

APPENDIX C
SHORELINE RESTORATION PLAN

Approved by the Kenmore City Council, Ordinance 10-0312
Approved by the Washington State Department of Ecology,
March 2012

TABLE OF CONTENTS

1	Introduction and Background	1
2	Watershed Overview	9
	Lake Washington	9
	Sammamish River.....	10
	Swamp Creek.....	11
3	Restoration Goals and Opportunities.....	15
4	Restoration Actions	21
	Programmatic Actions	21
	Reach-Specific Restoration or Protection Actions	22
	Recommended Restoration and Protection Actions	27
	Lake Washington	27
	Programmatic Action	27
	Peninsula Area (LakePointe Property) off 68th Avenue (Lake_WA_03)	28
	Inglewood Golf Course and Adjacent Properties (Lake_WA_02 and SAMM_RV_01).....	28
	Stream 0056 Adjacent to Log Boom Park (Lake_WA_04).....	29
	Sammamish River.....	29
	Programmatic Action	29
	Boat Launch and Adjacent Wetlands (SAMM_RV_01)	30
	Swamp Creek Park Habitat Restoration (SAMM_RV_03)	30
	Swamp Creek.....	30
	Lower Swamp Creek (SWAM_Ck_01).....	30
	Swamp Creek Wetland Complex (SWAM_Ck_03)	30
	Wallace Swamp Creek Park/Northern Swamp Creek (SWAM_Ck_04).....	31
	Implementation of Restoration Actions	31
5	Organizations and Funding.....	33
6	References.....	36

TABLES

Table 1. Examples of Protection and Restoration Actions for Shoreline Areas.....	2
Table 2. Table of Restoration Opportunities (as summarized in ESA Adolfson 2008).	18
Table 3. Recommended restoration and protection actions for City of Kenmore Shorelines.....	25
Table 4. Organizations potentially providing support for Kenmore restoration activities.	33
Table 5. Potential funding sources.....	34

MAPS

Map 1: Watershed Scale.	5
Map 2: Shoreline Planning Areas.	7
Map 3: Parks, Open Space and Public Access.....	13
Map 4. Shoreline Restoration Opportunities	23

Introduction and Background

The City of Kenmore (City) is updating its Shoreline Master Program (SMP) to comply with the requirements of the Washington State Shoreline Management Act (SMA or the Act) (Revised Code of Washington [RCW] 90.58) and the state's shoreline guidelines (Washington Administrative Code [WAC] 17 3-26 Part III).

Kenmore is located in King County Washington, at the north end of Lake Washington where the Sammamish River enters the lake (Map 1).

This restoration plan is an important part of the City's SMP and was developed to meet the requirements of the Washington State Department of Ecology (Ecology) and Washington Administrative Code Title 173 Chapter 26 Section 201. Ecology dictates that shoreline restoration plans:

...shall include goals, policies and actions for restoration of impaired shoreline ecological functions...and should be designed to achieve overall improvements in shoreline ecological functions over time. (WAC 173-26-201(2)(f)).

This restoration plan builds on the 2008 *Draft Kenmore Shoreline Master Program Update: Inventory and Analysis* (ESA Adolfson 2008) and provides a framework for implementing the SMP goals and policies for restoration. The plan also describes how future restoration efforts may be integrated with existing work being done by local agencies, non-governmental organizations (NGO's) and private citizens.

The objectives of this report are to:

- Identify the City of Kenmore's shoreline restoration **goals**
- Describe potential restoration **opportunities** and recommend specific restoration **actions**
- Identify potential **partners** and existing restoration activities
- Explain how future restoration actions can be **implemented** to achieve the greatest overall benefit

The Kenmore region includes some of the most intensely developed land within Washington State (ESA Adolfson 2008a). More than 50 percent of the land area in the city is single-family residential development, with multi-family and commercial development on the rise (ESA Adolfson 2008a). This urbanization has degraded shoreline ecology in many parts of the city. It also fragments habitat, contributes to pollution of the shoreline and waters of the state, and limits available sites for restoration due to land costs and other economic factors.

This restoration plan describes goals and opportunities for both protection and restoration of shorelines within Kenmore. Restoration and protection are both critical components for maintaining ecosystem functions in developed or developing areas.

“Protection” is attained through policies and regulations that shield resources from possible damage caused by future development; for example, land use restrictions and special designations may be used to protect specific areas. Protection is generally accomplished through regulatory measures, such as prohibiting or restricting development (ESA Adolfson 2008b), although protection can also be accomplished through acquisition and management.

“Restoration” generally means to return an ecosystem to an earlier, often pristine or native condition, but it can also encompass rehabilitation, enhancement, and reclamation of an area. In the context of shoreline master plans, "restoration" has been defined as:

...the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including, but not limited to, revegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions. (WAC 173-26-020.27)

Table 1 provides examples of typical protection and restoration actions applied to shorelines in the Puget Sound region.

Table 1. Examples of Protection and Restoration Actions for Shoreline Areas.

Common Protection Actions	Common Restoration Actions
<ul style="list-style-type: none"> ▪ Treating stormwater runoff using best management or low impact development practices to reduce pollutants ▪ Maintaining existing wetlands ▪ Preventing development in areas containing high quality habitat ▪ Establishing buffer and setback requirements ▪ Protecting/preserving existing trees/vegetation ▪ Protecting water quality by limiting pesticide/fertilizer use ▪ Regulating groundwater withdrawals ▪ Limiting construction of new docks, bulkheads, and staircases ▪ Clustering residential development away from sensitive resources ▪ Preserving property through easement or acquisition ▪ Limiting the amount of new impervious surface and managing runoff to mimic natural conditions 	<ul style="list-style-type: none"> ▪ Removing dikes and setting levees back ▪ Replacing bulkheads with soft shore stabilization structures (e.g., bio-stabilization) ▪ Replanting/enhancing riparian vegetation ▪ Replacing blocked or undersized culverts ▪ Removing fill from wetlands ▪ Removing invasive species ▪ Replacing dock decking with open grating material to allow light penetration ▪ Replacing treated wood docks with nontoxic materials ▪ Retrofitting existing impervious surfaces to include stormwater treatment and flow control ▪ Adding large woody debris or engineered log jams to streams ▪ Replacing pavement with pervious pavement (such as at parks/boat launches) ▪ Relocating infrastructure outside sensitive habitats

In comparison to protection, restoration involves taking proactive, on-the-ground steps to restore ecological functions which may have become degraded as a result of past development or land use activities. For example, the restoration component of SMPs centers around opportunities to restore ecological functions through actions that improve water quality, improve fish and wildlife habitat, or restore natural processes such as beach erosion and sediment transport. Additionally, restoration actions often occur in phases and are an ongoing process that may take years to complete (ESA Adolfson 2008b).

In general, protection should be the goal for areas in already excellent ecological condition, while restoration measures should be focused on areas that are degraded and restoration is both feasible and sustainable (National Research Council 2002).

Specific protection and restoration opportunities in the Kenmore area are considered in Chapter 5, Shoreline Management Issues and Opportunities, in the *Inventory and Analysis* (ESA Adolfson 2008a) and provided a basis for developing the restoration recommendations included in this plan. The Kenmore SMP addresses three water bodies that are classified as “shorelines of the state”: Lake Washington, Sammamish River, and Swamp Creek. The SMP divides each of the geographic regions or water bodies into shoreline planning areas (or reaches), based on changes in the physical and biological composition (Map 2). The water bodies are discussed in detail in the *Inventory and Analysis*, and summarized in Section 2 (below). This plan uses the reach names used in the Kenmore SMP.

Additionally, tributary streams that contribute to the general health and function of waters that are designated shorelines of the state are considered in this restoration plan. Tributary streams can affect large areas of the watershed, smaller streams, connected wetlands, and ground water. In particular, this plan addresses a small stream (Stream 0056) that flows into Lake Washington. Stream 0056 is included in this plan as it plays a significant role in the quality and availability of aquatic habitat within Lake Washington shoreline reach 4 (Lake_WA_04) (Map 2).

Although this plan focuses primarily on restoration activities, protection measures can also contribute toward achieving general restoration goals. Protection of existing shoreline habitat and the associated ecological functions that it provides may reduce the need for future restoration activities or reduce the level of effort required to achieve restoration goals. Specific restoration actions recommended for shorelines within Kenmore are identified in Section 4 of this plan.

Must fall on odd-numbered page-
Map 1: Watershed Scale.

11x17

Next page blank for back of 11x17 Map 1

Must fall on odd-numbered page

Map 2: Shoreline Planning Areas.

11x17

Next page blank for back of 11x17 Map 2

Watershed Overview

The following background information is summarized from the *Kenmore Shoreline Master Program Update: Inventory and Analysis* (ESA Adolfson 2008a) and provides an overview of the watershed in and around Kenmore.

Kenmore is situated in the Puget Sound Lowlands, in the Cedar-Sammamish Watershed Resource Inventory Area (WRIA) 8. The watershed extends from southwest Snohomish County to the north and the Sammamish Plateau and headwaters of the Cedar River in the Cascade Mountain Range to the east and south (Map 1). The Lake Washington drainage includes waters from the Cedar and Sammamish Rivers, and Lake Union. It eventually drains into the Puget Sound.

Lake Washington

Lake Washington covers approximately 35 square miles and drains an area of roughly 470 square miles. The lake water level is controlled to fluctuate 2 feet throughout the year (high water levels in May and June). There are no mapped floodplains on the lake. Three and a half miles of lake shoreline, representing approximately 100 acres of shoreline planning area, are within Kenmore. This shoreline area has been divided into four reaches for the purpose of the SMP.

Contributing streams within Kenmore include the Sammamish River and its tributaries, Stream 0056 (discussed below), and several other small, unnamed tributaries. Landslide hazards are common in the region, which result in potential for significant erosion. Topography includes low lying south-facing slopes and steeper west-facing slopes.

Significant portions of shoreline have been altered by localized dredging, residential docks and piers, and armoring. There are at least 61 docks (90 percent of the properties) within the most developed reach (Lake_WA_02) of the Kenmore shoreline (Map 2). There are several parks in the area, including Saint Edward State Park, Inglewood wetlands and Log Boom Park (also known as Tracy Owen Station Park) (Map 3).

Lake Washington is included on the Washington State list of impaired waters (known as the 303(d) list) due to high phosphorus concentrations and PCBs (Ecology 2009). The high phosphorus concentrations in the vicinity of Kenmore have been attributed to high loading of phosphorus from the Sammamish River (King County WLRD 2005). Several noxious and invasive plants, such as Eurasian water-milfoil (*Myriophyllum spicatum*) and Brazilian elodea (*Egeria densa*), are present in the area.

The Kenmore area waters and shoreline support an abundance of fish and wildlife. Approximately 30 fish species, including native trout and salmon, use the lake for rearing, migration, and/or spawning. Notable shoreline habitat dependent species include great blue herons (*Ardea herodias*), bald eagles (*Haliaeetus leucocephalus*), and pileated woodpecker (*Dryocopus pileatus*), which use the area for breeding grounds.

A small fish-bearing stream (Stream 0056) enters Lake Washington in the vicinity of Kenmore. Although Stream 0056 is not classified as a “shoreline of the state”, the

tributary is important to the Kenmore community and to connected shoreline habitat, and has therefore been included in this plan. The stream headwaters originate north of 181st Street. The stream flows under Bothell Way (SR 522) and discharges into Lake Washington near Log Boom Park (Map 2). Stream bank erosion is contributing to elevated suspended sediments and sedimentation in the stream channel. Near the stream's mouth, the banks are heavily developed and native vegetation is essentially absent, which is likely accelerating the rate of erosion at this location. In addition, an existing weir may prevent fish from entering the stream, thus reducing the availability of habitat for fish.

Stream 0056 and other small streams that flow into Lake Washington have been affected by upstream changes in land use, such as the increase in impervious surface, that have increased stormwater runoff and sediment inputs to the lake. These land use changes in the basins draining to the shoreline have altered the intensity, timing and duration of peak flows, causing erosion and impacts to shoreline processes and functions.

Sammamish River

The mainstem of the Sammamish River is approximately 14 miles long. The river originates at Lake Sammamish and discharges into the northeast section of Lake Washington. Approximately 1.8 miles and 144 acres of shoreline planning area are within Kenmore. There are three reaches of the Sammamish River within Kenmore. Tributaries to the Sammamish include Swamp Creek, Bear Creek, Little Bear Creek, Issaquah Creek and other unnamed tributaries. Associated wetlands also exist in the area. However, approximately 95 percent of historic wetlands were filled when the Lake Washington Ship Canal was constructed in the early 1900s (WRIA 8 Steering Committee 2005).

Historical land-use practices and activities have confined the lower Sammamish River to a straight channel; bulkheads, piers and docks line the shoreline. The entire river was dredged and widened as part of a 1966 flood control project (King County WLRD 2006). Inglewood wetlands, Rhododendron Park, and Swamp Creek Park are all adjacent to the river (Map 3). Additionally, a public boat launch maintained by WDFW is located near the mouth of the river (Map 3).

Development along most reaches of the river consists of a mix of residential and open space. The river banks are generally stable in this area and have adequate vegetation. However, the highly invasive weed reed canarygrass is present in numerous areas along the shore. One reach (SAMM_RV_03) has an unstable slope that may represent a landslide and erosion hazard (ESA Adolphson 2008a). The river supports several fish and wildlife species including salmonids, which use the river for rearing and migration, and a great blue heron colony.

The Sammamish River has generally poor water quality and is included on the Washington State list of impaired waters (known as the 303(d) list) due to low concentrations of dissolved oxygen, high summertime temperatures, and high concentrations of fecal coliform bacteria.

Swamp Creek

The mainstem of Swamp Creek is approximately 14.6 miles long. The creek's headwaters originate in wetlands south of Everett, then flow into Sammamish River, within Kenmore. There are approximately 2.5 miles of creek and 230 acres of shoreline planning area within the City that are associated with Swamp Creek. Four reaches of Swamp Creek lie within the City's SMP planning area. Tributaries include Little Swamp Creek, Muck Creek, and an unnamed stream. Two parks in the vicinity include Swamp Creek Park and Wallace Swamp Creek Park (Map 3).

The Swamp Creek watershed contains some of the highest quality wetlands in the Kenmore area. Approximately 137 acres of associated wetlands are in the shoreline planning area; these primarily lie within the two upper reaches of the creek. The reach nearest the Sammamish River (SWAMP_CK_01) contains large patches and frequent smaller occurrences of several invasive species, whereas the two upper sections (SWAMP_CK_03 and SWAMP_CK_04) generally contain native vegetation with a few pockets of invasive plants. These latter reaches are classified in the highest category of wetlands. The middle reach (SWAMP_CK_02) consists of a mix of residential development and open space.

All reaches are relatively stable; therefore, erosion and landslide hazards are not of significant concern (ESA Adolfson 2008a). Water quality may be degraded by upstream erosion, sediment discharge, runoff and other upstream sources. Swamp Creek is included in Ecology's list of impaired waters (i.e., the 303(d) list) due to elevated temperature and low dissolved oxygen concentrations.

The river and shoreline supports numerous fish and wildlife species. Trout and several salmonid species use the river for migration and rearing. Other wildlife in the area includes a great blue heron colony and state listed purple martin (*Progne subis*).

Must fall on odd-numbered page

Map 3: Parks, Open Space and Public Access.

11x17

Next page blank for back of 11x17 Map 3

Restoration Goals and Opportunities

The Kenmore SMP has been developed in accordance with statewide policies established in the Shoreline Management Act (RCW 90.58.020). Protecting the shoreline environment is an essential statewide policy goal, consistent with other policy goals. The SMP protects shoreline ecology by developing an inventory that ensures a meaningful understanding of current and potential ecological functions provided by shorelines, and by regulating development in a manner that ensures no net loss of ecological functions from direct or cumulative impacts of development. The SMP also recognizes that the shoreline ecology is already degraded in many areas of Kenmore and that long term sustainability of ecological functions is only achievable if restoration of those natural functions is accomplished over time. The SMP includes the following policy statement to support that overall goal:

Restoration and Enhancement

Shoreline habitat and natural systems enhancement projects should be supported and coordinated with other plans and regulations, such as salmon conservation plans, the King County Flood Hazard Reduction Plan and Flood Control Zone District, and flood hazard management policies in the Kenmore Comprehensive Plan Natural Environment Sub-Element and Surface Water Element.

Policy LU-24.7.1 Kenmore should allow for habitat and natural systems enhancement projects that include, but are not limited to:

1. Modification of vegetation;
2. Removal of nonnative or invasive plants;
3. Shoreline stabilization using soft or non-structural techniques; and
4. Dredging, and filling, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological processes and functions of the shoreline.

Policy LU-24.7.2 Habitat and natural systems enhancement projects should ensure that the projects address legitimate restoration needs and facilitate implementation of Kenmore's Shoreline Restoration Plan.

Conservation

Policy LU-21.1.3 Where appropriate, land and water uses should be located so that they do not interfere with the restoration or enhancement of shoreline ecological processes and functions.

Critical Freshwater Habitat

Policy LU-21.5.1 Kenmore should establish priorities for protection and restoration, where appropriate, along river corridors and lake shorelines.

Policy LU-21.5.4 Kenmore should facilitate authorization of appropriate restoration projects.

Shoreline Stabilization

Policy LU-24.2.22 Kenmore shall ensure that publicly financed or subsidized shoreline erosion control measures do not restrict appropriate public access to the shoreline, except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological processes and functions. Where feasible, Kenmore shall require ecological restoration and public access improvements to be incorporated into the project.

Fill

Policy LU-24.4.2 Kenmore shall allow fill waterward of the ordinary high-water mark only when necessary to support:

1. Water-dependent use;
2. Public access;
3. Cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan;
4. Disposal of dredged material considered suitable under, and conducted in accordance with, the dredged material management program of the Washington Department of Natural Resources;
5. Expansion or alteration of SR 522 in the shoreline and then only upon a demonstration that alternatives to fill are not feasible; or
6. Mitigation actions, environmental restoration, beach nourishment, enhancement projects and flood risk reduction projects.

Policy LU-24.4.3 Kenmore shall require a shoreline conditional use permit for fill waterward of the ordinary high-water mark for any use except ecological restoration and maintenance, repair and replacement of flood protection facilities.

Dredging

Policy LU-24.6.3 Kenmore shall not allow dredging waterward of the ordinary high-water mark for the primary purpose of obtaining fill material, except when the material is necessary for the restoration of ecological processes and functions. When allowed, the site where the fill is to be placed shall be located waterward of the ordinary high-water mark. The project must be either associated with a habitat restoration project under the Model Toxics Control Act or the Comprehensive Environmental Response, Compensation, and Liability Act, or, if approved through a shoreline conditional use permit, any other significant habitat enhancement project.

Policy LU-24.6.9 Disposal of dredge and excavation spoils within shorelines should be prohibited except when the material is necessary for the restoration of ecological processes and functions.

Aquaculture

Policy LU-23.3.7 Community restoration projects associated with aquaculture should be reviewed and permitted in a timely manner.

Commercial

Policy LU-23.5.2 Kenmore shall prohibit nonwater-oriented commercial uses in the shoreline jurisdiction unless they meet the following criteria:

1. The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as providing public access and/or ecological restoration; or
2. Navigability is severely limited at the proposed site and the commercial use provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as providing public access and/or ecological restoration.

Industrial

Policy LU-223.6.3 Kenmore should encourage redevelopment, environmental clean up and shoreline restoration on existing industrial sites.

Policy LU-23.6.4 Kenmore should prohibit new nonwater-oriented industrial development in the shoreline jurisdiction, except when the use is part of a mixed-use project that includes water-dependent uses or the use provides a significant public benefit with respect to the Shoreline Management Act's objectives, such as providing public access and/or ecological restoration.

Table 2 summarizes restoration opportunities identified for various shorelines within Kenmore. Specific reaches to which the restoration opportunity applies are indicated. Restoration *opportunities* are general activities that correspond with potential improvements to ecological structure or functions. They are not restoration *actions* (described later in this plan [Section 4]). However, they provide a foundation for identifying and prioritizing specific restoration actions, and represent the linkage between restoration goals and recommended actions.

Table 2. Table of Restoration Opportunities (as summarized in ESA Adolfson 2008).

Lake Washington Reaches					
Restoration Opportunities	Functions Improved	Reaches			
		01	02	03	04
Riparian enhancement	<ul style="list-style-type: none"> ▪ Increased input of detritus and insects from shoreline vegetation ▪ Increased large woody debris ▪ Improved wildlife habitat ▪ Reduction of invasive plant species extent and potential for future spread 		X	X	X
Protection of wetlands that drain to lake tributaries	<ul style="list-style-type: none"> ▪ Attenuation of stormwater flows ▪ Filtration of sediments ▪ Improvement of stormwater quality (nutrients, fecal coliform, chemicals) 	X	X	X	
Removal or improvement in the design of docks and other overwater structures, for example, by using light-permeable dock surfaces or community docks	<ul style="list-style-type: none"> ▪ Improve rearing and migratory habitat for juvenile fish ▪ Reduce potential for water quality contamination from leaching of chemically treated wood ▪ Reduce overwater shading that may attract juvenile salmonid predators 		X	X	X
Restoration of armored shorelines, for example through reducing shoreline slope, revegetating with native species	<ul style="list-style-type: none"> ▪ Allow natural sediment movement from upland areas to shorelines ▪ Improve conditions for growth of riparian vegetation ▪ Improve nearshore foraging habitat for fish ▪ Provide large wood and nutrient inputs to lake ▪ Restore shallow-water emergent wetland areas 		X	X	X
Restoration of smaller tributary streams	<ul style="list-style-type: none"> ▪ Improve fish access to tributaries ▪ Reconnect and enhance the mouths of small streams as juvenile salmon rearing areas ▪ Protect and restore riparian buffers along streams ▪ As redevelopment occurs throughout the basins draining to Kenmore’s shorelines, ensure that stormwater regulations are enforced to reduce water quality and high flow impacts. 		X	X	
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> ▪ Potential for incremental improvement in all the above functions 		X		

Sammamish River Reaches				
Restoration Opportunities	Functions Improved	Reaches		
		01	02	03
Riparian enhancement	<ul style="list-style-type: none"> ▪ Increased input of detritus and insects from shoreline vegetation ▪ Increased large woody debris ▪ Improved wildlife habitat ▪ Reduction of invasive plant species extent and potential for future spread ▪ Improved shading and incremental reduction of stream temperatures 	X	X	X
Restoration and reconnection of floodplain wetlands	<ul style="list-style-type: none"> ▪ Attenuation of stormwater flows ▪ Filtration of sediments ▪ Improvement of stormwater quality (nutrients, fecal coliform, chemicals) ▪ Improvement of habitat for wetland-dependent wildlife species 	X	X	X
Removal or improvement in the design of docks and other overwater structures, for example, by using light-permeable dock surfaces or community docks	<ul style="list-style-type: none"> ▪ Improved rearing and migratory habitat for juvenile fish ▪ Reduced potential for water quality contamination from leaching of chemically treated wood ▪ Reduced overwater shading that may attract juvenile salmonid predators 	X	X	X
Restoration of armored shorelines, for example through reducing shoreline slope, revegetating with native species	<ul style="list-style-type: none"> ▪ Restored natural sediment movement from upland areas to shorelines ▪ Improved conditions for growth of riparian vegetation ▪ Improved nearshore foraging habitat for fish ▪ Increased large wood and nutrient inputs to river ▪ Restored floodplain wetland areas 	X	X	X
Restoration of smaller tributary streams	<ul style="list-style-type: none"> ▪ Improved fish access to tributaries ▪ Reconnected and enhanced the mouths of small streams as juvenile salmon rearing areas ▪ Protected and restored riparian buffers along streams ▪ Reduced water temperatures of tributaries thereby providing incremental improvement in river temperature 	X	X	X

Sammamish River Reaches					
Restoration Opportunities	Functions Improved	Reaches			
		01	02	03	
Creation of pools in river channel downstream of tributaries	<ul style="list-style-type: none"> Improved refuge and cover for salmon 		X	X	
Education of recreational users of river	<ul style="list-style-type: none"> Reduced impacts of recreational use – invasive aquatics, pollution, noise 	X	X	X	
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	
Education of shoreline property owners on ways to restore and protect shoreline areas	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	
Swamp Creek Reaches					
Restoration Opportunities	Functions Improved	Reaches			
		01	02	03	04
Riparian enhancement	<ul style="list-style-type: none"> Increased input of detritus and insects from shoreline vegetation Increased large woody debris Improved wildlife habitat Reduction of invasive plant species extent and potential for future spread Improved shading and incremental reduction of stream temperatures 	X	X	X	X
Restoration and preservation of floodplain wetlands	<ul style="list-style-type: none"> Attenuation of stormwater flows Filtration of sediments Improvement of stormwater quality (nutrients, fecal coliform, chemicals) 			X	X
Restoration of smaller tributary streams	<ul style="list-style-type: none"> Improved fish access to tributaries Reconnected and enhanced the mouths of small streams as juvenile salmon rearing areas Protected and restored riparian buffers along streams 			X	X
Preservation of remaining natural areas, for example through acquisition or easement	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 			X	X
Education of shoreline property owners on ways to restore and protect shoreline areas	<ul style="list-style-type: none"> Potential for incremental improvement in all the above functions 	X	X	X	X

Restoration Actions

Restoration actions are specific recommendations derived from potential opportunities identified in the draft Kenmore SMP Update *Inventory and Analysis* (ESA Adolfson 2008a), an October 2008 site review, discussion with local and state resource agencies and Kenmore community members, as well as pertinent scientific literature and restoration guidance documents. In order to achieve restoration goals, it is important to pursue programmatic efforts that may contribute to restoration of ecological functions on a broader scale across all shorelines and the region in general, in addition to implementing reach-specific or project-specific restoration actions.

Map 4 provides an overview of the restoration opportunities recommended below.

Programmatic Actions

The following programmatic actions are applicable to most jurisdictions with shoreline area. Many of these actions are appropriate to apply at a watershed-wide scale rather than just in the designated shoreline area. The City of Kenmore should:

- Establish a City of Kenmore “shoreline” homeowners association or interest group to support shoreline stewardship, to promote environmentally friendly use of shorelines, and to provide a pathway for public participation in implementing the SMP restoration plan.
- Support implementation of stormwater treatment and control strategies throughout the watershed, including existing Kenmore regulations and improved regulations to be developed in 2010. Encourage, through incentives or local regulations, Low Impact Development (LID) practices for new development and retrofit of existing properties within the watershed. Retrofitting could include on-site stormwater detention for new or redeveloped sites to mimic the natural hydrologic cycle for the basin.
- Work with WSDOT and County roads departments to identify undersized or poorly installed culverts and other road maintenance needs. Create a list of prioritized needs for the City and track progress on completion.
- Provide educational workshops and an incentives program for City residents, property owners, and developers on proper shoreline stewardship practices, landscape care and integrated pest management (IPM) techniques.
- Establish a routine survey program for invasive species (including aquatic and terrestrial noxious weeds) for all shorelines, parks and other natural areas. Develop and implement a city-wide IPM plan to identify appropriate control measures for each weed type for different levels of infestation.

- Develop a program to remove existing rip-rap and other bank hardening structures on public property where feasible.
- Promote bulkhead, dock, and ramp replacements to improve their design. For new or replacement structures, encourage or require design standards that reduce impacts on habitat. For example, new structures should be required to meet NOAA guidance on dock design, including decreasing the dock footprint, increasing light penetration, and encouraging the use of joint or community docks. For docks and bulkheads, the City may develop local standards to incorporate guidance already available for Lake Washington shorelines (City of Seattle 2009).
- Remove any creosote treated wooden piles and structures from the shoreline environment. Replace with concrete, steel or other materials if a structure is needed.
- Increase shoreline and channel habitat structure along all publicly owned properties. This should include placement of large boulders or logs and other large woody debris, establishing native vegetation including shrub and tree canopy to shade the nearshore zone, and providing for future habitat by planting larger tree species at regular intervals.

Reach-Specific Restoration or Protection Actions

Restoration actions of site-specific importance are summarized in Table 3. The table includes actions that may be implemented to restore specific shorelines included in this plan. Recommended actions are grouped by reach. Site-specific recommendations as well as programmatic recommendations of particular importance to a specific reach or site within the reach are provided.

Map 4. Shoreline Restoration Opportunities

Table 3. Recommended restoration and protection actions for City of Kenmore Shorelines.

Reach	Recommended Restoration Action	Associated Goals and Policies
Lake Washington		
Lake_WA_01	<ul style="list-style-type: none"> ▪ Maintain intact forest and riparian habitat structure at St. Edward State Park. 	Goal 21.1 Policy LU-21.1.4 Policy LU-21.2.1 Policy LU-17.4.1 Policy LU-17.4.5 Policy LU-21.5.1
Lake_WA_02	<ul style="list-style-type: none"> ▪ Add shoreline structure (e.g., overhanging trees and shrubs and large woody debris) in NE Arrowhead Drive and 59th Avenue NE cove area. ▪ Encourage replacement of residential docks with structures that better address habitat requirements, such as use of grated decking, nontoxic materials, and minimizing overwater coverage in shallow water areas. ▪ Encourage the replacement of bulkheads with softer stabilization methods that include better habitat value, such as creating shallow water areas and providing overhanging vegetation. ▪ Promote the development of a riparian buffer along the golf course through education and voluntary action. ▪ Enhance adjacent riparian areas to reduce fragmentation of existing wetland habitat (create one contiguous wetland area) for the Inglewood Wetlands. ▪ Promote improved stormwater control in basins draining to the shoreline through implementation of existing or new stormwater regulations as development occurs. 	Policy LU-17.2.1 Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.4.2 Policy LU-23.10.2 Policy LU-24.2.11 Policy LU-24.3.6 Policy LU-24.7.1 Policy LU-21.5.1 Policy LU-21.5.4
Lake_WA_03	<ul style="list-style-type: none"> ▪ Create a master plan for the long term development of the LakePointe property (near 68th Street) that provides for a protected riparian corridor with enhanced vegetation. ▪ Remove debris and derelict equipment within the LakePointe property shoreline. Survey this area and other commercial and industrial areas for debris, including submerged material, that should be removed from the shoreline zone. ▪ Promote reduction in impervious surface and re-establishment of riparian vegetation along the shoreline at the Kenmore Air Harbor Marina. ▪ Promote improved stormwater control in basins draining to the shoreline through implementation of existing or new stormwater regulations as development occurs. 	Policy LU-17.1.5 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

Reach	Recommended Restoration Action	Associated Goals
Lake_WA_04	<ul style="list-style-type: none"> ▪ Develop and implement a stream stabilization and rehabilitation plan for the mouth of Stream 0056 near Log Boom Park. This should include modifications to improve fish passage. The plan should also include the establishment of riparian vegetation and installation of wood pieces to improve the link between terrestrial and aquatic habitat, and to improve refuge and foraging opportunities for fish. ▪ Maintain established wildlife trees at Log Boom Park. ▪ Introduce additional native vegetation in Log Boom Park, specifically between the park and Harbor Village Condominiums to create a longer riparian corridor. Include this area in a general invasive vegetation survey and removal program. ▪ Add shoreline habitat structure (e.g., boulders, logs and large woody debris, and overhanging vegetation) in cove area near Log Boom Park. ▪ Replace SR 522 culvert to proper size in order to improve Stream 0056. 	Policy LU-17.3.12 Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Sammamish River		
Samm_Rv_01	<ul style="list-style-type: none"> ▪ Maintain existing habitat on the island near Inglewood wetlands/stream mouth. ▪ Develop a plan for Inglewood wetlands to manage them as one contiguous wetland area through cooperation with adjacent property owners and/or additional City acquisition. ▪ Work with WDFW to improve boat launch area, including possible installation of equipment wash facilities to reduce the spread of invasive plants, protecting and restoring the adjacent wetland areas, and enhancing the area with larger riparian plants such as willows. 	Policy LU-17.3.1 Policy LU-21.1.2 Policy LU-21.3.1 Policy LU-19.3.1 Goal 21.4 Policy LU-21.5.1 Policy LU-21.5.4
Samm_Rv_02 and Samm_Rv_03	<ul style="list-style-type: none"> ▪ Install large woody debris where possible to promote pooling and habitat diversity within the channel. ▪ Encourage the establishment of additional vegetation in the riparian buffer as redevelopment occurs. ▪ Create off-channel habitat at Swamp Creek Park. ▪ Eliminate barriers to fish passage at the mouths of small streams on the south side of the river by modifying culverts or daylighting the streams, if feasible. 	Policy LU-17.2.1 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.3 Policy LU-21.5.4
Swamp Creek		
Swam_Ck_01	<ul style="list-style-type: none"> ▪ Remove reed canarygrass and regrade area to enhance wetland formation. 	Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Swam_Ck_02	<ul style="list-style-type: none"> ▪ Remove creosote-treated wooden pilings from the Burke-Gilman pedestrian bridge adjacent to SR 522. Consider replacing the existing pedestrian bridge with a clear-span bridge. ▪ In the vicinity of the pedestrian bridge and the nearby SR 522 (bridge and road construction area) remove invasive vegetation such as Japanese knotweed and improve habitat structure through bank grading, placement of LWD, and installation of native riparian vegetation. 	Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

Reach	Recommended Restoration Action	Associated Goals
Swam_Ck_03	<ul style="list-style-type: none"> ▪ Control and monitor encroaching invasive plants, including Japanese knotweed, Himalayan blackberry, and Scots broom below 73rd Avenue bridge and in upland buffer areas. ▪ Remove ecology blocks and other material remaining from flood damage repairs and replace with large woody debris. 	Policy LU-17.2.1 Policy LU-17.3.1 Policy LU-17.3.11 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4
Swam_Ck_04	<ul style="list-style-type: none"> ▪ Remove concrete and asphalt debris from stream channel in Wallace Park area. ▪ Remove extensive Japanese knotweed and Scot’s broom in Wallace Park and surrounding area. ▪ Commit to a long term strategy for identification and removal of invasive plants. 	Policy LU-17.3.1 Policy LU-17.3.11 Policy LU-21.3.1 Policy LU-21.5.1 Policy LU-21.5.4

Recommended Restoration and Protection Actions

Restoration actions were selected based on field review, discussions, and literature mentioned previously, as well as comments received in response to the December 2008 Technical Memorandum regarding restoration opportunities (Herrera 2008). Restoration opportunities should be periodically re-evaluated to respond to changes in land use designations, project status (i.e., completion and success level), community support, funding availability, and overall feasibility. The City should continue to work with local programs, agencies, citizens, and scientists to identify activities that would produce the most benefit for the restoration of ecological functions. The following general guidance may be used to prioritize restoration actions:

- Areas of high importance (for ecological processes and functions) are higher priorities for restoration than areas of low importance (Adolfson 2003b)
- Areas of low alteration (i.e., low level of development) are higher priorities for preservation than highly altered areas (i.e., urbanized or developed) (Adolfson 2003b)
- Projects with high overall feasibility (e.g., projects that have available funding, political and community support, and site access) are generally higher priorities for restoration than less feasible projects (Bellingham 2008)

Lake Washington

Programmatic Action

Important programmatic activities for the Lake Washington shoreline are associated with impacts from docks and establishment of vegetation in the nearshore (riparian) zone. Many docks and piers that line the shoreline of the lake are impairing shoreline function

by creating a light and dark interface that increases predation on salmon, and by reducing riparian cover and altering wave energy. New docks or replacement docks should be required to meet NOAA Fisheries standards such as those that limit size, and rely upon light permeable decking. Shoreline vegetation is also lacking on residential properties. An education program for water-front property owners that focuses on the benefits of shoreline vegetation, low-maintenance shoreline landscape designs, and integrated pest management should also be implemented. Shoreline development practices such as those described in the City of Seattle “Green Shorelines” publication (City of Seattle 2009) that reduce the impacts of bulkheads and docks should be encouraged through incentives or regulation.

Although difficult to implement, these actions are fairly simple and could make significant differences to shoreline structure and quality. While implementation of these actions is typically slow and piecemeal, they have the advantage of being highly feasible (over time). In fact, new dock design requirements have already been implemented.

Peninsula Area (LakePointe Property) off 68th Avenue (Lake_WA_03)

The shoreline in this area has been extensively modified; it is largely armored, derelict materials are located in the nearshore area, and there is little, if any shoreline vegetation. Removal of impervious surface, shoreline armoring and restoring the riparian vegetation, in addition to controlling or eradicating invasive vegetation are recommended. Strategic placement of large woody debris or other structures in the nearshore zone are recommended in order to provide improved habitat. Soil testing, site clean-up, bank sloping, and design and implementation of an aggressive plan for vegetating the site should occur. This parcel has been identified for restoration because it could result in creation of a fairly large, contiguous habitat area which typically results in higher relative value toward restoration of ecological functions than restoring many, smaller, separate parcels. Proposed development for a portion of this shoreline also provides a significant restoration opportunity to improve the quality of the shoreline environment while promoting environmentally sound recreational use. The Peninsula’s location at the intersection of the lake and stream environments represents potential value to a diverse range of species.

Inglewood Golf Course and Adjacent Properties (Lake_WA_02 and SAMM_RV_01)

The golf course fairway grass extends to the very edge of the Sammamish River in close proximity to Lake Washington. Establishment of shoreline vegetation in the form of grasses, sedges, shrubs, and a few tall trees would retain the views while improving shoreline structure. Constructing bird nest boxes within the shoreline zone might also contribute to improved habitat and wildlife use.

Adjacent development and fragmentation of the Inglewood Wetlands may reduce ecological function of this high quality wetland area. The wetlands should be maintained by removing encroaching structures and non-native landscape features, removing invasive plants, including Himalayan blackberry and purple loosestrife, and restoring

native vegetation in modified areas. A long-term plan to manage the site as a contiguous wetland, through cooperation with adjacent property owners and/or City acquisition of adjacent property, is also recommended to ensure the quality of this wetland over the long term.

Stream 0056 Adjacent to Log Boom Park (Lake_WA_04)

The lower portion of this urbanized stream is adjacent to Log Boom Park and represents an opportunity to improve significant fish habitat and to link stream and lake shoreline habitat near an existing park. High flows have recently altered the channel near the stream's outlet. The stream banks in the lower reach are almost devoid of native vegetation. Specific issues to address in this area are whether to re-route the lower part of the stream, whether to repair or remove the existing weir, and developing a plan to restore the stream bank and channel conditions. Enhancing riparian vegetation and channel structure (for example, by incorporating LWD or boulders) near the mouth will result in improved habitat and water quality by providing shade, diffusing high-energy flows, and reducing suspended sediments in the stream before it discharges into Lake Washington. Sections of the park that provide existing wildlife habitat, such as large perch and shade trees, should remain in order to ensure habitat connectivity. Two organizations, *People for an Environmentally Responsible Kenmore* and the *Lake Forest Park Stewardship Foundation*, have shown interest in improving fish passage along Stream 0056 and have sought City of Kenmore collaboration and grant funding (ESA Adolfson 2008a).

In addition to restoring the lower reach of the stream, upstream culverts such as the box culvert located at SR 522 and the culvert near 181st Street should be evaluated to ensure they are sized properly. Stormwater flow control structures should be assessed in upstream areas. Those identified as insufficient, degraded, or impacting fish passage should be improved.

Sammamish River

Programmatic Action

The lack of adequate forest riparian vegetation likely contributes to high water temperatures and degrades habitat for fish and wildlife. Preserving existing trees, increasing riparian vegetation (specifically planting trees), and encouraging vegetated buffers through incentives or regulation could improve habitat. Riparian vegetation can strongly affect water temperatures as a result of direct shading as well as indirectly by creating a micro-climate of cooler air temperatures that acts to insulate the river from higher ambient air temperatures of adjacent developed areas. In addition, in-stream habitat is generally lacking in the Kenmore reach of the river.

A program to promote removing bank armoring, replacing shoreline vegetation and placing designed habitat structures in the nearshore zone would provide some in-stream complexity and improve habitat.

Boat Launch and Adjacent Wetlands (SAMM_RV_01)

The boat launch just west of the Sammamish River bridge is devoid of significant riparian vegetation and the soil is hardened, which allows for significant runoff. A partnership with Washington State Department of Fish and Wildlife (WDFW) could be beneficial to improve the boat launch and associated wetland. This area could be enhanced with hardy native shoreline vegetation, designing features to create backwater pooling in the wetland area (to increase floodplain connectivity), or installing bird nest boxes. Non-native species are frequently introduced by boats and fishing gear at public boat ramps. The introduction and spread of invasive or noxious weeds can be minimized by equipping the site with decontamination facilities. A collaborative program with WDFW could be developed to provide and maintain ramp facilities.

Swamp Creek Park Habitat Restoration (SAMM_RV_03)

The City is currently working on a design for habitat enhancements at this park. The project will include removal of invasive weeds, new native plantings, and placement of large woody debris. A future phase could include creation of new off-channel habitat.

Swamp Creek

Three areas in Swamp Creek have specifically been identified for restoration action:

Lower Swamp Creek (SWAM_Ck_01)

The Burke-Gilman bridge along SR 522 is supported by old, creosote-treated, wood pilings. The pilings are likely leaching toxicants into the water and sediments, as well as causing localized scour. The bridge is also constraining the stream channel and concrete slabs have been placed on the stream bank. Additionally, there are significant patches of invasive Japanese knotweed and Scot's broom in this area. The bridge should be replaced with a clear span bridge and the disturbed area restored by controlling or eradicating invasive weeds and enhancing native vegetation.

The Swamp Creek Park area contains a considerable amount of noxious plants, such as reed canarygrass and Himalayan blackberry, which reduce species diversity and degrade stream and shoreline habitat and associated ecological functions. Removal of the invasive species, some re-grading of the area, replanting with native vegetation, and installing bird/small mammal boxes would greatly enhance this area. A grant has been obtained and design work is beginning on this effort. See additional description of the project under SAMM_RV_03.

Swamp Creek Wetland Complex (SWAM_Ck_03)

At the 73rd Street Bridge, the banks are armored and invasive plants, especially Japanese knotweed, are beginning to encroach on the stream channel. This is impacting shoreline vegetation and habitat structure as well as posing a threat to the adjacent wetland. Invasive vegetation should be controlled or eradicated. Native vegetation, LWD, boulders, or other beneficial modification that improves structure, stability, and habitat

should be incorporated into the bank and channel. There are currently two such projects being undertaken by the Adopt-a-Stream Foundation in this area. The stream bank should be monitored to ensure that additional erosion does not occur.

Wallace Swamp Creek Park/Northern Swamp Creek (SWAM_Ck_04)

Much of Wallace Swamp Creek Park is dominated by invasive species, including Japanese knotweed and Scot's broom. This represents a significant threat to native shoreline vegetation and riparian habitat structure. A plan should be developed and implemented to remove invasive vegetation and replant these with native vegetation to enhance habitat structure by increasing vegetation diversity.

Continue current work to improve fish and wildlife habitat, placing large woody debris, improving hydrologic dynamics through channel modification, and enhancing riparian vegetation.

The presence of concrete and asphalt contributes to habitat degradation in this reach. Armoring with these materials or isolated occurrences within the stream may impact channel structure and reduce water quality by introducing pollutants. These should be removed to improve habitat and associated ecological functions.

Implementation of Restoration Actions

To ensure that restoration goals are being achieved, it is important for the city to evaluate the performance effectiveness of this plan and to adapt to changing conditions. At minimum, this restoration plan will be evaluated by Ecology for its ability to improve the overall ecological functions of shorelines and the actual improvements to ecological function will be re-evaluated again in seven years, when the SMP update is required.

During the 7-year interim period between SMP updates, it is valuable to develop implementation and monitoring programs for the individual restoration actions. Due to the nature of restoration actions (i.e., diverse project or site-specific factors that influence their implementation), performance standards and monitoring plans should be developed for individual projects or actions once the City has determined priorities and identified funding sources. Annual assessments should occur to determine how well performance criteria are met and how effectively the goals of this restoration plan are achieved.

Programmatic activities such as educational and volunteer programs to improve riparian condition and effective permitting guidance for new docks, bulkheads or other shoreline modifications, and public information campaigns are best implemented through the SMP process and through other local ordinances, regulations and programs. As stated previously, although implementation of these takes time, over the long term their overall effectiveness can be significant due to the length of shoreline that can be affected. The ecological function improvements are very high compared to the direct cost of these activities, contributing to the overall feasibility of their implementation.

Invasive weed control and vegetation enhancement projects can begin quickly with adequate funding. Frequently, these projects can be initiated with existing staff or volunteer assistance. For invasive weed control and native vegetation enhancement

projects in particular, it is important to implement a monitoring program to ensure success. It can take several years for natural vegetation to establish in an area where invasive plants were present. Likewise, non-natives can quickly colonize an area once only one or two plants have been introduced. Restoration of the shorelines relies on specific monitoring and benchmarks unique to each specific project. Monitoring sites on an annual basis will allow re-assessment of priorities based on project success, available funding, and other factors. Further action should be pursued on those sites where restoration activities have already begun (e.g., Wallace Swamp Creek Park and the flood damage repair area along Swamp Creek at 73rd Avenue), sites where shoreline restoration activities such as channel and bank grading results in significant temporary disturbance, and sites where invasive plants are threatening areas of high ecological value (e.g., Wallace Swamp Creek Park, Inglewood Wetlands, and Swamp Creek wetland complex).

A few of the actions listed can be linked to activities by other agencies and steps should be taken to ensure these agencies are aware of these concerns and have included restoration or repair in their appropriate work schedules. For example, evaluation of the box culvert on SR 522 should be done by WSDOT and of the other culverts and drainage facilities by the City of Kenmore. These specific activities should be identified for inclusion in their operation and maintenance plans. Likewise, WDFW should be contacted to discuss concerns about the boat launch.

Two potential restoration sites involving numerous activities have been identified that will require significant planning and procurement of funding in order to fully implement. Restoration activities at Stream 0056 could potentially occur in conjunction with proposed improvements within the adjacent Tracy Owen Station Park (Log Boom Park). For this project, and for the potential LakePointe property restoration activities, detailed plans will need to be developed and agreed upon by stakeholders. The City may need to acquire additional parcel ownership and develop funding sources. However, these projects were deemed important because of their potential to result in considerable improvements to ecological functions and habitat quality for numerous species. The LakePointe property in particular provides significant opportunity not only to restore habitat but also to improve access and recreational use of the shoreline. This can result in increased public awareness of shoreline management issues and promote environmentally sound stewardship of local resources if coupled with well developed educational programs. The site could also provide opportunities to mitigate for other development activities within the City of Kenmore which could potentially be used to offset restoration costs. The LakePointe site will also benefit from a long term protection plan which should be incorporated into the restoration efforts early in the development phase to ensure success.

Organizations and Funding

Several agencies and organizations are working for restoration of the area watershed. Most restoration efforts are implemented because local citizens, tribes, NGOs, and local city, state, and federal resource agencies collaborate to solve problems and share responsibility to achieve the goal (ESA Adolfson 2008b). Continued collaboration at all levels is needed to reach the goals of this plan.

In many instances collaboration and coordination between stakeholders is necessary to implement restoration actions. Organizations that are likely to contribute significantly, or already involved with the restoration actions in the area, are listed in Table 4.

Table 4. Organizations potentially providing support for Kenmore restoration activities.

Organization	Mission	Potential Participation in Restoration Goals
Washington State Department of Transportation	<i>“Our work will incorporate environmental protection and improvements into the day-to-day operations of the department as well as the ongoing development of the state’s transportation plans and facilities.”</i>	May help to upgrade culverts to improve stream flow and habitat
Washington Department of Fish and Wildlife	<i>“Achieve healthy, diverse and sustainable fish and wildlife populations...for social and economic benefit. Ensure effective use of current and future financial resources in order to meet the needs of the state’s fish and wildlife resource for the benefit of the public. Implement processes that produce sound and professional decisions, cultivate public involvement and build public confidence and agency credibility.”</i>	May provide grant funding, collaborate on wetland enhancement projects, or provide technical assistance or staffing for restoration projects
Inglewood Shores Home Owners Association		Fundraising, volunteer staffing
People for an Environmentally Responsible Kenmore		Fundraising, volunteer staffing
StreamKeepers of Lake Forest Park	<i>“To contribute to the well-being of our community by fostering awareness, understanding, appreciation, and stewardship of our natural environment; and by preserving and enhancing parks and open spaces.”</i>	Monitoring assistance, guidance, volunteer staffing
Lake Forest Park Stewardship Foundation		Technical assistance, volunteer staffing

Several funding opportunities are available to help with restoration actions in the Puget Sound region. Organizations that may provide funding opportunities for Kenmore’s shoreline restoration efforts are identified in Table 5.

Table 5. Potential funding sources.

Organization & Contact Information	Grants Description
<p>Washington State Department of Ecology P.O. Box 47600 Olympia, WA 98504-7600 http://www.ecy.wa.gov/programs/wq/funding/funding.html</p>	<p>Various sources of funding including low-interest loans and grants for improvement in water quality, or prevention and control of non-native aquatic plants.</p>
<p>Washington Department of Fish and Wildlife 600 Capitol Way N. Olympia, WA 98501 http://wdfw.wa.gov/grants/alea/</p>	<p>Grants include financial assistance for private landowners taking measures to restore habitat to benefit at-risk species, and local programs taking actions that benefit fish and wildlife.</p>
<p>National Fish and Wildlife Foundation 1120 Connecticut Avenue NW, #900 Washington, D.C. 20036 Kathleen Pickering (202) 857-0166 www.nfwf.org</p>	<p>Funds for community-based projects that restore native salmon habitat. This includes fish passage barriers removal and improving habitat needs.</p>
<p>NOAA Restoration Center Community-based Restoration Program Northwest Region Jennifer Steger, Director http://www.nmfs.noaa.gov</p>	<p>Financial and technical assistance to help grass-roots partnerships and restoration programs.</p>
<p>Environmental Protection Agency Region 10: Pacific Northwest Grants Administration Unit Bob Phillips Phillips.bob@epa.gov</p>	<p>Funds a variety of projects to protect the natural environment, including wetland protection, restoration and stewardship discretionary funding related to Section 404 of the Clean Water Act.</p>
<p>US Fish & Wildlife Service Nell Fuller 911 NE 11th Avenue Portland, OR 97232-4181 (503) 231-2014 Nell_Fuller@fws.gov</p>	<p>Assists and funds several fish passage programs, including barrier culvert removal or replacement program and a <i>North American Wetlands Conservation Act Grants Program</i>.</p>
<p>U.S. Army Corps of Engineers Basinwide Restoration New Starts General Investigation Bruce Sexauer P.O. Box 3755 Seattle, WA 98134 (206) 764-6959</p>	<p>Cost shares assistance available for projects correlated to fish and wildlife, flood management, general restoration, riparian areas and other related topics.</p>
<p>Ducks Unlimited Matching Aid to Restore Habitat (MARSH) (916) 852-2000 conserve@ducks.org</p>	<p>Helps develop and protect waterfowl habitat, with reimbursement matching funds for projects relating to habitat restoration and enhancement.</p>
<p>Puget Sound Restoration Fund http://www.restorationfund.org/</p>	<p>PSRF is dedicated exclusively to restoring marine habitat, water quality and native species in Puget Sound. They pursue restoration collaboratively with industry, tribes, government agencies, private landowners and community groups.</p>

Organization & Contact Information	Grants Description
King County Ken Pritchard, Grant Exchange Coordinator King County Dept. of Natural Resources and Parks 201 Jackson Street, Suite 600 Seattle, WA 98104-3855 (206) 296-8265 ken.pritchard@kingcounty.gov	King County Water Quality Grant Fund. Grants up to \$60,000 are available for community projects that protect or improve watersheds, streams, rivers, lakes, wetlands and tidewater.
Lake Washington / Kenmore Area Home Owners Associations	Potential fundraising contributors

References

- Department of Ecology (Ecology). 2009. 2008 Washington State Water Quality Assessment. Web application available at: <www.ecy.wa.gov/programs/wq/303d/2008/index.html>. Accessed: March 31, 2009.
- ESA Adolfson. 2008a. Draft Kenmore Shoreline Master Program Update Inventory and Analysis. Prepared for City of Kenmore. April 2008.
- ESA Adolfson. 2008b. Jefferson County Shoreline Master Program Update Project, Shoreline Restoration Plan. Prepared for Jefferson County Department of Community Development. June 2008.
- Herrera. 2008. City of Kenmore Shoreline Restoration Opportunities. Memorandum from Herrera Environmental Consultants, Inc., to Mark Johnson, ESA Adolfson. December 22, 2008.
- King County. 2007. Draft Shoreline Master Program, Appendix A: Restoration Plan. September 2007. Available at: <<http://your.kingcounty.gov/dnrp/library/water-and-land/shorelines/plan/appendix-a-restoration-plan.pdf>>. Accessed March 30, 2009.
- King County Water and Land Resource Division (WLRD). 2005. Lake Washington Overview and Detailed Graphs. Updated December 31, 2005. Available at: <http://dnr.metrokc.gov/wlr/waterres/lakes/Lake Washington.htm>. Accessed: January 14, 2008.
- King County Water and Land Resource Division (WLRD). 2006. Flood Hazard Management Plan: King County Department of Natural Resources and Parks, Water and Land Resources Division, Seattle, Washington. Available at: <<http://dnr.metroc.gov/wlr/flood/fhmp/pdf/Final%20Chapter%205.pdf>>. Accessed: January 2008. As cited in (ESA Adolfson, 2008a).
- National Research Council. 2002. *Riparian Areas: Functions and Strategies for Management*. National Academy Press, Washington, D.C. September 2002.
- Seattle, City of. 2009. Department of Planning and Development, in collaboration with Seattle Public Utilities and the Lake Washington/Cedar/Sammamish Salmon Recovery Council. Available at: <http://www.seattle.gov/dpd/Planning/Green_Shorelines/Overview/default.asp>. Accessed March 30, 2009.
- Water Resource Inventory Area (WRIA) 8 Steering Committee. 2005. Final Lake Washington/Cedar/Sammamish Water (WRIA 8) Chinook Salmon Conservation. Available at: <<http://dnr.metrokc.gov/WRIAS/8/chinook-conservation-plan.htm>>. Accessed: March 2008. As cited in (ESA Adolfson 2008a).
- Whatcom County Planning & Development Natural Resource Management. 2008. Whatcom County Shoreline Management Program, Title 23. <http://www.co.whatcom.wa.us/pds/pdf/SMP_CountyApproved_EcologyApproved_080808_clean.pdf>.