	0.5	1.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	2	0.5	1
Section B Subtotal					11.5
Grand Total					23.8



Number 29
Site Yarrow Bay
Activity Remove invasive vegetation
 The biological need for control of aquatic invasive species in Yarrow Bay should be assessed. Both Yarrow Shores Condominiums and the Carillon Point Marina and condominiums have permits from Ecology to use chemical controls on milfoil and white water lily, which have become a nuisance to boaters and swimmers.

Section A: Ecological Considerations		Area or Distance	Rating	Weighting Factor	Total
A1	Project enhances native riparian vegetation, either nearshore emergent or upland plants within the buffer zone (yes=1, no=0)	4000	1	1.4	7.0
A2	Project restores shoreline gradient (yes=1, no=0)		0	1	0.0
A3	Project reduces artificial shoreline armoring (yes=1, no=0)		0	2	0.0
A4	Project reduces artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A5	Project reduces artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.5	0.0
A6	Project removes in-water structure (i.e. pier piles) from the nearshore (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0)		0	1	0.0
A7	Project removes in-water structure (i.e. pier piles) from off-shore areas (Anywhere beyond 30 feet waterward of OHW; yes=1, no=0)		0	0.5	0.0
A8	Project increases light transmission through an existing artificial overwater cover near the shoreline (Anywhere from 0 to 30 feet waterward of OHW; yes=1, no=0).		0	0.4	0.0
A9	Project increases light transmission through an existing artificial overwater cover in off-shore areas (Areas more than 30 feet from OHW; yes=1, no=0).		0	0.2	0.0
A10	Project is within 1/4 mile of the mouth of a tributary (yes=1, no=0)	0	1	1	5.0
A11	Project is within 1/4 mile of other high-quality shoreline habitats (yes=1, no=0)	0	1	1	5.0
A12	Likelihood of improving local ecological functions (high=5, medium=3, low=0)	N/A	3	1	3.0
A13	Is there some ecological risk associated with not conducting restoration at the site (yes=1, no=0).	N/A	0	1	0.0
A14	Urbanization within overall shoreline segment. If the project is in Segment A, enter 4; if it is in Segment B, enter 5; in Segment C, enter 2; in Segment D, enter	N/A		1	0.0
A15	Project identified in, or is consistent with, adopted watershed restoration plans & policies (regional WRIA 8 high priority = 5, local high priority = 3, low priority =1, no previous reference = 0)	N/A	0	0.5	0
Section A Subtotal					20.0

Section B: Feasibility Considerations					
B1	Access and/or constructability (easy = 5, difficult = 0)	N/A	2	0.5	1
B2	Regulatory requirements (simple permitting = 5, difficult permitting = 0)	N/A	4	0.5	2
B3	Cost of the project (high cost = 0, low cost = 5)	N/A	3	0.5	1.5
B4	Maintenance/repair costs (low = 5, high = 0)	N/A	2	0.5	1
B5	Project will be consistent with or enhance existing public access, recreation & aesthetic values (high = 5, low = 0)	N/A	5	0.5	2.5
B6	Possibility of cost sharing w/ other funding sources (grants/mitigation) (high = 5, low = 0)	N/A	3	0.5	1.5
Section B Subtotal					9.5
Grand Total					29.5



APPENDIX D

PROPOSED OUTREACH AND EDUCATION ACTIONS

**Draft Proposed Outreach & Education Actions for the Cedar Population (Tier 1 and 2 Subareas)
(by WRIA 8 Public Outreach Committee)**

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
C701	Riparian vegetation displaced by lawn, invasives, or exotics; water quality compromised by garden chemicals, metals, sediment.; higher water use at times when flows lowest.	Protect & restore riparian vegetation to provide sources of large woody debris/pools/riffles; protect& restore water quality; maintain instream flows	Shoreline property owners and general public	Update and distribute streamside living materials such as <i>Streamside Savvy</i> , <i>Salmon Friendly Gardening Practices</i> , or <i>Going Native</i> . Distribute to all shoreline property owners and make available at City Hall, libraries, and retail establishments such as home & garden centers.	High	Ongoing or have been distributed in past.	Low-Medium
C702	Riparian vegetation displaced by lawn, invasives, or exotics; water quality compromised by landscape practices; higher water use at times when flows lowest.	Protect & restore riparian vegetation to provide sources of large woody debris/pools; protect& restore water quality; maintain instream flows	Shoreline property owners	Offer shoreline property owners a workshop in streamside living. Include tips on landscape design/maintenance appropriate for riverside properties and shoreline stabilization (alternatives to vertical wall bulkhead design). Feature designers and contractors who have both experience and recognition in salmon friendly design.	High	Seattle Public Utilities and Snohomish County Streamside Stewardship Courses, Issaquah's Creekside Living workshops	Low
C703	Smaller parcels lost to development or possible habitat degradation without financial incentives to conserve that are offered to owners of larger parcels	Protect good salmon habitat that could provide source of shelter, pools, riffles, food	Shoreline property owners	Expand use tax credit incentives to encourage protection of smaller properties not currently eligible for existing programs.	High	Public Benefits Rating System, Open Space Current Use Tax (CUT)	Variable (Low budget)
C704	Channel confinement from bulkheads, levees, and armoring; loss of riparian vegetation	Soften shorelines, restore floodplain connectivity and channel complexity	Shoreline property owners	Reduce permit fees for shoreline stabilization if design is salmon friendly (employing alternatives to dikes, levees, revetments, and vertical wall bulkheads). Also reduce permit fees (where applicable) for streamside restoration and removal & replacement of non-native vegetation.	High		Low

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
C705	Riparian vegetation displaced by lawn, invasives, or exotics; water quality compromised by garden chemicals, metals, sediment. Higher water use at times when flows lowest.	Protect & restore riparian vegetation; protect & restore water quality, maintain instream flows, stabilize slopes with native riparian vegetation. Increase likelihood of achieving these goals by bringing on board industry with a large influence over the landscapes within watershed.	Landscape Contractors	Offer educational opportunities to landscape designers/contractors on riparian design/naturescaping, local plant sourcing, proper installation techniques, invasive species, efficient watering techniques and use of compost to build healthy soils, control erosion and reduce need for supplemental irrigation. Augment training to accommodate English as Second Language participants.	High	Washington Assoc. of Landscape Professionals (WALP) trainings	Low - Medium (industry supported)
C706	Reduced forest cover; increased impervious areas/lack of infiltration/ground water recharge	Protect forest cover, reduce impervious surface area, increase infiltration back into soil and ground water recharge, decrease water use.	Design & Building Professionals	Provide education to architects, landscape architects, engineers, and developers on sustainable building/design practices. Work with professional associations to highlight building practices that maintain watershed health. Include Low Impact Development, importance of maintaining canopy cover and limiting impervious surfaces.	High	City of Seattle Business & Industry Venture, King County Green Building, LEEDS, Construction Works and other Solid Waste Division outreach programs	Low - Medium
C707	Reduced forest cover; increased impervious areas/lack of infiltration/ground water recharge	Control stormwater runoff to more closely mimic natural hydrology, reduce paving and impervious areas, increase infiltration, protect forest cover	Design & Building Professionals	Use recognition as a means to encourage more salmon sustainable designs and construction. In addition to professional association awards, expand recognition to include merit awards celebrated by popular magazines read by a broader sector of the general public. Promote through design competitions and media coverage the use of "rain gardens" and other low impact development practices that mimic natural hydrology. Combine a home/garden tour or "Street of Dreams" type event featuring these landscape	High	AIA, ASLA, Sunset Magazine, and Seattle Times Home and Garden awards, King County EnviroStars	

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
				/engineering treatments			
C708	Insufficient flow	Maintain instream flows	High-end water users, general public	Extend availability of water conservation incentive programs (such as rebates for efficient toilets, appliances, free indoor conservation kits, or free landscape irrigation audits) to decrease household and commercial water consumption.	High	Smart & Healthy Landscapes, Water Cents	Low
C709	Water quality compromised by garden chemicals, metals, sediment. Higher water use at times when flows lowest.	Protect water quality from degradation by pesticides and soil erosion, maintain instream flows by reducing water used for irrigation, increase organic content in soils to increase water holding capacity	General public	Target Natural Yardcare Neighborhoods Program to include more communities in the Cedar sub-basin. Expand curricula to offer more landscaping guidelines specific to shoreline residences.	High	Ongoing program	Medium - High
C710	Water quality degraded by cleaners, oils, grit, and paint; stream flows reduced by excessive water use	Protect and restore water quality and maintain flows	General Public	Coordinate with local business community to encourage the use of commercial car washes. (Water quality and salmon conservation could provide a new marketing angle; car dealerships could offer car wash coupons as bonus with car purchase.). Require that car kits be used for all parking lot fund raiser car washes, or offer carwash coupons or as more eco-friendly alternative funding source.	High	Puget Sound CarWash Association Coupon Program.	Variable - Low
C711	All conditions listed above Water quality degraded by toxics and garden chemicals; channel confinement; loss of riparian buffer; use of large woody debris, pools, riffles, reduced channel complexity; riparian vegetation displaced by lawn; high water use when flows lowest.	Increase public watershed literacy awareness of effects on water quality and habitat conditions.	General Public, but in particular, residents of Cedar sub-basin who may not be aware of existence of salmon right within urban area	Support and encourage efforts of Cedar River Naturalist Program to promote voluntary stewardship by focusing on education, monitoring, and maintenance of restoration sites (e.g. Cavanaugh Pond). Continue and expand messaging about how everyday personal actions affect salmon, the Cedar River, and entire watershed.	High	Ongoing program with successful track record since 1998	Low-Medium

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
C712	Water quality degraded by toxics	Keep toxics out of water by providing safer alternative	General Public	Increase outreach about availability and locations of Hazardous Waste Collection sites and special collection events.	High	King County Local Hazardous Waste Management Program	Low (cheaper than dealing with illegal dumping)
C713	Water quality degraded by toxics, pesticides, metals, increased nutrient loads, sediments, loss of riparian buffer	Protect and restore water quality	General Public	Publicize emergency call numbers for public to report water quality and quantity problems, non-permitted vegetation clearing, non-permitted in-stream grading, and wood removal incidents.	High	Seattle Public Utilities Surface Water Pollution Prevention Hotline and website	Low
C714	Riparian vegetation displaced by lawn, invasives, and exotics, providing little food value, no source of LWD, or soil stability (sedimentation of gravel beds). Increased water use when flows lowest; increased use of pesticides on less resistant exotics	Restore native riparian vegetation to provide cover and terrestrial food source, reduce soil erosion and sedimentation in gravel beds, protect and restore water quality, maintain instream flows	Shoreline Property Owners and Community	Increase number of native plant salvages. Integrate these salvage opportunities into landscaping classes; class participants can take home native plants for immediate use both within and surrounding sensitive areas.	High	King and Snohomish County Native Plant Salvage Programs, WSU Cooperative Extension Native Plant Salvage Project partnership with Puget Sound Action Team, Thruston & Mason Counties.	Low
C715	Channel confinement and loss of channel complexity from bulkheads, levees, and armoring; loss of riparian vegetation	Reduce channel confinement, restore riparian vegetation, and floodplain connectivity and channel complexity	Shoreline property owners, general Public	Demonstration Project. Locate property owner in publicly accessible (or viewable) area willing to remove bulkhead, levee, or stream bank armoring and replace it with more ecologically friendly design. Publicize efforts through various means. Demonstration project should contain elements that can be done by average shoreline property owner. Provide information on costs and advantages of alternate treatments.	High – Medium-		Variable
C716	Lack of large woody debris	Overcome public fear and resistance to providing and	Shoreline property owners,	Increase public awareness about the value of large woody debris and native vegetation for flood protection, salmon habitat, and healthy streams. Convey through	High-Medium	Existing King County and US Forest	Low

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
		maintaining woody debris along shorelines and subsequent source of cover, pools, riffles	general public	<p>media (local newspapers, community newsletters); signage along publicly accessible "model" shoreline; and brochures such as King County's Large Woody Debris and River Safety and US Forest Service Large Woody Material: The Backbone of a Stream. Distribute to all shoreline property owners and to more of general public, especially recreational boaters.</p> <p>Brochures on LWD and boater safety could be made available at appropriate locations such as: the Renton Community Center (where some tubers put in or pull out), the Henry Moses Pool and Water Park, the Renton Public Library (also on the river), and retail locations where inner-tubes, canoes, and kayaks are sold or rented.</p> <p><i>Where there is right-of-way or permission from private owners, consider installing kid-friendly signage which addresses the potential dangers that LWD can pose to boaters – along with the value it provides to salmon and the health of the river.. Where possible, locate signs at popular "put-in" and "take-out" spots along the river.</i></p>		Service brochures	
C717	All conditions listed above.	Reduce channel confinement, restore riparian vegetation, and floodplain connectivity and channel complexity	Shoreline property owners	Explore possibility of adding a disclosure to Real Estate Sales Agreement describing shorelines as sensitive areas, subject to rules and regulations of City and County. Look to model set by King County.	High – Medium	King County Dept. of Development and Environmental Services	Medium
C718	Water quality compromised by toxics, pesticides, metal fines, and nutrient overloads	Protect and restore water quality.	General Public	<p>Work with auto parts retailers and gas stations to increase potential for collection of used motor oil/transmission fluids.</p> <p>Distribute Water Quality poster series which depicts impacts of everyday practices: washing car, driving car without maintenance, leaving pet wastes unattended, and improperly using lawn chemicals. Promote</p>	High-Medium	Yes, King County Local Hazardous Waste Management EnviroStars program	Medium

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
				stormwater best management practices related to parking lot cleaning, storm drain maintenance, and road cleaning. Make printed material available in other languages.		Water Quality Consortium, Businesses for Clean Water	
C719	Channel confinement reduced channel complexity, loss of riparian vegetation	Increase public watershed literacy awareness of effects on water quality and habitat conditions,	Community	Increase citizen involvement in voluntary stewardship programs, focusing on restoration projects to meet the needs of the conservation plan through restoration, education, monitoring and restoration site maintenance	High – Medium	Various: Cedar River Naturalists, Sammamish ReLeaf, Stream Team; Water Tenders	Medium
C720	Water quality degraded by sediment, diminished ground water recharge, flashiness of floods and resultant bed scour	Protect and restore forest cover, increase infiltration, decrease intensity of flood conditions, protect water quality from sediment	General public	Increase outreach efforts about the benefits of trees and basin-wide forest coverage to protect water quality. Clarify issues about hazard trees. Offer seedlings (perhaps provided by a timber company) to replant after potentially hazardous trees are removed. Enlist the help of nurseries/home & garden centers on this education campaign. (Potential new Fathers' Day gift idea: Buy and plant a tree each year for a dad who loves salmon).	High in rural areas; Medium in urban/suburban areas.	Yes, Sammamish ReLeaf; Mountains-to-Sound Greenway; City tree ordinances.	Variable - Medium
C721	All conditions listed.	Protect forest cover, wetlands, headwaters, critical salmon habitat; increase public support for land acquisition and restoration projects, as well as landuse policies.	Shoreline property owners, general public	Identify and encourage shoreline neighborhood and community stewardship associations to foster the ethic of voluntary stewardship. Use these groups to build a bridge between property owners, agencies, and locals governments. Promote watershed health through grassroots messaging. Increased potential for media coverage when efforts initiated at community level.	Medium	Friends of Rock Creek Valley, Friends of Cedar River Watershed, Cedar River Council, Lake Forest Park Stewardship Foundation,	Low
C722	Loss of forest cover, organic content in soils, increase in impervious areas and increased run-off, degraded water quality flashiness during flood conditions.	Protect forest cover, reduce impervious area and runoff, increase infiltration, protect and restore water quality, maintain instream flows	Design/ Build Industry	Create a campaign that tracks demand among community residents for purchasing green homes and remodeling with green building strategies.	Medium	Green Car Program	Low
C723	Degraded water	Cultivate ethic of	Youth	Link education and community service stewardship	Medium	Environmental	Low

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
	quality, instream flows, habitat quality	environmental stewardship; increase watershed awareness and links between manmade habitat and environmental health.		projects. Expand to community outreach to community/technical colleges & universities.		Portal Seattle, Mercer Slough Interns, N. Shore Utility Tour, Water Tenders.	
C724	Riparian vegetation displaced by lawn, invasives, or exotics, providing little food value, source of large woody debris, or soil stability. Water quality compromised by garden chemicals, metals, sediment. Higher water use at times when flows lowest.	Replace lawn and other lower ecological value plantings with riparian buffers and native plants	General public	Encourage neighborhood garden tours of salmon friendly gardens. Help residents visualize alternatives to traditional (and often less eco-friendly) landscape treatments. Offer neighbors assistance with publicity, signage, and volunteer docents. Coordinate with neighborhood garden clubs.	Medium	Existing neighborhood garden tours. Volunteer docents by King County Master Recycler Composters and WSU Master Gardeners.	Low
C725	All conditions discussed above.	Increase awareness about effects of habitat on salmon and watershed health; increase support for land acquisition and restoration efforts as well as landuse policies; inspire shoreline property owners to make changes on their own property.	General public, but in particular Shoreline property owners	Create local informational TV spots that could run on the government cable channels. Focus on those habitat conditions threatening salmon that are affected by our daily personal practices, landscape design and management practices. Showcase good designs to provide models to emulate.	Medium – Low	Salmon Information TV, C-TV,	Variable
C726	All conditions discussed above.	Encourage Design/Build industry professionals to offer more salmon friendly/eco-friendly	Design & Building Professionals	Use recognition as a means to encourage more salmon sustainable designs and construction. Coordinate with professional association awards in addition to popular magazine merit awards. Continue to recognize businesses that carry out procedures or use products	Medium – Low	American Institute of Architects, American Society of	Low

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
		design solutions.		that protect watershed health.		Landscape Architects, Sunset Magazine, and Seattle Times Home and Garden awards, King County Enviro. Stars.	
C727	All conditions discussed above	Increase watershed literacy and understanding of effects of habitat on salmon	Business Community and General Public	Coordinate with businesses along Cedar that can help with outreach goals. For example, Ivar's Seafoods could promote key messages about salmon conservation on their menus or through game cards. This seafood chain also has other restaurants located within WRIA 8 so it could be cost effective for them to do such a promotion.	Medium	Yes	Low
C728	Water quality degraded by toxics and metal fines.	Reinforce to students and the community the relationship between what goes down storm drain and watershed health via an affordable and easily implemented program.	General Public	Expand storm-drain stenciling program locally and basin-wide. Track locations and dates in a Cedar Basin database.	Medium - Low	Yes	Low
C729	Channel confinement, loss of riparian buffer: sources of large woody debris, pools, riffles; reduced channel complexity,	Inspire shoreline property owners to make changes on their own property by providing good examples; increase public support for land acquisition and restoration efforts as well as land use policies.	Shoreline property owners and general public	Use government cable channels to follow progress of the site specific restoration projects. Use of video to document projects before, during, and after restoration. Distribute resulting programs to libraries, schools, and communities groups.	Low	Salmon Information TV	Variable
C730	All conditions discussed above.	Improve watershed awareness and	Youth	Focus environmental/science curricula on local watershed issues, with particular emphasis on key	Low-Future	Yes	Medium

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/ Model	Level of Financial Commit.
		possibly prevent future habitat degradation by instilling a better understanding of interrelationships between habitat, daily actions, and watershed health.		factors limiting the Cedar Chinook population.			

**Draft Proposed Outreach & Education Actions for Lake Washington
(by WRIA 8 Public Outreach Committee)**

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
C729	Shoreline hardening, riparian vegetation displaced by lawn, invasives, or exotics with low ecological value, overwater structures creating sharp light contrast, water quality degraded by effects of landscape practices	Increase awareness that the lakeshore is also a nursery for juvenile salmon. It's possible to make "home improvements" that can benefit both property owner and salmon. [people pets, and planet]	Lakeshore property owners	Promote concept of living with the lake, instead of just on it through public messaging. Foster idea of sharing the shoreline with other species that inhabit the lakeshore. Carry out through workshops, literature, and development of education and marketing campaigns	High	Lakeside Living Workshop Series; King County Lake Stewardship Program	Variable
C730	Shoreline hardening, riparian vegetation displaced by lawn, invasives, or exotics with low ecological value, overwater structures creating sharp light contrast, water quality degraded by effects of landscape practices	Reduce conditions favored by predator species; protect & restore water quality.	Lakeshore property owners	Offer lakeshore property owners a series of workshops on lakeshore living: natural yard care; reduction of lawn size, shoreline buffer planting design/noxious weed management; alternatives to vertical wall bulkheads; salmon friendly dock design; aquatic weed management; environmentally friendly methods of maintaining boats, docks, decks; porous paving options	High	WRIA 8/KCD Lakeside Living Lakeshore Property Owner Workshops, Seattle Public Utilities and Snohomish County Creek Stewardship Programs, City of Issaquah's Creekside Living Program, Natural Yard Care Neighborhoods	Medium-High

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
C731	Forested parcels threatened by development, (even though difficult to build on); creek mouths degraded or unrecognizable (culverted); riparian vegetation replaced by invasives infested along shoreline	Protect and/or restore forest land, critical areas such as wetlands and shallow water rearing habitat. Promote watershed health through grassroots messaging.	Community, but especially lakeshore property owners.	Identify and encourage shoreline neighborhood and community stewardship associations. Use to foster the ethic of voluntary stewardship, set examples for other neighbors to follow, enlist community support to acquire and restore habitat, and to build a bridge between property owners, agencies, and local governments. Increase potential for media coverage when efforts initiated at community level.	High	Lake Forest Park Stewardship Foundation, Save Lake Sammamish, Denny Creek Neighborhood Association	Low
C732	Riparian vegetation displaced by lawn, invasives, or exotics; water quality compromised by garden chemicals, metals, sediment; elevated water temperatures due to increased water use at times when flows lowest.	Protect and improve rearing and migratory habitat; protect and restore water quality	Lakeshore property owners, general public	Update where necessary salmon-friendly educational materials such as <i>Salmon Friendly Gardening Practices, Going Native, Watershed Waltz and Sammamish Swing</i> booklets. Print and distribute to the following prioritized audiences: 1)lakeshore property owners 2) Public places such as libraries, city halls, community centers and where permitted, at home improvement centers and other major retail establishments.	Medium - High	Yes	Low-Medium
C733	Riparian vegetation displaced by lawn, invasives, or exotics; water quality compromised by garden chemicals, metals, sediment.; elevated water temperatures due to increased water use at times when flows lowest.	Protect & restore shoreline buffer plantings to provide source of food & shelter; protect& restore water quality, maintain baseflows of feeder streams in order to provide source of cooler water	Lakeshore property owners	Modify more for "lakeshore living" the existing "Streamside Living Welcome Wagon" program in which residents welcome new homeowners to the neighborhood and provide information concerning "salmon friendly" yard care, lakeshore planting tips, water-wise gardening.	Medium	WaterTenders Streamside Living Welcome Wagon	Low-Medium
C734	Solid overwater surfaces that create sharp light contrast and dark shadows,	Reduce severity of predation on juveniles	Lakeshore property owners	Explain about mutual value of mesh docks, smaller piling sizes, and community docks to salmon and property owners: Reduced predation for fish; reduced maintenance for homeowners, opportunity to watch small	High		Medium

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
	conditions favored by predators.			fish swimming under the dock, and architectural interest provided by new salmon-friendly elevated dock bridges. Outreach could be carried out, for example, by creating a boat owner education campaign. Mailings could be sent with boat registration tab renewal or with property tax notice for shoreline property owners; by literature at marine, sporting goods and hardware stores, at boat shows; and through workshops to homeowners and marine construction industry. Coordinate outreach through appropriate licensing agencies.			
C735	Sharp light contrast and dark hiding spots created by overwater structures, conditions favored by predators	Reduce severity of predation on juveniles by reducing number of docks.	Lakeshore property owners	Offer financial incentives for community docks in terms of reduced: permit fees, loan fees/percentage rates, taxes and permitting time, in addition to reduced construction costs	High		low
C736	Steep shoreline gradient with coarse aggregate caused by wave action on vertical wall bulkheads	Create sandy, shallow water habitat needed by juveniles.	Lakeshore property owners	Utilize niche marketing to promote a "Build a Beach" campaign. Clarify how hardened shorelines prevent the development of shallow, sandy beaches and how alternative treatments can provide these amenities. Of benefit to salmon and to homeowners desiring more easily accessible shallow beach and aesthetics of a cove. Work with media (including design and lifestyle magazines) and real estate community (articles in real estate sections of papers) as well as construction, and design industry professionals	High	Pro Bono advertising campaign development – The Coalition for Drug Free America ad campaign). Bert the Salmon ads	Variable, but low able to get Pro Bono assistance
C737	Lack of shelter provided by large and small woody debris due to lack of shoreline vegetation; steep dropoffs from shoreline hardening	Reduce conditions favored by predator species.; increase shoreline buffer vegetation and sources for large and small woody debris	Lakeshore property owners	Alternative marketing campaign: work with advertising industry and media. Do a play on "Child Haven" promotion. <i>Fry Haven?</i> Contrast picture of a sandy shallow shoreline containing woody debris hiding Chinook juveniles with that of a deep gravelly shoreline with evil looking predator species lurking, gobbling up young Chinook. [A "Chinook need safe places too" idea]. Possibly graphics in style of <i>Finding Nemo</i> . Create a marketing niche with landscape related industries to inform property owners about feeding requirements of out-migrating salmon off their beach. Validate need for native vegetation along the shoreline in	High	Various Bert the Salmon Ad campaigns	

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
				<p>how it provides food source for fish and other wildlife. Perhaps an "Are you starving your neighborhood salmon?" campaign that addresses impacts of denuding shorelines of woody and emergent vegetation could be developed. Or maybe flip to more positive "Have you fed your neighborhood salmon today?"</p> <p>Heighten awareness that it is the young juvenile fish that are at risk. (Humans are often more receptive to saving children). Possibly do a play on <i>Save the Children</i> charity campaign, showing stressed conditions for juvenile Chinook trying to rear and migrate through lake.</p>			
C738	Lack of appropriate shoreline vegetation, shoreline hardening by vertical wall bulkheads and rip rap walls; docks that create stark light contrast and hiding spots for predators	Reduce conditions favored by predator species by "softening" shoreline; increase shoreline buffer vegetation and sources for large and small woody debris, replace the many docks with more salmon friendly designs	Lakeshore property owners	<p>Demonstration Project. Locate property owner in publicly accessible (or viewable) area willing to remove bulkhead, or shoreline armoring and replace it with more ecologically friendly design. Similarly, renovate existing dock with more salmon-friendly design. Publicize efforts through various means. Demonstration project should contain elements that can be done by average shoreline property owner. Provide information on costs and advantages of alternate treatments.</p>	Medium – High	Redmond River Walk, Juanita Beach, Classic Nursery, Lark Forest Park Stewardship projects	Medium
C739	Coarse substrate, steep slope, dark hiding spots for predators caused by bulkheads and solid surface docks.	Reduce conditions favored by predator species; increase shoreline buffer vegetation and sources for large and small woody debris	Lakeshore property owners, general public	Document video progress on a range of restoration projects from planning to post-construction. Air on government cable channels, in shoreline property owner classes and for libraries, schools, communities groups.	Medium		Variable
C740	Coarse substrate, steep slope, dark hiding spots for	Overcome resistance of shoreline property	Lakeshore property owners,	Combine recreation and education. Organize a Bulkhead Alternatives and Salmon Friendly Dock Design tour to see good examples of design on a residential scale.	Low	King County and People for Puget Sound	Variable

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
	predators caused by bulkheads and solid surface docks.	owners to make such drastic changes to their shorelines by offering local examples of alternative treatments. Ultimate goal is to reduce conditions favored by predator species	general public	Organize as boat tour so properties can be viewed from water (less invasive to property owner). Alternatively, create a self-guided water tour (most shoreline property owners have their own boats) with GPS coordinates to help locate example property.		shoreline homeowner workshops (pilot programs)	
C741	Shoreline hardening, riparian vegetation displaced by lawn, invasives, or exotics with low ecological value, overwater structures creating sharp light contrast, water quality degraded by effects of landscape practices	Protect and improve water quality; habitat quality - or- Protect & restore riparian vegetation to provide terrestrial food source and shelter; protect& restore water quality, maintain instream flows upstream to provide source of cooler water	Landscape Contractors	Offer professional workshops to landscape designers & contractors on environmentally-friendly lakeshore landscaping. Include topics such as shoreline buffer function and design, native plant selection, installation techniques, use of compost to build healthy soils, and noxious weed control. Determine need for training for non-English speaking participants	Medium – High	Washington Assoc of Landscape Professionals (WALP) Trainings by King County Local Hazardous Waste Management Program	Low
C742	Riparian vegetation displaced by lawn. Water quality compromised by garden chemicals, metals, sediment.	Increase shoreline planting; reduce lawn size to at least have buffer between lawn and shore.	Lakeshore property owners	Work with landscape, design, and real estate industries to sell benefit of “privacy” to homeowners. With restoration of shoreline buffer planting homeowners can increase privacy without sacrificing views. Promote idea of “framed views” as a more sophisticated landscape aesthetic.	Medium - High	1998 Lake Sammamish Shoreline Prop owners workshop Pilot Program	
C743	Lack of shoreline buffer vegetation, increased water use when levels lowest;	Increase native vegetation and source of shelter and food for fish;	Lakeshore property owners , Community	Increase number of native plant salvages where landowners can take plants back to their yards. Publicize opportunity to drop off unwanted native plants at various parks surrounding the lake.	Low – Lake Washin gton	King County Native Plant Salvage Program	

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
	increased perceived need for pesticides	reduce erosion and need for supplemental irrigation (once established)			Low-Med Sammamish		
C744	Lack of appropriate shoreline vegetation	Increase shoreline vegetation and reduce non-native vegetation & spread of invasives	Lakeshore property owners	Reduce permit fees (where applicable) for shoreline restoration, removal & replacement of non-native vegetation	Medium		Low
C745	Water quality degraded by toxics, pesticides, increased nutrient loads, sediment from construction sites; loss of riparian vegetation	Protect and improve water quality	General Public	Publicize emergency call numbers for public to report water quality problems, water diversion from lake for irrigation, , non-permitted vegetation clearing, or tree overspray (pesticide) related incidents.	High	King County Water & Land Division, Seattle Public Utilities Hotlines	Low
C746	Reduced forest and canopy cover; increased impervious areas, decreased infiltration; more flashiness of floods due to intensity of runoff	Protect and improve water quality; reduce quantity of water entering lake: during flood conditions can mix with sanitary sewer flows and enter lake.	General public, but property owners in particular	Increase outreach concerning the benefits of trees and basin-wide forest coverage to protect water quality. Include such actions as significant tree ordinance and information that links canopy cover to storm water issues. Provide clarification on hazardous tree issues. Offer seedlings to replant after hazard trees are removed. Coordinate with commercial nurseries to expand outreach about benefits of trees to salmon.	Medium-High	Sammamish ReLeaf; Mountains-to-Sound Greenway; City tree ordinances, King County Forestry Program	Low
C747	Elevated lake temperatures, lack of cool water sources from feeder streams, insufficient flows in feeder streams to provide source of cooler water, lack of ground water recharge, water	Protect forest cover, reduce paving and impervious areas, increase infiltration and conditions that mimic natural hydrology, protect water quality	Design, engineering, and construction industries	Provide education to architects, landscape architects, engineers, and developers on sustainable building/design practices. Work with professional associations to highlight building practices that maintain watershed health, importance of maintaining canopy cover and limiting impervious surfaces. Provide incentives to builders that demonstrate a use ecologically sensitive designs and/or techniques. Provide professional workshop and tours focusing on	Medium - High	WALP Trainings by King County Local Hazardous Waste Management Program. Stoneway	Variable

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
	quality, habitat quality			<p>sustainable building/design practices to architects, landscape architects, engineers and developers. Build partnerships with professional associations to highlight the benefits of practices that maintain watershed health.</p> <p>Promote through design competitions and media coverage the use of "rain gardens" and other low impact development practices that mimic natural hydrology. Combine a home & garden tour or "Street of Dreams" type event featuring these landscape and engineering treatments.</p>		<p>Concrete Council for Sustainable Development outreach on pervious pavement.</p> <p>Port Blakely Communities, Issaquah partnerships, Built Green, Sustainable Seattle, LEEDS</p>	
C748	Reduced forest cover, increased impervious area, decreased infiltration and ground water recharge, water quality degraded by runoff	Protect and improve water quality and quantity to more closely mimic natural hydrology	Developers, Architects, Engineers Building Professionals	<p>Use recognition as a means to encourage more salmon sustainable designs and construction. Coordinate with professional association awards, in addition to popular magazine merit awards. Continue to recognize businesses that carry out procedures or use products that protect watershed health.</p> <p>Promote through design competitions and media coverage the use of "rain gardens" and other low impact development practices that mimic natural hydrology. Combine a home/garden tour or "Street of Dreams" type event featuring these landscape /engineering treatments</p> <p>Create a program that addresses impact of car maintenance and offers alternatives that help protect watershed health and water quality.</p> <p>More actively distribute – poster series developed by multi-jurisdictional Water Quality Consortium. Series depict water quality implications of everyday activities such as car washing, ignoring car maintenance, pet wastes.</p> <p>Work with auto parts retailers and gas stations to increase potential for collection of used motor oil/transmission fluids.</p>	Medium	<p>AIA, ASLA, Sunset Magazine, and Seattle Times Home and Garden awards, King County Enviro Stars.</p>	Low
C749	Water quality degraded by metals, toxins, pesticides, and nutrient overloads	Protect and improve water quality	General Public	<p>More actively distribute – poster series developed by multi-jurisdictional Water Quality Consortium. Series depict water quality implications of everyday activities such as car washing, ignoring car maintenance, pet wastes.</p> <p>Work with auto parts retailers and gas stations to increase potential for collection of used motor oil/transmission fluids.</p>	Medium	<p>King County Local Hazardous Waste Mgmt Program</p> <p>Water Quality Consortium, Businesses for Clean Water</p>	variable

Proj #	Habitat Condition	Desired Outcome	Target Audience	Proposed Action	Priority	Proven Track Record/Model	Level of Financial Commit.
				Make outreach materials available to non-English speakers.			
C750	Water Quality degraded by toxics and metal fines	Protect and restore water quality	General Public	Build partnerships and seek outreach opportunities with commute trip reduction programs to convey the impacts of automobiles on water quality and salmon habitat. Encourage alternative transportation choices.	Medium	Commute Trip Reduction Programs	Low - Medium
C751	Water Quality degraded by toxics and metal fines degraded by metals and toxins	Protect and restore water quality	General Public, schools/non-profits and Charity groups – and business that offer to host a carwash.	Coordinate with local business community to encourage the use of commercial car washes over washing at home on street or in parking lots. Encourage alternatives to charity cash washes via commercial car wash coupon books or extend car wash kits throughout entire watershed. Make requirement that all charity car washes use coupons or car wash storm drain kit. Distribute “alternative community fundraising idea” brochure to volunteer fundraisers.	Medium - High	Yes, various cities’ car wash kit programs. Puget Sound Carwash Association	Low
C752	Water quality degraded by metals and toxins	Protect and restore water quality	Businesses, property management companies, homeowners associations.	Educate and support retail business and homeowner associations on stormwater best management practices specifically related to parking lot cleaning, storm drain maintenance, and boat cleaning.	Medium	Ongoing programs by various jurisdictions within WIRA, e.g. Issaquah, Redmond	Low
C753	Reduced baseflows from streams that feed into lake and subsequent elevated water temperatures in lake	Protect and restore sources of cool water	High end water users and general public	Extend availability of water conservation incentive programs such as rebates for efficient toilets, appliances, soaker hoses, free indoor conservation kits, or free landscape irrigation audits to decrease household and commercial water consumption.	High	Smart & Healthy Landscapes, Water Cents, and other utility incentive programs	Low

APPENDIX E

FUNDING OPPORTUNITIES

Grant Name	Allocating Entity	Web-Site
Acorn Foundation	Acorn Foundation	http://www.commoncounsel.org/Acorn%20Foundation
Allen Family Foundation, Paul G. – Science and Technology Program	Paul G. Allen Family Foundation	http://www.pgafamilyfoundation.org/
Aquatic Lands Enhancement Account (ALEA)	Washington Recreation and Conservation Office	http://www.rco.wa.gov/rcfb/grants/alea.htm
Salmon Recovery Grant Program	Washington Recreation and Conservation Office	http://www.rco.wa.gov/srfb/grants/salmon_recovery.htm
Freshwater Fish Conservation Initiative and other various programs	National Fish and Wildlife Foundation	http://www.nfwf.org/AM/Template.cfm?Section=Fish_Conservation2
Bullitt Foundation	Bullitt Foundation	http://www.bullitt.org/
Water Quality Program	Washington State Department of Ecology	http://www.ecy.wa.gov/programs/wq/funding/FundingPrograms.html
Sea Program	Washington State Department of Ecology	http://www.ecy.wa.gov/programs/sea/sea-grants.htm
Coastal Protection Account	Washington Department of Ecology	
Washington CZM 309 Improvement Grants Program	Washington Department of Ecology	http://www.ecy.wa.gov/programs/sea/czm/309-improv.html
NOAA Restoration Center Partnerships	NOAA Fisheries: Restoration Center	http://www.nmfs.noaa.gov/habitat/restoration/funding_opportunities/funding_nwr.html
Cooperative Endangered Species Conservation Fund	US Fish and Wildlife Service	http://www.fws.gov/endangered/grants/index.html
Doris Duke Charitable Foundation	Doris Duke Charitable Foundation	http://www.ddcf.org/
Fish America Grant Program	Fish America Foundation	http://www.fishamerica.org/grants/
Various	Environmental Protection Agency	http://www.epa.gov/epahome/grants.htm
Landowner incentive program	Washington State Department of Fish and Wildlife	http://wdfw.wa.gov/grants/lip/
King Conservation District Funds	King Conservation District	http://www.kingcd.org/pro_gra.htm

Grant Name	Allocating Entity	Web-Site
The King County Water Quality Block Grant Fund	King County	http://www.kingcounty.gov/environment/grants-and-awards/grant-exchange/waterworks.aspx
King County Community Salmon Fund	National Fish and Wildlife Foundation	http://www.kingcounty.gov/environment/grants-and-awards/grant-exchange/waterworks.aspx
King County Flood Control District	King County	http://www.kingcounty.gov/environment/waterandland/flooding/flood-control-zone-district.aspx