



CITY OF KIRKLAND
Public Works Department
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

From: Pam Bissonnette, Interim Public Works Director
Jenny Gaus, Surface Water Engineering Supervisor

Date: March 8, 2013

Subject: Regional Watershed Issues

RECOMMENDATION:

Staff recommends that City Council review the information provided with the understanding that new Council Members will be need to be chosen in January of 2014 to fill roles that will be vacated by Mayor McBride on the WRIA 8 Salmon Recovery Council, the King County Flood Control Zone District Advisory Board, and the King Conservation District Advisory Committee (if this is reconvened). In addition, staff recommends that Council prepare to develop positions on items that will come before the King County Flood Control Zone District in summer/fall of 2013, and on potential 2014 State legislation on Watershed Improvement Districts.

BACKGROUND DISCUSSION:

A. Introduction

Kirkland is a member of several regional forums that work on watershed issues. The purpose of this memo is to describe the relationships between these groups, and to highlight upcoming issues on which the Council may wish to develop a position.

The attached table (Attachment A) gives a summary of the funding mechanisms, membership, and area of focus for each of these groups. Each group is described in further detail here.

B. Salmon Recovery

The Puget Sound Chinook Salmon was listed as a threatened species under the Federal Endangered Species Act (ESA) in 1999. Under ESA, any action that could be construed as a "take" of the species is prohibited. As long as the species is listed under ESA, activities such as land development, construction of vital infrastructure, and discharge of stormwater could potentially be prohibited if these are found to negatively impact the listed salmon species. In addition to being a cultural and historical issue, salmon recovery is vital to our region's economy. Although ESA only prohibits "take" of the species, recovery and de-listing of Chinook Salmon would provide a much larger measure of security for our regional interests.

The decline of salmon species has generally been attributed to four factors: habitat, hydropower, harvest, and hatcheries (Lake Washington/Cedar/Sammamish (WRIA 8) Watershed Chinook Salmon Conservation Plan, 2005). Habitat can be further broken down into water quality, flow, and the physical channel and related environs. Local governments such as Kirkland can have the most impact on habitat because they have responsibility for land use, water, sewer, and stormwater management policies, local protection and restoration projects, and public involvement opportunities.

In order to respond to the ESA listing, local governments and interested stakeholders in the Lake Washington/Cedar/Sammamish Watershed, otherwise known as Water Resources Inventory Area 8 (WRIA8) collaborated to write the *Lake Washington /Cedar/Sammamish (WRIA 8) Chinook Salmon Conservation Plan* (the Plan – see [2005 WRIA 8 Salmon Recovery Plan](#)) in 2005. In 2007, the elected official and stakeholder groups merged to form the WRIA 8 Salmon Recovery Council. Mayor McBride is currently the Vice Chair of this organization.

Great progress has been made toward implementation of the plan as shown in the attached implementation report (Attachment B), but much remains to be done. Funding of salmon recovery has been an on-going challenge. The development of the Plan was funded by State and Federal Grants, and by an interlocal agreement between the 27 jurisdictions in WRIA 8. Planning and coordination work to implement the Plan is funded via an interlocal agreement (ILA) whereby each of the participating jurisdictions contributes an amount based on a formula that includes assessed value, median income, and population. The overall ILA budget for planning and coordination services is about \$500,000 per year, and Kirkland's current ILA contribution is \$26,211 per year.

Implementation of projects and regional programs in the Plan is supported by local jurisdictions and by grants. State and Federal grants have provided a small but important source of funds but the amounts have varied over the years, and funding of any amount is not guaranteed. Up until 2012, the only reliable and steady source of funding was grants to WRIA 8 that were provided by the King Conservation District. For WRIA 8, these grants totaled approximately \$1.2 million per year.

In 2012, the King Conservation District faced a lawsuit over its system of assessments. Because of the uncertainty of funding, and the need to continue projects that were already in progress, WRIsAs within King County appealed to the King County Flood Control Zone District (the Flood District) to provide funding for 1 year, and to consider becoming the "home" for WRIA funding in future years. The King County Flood Control Zone District voted to provide funding for salmon recovery in King County for 2012 and 2013, and it is expected that it will continue to provide this funding into the future. Under this arrangement, WRIA 8 will receive approximately \$1.2 million per year in grant funding.

Kirkland participates in regional salmon recovery efforts because of the potential for third party lawsuits without demonstrated recovery efforts, the dire economic consequences that could come from further loss of the species, and because recovery would eliminate these threats.

The Plan divides stream and shorelines into Tiers 1 through 3 based on how important the areas are to recovery of Chinook salmon, with Tier 1 being most important. Kirkland's streams are noted as Tier 3 areas in the Plan, meaning that they are important to salmon recovery mostly because they provide (or should provide) cool clean water to Lake Washington. This means that Kirkland has not been the direct recipient of salmon recovery grant funds. At the same time, Kirkland has benefitted directly from regional education programs such as the Green Shorelines effort and the Salmon Watcher Program, as our Lake Washington shoreline is part of the migration corridor for Chinook.

Salmon Recovery – Upcoming Issues

Issue	Timing	Advocacy Method/Next Steps
Continued funding of salmon recovery	Budget discussions begin in summer 2013	Advocate for continued funding of salmon recovery by the Flood District
Mayor McBride will be vacating her position as Vice Chair of the WRIA 8 Salmon Recovery Council	January 2014	Identify an interested Council member, then forward person's name to WRIA 8 SRC staff
Funding of flood control projects that have the maximum possible benefits for salmon habitat	On-going	Advocate for levy setbacks and flood buyouts that give the rivers more space, thus allowing for increased restoration of salmon habitat

C. Flood Control

Major river flooding has a large economic impact on King County (see [Economic connection between the King County Floodplain and the Greater King County Economy](#)). The King County Flood Control Zone District (the District) was established in 2007 to protect public health and safety, regional economic centers, public and private properties and transportation corridors associated with large rivers. The District addresses the backlog of maintenance and repairs to levees and revetments, acquires repetitive loss properties and other at-risk floodplain properties, and improves countywide flood warning and flood prediction capacity.

The District is governed by a Board of Supervisors that has the same membership as the King County Council. The District periodically convenes an Advisory Committee to gather input on project planning and funding allocation. Mayor McBride currently serves as a representative of the Sound Cities Association on the Advisory Committee.

The Flood Control District is funded via a tax levy on all properties in King County, which is currently set at \$0.135 per \$1,000 of assessed value. The total annual budget of the Flood Control District is approximately \$46 million.

Although Kirkland is not directly impacted by major river flooding, the City does indirectly benefit from the regional economic lift provided by improved flood management. In addition, many flood management projects provide benefits to salmon habitat as they are situated on large rivers. An example of this is a levy setback project that reduces flood levels and at the same time provides increased habitat area for use by salmon.

Kirkland benefits directly from the District in that it receives approximately \$190,000 per year from the District's Sub Regional Opportunity Fund. The State legislation that enables creation of flood control districts (RCW 86.15) allows that up to 10% of funds can be spent on sub regional scale stormwater and flood reduction projects. Under this authority, the District returns 10% of the funds collected in a given jurisdiction to that jurisdiction. To date, the majority of Kirkland's sub regional opportunity funds have been spent to reduce flooding at Totem Lake.

King County Flood Control District – Upcoming Issues

Issue	Timing	Advocacy Method/Next Steps
Continued funding of salmon recovery	Budget discussions begin in summer 2013	Send letter and/or testify before Board of Supervisors
Mayor McBride will be vacating her position as a representative of SCA on the District Advisory Committee	January 2014	Propose that Sound Cities Association appoint a new Kirkland Council member to the Flood District Advisory Committee
Advocate for flood control projects to maximize salmon habitat benefits	On-going	Participate in Advisory Committee meetings

D. Natural Resources Conservation

The King Conservation District (KCD) was established under State legislation in 1949. Originally, this organization was focused on soil conservation associated with agriculture. Over the years its focus broadened to include natural resource conservation areas such as stream restoration, and agricultural issues such as technical assistance (farm plans) to support farms bordering streams and rivers, support for farmers' markets and urban/hobby farm management. Following the listing of Chinook salmon as a threatened species in 1999, King County worked with the KCD to provide a stable source of funding for salmon recovery projects in the form of grants to WRIAs. The budget of the KCD was increased to accommodate this change, as well as to add non-competitive grants for cities to further encourage stewardship in urban areas.

KCD is governed by a Board of Supervisors which is partially elected, and partially appointed. Up until 2012, funding came from a per-parcel assessment which was equal to about \$10 per parcel. The King County Council has the authority to accept or reject the proposed system of assessments or rates/charges, and to change the proposed amount of these things, and to set the term of the assessment or system of rates/charges. The approximate use of the \$10 per parcel from 2009-2012 was as follows:

- \$5 WRIA 7,8,9 grants for salmon recovery
- \$3 noncompetitive grants to cities
- \$2 King Conservation District programs

The overall annual budget for KCD was approximately \$6 million. This resulted in approximately \$1.2 million in grant funds per year for WRIA 8, and about \$45,000 per year in non-competitive grants to Kirkland for use in projects such as the Green Kirkland Program, a Horses for Clean Water education program, and small stream restoration projects.

In 2011/2012 a lawsuit challenged the system of assessments. As a result, KCD proposed a system of rates and charges as an alternative to the assessment system. At the same time, because of the uncertainty, WRIA salmon recovery funding was moved to the Flood District. In late 2012, the King County Council approved a reduced system of rates and charges in recognition of a shift in WRIA funding to the Flood District that will result in overall collections of approximately \$3.3 million for 2013. The noncompetitive grants to cities were retained, so Kirkland will continue to have access to approximately \$45,000 per year for restoration and stewardship projects.

As part of the 2012 discussions, the King County Council in its 2012 interlocal agreement with KCD authorized creation of a 12-member task force to study the "...availability of conservation and natural resource programs and services in King County, the needs within the County, both met and unmet for such services and programs, and the actual and prospective sources of funding to meet such needs." (King County Ordinance 17474, Attachment A page 10). The task force membership will include members appointed by the KCD Board and the King County Council. These core members will "seek advice" from additional members from Bellevue, Seattle, the Sound Cities Association, and rural land owners. The task force is set to convene in the near future, and is scheduled to produce recommendations by October 15, 2013.

King Conservation District – Upcoming Issues

Issue	Timing	Advocacy Method/Next Steps
Advocate for inclusion of urban issues in the work program?	Work Program is proposed to King County Council by August 1 st of each year	Review and comment on work program via Advisory Committee and/or Board of Supervisors
KCD and King County will be convening a task force to discuss natural resources programs and funding	Task force work to be complete by October 2013	Participate in task force and/or comment on task force recommendations
Mayor McBride will be vacating her position on the Advisory Committee	January 2014	Send letter to KCD asking that a Kirkland Council Member be appointed to the Advisory Committee

E. Kirkland’s Program

Kirkland’s Surface Water Utility addresses stormwater flooding and aquatic habitat issues at the local level. Kirkland is entirely contained within King County and within The Lake Washington/Cedar/Sammamish Watershed (WRIA 8). The Utility also provides funding and staff support for participating in salmon recovery efforts. The utility is largely locally focused, but is included here to show the full amount that Kirkland citizens contribute to watershed protection and restoration.

F. Puget Sound Partnership

The Puget Sound Partnership (PSP) sets an agenda and goals for cleanup of Puget Sound by 2020. PSP provides limited grant funding through participation in the National Estuary Program, and through State funding. Most recently, PSP developed an Action Agenda that includes specific salmon recovery, stormwater, and natural resources conservation items – see [PSP](#)

[2012-2013 Action Agenda](#) . PSP is an important ally in securing funding. PSP, for example, has been working in parallel with other salmon recovery groups on the concept of a Watershed Improvement District, as discussed below.

G. Watershed Improvement District

In 2009, The WRIA 9 Watershed Forum met to discuss how to provide on-going stable sources of funding for salmon recovery (see [WRIA 9 Funding Mechanism Report](#)). Out of this effort, the most promising candidate to the group seemed to be creation of Watershed Improvement Districts. A cross-WRIA group met several times in 2011 and 2012, and developed draft State legislation to allow for creation of Watershed Improvement Districts (Attachment C). These districts would be authorized by State legislation, and would be organized by WRIA, with counties and cities within a given watershed serving as the governing body. A variety of allowable funding mechanisms are included in the bill, in order to allow individual districts flexibility in developing programs. The Puget Sound Partnership has also been working on this issue, and developed a bill that was used as the basis for the cross-WRIA effort.

Watershed Improvement District – Upcoming Issues

Issue	Timing	Advocacy Method/Next Steps
Advocate for State legislation that allows for creation of Watershed Improvement Districts	2014 Legislative Session	Advocate for study bill to be introduced during 2014 Legislative session

H. Summary

Kirkland is an active participant in regional watershed issues. This participation protects City interests, and promotes a healthy and thriving Puget Sound Region. Mayor McBride’s participation and leadership in these issues has reaped significant benefits for Kirkland. Kirkland staff strongly recommends that current members of the Council consider succeeding Mayor McBride as prominent regional players in the issues of salmon recovery, flood control and natural resource protection.

Attachment A – Table of Regional Watershed Groups in King County

Attachment B – Lake Washington/Cedar/Sammamish Watershed Chinook Conservation Plan Implementation Progress Report 2005-2010

Attachment C – Watershed Improvement District Draft Legislation

Groups Working on Regional Watershed Issues in King County

Group	Authorizing Legislation	Governance	Funding	Current Total Funding Amount	Kirkland Contribution	Major Focus	Minor Foci
King County Flood Control Zone District (KCFCZD)	RCW 86.15 King County Council voted to establish District in 2007	County Council acts as Board of Supervisors	Levy rate passed by County, currently \$0.135 per \$1000 of assessed value	\$46 million per year	Property owners pay approximately \$1.92 million per year	Improvement and maintenance of flood control facilities along major rivers in King County for protection of life, property and the regional economy	Most flood control projects require mitigation measures that assist with salmon recovery
King Conservation District	RCW 89.08 King County Council voted to establish KCD in 1949	Board of Supervisors, 2 appointed by King County Council, 3 elected via a special election	System of rates and charges based on benefit accruing to each property type. For 2013-2014 rates are between \$4.72 and \$5.38 per parcel	\$3.3 million per year	Property owners pay approximately \$152,000 per year	Conservation of agricultural lands and natural resources, support of local agriculture	Has historically funded salmon recovery grants at \$1.2 million per year in WRIA 8
WRIA 8 Salmon Recovery Council	RCW 77.85	Each jurisdiction party to the interlocal agreement (ILA) appoints an elected official to serve, stakeholders apply to join (no limit to the number)	Interlocal agreement between participating cities funds administration, projects funded via KCFCZD for 2013, in the past has been funded by KCD grants and other State and Federal Grant sources	Interlocal agreement covers \$500k annually for planning/operations/admin with staff housed at King County Flood District funding for 2013 will be \$1.2million for projects in WRIA 8	Kirkland Surface Water Utility pays \$26,211 per year for ILA/planning services	Recovery and De-Listing of Chinook salmon and Bull Trout which are currently listed as threatened under the Federal Endangered Species Act	Some salmon recovery projects also provide flood relief benefits
Kirkland Surface Water Utility	RCW 35A.80 and 35.67 KMC 15.52 City Council established the Surface Water Utility in 1998	City Council	Council sets rates based on impervious surface and land use type. Rate for 2013/2014 is \$187.20 per year for single family properties	\$9 million per year	Property owners pay \$9 million per year	Local flood control, water quality(NPDES compliance), and aquatic habitat	Regional coordination and cooperation to achieve Utility goals
Puget Sound Partnership	RCW 90.71.210 Created by the State legislature in 2007	7 member Leadership Council appointed by the Governor	State Legislative Appropriation	\$2.4 million per year for operations/administration, \$30 million per year is distributed via the EPAs National Estuary Program to Puget Sound, some of which is distributed as grants by PSP	Kirkland citizens pay indirectly through State and Federal taxes	Cleanup of Puget Sound by 2020, including recovery of species currently listed as threatened or endangered under Federal Endangered Species Act	Overlap with all areas of other groups noted in this chart

SALMON AND PEOPLE LIVING TOGETHER

Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan

Implementation
Progress Report
2005-2010

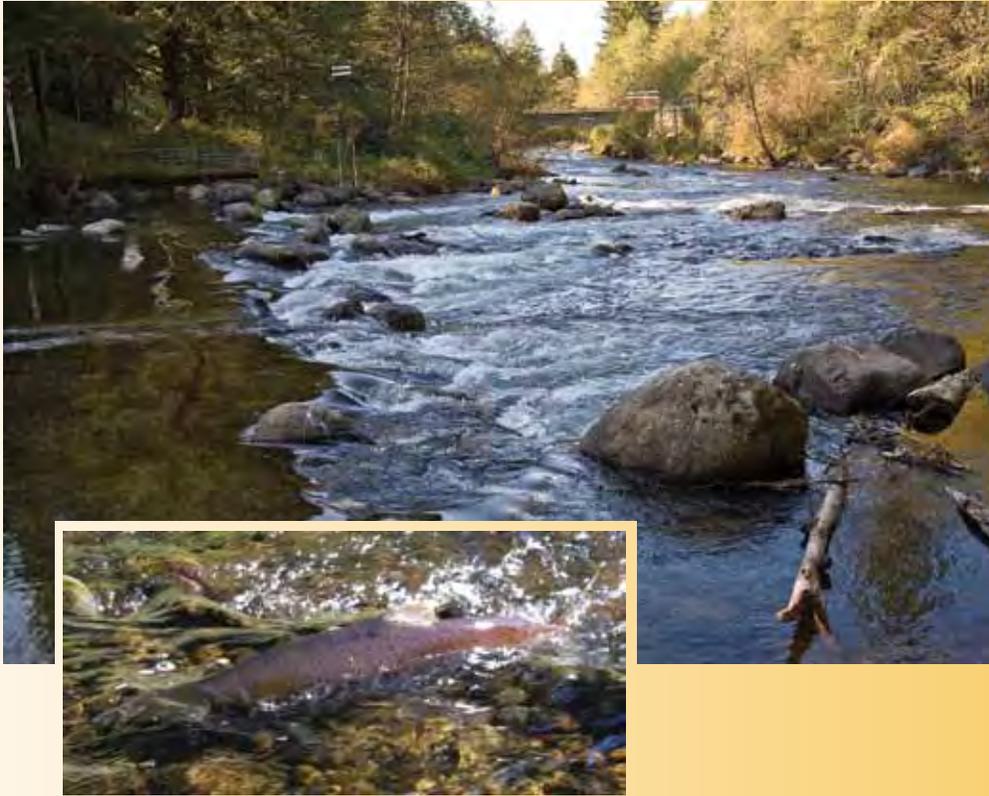


December 2011



THE LAKE WASHINGTON/CEDAR/SAMMAMISH WATERSHED

The Lake Washington/Cedar/Sammamish Watershed Chinook Salmon Conservation Plan guides our efforts to create a future where people and salmon can live together. This report documents our progress during the first five years of Plan implementation.



“I’m thrilled when people tell me they saw salmon near Microsoft in Kelsey Creek. That’s upstream of downtown Bellevue. It means our hard work is paying off – for both salmon and people in our watershed. When my grandkids get excited about returning salmon, it reminds me why our efforts are so worthwhile.”

*Don Davidson, Bellevue Mayor and
Chair, WRIA 8 Salmon Recovery Council*

I. The First Five Years and Our Future

“Solving shared problems together on behalf of a shared place is the essence of democracy.”

—Kemmis 2001

Author Timothy Egan described the Pacific Northwest as “any place salmon can get to.” Since 2000, members of the Lake Washington/Cedar/Sammamish Watershed (WRIA 8¹) Salmon Recovery Council, and its supporting staff and committees, have worked to ensure that our watershed remains a quintessentially Northwest place where salmon return each fall.

Our shared goal is to make our watershed a place where salmon and people can live together. We are working to ensure that Chinook and other salmon species can return to sustainable, harvestable levels. In the most populated watershed in Washington State this is no small task, and it requires both optimism and resolve. The community that cleaned up Lake Washington in the 1950s is applying that same spirit and commitment to recovering salmon today.

In 1999, the federal government listed Puget Sound Chinook salmon as threatened under the Endangered Species Act. In 2000, concerned about the need to protect and restore habitat for Chinook salmon for future generations, 27 local governments in WRIA 8 came together to develop a salmon conservation plan. They were joined by citizens, community groups, state and federal agencies, and businesses. Participating local governments include King and Snohomish counties, Seattle, and 24 other cities.

In 2005, local jurisdictions ratified the WRIA 8 Chinook Salmon Conservation Plan. They agreed to pay for a small team to coordinate implementation of the WRIA 8 Plan through 2015. The WRIA 8 Plan was approved by the National Oceanic and Atmospheric Administration (NOAA) in 2006 as a chapter in the overall Puget Sound Salmon Recovery Plan. What we do for salmon in this watershed is an important component of restoring Puget Sound.

On December 3, 2010, over 100 stakeholders from throughout the WRIA 8 Watershed and Puget Sound gathered to learn about the state of our watershed and its salmon, talk about the progress we have made during the first five years of salmon recovery implementation, and chart a course for the next five years. This Watershed Summit was a vital component in the “adaptive management” of our efforts. This progress report summarizes the analysis done in preparation for the five-year Watershed Summit and points to priorities for future action based on our analysis and progress to date.



¹ WRIA stands for Water Resource Inventory Area, a geographic watershed area designated by the Washington Department of Ecology for watershed planning purposes. The WRIA boundaries were also used to delineate watersheds for salmon recovery planning in Puget Sound.

II. Status of WRIA 8 Chinook Salmon

The Puget Sound region uses the Viable Salmonid Population (VSP) concept as its general approach to determine the conservation status of Chinook salmon.³ A viable salmonid population is defined as an independent population with a negligible risk of extinction over a 100-year time frame. The VSP attributes used by NOAA and others (including WRIA 8) to evaluate the status of Chinook salmon are abundance, population growth rate (also called productivity), population spatial distribution, and diversity (Table 1).⁴



Abundance

Abundance is what the public most often thinks of when they consider the status of a population, and is the most commonly reported indicator in the news media. Abundance is measured by counting the number of adults returning to the spawning grounds, either through estimation methods or by directly counting the number of redds (nests) that have been constructed by females.

However, this indicator is often heavily influenced by factors beyond the control of watershed managers (for example, ocean conditions and fishing pressure). Because of this, abundance is not the best overall measure for watershed managers trying to gauge the effects of local actions on salmon conservation and recovery. An accurate abundance estimate is the critical first step, however, in determining egg-to-migrant survival, one of the most important measures of freshwater productivity.

The WRIA 8 Plan lists both short-term (10-year) and long-term (50-year) goals for Chinook salmon abundance (Figure 1). Compared to the NOAA Fisheries measures reported at the time of ESA listing of WRIA 8 Chinook salmon, abundance has increased for the Cedar population and remained low for Bear/Cottage Creek (a surrogate measure for the Sammamish population).

Table 1. Monitoring of Chinook salmon in WRIA 8

Parameters for Evaluating Chinook Populations				
Monitoring Program	Abundance (How many fish?)	Productivity (Is the population growing?)	Distribution (Where are the fish?)	Diversity (Genetics, life history)
Spawner Surveys	Escapement, Redd Counts (Figure 1, Table 2)	Prespawning mortality rate; Redd:red productivity (Figure 2)	Redd mapping (Table 2)	Age structure, Hatchery/natural origin (Table 3)
Fry/Parr Trapping	Juvenile abundance (Figure 4)	Egg to migrant survival (%) (Figure 3) Juvenile abundance (Figure 4)		Fry vs. parr (Figure 6), Migration timing
PIT-Tag Monitoring		Migration survival		Migration timing to ocean

³ McElhany, P., M. Ruckelshaus, and others. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U. S. Department of Commerce. 156 p. http://www.nwfsc.noaa.gov/assets/25/5561_06162004_143739_tm42.pdf

⁴ Since 1998, annual Chinook salmon population status and trends monitoring has been funded primarily by King Conservation District, with collaboration and support from Washington Department of Fish and Wildlife, Muckleshoot Indian Tribe, Seattle Public Utilities, and King County.

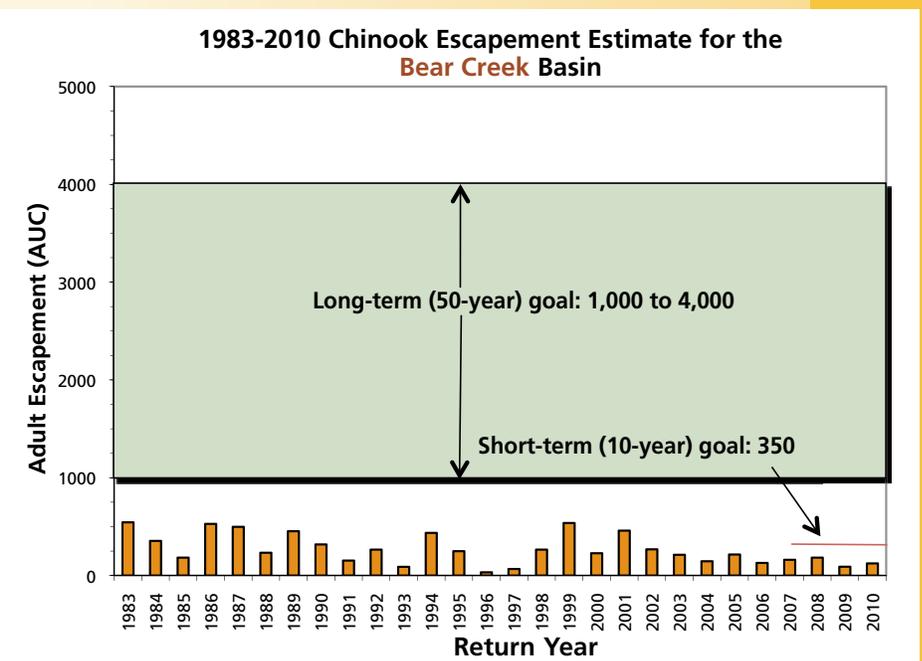
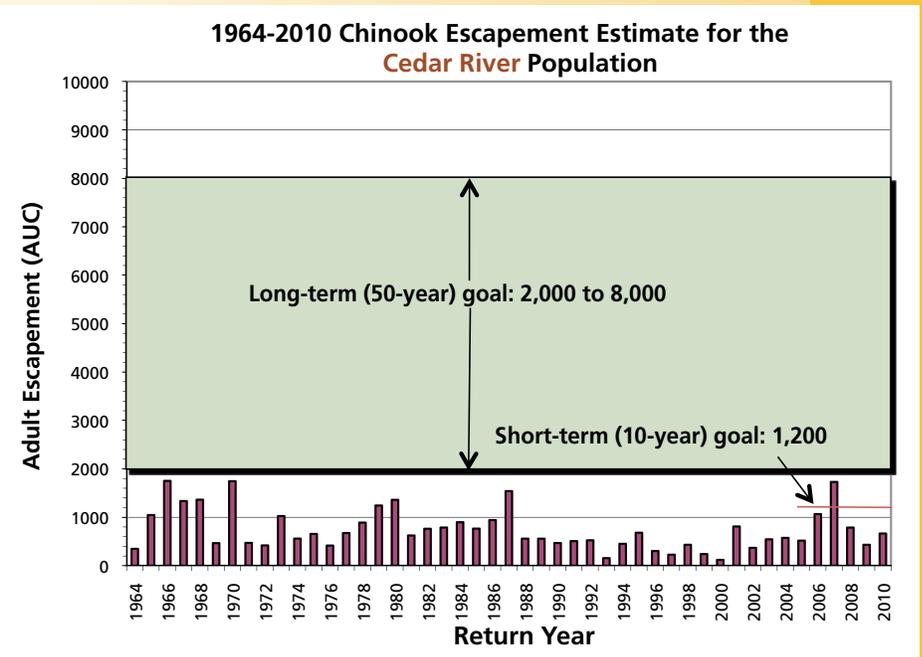
Productivity

Productivity indicates whether a population is growing or shrinking over time. A productivity value of one indicates that for each fish returning, one fish is produced – that is, the population is essentially replacing itself. A value greater than one indicates that the population is increasing, while a value less than one indicates the population is decreasing.

Scientists can measure overall population productivity (whether the number of Chinook salmon returning to a watershed is increasing from year to year), which includes survival throughout the entire salmon life-cycle. This is complicated by a number of factors, including the variable return age for Chinook salmon (they may return to spawn after two, three, four, or even five years at sea). Redd-to-redd productivity (Figure 2) is WRIA 8's indicator of productivity over the entire Chinook life cycle, and incorporates age class proportions into the productivity estimate.

Freshwater productivity. Two indicators of freshwater salmon productivity that are especially important for watershed managers are *egg-to-migrant survival* (Figure 3) and *overall juvenile output* (Figure 4 and 5). Egg-to-migrant survival compares the estimated number of eggs deposited by spawning Chinook salmon in the fall (through redd counts) against the number of juvenile Chinook salmon migrating out of the watershed the following spring. This number can be compared over time as well as against regional averages. Overall juvenile outmigrant abundance provides an estimate of the overall numbers of juvenile Chinook produced in the Bear Creek and Cedar River basins. Ideally, both these numbers should increase over time if freshwater restoration and conservation efforts are successful.

Figure 1. Number of adult Chinook on the spawning grounds in the Cedar and Bear/Cottage basins. Escapement refers to the number of fish that escaped various causes of mortality to reach the spawning grounds. The numbers include both natural-origin and hatchery-origin adults. Bear/Cottage Creek Chinook surveys began in 1983. Data source: WDFW.



Juvenile Chinook productivity is influenced by a number of factors, including restoration efforts, flooding during the incubation and rearing period, and habitat for refuge and rearing. WRIA 8's main objective is to improve the amount and condition of juvenile habitat, which will improve both egg-to-migrant survival and overall juvenile survival. Egg-to-migrant survival in WRIA 8 remains variable, while overall juvenile output in the Cedar River appears fairly constant by comparison (Figure 4).

Spatial Distribution

In WRIA 8 our goal is to maintain and increase the spawning and rearing distribution of both Chinook populations throughout the watershed. Annual Chinook spawning ground surveys have been conducted in WRIA 8 Chinook salmon streams since 1999 (Table 2). While spawning has varied from year to year, there is no evidence that spawning and rearing distribution has declined, with the exception of the loss of spawning on the Walsh diversion, an artificial tributary to the lower Cedar River. Streamflow from the Walsh diversion was restored to upper Rock Creek in 2009.

The construction of a fish passage facility at the Landsburg diversion dam on the Cedar River in 2003 nearly doubled the length of available habitat for Chinook salmon in that river.⁵

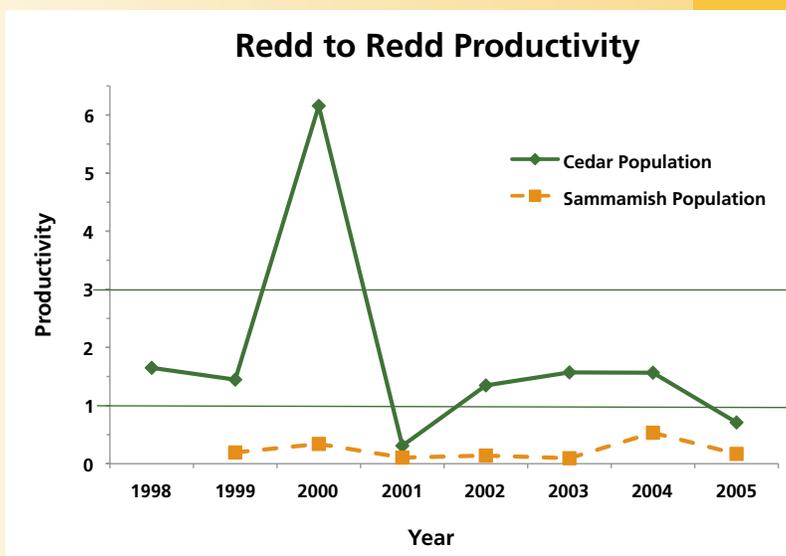
Diversity

Scientists give three primary reasons why genetic and life-history diversity is important for species and population viability (McElhany et al. 2000):

1. Diversity allows a species to use a wider array of environments.
2. Diversity protects a species against short-term spatial and temporal changes in the environment.
3. Genetic diversity provides the raw material for surviving long-term environmental change.



Figure 2. Cedar River and Bear Creek redd productivity. Each point on this graph represents the number of salmon nests (redds) counted each year divided by the number of redds counted in following years, when the salmon that hatched would be returning to create their own redds. Chinook salmon in WRIA 8 spend 2 to 5 years at sea before returning to spawn. Most Chinook in WRIA 8 return after 3 to 4 years. A population replaces itself at a value of 1; the WRIA 8 Plan has a short-term goal of 3 for the Cedar River and Bear Creek (Sammamish) population. In other words, 3 redds would need to be produced for each returning redd in the parent year. (Note: since it may take up to 5 years for Chinook to return to spawn, the 2005 spawning year is the latest for which we can accurately assess productivity.)
Data source: King County unpublished data.



⁵ http://www.seattle.gov/util/About_SPU/Water_System/Habitat_Conservation_Plan/FishPassageAboveTheDam/

In WRIA 8, we monitor diversity through assessing the age of returning adults, proportion of juvenile salmon migrating as fry or parr (Figure 6), overall timing of migration, and proportion of hatchery fish on the spawning grounds (Table 3). WRIA 8 goals are to increase the proportion of parr migrants on the Cedar River and to decrease the proportion of hatchery-origin Chinook spawning with natural-origin fish on the spawning grounds.

Figure 3. WRIA 8 Chinook salmon egg-to-migrant survival rates for Bear Creek and Cedar River Basins.
Data source: WDFW.

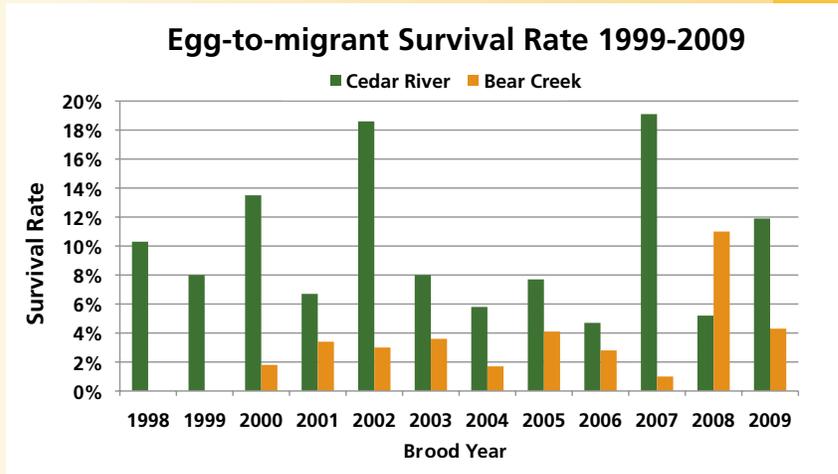


Figure 4. WRIA 8 Chinook salmon juvenile abundance estimates for Bear Creek and Cedar River populations.
Data source: WDFW.

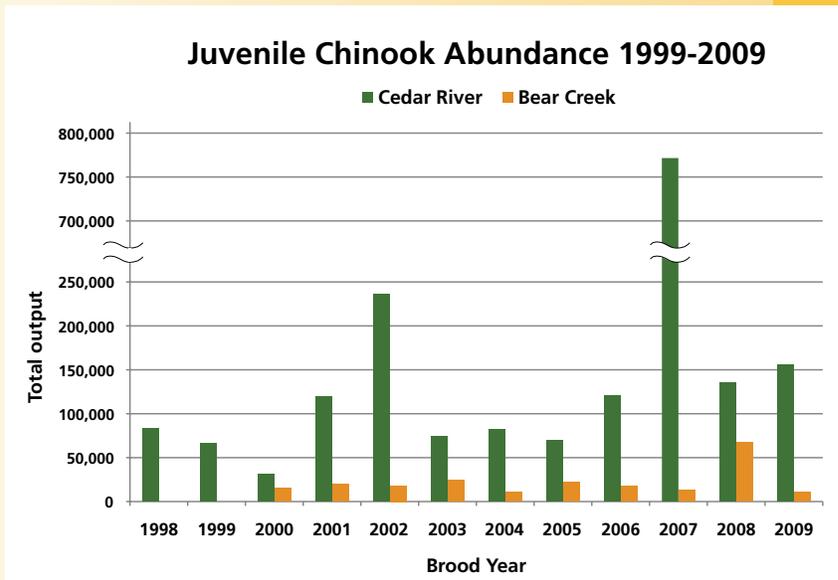


Figure 5. Juvenile Chinook outmigrants in the Cedar and Bear basins. Juvenile Chinook salmon have two different life history strategies. Very small fish called “fry” migrate out of streams into Lake Washington between January and late March, while larger juvenile migrants (“parr”) rear in streams for a few more months and migrate later, between May and July. Chinook conservation goals in both basins include increasing the percentage of fish rearing in the basins and migrating to the lake at a larger size. Research has shown that larger migrants have a higher survival rate.
Data source: WDFW.

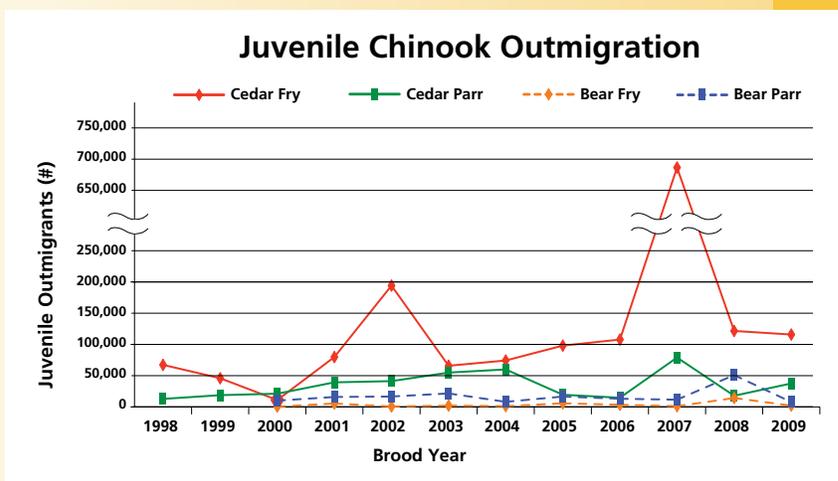


Table 2. WRIA 8 Chinook redd survey results, 1999-2010. Shaded cells represent years when surveys were not performed. Cells with "X" represent an artificial tributary that no longer supports spawning. *Data source: King County unpublished data.*

Creek	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bear	140	30	42	25	24	25	40	12	20	44	9	1
Cottage	171	103	96	102	120	96	82	119	69	88	60	59
EF Issaquah				0	3	26	8	3	30	3	19	29
Little Bear	1	1	1	3	3	1	0	0	2	1	0	0
North Creek	2	4	6	10	1	4	5	9	3	8	7	3
Kelsey Creek		5	4	4	0	0	4	72	77	8	5	1
May Creek	0	1	3		5	9	1	0	7	1	2	1
Rock Creek (Lower)	0	0	0	0	0	0	0	0	0	0	0	0
Taylor Creek	0	0	7	12	11	8	7	1	30	0	0	1
Peterson Creek	0	0	0	0	1	1	1	0	0	0	0	0
Walsh Diversion	0	0	1	0	6	12	0	0	10	0	X	X
Cedar River Mainstem (and tribs above Landsburg)	182	53	390	269	319	490	331	586	859	599	285	265

Figure 6. Proportion of parr migrants from the Cedar River, 1999-2009.

Data source: WDFW.

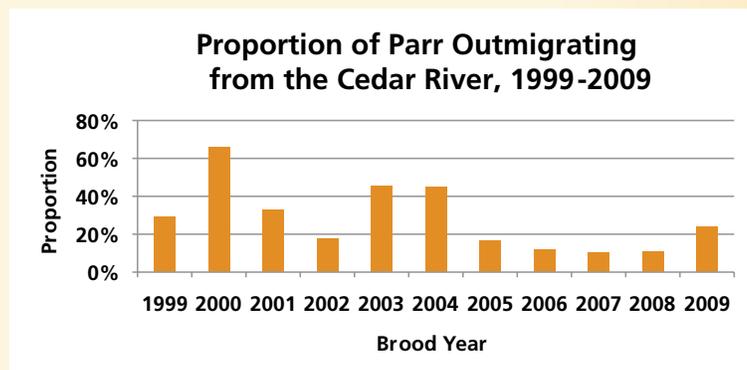


Table 3. Proportion of hatchery-origin Chinook salmon detected in Cedar River and Bear/Cottage Lake Creek spawning surveys since 2004.

Data source: WDFW and King County unpublished data.

	2004	2005	2006	2007	2008	2009
Cedar River	34%	32%	20%	10%	11%	18%
Bear/Cottage Lake Creek		79%	80%	75%	77%	68%

III. Status of the Watershed

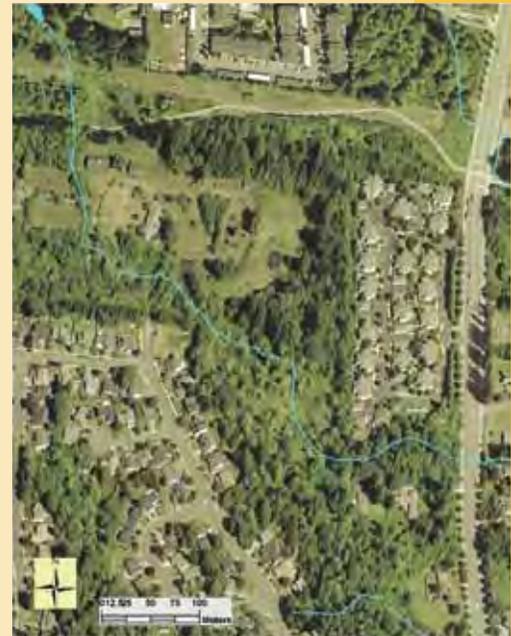
Monitoring Watershed Conditions

In WRIA 8, we monitor for changes in habitat and water quality as recommended by the WRIA 8 Plan, to the degree possible with limited funding. Thanks to a National Estuary Program grant awarded through the Puget Sound Partnership, we assessed land cover change to gauge the rate of change in overall forest cover and streamside areas. For water quality trends in the watershed, we rely on water quality and benthic macroinvertebrate data collected by King County. Overall trends in watershed stream conditions are monitored by King County through an Environmental Protection Agency (EPA) grant co-administered by WRIA 8 and King County – a program that contributes data to the Washington Department of Ecology Status and Trends monitoring project.⁶ Funding for this project lasts through 2013.

Land Cover Change

The WRIA 8 Plan places a high priority on protecting forest cover wherever practical throughout the watershed. Intact forests contribute to natural watershed processes and high water quality, both of which are necessary for salmon survival. In priority areas where forest cover no longer exists or cannot be maintained, it is crucial to protect and restore riparian buffers (i.e., forested streamside areas).

Overall forest cover declined in 42 of 47 WRIA 8 subbasins between 1991 and 2006. Areas *outside* the urban growth area (UGA) boundary displayed negligible forest cover loss during that period, while forest cover *inside* the UGA boundary declined 21% in Tier 1⁷ areas and 23% in Tier 2 areas (Figure 7). For streamside areas, the amount of impervious area increased between 2005 and 2009 in nearly all subbasins studied. Forest cover in streamside areas declined in some subbasins and stayed constant in others (Table 4). The majority of forest cover loss in the streamside areas analyzed appeared to be the result of “vested” development – that is, construction legally permitted under older sensitive areas rules.⁸



Between 2005 (top) and 2009 (bottom), houses and roads replaced forest along a tributary to Bear Creek.

Table 4. Change in forest cover and impervious cover along selected WRIA 8 streams, 2005-2009.
Data source: King County Department of Natural Resources and Parks.

Change between 2005 and 2009	
Forest Cover	
Inside UGA	-3.8%
Outside UGA	-1.5%
Impervious Cover	
Inside UGA	10.6%
Outside UGA	5.5%

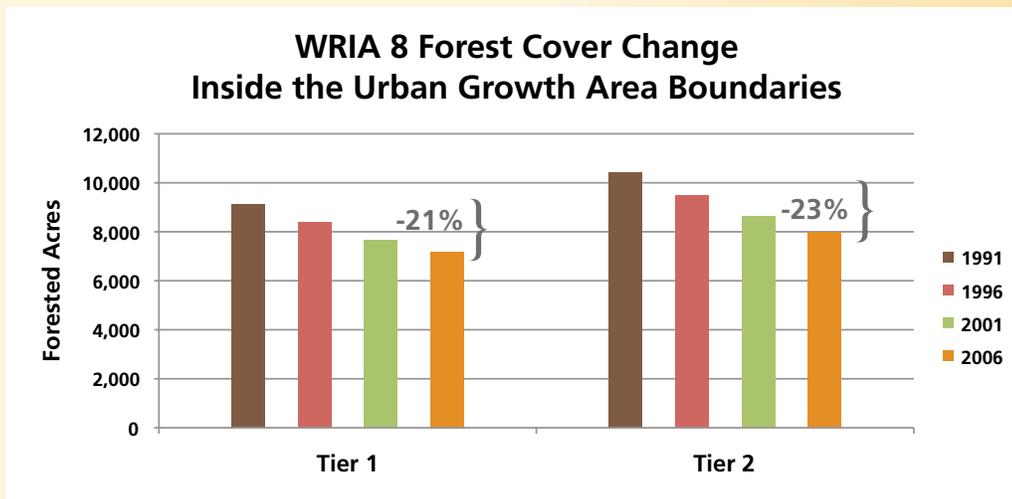
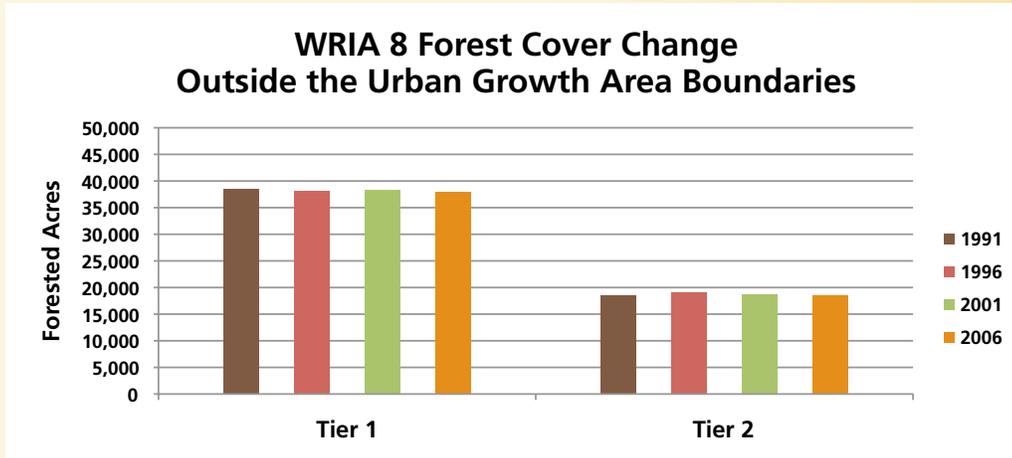
⁶ <http://www.ecy.wa.gov/programs/leap/stsmfi/index.html>

⁷ “Tiers” denote priority areas for Chinook salmon in WRIA 8. Generally, Tier 1 and 2 areas are highest priority and have the greatest potential for salmon habitat conservation and restoration. Tier 3 areas are important for water quality improvement and protection.

⁸ <http://www.gowlink.org/watersheds/8/reports/W8LandcoverChangeReport7-19-2011.pdf>. See report for details.

Figure 7. Forest cover change in Tier 1 and Tier 2 areas in WRIA 8, 1991-2006.

Data source: King County Department of Natural Resources and Parks.



Water Quality

The WRIA 8 Plan relies on the efforts of state and local jurisdictions to protect and improve water quality to help salmon. Likewise, WRIA 8 relies on monitoring efforts by King County and others to provide information on the status and trends in water quality in the watershed. One metric commonly used to report water quality is the Water Quality Index.⁹

The Water Quality Index (WQI) incorporates eight water quality parameters that include temperature, pH, fecal coliform bacteria concentration, dissolved oxygen concentration, sediment load, and nutrient levels. A higher number indicates better water quality, with 100



⁹ <http://www.ecy.wa.gov/biblio/0203052.html>

the highest possible score. In general, stations scoring 80 to 100 meet expectations for water quality and are of "lowest concern;" scores of 40 to 80 indicate "marginal concern." Water quality at stations with scores below 40 does not meet expectations, and these streams are of "highest concern." Water quality data is presented in **Figure 8**.

Benthic Index of Biotic Integrity

Another overall indicator of stream health, the Benthic Index of Biotic Integrity¹⁰ (BIBI) incorporates information on the composition and numbers of aquatic insects living in streams into a score between 10 and 50, with 10 being very poor and 50 being excellent. In WRIA 8, between 2002 and 2010, on average 53% of the sample sites scored "Poor" or "Very Poor," 33% scored "Fair," and 14% scored "Good" or "Excellent." The data display no apparent trend during this period (**Figure 9**).

Watershed Habitat Status and Trends

In 2009, WRIA 8 began a project to conduct physical and biological monitoring in 30 stream reaches in the watershed to characterize watershed conditions. In 2010, we added 20 stream reaches with the aid of an EPA grant written in partnership with King County. We are still analyzing data from the first few field seasons; these will inform our next progress report.

¹⁰<http://www.pugetsoundstreambenthos.org/>

Figure 8. Water Quality Index (WQI) for selected WRIA 8 streams, 2001-2009. Cuts to the King County water quality monitoring program in 2009 reduced the number of stations in WRIA 8 (hence the shorter bar for 2009). *Data source: King County Department of Natural Resources and Parks Water Quality Monitoring Program.*

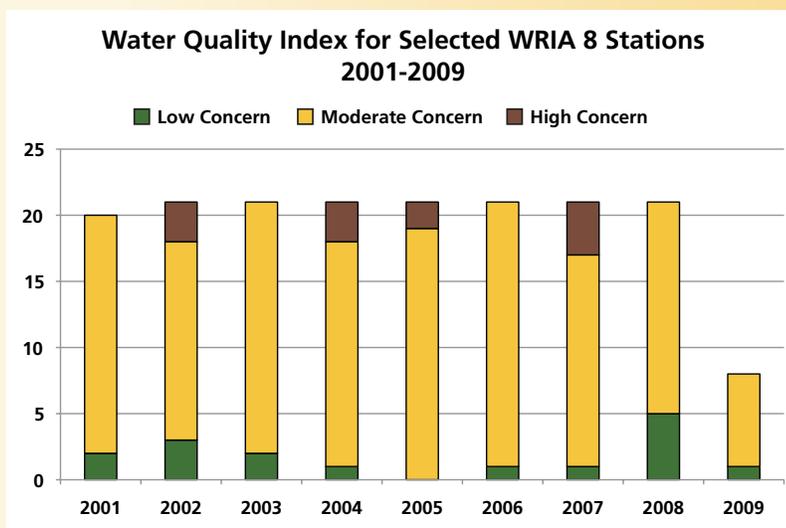


Figure 9. Benthic index of biotic integrity scores for WRIA 8 streams. Percentages represent aggregate scores of 79 to 89 survey reaches per year. *Data source: King County Department of Natural Resources and Parks Ambient Monitoring Program.*

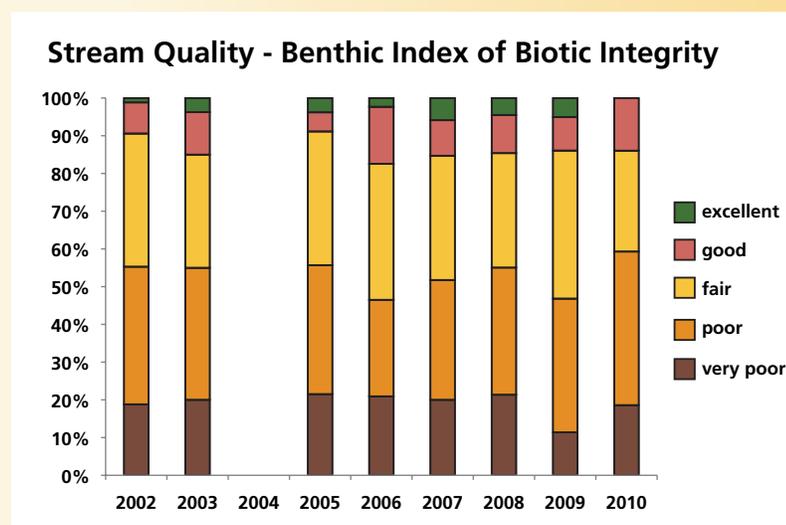
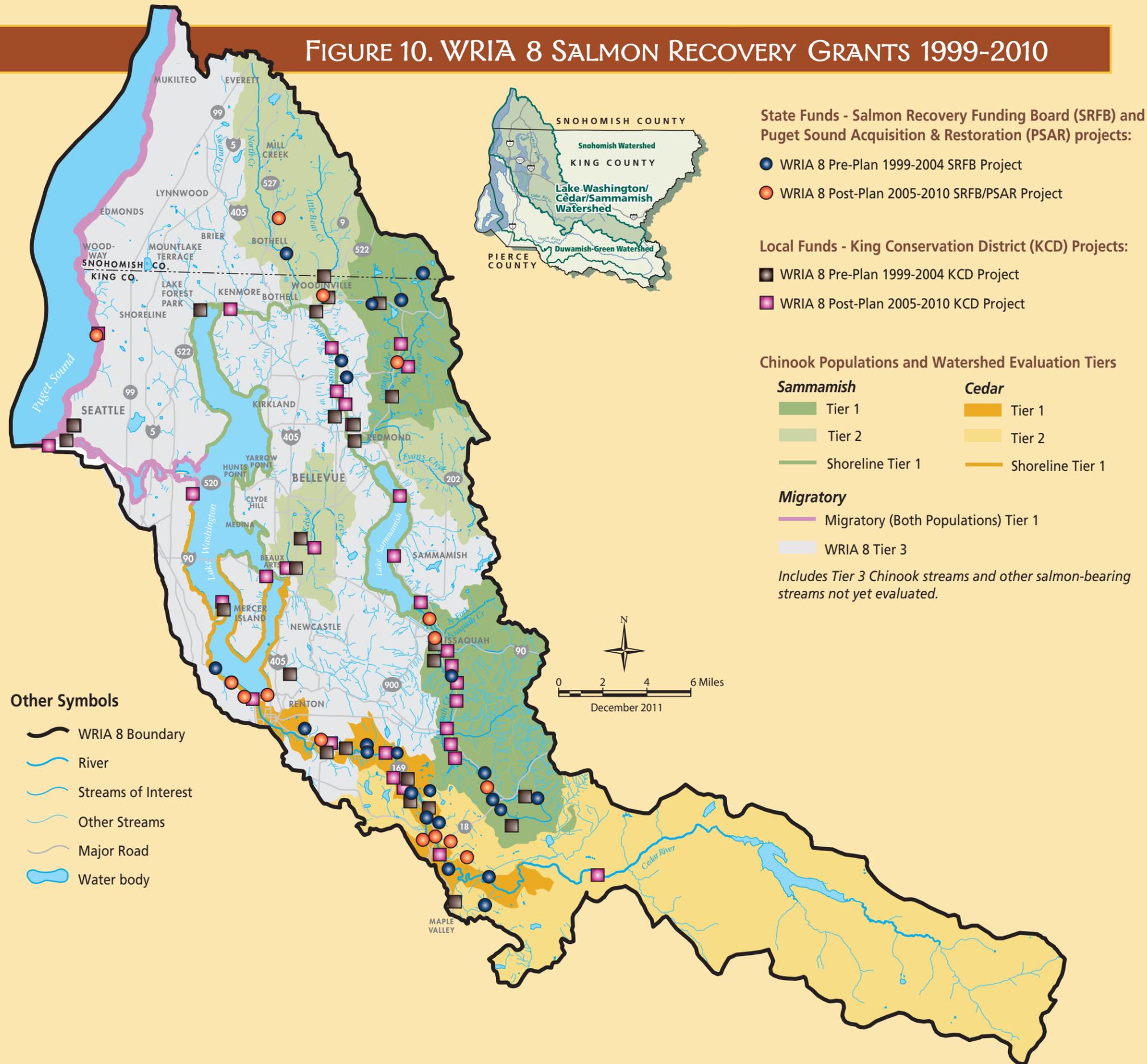


FIGURE 10. WRIA 8 SALMON RECOVERY GRANTS 1999-2010



Since 1999, salmon recovery partners in the Lake Washington/Cedar/Sammamish Watershed received over 90 grants for priority salmon habitat protection and restoration projects.

This map shows grants awarded between 1999 and 2010 to projects throughout the watershed from the Salmon Recovery Funding Board, Puget Sound Acquisition and Restoration program, and King Conservation District. The projects are divided between those that were funded between 1999 and 2005, before ratification of the WRIA 8 Plan in 2005, and those funded between 2005 and 2010 to implement the Plan.

The watershed is divided into "tiers," which denote priority habitat areas for Chinook salmon in WRIA 8. Tier 1 areas are highest priority and include primary spawning areas as well as migratory and rearing corridors. Tier 2 areas are second priority and include areas less frequently used by Chinook salmon for spawning. Tier 3 areas are infrequently used by Chinook salmon, but are still important areas for water quality and flow management.



IV. Habitat Protection and Restoration Progress

The Lake Washington/Cedar/Sammamish Watershed has a long history of habitat protection and restoration (**Figure 10** – map on previous page). For decades, local governments have led habitat efforts in the watershed. In addition, many WRIA 8 partners are doing habitat projects that are not specifically called for in the WRIA 8 Plan but still benefit salmon.

First Five Years of Project Implementation (2005 - 2010)

The Plan recommends nearly 700 site-specific protection and restoration projects approved by teams consisting of scientists, local experts, knowledgeable citizens, and technical staff from state and federal resource management agencies and local jurisdictions. From this list, a subset of the highest-priority projects was chosen for implementation during the first 10 years of the Plan (the “Start List”). The Start List is updated as implementation advances, to reflect changes in project status, and to add new projects as they become ready or opportunities arise.

Status of Implementation

Of the 166 projects currently on the Start List, 44% either have been completed (24 projects) or are funded and in progress (49 projects). An additional 40% (67 projects) have been proposed and await funding. Twenty-six projects (16%) are either conceptual project ideas that a sponsor has not developed into a proposed project, or are projects for which we lack data on their status and are assumed to be conceptual (**Figure 11**).

Priorities for recovery actions

Conservation actions that benefit the Cedar population are our highest priority, followed by actions to benefit the Sammamish population. To date, grant funding distribution generally follows these priorities, although funding for actions in the nearshore and common migratory areas has been lower than it should be (**Figure 12**).

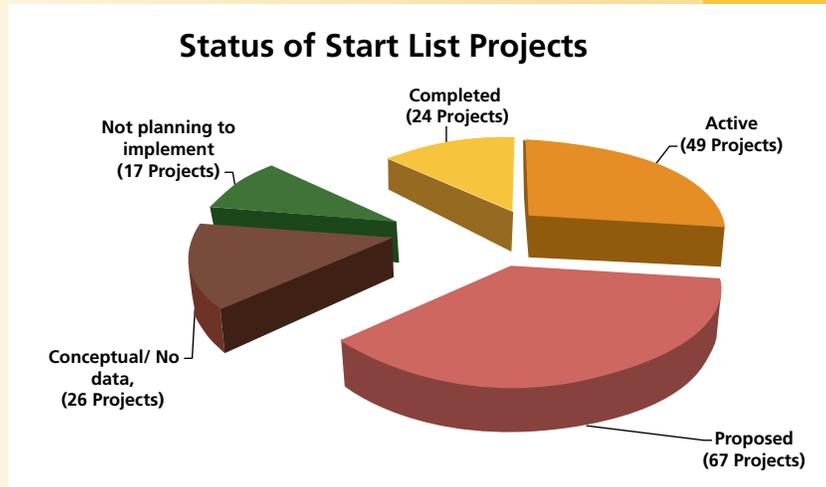
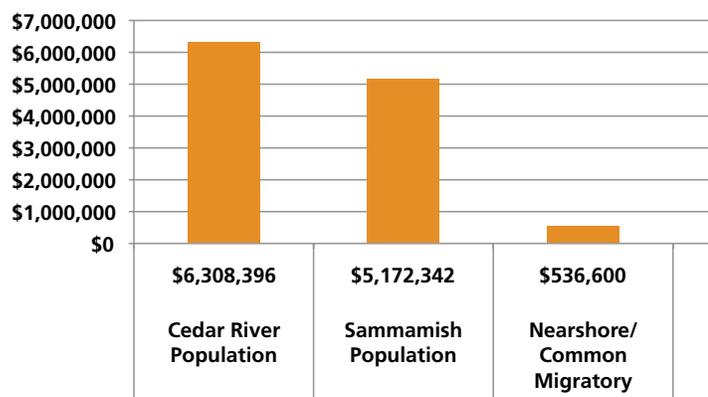


Figure 11. Status of all Start List projects since 2005 (183 projects). There are 166 projects currently on the Start List. Seventeen projects have been deemed infeasible and removed from the Start List.

Figure 12. WRIA 8 grant funding (Salmon Recovery Funding Board, Puget Sound Acquisition and Restoration, and King Conservation District grants) for habitat protection and restoration between 2005 and 2010, distributed to areas supporting the Cedar population, Sammamish population, and nearshore/migratory areas common to both populations.

Grant Funding by Chinook Population (2005-2010)



Habitat Successes

Although a lack of funding has slowed the pace of habitat restoration and protection, WRIA 8 partners continue to implement projects throughout the watershed (Table 5). Recovering salmon in our watershed requires protecting or restoring habitat processes. This typically requires large areas and often encompasses multiple properties. During the first five years of implementing the WRIA 8 Plan, nearly two-thirds of the available funding was dedicated to acquisition projects to protect existing high-quality habitat or to enable future habitat restoration (Figure 13). The remaining one-third went to restoration projects. As the “last best places” are protected, more of the land acquired for future restoration will be restored.

Table 5. Project sponsors completed 24 projects between 2005 and 2010. Projects are organized by areas supporting the Cedar population, Sammamish population, and migratory and nearshore areas common to both populations.

Completed Habitat Projects 2005 – 2010	
Cedar Population	Project Sponsor
Cedar River	
Cedar Rapids Floodplain Acquisition: Acquired 15 acres of floodplain for future levee removal and floodplain restoration	King County
Cedar Rapids Floodplain Restoration: Removed levee and restored 15 acres of floodplain	King County
Rainbow Bend Acquisition: Purchased 40 acres, including mobile home park and nine single-family homes; relocated residents from 55 mobile homes	King County
Lions Club Side Channel Restoration: Restored 800 foot historic side channel and floodplain	King County
Lower Taylor Creek Floodplain Restoration: Relocated 800 feet of stream away from Maxwell Road, and restored floodplain habitat	King County
Migratory Area – South Lake Washington Shoreline	
Chinook Beach (Rainer Beach Lake Park): Removed marina and bulkhead, and restored shoreline	City of Seattle
Martha Washington Park Shoreline Restoration: Removed armoring and restored shoreline	City of Seattle
Seward Park Riparian (Shoreline) Habitat Restoration: Restored 300 feet of lakeshore habitat	City of Seattle
Lake Washington Shoreline Restoration (Section 4): Daylighted Madrona Creek and restored shoreline	Friends of Madrona Creek
Sammamish Population	
North Lake Washington Tributaries	
Twin Creeks Project: Expanded existing restoration project to restore riparian and floodplain habitat	Snohomish County
Little Bear Creek Forest Protection: Protected 105 acres of forest on Little Bear Creek	Snohomish County
Fish Passage on Kelsey Creek: Improved fish passage by replacing culvert on NE 8th St.	City of Bellevue
Issaquah Creek	
Sammamish State Park Restoration: Restored wetlands, streams and lakeshore areas	Mountains to Sound Greenway Trust
Sammamish State Park Recreation Management: Updated park management plan to improve park management and enforcement to protect site from human disturbance	Washington State Parks
Anderson Property Acquisition: Acquired property at the confluence of Issaquah Creek and East Fork Issaquah Creek, to be restored and added to Issaquah Creek Park	City of Issaquah
Guano Acres Acquisition: Acquired 8 acres on lower Issaquah Creek	City of Issaquah
Juniper Acres Acquisition: Acquired 5 acres along Issaquah Creek	City of Issaquah
Squak Valley Park Restoration: Restored 8 acres of riparian and floodplain habitat and 1,000 lineal feet of stream	City of Issaquah
Issaquah Creek Protection: Acquired 118 acres on Issaquah Creek in the Log Cabin reach	King County
Fish Passage Improvements on Issaquah Creek: Replaced partial fish barrier culvert at 298th St. within Taylor Mountain Park	King County
Migratory Area – Lake Sammamish and Sammamish River	
Sammamish River Bank Restoration: Regraded banks, created habitat benches and restored riparian areas on nearly 2,000 lineal feet of river	City of Redmond
Wildcliff Shores Riparian Wetland Enhancement and Reconnection: Reconnected riparian wetlands to Sammamish River and restore vegetation at Wildcliff Shores, across from Swamp Creek	City of Kenmore
Zacusse Creek Restoration: Daylighted Zacusse Creek and restored creek mouth along Lake Sammamish	City of Sammamish
Both Populations – Common Migratory Areas and Marine Nearshore	
Salmon Bay Natural Area: Restored 700 feet of shoreline	City of Seattle

Cedar Population

After five years of acquiring and protecting habitat, several project sites now have enough land to begin large-scale restoration activities. This is most notable in the Cedar River, where the WRIA 8 Plan identifies reconnecting the river to the floodplain to increase habitat for juvenile Chinook as the most important action. The Cedar Rapids project was the first large-scale floodplain restoration project on the river (see below). Other floodplain habitat restoration projects are moving forward in the next three years. While these projects will greatly improve habitat conditions for both adult and juvenile Chinook salmon, more large-scale floodplain restoration is needed.

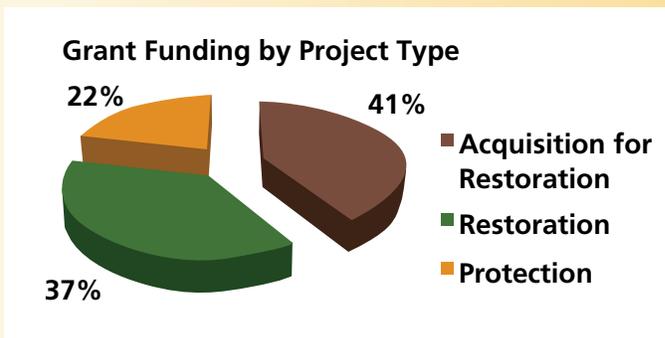


Figure 13. Distribution by project type of \$12.1 million in grant funding received from Salmon Recovery Funding Board, Puget Sound Acquisition and Restoration program, and King Conservation District between 2005 and 2010. This distribution reflects grant funds only, and does not include funds used to match grant funds. Between 2005 and 2010, over 60% of grant funding has gone to protecting habitat and acquiring land for future restoration. As the remaining high quality habitat is protected, more funding will support restoring land acquired for restoration.

CEDAR RAPIDS FLOODPLAIN RESTORATION PROJECT



Cedar Rapids pre-project (2007)...



...and post-project after flooding in both 2009 and 2011.

This project, one of the first major floodplain reconnection projects on the Cedar River, aims to both reduce flood hazards and restore salmon habitat.

In 2008, the levees and bank armoring were removed from a 30-acre site, allowing the river to reconnect with its floodplain. Setback levees were built on the site's outer edges to protect adjacent homes and Jones Road. The project was designed to allow the river to migrate freely within the new setback levees.

The Cedar River experienced major flooding in 2009 and 2011 that reshaped the site dramatically. The river shifted its mainstem channel, a new large gravel bar formed, and historic side channels filled with water. However, logs and logjams moved downstream during the flooding and had to be removed.

King County will be applying lessons learned from this project to future restoration projects, including the Rainbow Bend site, where a levee will be removed and 40 acres of floodplain will be restored. Construction will begin in 2013.

Unique to WRIA 8 in the Puget Sound region, lakes are an important part of Chinook migratory habitat. Therefore, restoring stream mouths and beach habitats along the shoreline is particularly important. WRIA 8 partners have implemented several important shoreline restoration projects from Seward Park south to the mouth of the Cedar River. These projects provide important habitat for juvenile Chinook as they migrate from the Cedar River through Lake Washington.

Sammamish Population

Actions to support the Sammamish population have focused on protecting existing habitat and restoring areas of Issaquah Creek and Bear Creek, the two primary spawning areas for the Sammamish population. The Sammamish River is a critical migratory corridor for the Sammamish population, emphasizing the need to restore riparian areas and off-channel habitat. We have also protected and restored habitat on Little Bear and North Creeks, which provide additional diversity of spawning habitat for the Sammamish population.

Nearshore/Common Migratory areas

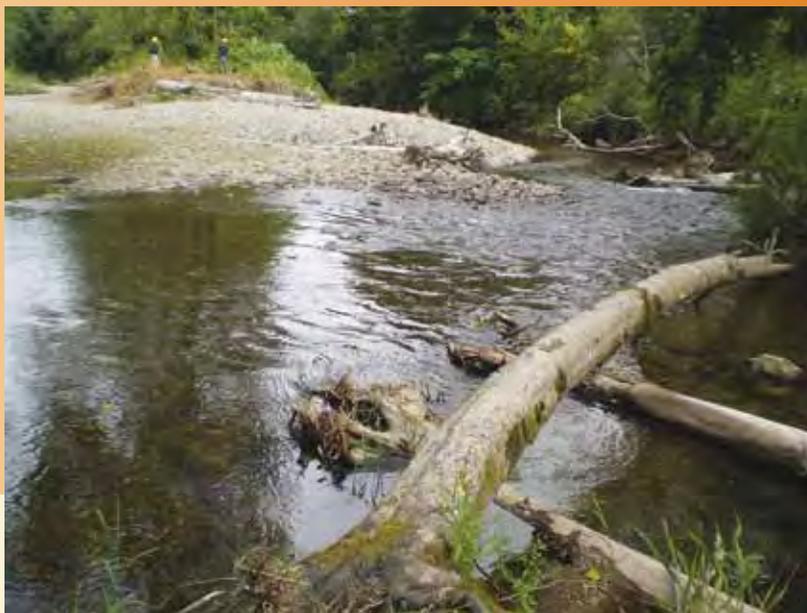
Twice during their lives, as an outmigrating juvenile and a returning adult, Chinook salmon from both WRIA 8 populations migrate through the Ballard Locks, Ship Canal, and along the marine nearshore. Salmon face several challenges in this migratory bottleneck, and work is needed to improve fish passage.

- Passing through the Ballard Locks is hazardous for both juvenile and adult salmon. Some improvements have been made, but much more needs to be done.
- High water temperatures in the Ship Canal may be harmful or even lethal.
- The railway along the marine shoreline limits the opportunity to restore natural processes.

ISSAQUAH RESTORES SQUAK VALLEY PARK NORTH

In 2010, the City of Issaquah restored eight acres of fish and wildlife habitat at Squak Valley Park North. This is one of the largest restoration projects in the City's history.

The City removed portions of a levee along Issaquah Creek to reconnect it to the floodplain. The area had been a straight, uniform channel more than 1,000 feet long, providing poor fish habitat. Public benefits include a new nature park, with trails and stream overlooks, and reduced flooding in the Sycamore neighborhood.



V. Funding Salmon Recovery

To protect and restore the habitat necessary for salmon recovery, the WRIA 8 Plan set an ambitious funding goal of over \$17 million annually from federal, state, and local sources. Funding during the first five years of implementing the Plan has fallen short of funding goals in most categories (**Table 6** and **Figure 14**).

Salmon recovery in WRIA 8 relies on grant funding from several local, state, and federal sources. Between 2005 and 2010, WRIA 8 partners received over \$12 million in grants for habitat protection and restoration projects (**Figure 13**).

Federal and State Funding

The Salmon Recovery Funding Board (SRFB) has been a crucial, consistent source of federal and state funds for salmon habitat protection and restoration. From 2005 to 2010, annual SRFB funding was one-third of what the WRIA 8 Plan anticipated from this source.

In 2007, recovering Puget Sound became a greater state and federal priority. This additional focus on Puget Sound brought new regional funding to accelerate the pace of salmon recovery efforts. In the 2007 biennial budget, the state legislature appropriated \$42 million through the newly created Puget Sound Acquisition and Restoration (PSAR) program to Puget Sound watersheds. This increased funding to implement the highest priority salmon habitat protection and restoration projects.

WRIA 8 received \$2,015,099 in 2007 PSAR funds and \$1,623,911 in 2009 PSAR funds. Although PSAR only provided about half of the anticipated new funding from regional grants, it was a substantial, much-needed investment. The PSAR program is not a guaranteed funding source, and the legislature appropriates it every two years. It is important for WRIA 8 partners to actively support PSAR funding and demonstrate the on-the-ground habitat improvement that results from this investment.

Federal funding has been much lower than anticipated. In particular, U.S. Army Corps of Engineers funding has been far lower than expected in the Plan goals, largely a result of reduced congressional allocations to the Corps of Engineers and some potential project partners deciding to seek funding elsewhere rather than go through the Corps project funding process.

Funding Sources	WRIA 8 Plan Annual Funding Goal
Salmon Recovery Funding Board	\$1,400,000
New Regional Funding	\$4,000,000
Other State (agency grants, etc.)	\$800,000
Federal (Army Corps of Engineers, Environmental Protection Agency, other federal grants, etc.)	\$3,500,000
King Conservation District	\$660,000
King County Conservation Futures	\$2,500,000
Other Local Match (utility fees, stormwater management fees, etc.)	\$4,500,000
TOTAL	\$17,360,000

Table 6. WRIA 8 Plan anticipated funding sources and annual goal. WRIA 8 is unable to track all funding sources; shaded rows indicate funding sources tracked by WRIA 8.

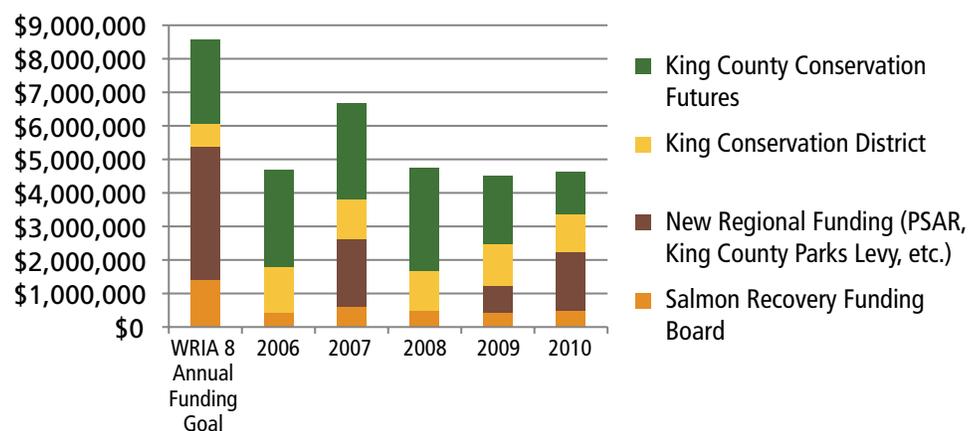


Figure 14. WRIA 8 Plan annual funding goals for four primary funding sources compared to actual annual funding levels during the first five years of implementing the Plan.

However in 2009, with the increased focus on recovering Puget Sound, several important WRIA 8 priorities received over \$4 million in federal grant funding from the EPA. EPA grants are advancing the following priorities:

- Monitoring watershed conditions in up to 50 stream reaches (King County)
- Establishing a stormwater flow control plan for the Piper’s Creek watershed (City of Seattle)
- Developing an incentives and credits program to improve ecosystem functions and processes along shorelines of single-family waterfront homes (City of Seattle)
- Supporting a partnership to restore riparian ecosystems and eradicate invasive species (City of Seattle)

Local Funding

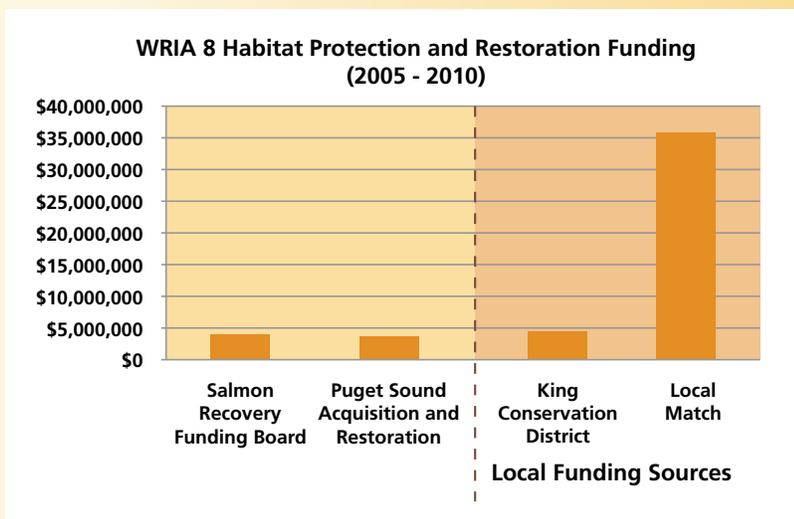
During the past five years, local funding for salmon recovery has contributed over \$40 million towards implementing priority habitat projects, much of which serves to match state and federal grants (Figure 15). Local funds come from a number of sources, most notably King Conservation District (KCD), King County Conservation Futures, King County Parks Levy, and local government surface water management fees, utility fees, and other sources. With the doubling of KCD funds in 2006, KCD has contributed nearly twice the funding for habitat restoration and protection anticipated in the WRIA 8 Plan. Additionally, King County Conservation Futures provides annual funding from property taxes levied throughout King County and its cities for the purchase and permanent protection of habitat and open space. Beginning in 2008, the King County Parks Levy also provides annual funding to acquire open space and restore county parkland that supports salmon habitat. These local funding sources serve as indispensable match to leverage grant funds for habitat protection and restoration projects.

Recovering Salmon in Challenging Economic Times

The last few years have been difficult for salmon recovery funding. Beginning in 2009, as a result of the recession, funding suffered as local, state, and federal budgets were greatly reduced. The PSAR program was reduced from \$42 million in the 2007-2009 biennial budget to \$33 million in the 2009-2011 biennial budget. In coming years, with the prospect of continued budget shortfalls at all levels, we could see further reductions in salmon recovery funding. This will continue to hinder implementation of the WRIA 8 Chinook Recovery Plan.

Although the reality of funding for habitat protection and restoration has fallen well short of the goals set by the Plan (Table 6), we have used the available funding to accomplish substantial priority project work. We will not be able to increase the pace and effectiveness of habitat restoration and protection without additional funding sources.

Figure 15. Amount of WRIA 8 grant funding by grant source compared to the amount of local funding. State and federal grant funds are leveraged heavily by local matching funds. Although King Conservation District grants are separated from local match in the figure, they should be included in the total local funds that serve as match to state and federal grants.





Program is controlling Cedar River knotweed

Invasive knotweed is an aggressive invader of riparian habitats, forming dense stands along stream banks. A collaborative program has been working to control knotweed along the Cedar River and its tributaries. This is often an essential first step in restoring native habitat.

The King County Noxious Weed Control Program began working on knotweed with landowners on the Cedar in 2007. In 2010, King County, Seattle Public Utilities, Forterra (formerly Cascade Land Conservancy), and the Friends of the Cedar River Watershed joined together to form the Cedar Stewardship in Action Program.

Partners reach out to all property owners, public and private, seeking permission to control knotweed on their property and promoting better land stewardship. Hundreds of volunteers participate in over 50 events each year to remove invasives and replant. The process is time-intensive; it takes about a year to treat (and re-treat) two river miles.

VI. Programmatic Actions

Implementation of Actions Related to Land Use and Education & Outreach

Programmatic actions in the Plan related to land use and public outreach may seem less directly tied to salmon in a WRIA 8 stream than on-the-ground habitat projects. But they are actually more critical to the long-term success of our salmon recovery efforts. WRIA 8 is the most populated watershed in the state, and it is still growing. How well we manage growth and development, and motivate people who live in our watershed to take positive actions to benefit salmon, will determine our success in recovering Chinook salmon.

In 2008, the WRIA 8 team administered a survey to jurisdictions in the watershed to assess progress made in implementing programmatic recommendations in the Plan.

The survey found a high rate of implementation for the following actions, ranked as being of “high importance” by a WRIA 8 staff group:

- Forest cover/riparian buffer education
- Water quality education
- Promoting stormwater best management practices
- Critical Areas Ordinances
- Shoreline Master Plan updates
- Tree protection regulations
- Stormwater regulations
- Regulatory flexibility to promote habitat protection/restoration

For these highly-ranked actions, WRIA 8 partners should be vigilant to keep the implementation level high. They should also look for ways to measure their effectiveness.

The following programmatic actions were found to have lower levels of implementation and were ranked as being of high or medium importance to salmon recovery. These Plan recommendations should be revisited by the WRIA 8 Salmon Recovery Council and supporting committees to identify ways to increase implementation:

- Outreach regarding the benefits of large wood in streams
- Education programs for landscape designers/contractors on sustainable design
- Programs to address illegal water withdrawals
- Incentives to protect/restore ecological function
- Outreach to property owners to protect forest cover/habitat
- Promotion of low-impact development
- Natural Yard Care education

WRIA 8 partners are working collaboratively to address many outreach and education actions in the Plan. For example, many WRIA 8 jurisdictions, as part of implementing their stormwater permit requirements, are participating in the Stormwater Outreach for Regional Municipalities (STORM) Consortium. STORM coordinated extensive outreach campaigns related to reducing the water quality impacts of car washing and yard care, which are both high-priority outreach recommendations in the WRIA 8 Plan. Also, lakeshore jurisdictions in the

watershed have partnered with state and federal agencies on the Green Shorelines campaign to work with lakeshore property owners to improve shoreline habitat for salmon (see below). Pooling resources and collaborating has not only been more efficient in these cases, but has also led to much more effective outreach programs.

Non-governmental organizations and community groups and other WRIA 8 partners who were not part of the implementation survey are important partners in implementing many plan recommendations. For example, many nonprofit organizations such as the Mountains to Sound Greenway Trust, Friends of the Cedar River Watershed and Adopt-a-Stream Foundation, offer volunteer stewardship events. Local water districts offer educational programs and incentives to promote water conservation. The Washington Department of Ecology, Parks and Recreation Commission, and Puget Soundkeeper Alliance all have programs and materials to help boaters reduce pollution from recreational boating and boat maintenance.

Connecting People and Salmon

People are more likely to take actions to protect salmon, streams, and beaches if they have a personal experience that connects them with the resource. For several years, WRIA 8 has supported efforts to create personal connections through the annual Salmon SEEson campaign. Salmon SEEson promotes events sponsored by several cities and organizations where people can see salmon traveling upriver to spawn. Trained interpreters from Friends of the Issaquah Salmon Hatchery, Friends of the Cedar River Watershed, Salmon Stewards, City of Redmond, and elsewhere are on site at specific locations to provide information and answer questions.

WRIA 8 also supports the Cedar River Salmon Journey (CRSJ), Beach Naturalists, and Salmon Watchers through King Conservation District grants. These programs train volunteers about the watershed's natural resources and how to educate diverse audiences. Motivated people who know the science and can engage others are valuable resources for salmon recovery.

BRINGING BACK THE BEACH FOR BETTER HABITAT

Bulkheads and rip rap that line the shores of Lakes Washington and Sammamish have greatly reduced essential habitat for juvenile Chinook salmon. WRIA 8 has been working to encourage homeowners to restore their shoreline by adding beaches and native vegetation.

The City of Seattle developed an attractive and informative Green Shorelines guidebook for lakeshore property owners. Thousands of guidebooks have been distributed by jurisdictions, shoreline consultants and contractors, and through other means.

In 2009, WRIA 8 held a series of four green shorelines workshops about the definition of green shorelines, the permit process, incentives, and green shoreline design.

In 2010, lakeshore property owners received mailers with color photos and information about green shorelines. WRIA 8 also developed a Green Shorelines website. WRIA 8 plans to continue Green Shorelines work through outreach to professionals, project case studies, and new media.



VII. Our Future: Challenges and Opportunities



Watershed Report uses video to inspire high school students

How do you engage a new generation in protecting our watershed? Try making them leaders in producing a video.

Friends of the Cedar River Watershed (FCRW) has been working with high school students to research, narrate, and produce The Watershed Report. The innovative project is a series of short video reports on positive sustainability trends in the 13 school districts and 27 cities of the greater Lake Washington Watershed.

Updated every year, the report is like a collaborative report card. The report is featured each year on 19 public access channels.

The first report premiered in June 2010 with over 150 community leaders in attendance. The video won an award for watershed films sponsored by the Whole Watershed Restoration Initiative.

FCRW recruits students for the report through sustainability presentations in all 13 school districts in the watershed.

We have much to celebrate after the first five years of implementing the Chinook Conservation Plan. We have reason to believe that salmon will continue to be a vibrant, thriving part of our watershed into the future. We appear to be holding the line on Chinook salmon population trends and maintaining forest cover in the rural parts of the watershed. Collectively, we are taking the right actions in the right places for salmon recovery. Our commitment to improving the health of our watershed, and recovering salmon, remains strong.

Too Little Progress in Implementing Plan Recommendations

Although the commitment to salmon recovery is strong in WRIA 8, at the five-year point of implementing the Plan we are not as far along as we anticipated when we ratified the Plan in 2005. We've only implemented 14% of the projects on our "Start List" of high priority habitat projects, and we should be closer to 50%. As discussed in Section VI, we've identified land use and outreach recommendations in the Plan needing more focused implementation efforts. A primary reason we have not made more progress is that, like most watersheds in Puget Sound, we are behind on our ambitious goals for funding salmon recovery.

In 2011, the National Marine Fisheries Service issued its five-year status review of implementation of the Puget Sound Chinook Recovery Plan (of which the WRIA 8 Chinook Plan is a chapter). It found that habitat is still declining Puget Sound-wide and that not enough is being done to protect and restore habitat.

New Focus Areas for the Next Five Years

Based on our watershed analysis and Chinook salmon population trends, we need to:

- Restore more Cedar River floodplain habitat.
- Continue working with lakeshore property owners through our Green Shorelines outreach program.
- Protect and restore riparian areas in both the urban and rural parts of the watershed.
- Find solutions to address the barrier to restoring natural shoreline processes caused by railroads along the WRIA 8 marine nearshore.
- Improve fish passage through the Ballard Locks and Ship Canal.

Opportunities and New Partnerships

With so many partners and our strong record of local match for state and federal funding, WRIA 8 is an influential voice for change. We need to ask for continued state and federal funding for salmon recovery and work with other Puget Sound watersheds and partners to develop new funding sources. We need to look at creative partnerships for implementing recovery actions, and focus on actions that provide multiple benefits. We can be more effective and efficient at implementing some actions in the WRIA 8 Plan when we collaborate and share the load. We should also work more with nonprofit and community groups to advance the most important projects and programs. We need to tell our salmon stories, highlight our challenges, celebrate our successes, and invite watershed residents to join us in our work to ensure a future for salmon in the Lake Washington/Cedar/Sammamish Watershed.

WRIA 8 Coordination Team

Jean White

Watershed Coordinator

Jason Mulvihill-Kuntz

Actions and Funding Coordinator

Scott Stolnack

Technical Coordinator

Annette Frahm

Green Shorelines Outreach Coordinator

Linda Grob

Administrative Coordinator

Photos courtesy of:

Ned Ahrens, Hans Berge, Geoff Clayton, Friends of the Cedar River Watershed, Ray Heller, Charlotte Spang, Roger Tabor, U.S. Army Corps of Engineers, Washington Department of Fish and Wildlife, Dar Webb, and Jo Wilhelm.



Progress Report Preparation

Contributors: Jean White, Jason Mulvihill-Kuntz, Scott Stolnack, Annette Frahm, and Hans Berge (King County Department of Natural Resources and Parks)

Graphic Design: Sandra Kraus (King County IT Services, Visual Communications Group)



Additional copies of this report are available from:



King County

Department of Natural Resources and Parks
Water and Land Resources Division
201 South Jackson Street, Suite 600
Seattle, WA 98104
206-296-6519 TTY Relay: 711
www.kingcounty.gov/wlr

Alternate Formats Available

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For more information, contact:

Jean White

Lake Washington/Cedar/Sammamish Watershed Coordinator

Phone: 206-263-6458

Email: jean.white@kingcounty.gov

WRIA 8 website: www.govlink.org/watersheds/8/

WATERSHED INVESTMENT DISTRICTS
A SUMMARY OF DRAFT LEGISLATION
July 20, 2011

Rationale for Watershed Investment Districts (WIDs)

The intent of the proposed legislation is to:

- Provide a framework to enable sustained funding for implementation of watershed programs, activities and projects;
- Allow for more efficient financing of infrastructure;
- Recognize that solutions must be at the scale of problems; and
- Empower local decision-making while providing for efficient local, regional, state and federal coordination.

Purpose

The proposed legislation allows creation of special purpose "watershed investment districts" organized on watershed boundaries and authorizes them to raise and disburse funds to conserve and restore lands and waters. It authorizes WIDs to seek funds to implement watershed and salmon habitat recovery plans. While the legislation was developed by WRIAs in Central Puget Sound, it could apply statewide.

Process to Create a District

The boundaries of a district may include all or a portion of a single Watershed Resource Inventory Area (WRIA) or all or portions of contiguous WRIAs. One or more counties (within which a Watershed Investment District was located) would pass an ordinance to create a WID. Cities with a majority of the population within a proposed WID could petition a county or counties to create a WID.

Governance

The board of a WID would include elected officials of counties and cities that are wholly or partly within a WID. The legislation defines an optional process for forming a board in WIDs with more than 15 participating local governments. Each WID board may appoint non-voting advisory members representing stakeholders' interests directly to the board or appoint a separate advisory committee.

Activities Funded by a District

The primary purpose of the proposed legislation is to create local funding and coordinate all funding for implementation of watershed and salmon habitat plans. WIDs could also apply for and accept federal, tribal, state and private funds. A few examples of activities, programs and projects that could be funded include: acquisition of high-value aquatic and upland habitat; restoration of key aquatic habitat; and projects and programs to address regional problems related to storm water; outreach and education; and multi-benefit projects such as floodplain management.

To the maximum extent possible, WIDs must seek other sponsors (such as cities, counties, tribes or non-profit organizations) to carry out activities, programs and projects. A WID itself could carry these out if it finds that it is specially qualified to do so.

Funding Sources

Types of funding that a WID could incorporate into a funding plan and a funding proposition include:

- General property tax
- Sales and use tax
- Utility fee
- Per parcel assessment
- Real estate excise tax; and
- Pollution discharge tax

Watershed Funding Plans

Within three years of creation of a WID, the WID board must adopt a watershed funding plan for future activities, programs and projects. The board must consider allocating up to 10 percent of the funding to activities, programs and projects identified by individual participating cities and counties.

Watershed Funding Propositions; Voter Approval

Within seven years of creation of a WID, the WID must prepare a funding proposition for submittal to the voters within the WID. The funding proposition would include a list of activities, programs and projects (from the WID's funding plan) and proposed increases in taxes, fees or charges to support their implementation. Each participating county within the WID must submit the funding proposition to voters in the WID who reside in that county at either a special or general election.

If the voters fail to approve a WID's first funding proposition, the WID may submit additional funding propositions to voters. If voters fail to approve two consecutive funding propositions, the counties that created the WID must act to dissolve it.