

I. THE WRIA 8 CHINOOK SALMON CONSERVATION PLAN

Salmon have historically been, and continue to represent, a vital part of the culture and economy of the Lake Washington/Cedar/Sammamish Watershed (WRIA 8¹). The health of salmon populations is an indicator of overall watershed health, and the condition of fish habitat is linked to the quality of the environment and the benefits human inhabitants reap from it.

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 those counties. The governments also decided to take low-risk, high-priority actions benefiting salmon while the plan was being developed.

In 2005, the local jurisdictions ratified the *Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan*. They have committed to pay for a small team to coordinate the implementation of the WRIA 8 Plan through 2015.

The WRIA 8 Plan was also approved by the National Oceanic and Atmospheric Administration in 2006 as a chapter in the overall *Puget Sound Chinook Recovery Plan*. WRIA 8 actions will be an important part of Puget Sound recovery and restoration of the Puget Sound Chinook ecosystem.

Implementation and oversight of the Plan is led by the WRIA 8 Salmon Recovery Council—a body composed of elected officials, concerned citizens, scientists, and representatives from business and environmental interests, water and sewer districts, and federal and state agencies. The Salmon Recovery Council is supported by a number of subcommittees, which provide expertise in implementation, technical issues, communications, and selection of habitat protection or restoration projects.

In order to help gauge progress in implementing our plan, the WRIA 8 Team surveyed the 27 participating governments in the watershed, as well as other partners such as non-governmental organizations, about actions they are taking that support salmon recovery in WRIA 8. Twenty-one jurisdictions, representing 95% of the population and land area in the watershed, responded to the Internet-based survey.

¹ WRIA stands for Water Resource Inventory Area.



“I’m a fly fisherman, and I’m fascinated that we can have Chinook salmon returning to the middle of the urban core. We get salmon up Kelsey Creek almost to Crossroads Mall and Microsoft. We can have both economic growth and environmental protection, but people have to work at it.”

*—Dr. Don Davidson,
Bellevue City Councilmember
and Chair, WRIA 8 Salmon
Recovery Council*





“I became interested in water quality issues growing up near the shores of Lake Washington, and not being able to swim there on hot summer days because of pollution. The cleanup of Lake Washington serves as an inspiration for our salmon recovery efforts. I am especially passionate about preservation opportunities on the Cedar River because they boast some of the most pristine stretches of salmon habitat around, and we have the opportunity to protect those areas now before it’s too late.”

—Larry Phillips, King County Councilmember and Vice Chair, WRIA 8 Salmon Recovery Council

II. STATUS OF CHINOOK SALMON IN WRIA 8

Chinook salmon conservation in WRIA 8 is based on our current scientific knowledge of population status and habitat condition. Scientists in WRIA 8 have been working since 1998 to monitor the watershed’s Chinook populations in order to learn more about how habitat conditions affect Chinook salmon during their different life stages. This information will help decision-makers choose which future steps are needed to conserve Chinook and other salmon.

Scientists use various techniques to monitor each Chinook life stage (Table 1). Adult fish are monitored through surveys of spawners and redds (salmon nests) and adult escapement (number of fish that reach the spawning ground). Young fish are monitored through trapping, tagging, and counting as they pass through the Hiram Chittenden Locks. Population diversity is monitored by counting the number of hatchery fish on the spawning grounds, measuring fish age, and tracking migration timing.

Monitoring of Chinook Salmon in WRIA 8

The following figures illustrate how scientists are using monitoring results to assess the status of Chinook salmon in WRIA 8 as well as the impacts of salmon restoration actions to date. Figure 1 shows numbers of adult salmon that have survived to spawn in the Cedar and Bear/Cottage basins. Though Chinook abundance has been variable, abundance was above the Plan target of 1200 spawners in the Cedar River in 2007, and the target of 350 spawners in the Bear Creek basin was nearly reached in 2006.

Figure 2 illustrates Chinook salmon productivity, and compares recent numbers to Plan targets. Cedar River productivity has been above replacement in most years, though Bear Creek productivity has been below replacement. Figure 3 shows the diversity of juvenile Chinook salmon migrating out of the Cedar River and Bear Creek basins. The WRIA 8 Plan calls for an increase in the percentage of young Chinook rearing in the upper watersheds and migrating later in the season.

Overall, we have seen varying but positive trends in numbers of spawning fish returning to the basin, as well as productivity in the Cedar River that is generally above replacement. Another positive trend has been an overall decline in the proportion of hatchery fish spawning in the Cedar River in

Table 1. Monitoring programs and parameters for evaluating Chinook salmon status.

MONITORING PROGRAM	PARAMETERS FOR EVALUATING CHINOOK SOLUTIONS			
	Abundance (How many fish?)	Productivity (Is the population growing?)	Distribution	Diversity (Genetics, life history)
Spawner surveys	Escapement, redd counts (Figures 1, 2)	Prespawning mortality, redd:red productivity (Figure 2)	Where are the fish spawning?	Age structure, hatchery/natural origin
Fry/smolt trapping	Juvenile abundance	Egg to smolt survival (%)	Bear vs. Cedar Basins	Fry vs. smolts, migration timing (Figure 3)

recent years. WRIA 8 Chinook salmon are supplemented by hatchery fish, primarily from the Issaquah hatchery. The proportion of hatchery fish spawning with wild fish can ultimately reduce the diversity or fitness of a population. The Cedar River Chinook population is especially vulnerable to genetic dilution because of the low overall numbers of Chinook in the Cedar River.

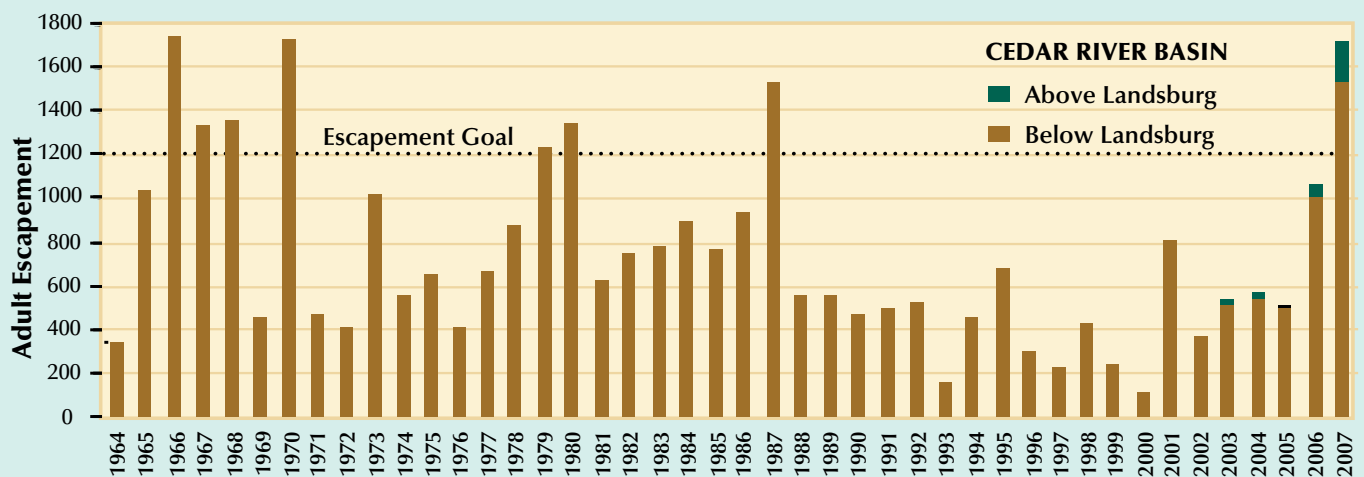
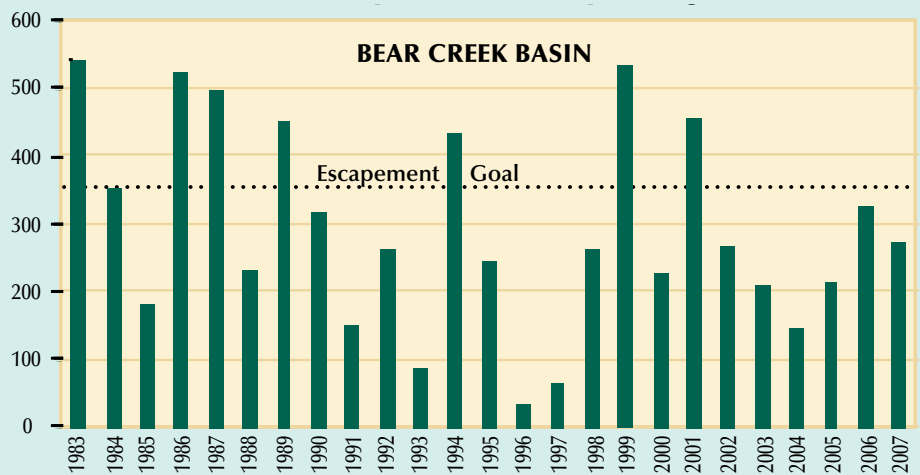
WRIA 8 scientists are planning to begin habitat status and trends monitoring in 2008. Surveys of small streams will be conducted, focusing on physical habitat characteristics (for example, stream channel width and depth, number of pools, large wood, and streamside vegetation) and fish surveys. This monitoring program will help us track habitat improvements over time and link them to Chinook population status. We can then use this information to “adaptively manage” our habitat restoration priorities and management techniques in the future.



Overall, we have seen varying but positive trends in numbers of spawning fish returning to the basin.

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 stock. Abundance has increased on the Cedar River; 2007 is the highest recorded escapement since 1970. The escapement goal for the Cedar River Basin is 1,200 spawners. In 2003 a fish passage project at Landsburg Dam provided access to habitat that had been blocked for over 100 years. Bear/Cottage Creek Chinook surveys began in 1983. The escapement goal for the Bear/Cottage Basin is 350 spawners.





Causes of salmon decline

The decline of Chinook and other salmon in the watershed generally is attributed to four factors: hydropower (dams), harvest (fishing), impacts of hatchery operations, and habitat degradation. In this watershed, dams were built for water supply rather than hydropower and therefore are being addressed by the local governments managing those dams. WRIA 8's efforts at the local level focus on the conservation and restoration of salmon habitat because local jurisdictions have responsibility for the habitat-based aspects of Chinook survival. The state and the tribes, who are the legal co-managers of the fisheries resource, are responsible for efforts to address harvest and hatchery management. WRIA 8 scientists and the co-managers are working together to develop an integrated approach to Chinook recovery that accounts for the combined effects of all these factors.

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 spend 2 to 6 years at sea before returning to spawn. The majority of Chinook in the Cedar River return after 3 to 4 years, though the proportion varies each year. A population replaces itself at a value of 1; the WRIA 8 Plan has a goal of 3.1 for the Cedar River population and 3.0 for the Sammamish population. (Note: since it may take 4 or more years for Chinook to return to spawn, the 2003 spawning year is the latest for which we can accurately assess productivity.)

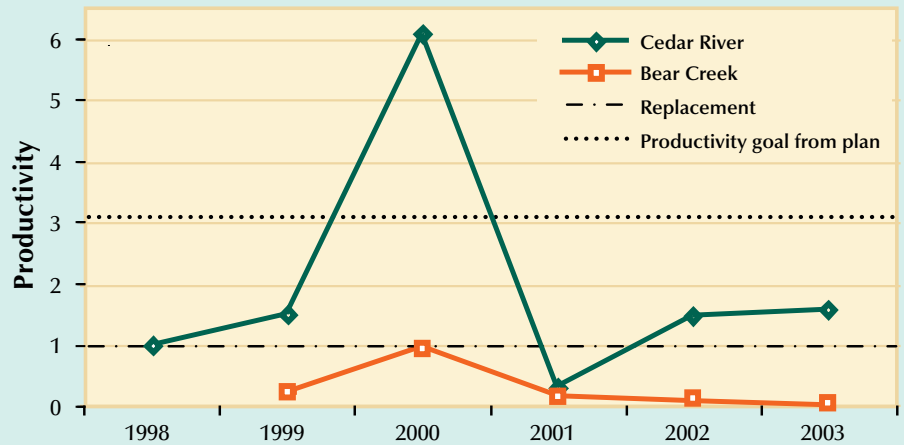
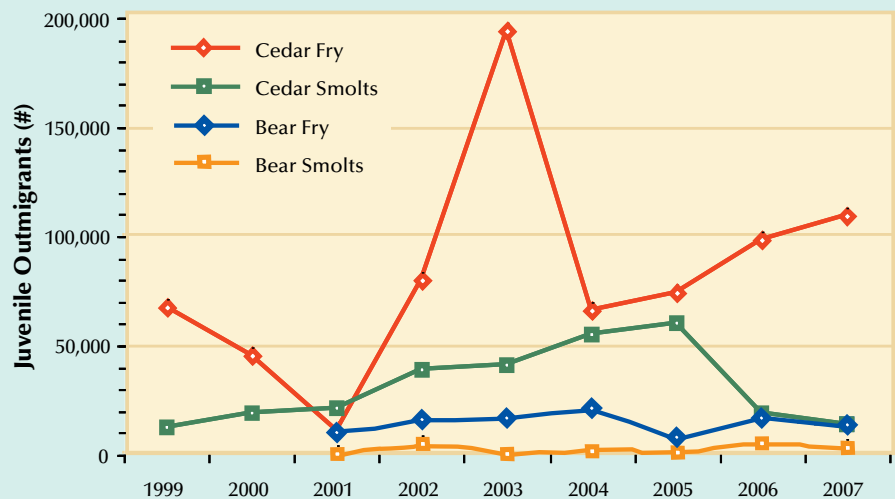


Figure 3. Juvenile Chinook outmigrants in the Cedar and Bear Basins.

Juvenile Chinook salmon have two different life history strategies. Very young fish called fry migrate out of the rivers between January and April, while older juvenile migrants (smolts) rear in freshwater for a few more months and migrate later, in May and June. Chinook conservation goals in both basins include increasing the percentage of smolts rearing in the basins and migrating later. Research has shown that larger migrants have a higher survival rate. In addition, older migrants may indicate suitable habitat in the upper watersheds, while younger migrants (fry) may indicate less suitable habitat conditions.



III. MAJOR RECOVERY PRIORITIES IN WRIA 8

Salmon recovery in WRIA 8 is organized around the needs of two distinct Chinook populations—Cedar River and North Lake Washington/Issaquah—as well as the migratory and rearing corridors used by those populations. While particular actions may differ across these recovery areas, certain themes hold true throughout the watershed. For example, watershed-wide priorities include protecting forests, reducing impervious surfaces, managing stormwater flows, protecting and improving water quality, conserving water, and protecting and restoring native vegetation along streambanks.

The WRIA 8 Plan contains more than 1,200 comprehensive actions, developed through a collaborative, bottom-up process involving extensive participation of local stakeholders, jurisdiction staff, environmental and business representatives, and project experts. Of these 1,200 actions, the highest priority actions are grouped into the Plan’s 10-year “Start List,” which provides focus during the initial stages of plan implementation.

The Plan’s actions are grouped into three categories of actions:

- **Site-specific habitat protection and restoration activities** protect or restore a specific area or parcel through acquisition or easements and through restoration projects such as levee setbacks, revegetation, addition of large wood, and removal of barriers to fish passage.
- **Land use and planning actions focus** on accommodating future growth while minimizing impacts to salmon habitat. Included are incentive programs, regulations, best management practices, low-impact development recommendations, enforcement actions, and policies.
- **Public outreach and education actions** support the land use and site-specific actions or encourage behavior that benefits habitat health, such as through workshops for shoreline landowners, a regional marketing campaign, and promotion of stewardship by businesses and community groups.



IV. HABITAT PROTECTION AND RESTORATION

The Lake Washington/Cedar/Sammamish watershed has a long history of habitat restoration. For decades, local governments have been leading habitat protection and restoration efforts in the region. Between 1999 and 2005 (prior to ratification of the Plan), 128 salmon recovery-related grant actions were initiated in the watershed. To date, 96 of those grants have been completed. In addition, many local governments are implementing habitat protection and restoration projects not specifically called for in the WRIA 8 Plan. (See map of grant actions funded through Salmon Recovery Funding Board on pages 8 and 9.)

What is being done now

The WRIA 8 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, 162 of the highest-priority projects were chosen for implementation during the first 10 years of the Plan (the “Start List”).

Homer Venishnick has been living near the Cedar River for 82 years, and as a long-time member of the Renton Lions Club, he advocated for restoration of a historic side channel on the Lions Club’s property on the Cedar River.

“I caught a king out of the Cedar when I was in high school. I couldn’t put it in the pickup myself; someone had to help me put it in. I’d say it was over 85 pounds. The tail was 19 inches wide.”

—Homer Venishnick, Renton resident and member of the Renton Lions Club



Removing an old marina, concrete blocks, and a parking lot greatly improved 350 feet of shoreline at Rainier Beach Lake Park. With adjoining natural shoreline, this site now has 700 feet of habitat for juvenile Chinook rearing and migration.



Through the Issaquah Waterways Program, over 2,000 acres of near-pristine habitat have been protected, including over 100 acres in the Log Cabin Reach of Issaquah Creek.

In 2006 and 2007, 14 high-priority Start List projects were completed, and 44 additional projects are underway (Figure 4). Local sponsors plan to begin another 23 projects within the next three years. Fifteen projects have been deemed infeasible because of changing conditions (for example, a new subdivision may have made it impractical to protect a forested area. Twenty other projects have been added to the Start List since 2005.

Completed Start List projects 2006-2007

Some high-priority projects completed in the first two years since ratification of the WRIA 8 Plan include the following:

Cedar River

- Cedar Rapids—Acquired approximately 15 acres to provide restoration opportunities on the Cedar River.
- Lions Club Side-Channel Restoration—Restored a historic side channel (~ 800 feet) and associated floodplain to provide Chinook rearing habitat.
- Lower Taylor Creek Floodplain Restoration—Relocated 800 feet of stream channel away from a road, restored wetlands and off-channel habitat, placed large wood, and restored riparian vegetation.

Migratory Areas

- Rainier Beach Lake Park, Lake Washington—Removed a marina and bulkhead, regraded the shoreline, removed invasive non-native plants, and added native vegetation along the shoreline.
- Martha Washington Park, Lake Washington—Removed riprap and rock armoring, regraded and scalloped the shoreline to enhance habitat diversity, and planted native vegetation.
- Added strobe lights at H.M. Chittenden Locks to deter smolts and prevent entrainment in the locks.

North Lake Washington

- Little Bear Creek Headwater Forest—61 acres of mature second-growth forest were protected through a mix of conservation easements and acquisition. Acquisition of an additional 38 acres is underway.
- Wildcliff Shores Riparian Wetlands Enhancement—Restored native vegetation across from Swamp Creek.
- Zacusse Creek daylighting—Removed a culvert containing the lower 150 feet of the creek and replaced with an open channel (project primarily benefits Kokanee salmon).

Status of 162 Habitat Projects on WRIA 8 Start List

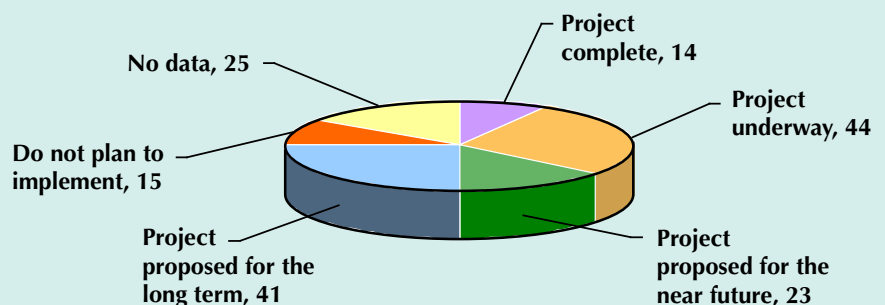


Figure 4. Habitat protection and restoration projects on the WRIA 8 10-year, high-priority "Start List." One-half of the projects are scheduled or proposed for the first five years of plan implementation (funding permitting).

Issaquah

- Lower Issaquah Creek—Acquired Juniper Acres and “Guano” Acres, the largest undeveloped parcel within the City of Issaquah. Both parcels provide excellent restoration opportunities.
- Log Cabin Reach, Issaquah Creek—Acquired 118 acres of high quality habitat.
- Sammamish State Park Management Plan—Rewrote plan to provide an ecosystem perspective and reduce impacts associated with human use. Includes protection of floodplain and riparian processes.
- Fish Passage Improvement in Taylor Mountain Park—Replaced the culvert with a design allowing better fish passage during low flows.

Other projects

Local jurisdictions and others are also engaged in a wide variety of habitat protection and restoration activities. These projects are from the comprehensive list of projects in the WRIA 8 Plan or are consistent with the WRIA 8 Plan, but are not on the Start List. Highlights include:

- Replaced the culvert on Penny Creek at Mill Creek Road (City of Mill Creek).
- Acquired 17 acres to connect two existing preserves on Lake Sammamish (City of Sammamish).
- Restored Juanita Creek in Juanita Beach Park to reduce fine sediment delivery to Lake Washington and improve stream habitat (City of Kirkland).
- Restored Mercer Slough riparian area, restored wetlands in Kelsey Creek, stabilized eroding stream banks along 1,300 linear feet of Coal Creek using large wood, and installed large wood and native vegetation along another 1,000 feet of Coal Creek (City of Bellevue).
- Six riparian enhancement projects were initiated on North and Swamp Creeks, including two volunteer riparian vegetation restoration projects in Native Growth Protection Areas (Snohomish County).
- Maintained the Wetherill Nature Preserve to provide habitat for terrestrial and aquatic species (Towns of Yarrow Point and Hunts Point).
- Protected the headwaters of Cutthroat Creek (approximately 14 acres), a tributary to Little Bear Creek (in progress—Snohomish County).
- Planted vegetation, acquired three large parcels along Little Bear Creek for preservation as open space (City of Woodinville).

Project highlights from other groups

In addition to local governments, several other groups have been carrying out habitat protection and restoration projects that benefit salmon recovery. For example, the Adopt-a-Stream Foundation restored riparian vegetation and natural floodplain processes on sections of Little Bear, Lyon, McAleer, and North Creeks. Friends of the Cedar River Watershed volunteers planted trees and removed invasive non-native vegetation along the Cedar River and Taylor Creek. The Issaquah Basin Action Team sponsored and organized a grant proposal to the Washington Department of Ecology to control two highly invasive weeds: policeman’s helmet and Japanese knotweed.



Hundreds of volunteers with the Mountains to Sound Greenway Trust have planted nearly 15,000 trees, shrubs, and willow stakes along the banks of Issaquah and Tibbetts Creeks since 2005.



Volunteers restoring vegetation along North Creek in Snohomish County.



The Cedar River is a critical spawning area for Chinook, sockeye and coho salmon and steelhead trout. Since 1995, over 600 acres in the lower Cedar River Watershed have been protected through King County’s Cedar River Legacy Program.

Funding

The WRIA 8 Salmon Conservation Plan sets an ambitious funding goal of over \$17 million annually (Table 2). This amount includes a projected “base” annual funding level of \$11.6 million from federal, state and local sources, derived from a survey of 2004 salmon recovery related grants and funding. It seeks an additional 50% increase in support, primarily from state and federal sources as well as potential new regional sources of funding.

Funding from grant sources currently tracked by WRIA 8

Within the funding strategy, the WRIA 8 team tracks four large grant funds that were estimated to contribute approximately \$8 million for salmon conservation each year (Figure 5). The first three grant funding sources, described below, are managed by the WRIA 8 Actions and Funding Coordinator to implement the WRIA 8 Plan’s Start List Actions.

- **Salmon Recovery Funding Board (SRFB)**—Awards grants (funded through federal and state sources) for salmon habitat protection and restoration.

Historic Funding: Between 1999 and 2005, SRFB awarded over \$9 million to WRIA 8, funding a total of 29 projects (see map pages 8-9). Matching funds for WRIA 8 SRFB grants were over \$7 million and included KCD grants, local CIP funding, CFT grants, and other sources.

Table 2. Summary of the WRIA 8 Plan’s Funding Strategy. Funding sources that the strategy proposed to increase are in bold and those the WRIA 8 Team currently tracks are in light blue.

Source of Funding	Base Level of Funding	Base + 50% Increase
Federal SRFB (Pacific Coastal Salmon Fund)	\$700,000	\$700,000
Corps of Engineers	\$500,000	\$2,000,000
Federal Grants	\$1,000,000	\$1,500,000
TOTAL FEDERAL	\$2,200,000	\$4,200,000
State SRFB	\$700,000	\$700,000
State Grants	\$500,000	\$800,000
TOTAL STATE	\$1,200,000	\$1,500,000
King Conservation District	\$660,000	\$660,000
KC Conservation Futures Tax	\$2,500,000	\$2,500,000
Regional Grants	\$500,000	\$500,000
New Regional Sources	\$0	\$3,500,000
Local Surface Water Mgmt. Fees	\$3,000,000	\$3,000,000
Other Local Utility Fees	\$1,000,000	\$1,000,000
Local General Fund	\$500,000	\$500,000
TOTAL LOCAL/REGIONAL	\$8,160,000	\$11,660,000
GRAND TOTAL	\$11,560,000	\$17,360,000

2006-2007 Funding: WRIA 8’s allocation for SRFB funds was \$436,000 in 2006 and \$610,353 for 2007 and funded one project each year. This represents a drop in funding to approximately one-third of historic 2004 or 2005 SRFB awards for WRIA 8.

- **King Conservation District (KCD)**—Awards grants (funded through county tax assessments) for salmon habitat protection and restoration projects, monitoring and studies, and outreach and education.

Historic Funding: Between 1999 and 2005, WRIA 8’s share of KCD grants totaled approximately \$5 million for 64 projects and actions that include monitoring, studies, and public outreach and education.

2006-2007 Funding: KCD funding doubled in 2006 due to an increase in the KCD assessment from \$5 per parcel to \$10 per parcel. In 2006 and 2007, King Conservation District (KCD) grants helping salmon conservation totaled approximately \$1.4 million annually and funded 15 actions each year.

- **Puget Sound Acquisition and Restoration (PSAR)**—The state’s 2007-2009 biennial budget included funding for salmon projects as part of the Governor’s Puget Sound Initiative. This new state funding was allocated to Puget Sound watersheds through the SRFB. This falls into the WRIA 8 funding strategy’s category called “New Regional Sources.”

2007 Funding: WRIA 8 received \$2,854,000, which funded three projects.

- **Conservation Futures Tax (CFT)**—Awards grants (funded through property taxes) for the purchase and permanent protection of open spaces within King County, with a portion of those funds going to projects that also benefit salmon conservation in WRIA 8.

2006-2007 Funding: CFT funding for WRIA 8 was slightly above historic levels at \$2,891,500 in 2006 (11 projects) and \$2,854,000 in 2007 (12 projects).



“One thing that has impressed me about WRIA 8 is all those cities sit at the table. These cities have sat down and positively tried to solve a problem together. It sets up a framework for them to do other things as well. So many things cross jurisdictional boundaries.”

—Terry Lavender, board member of Water Tenders and Citizen Member of the WRIA 8 Salmon Recovery Council.

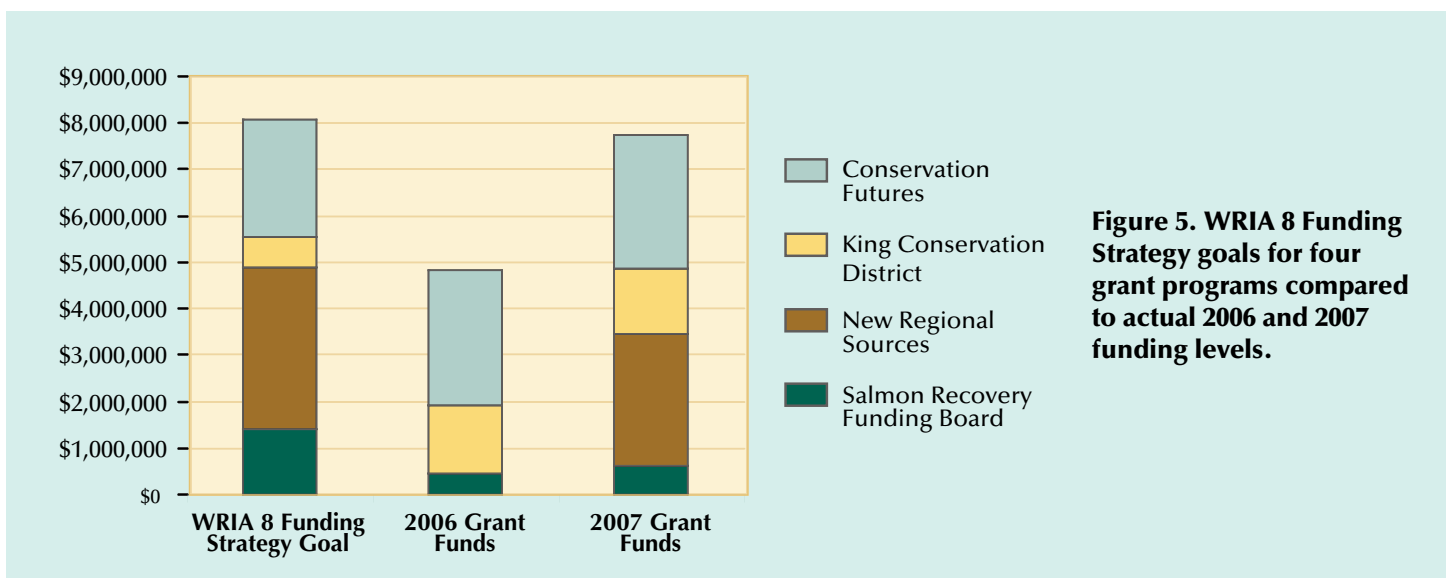
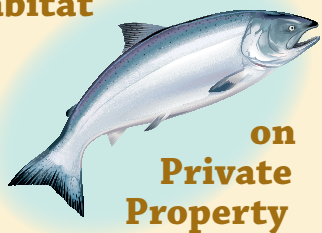


Figure 5. WRIA 8 Funding Strategy goals for four grant programs compared to actual 2006 and 2007 funding levels.

Incentives Help Protect Salmon Habitat



An important incentive to encourage property owners to protect habitat and retain forest on their property is the Public Benefit Rating Program (PBRs), a current-use taxation program that reduces property taxes in exchange for property owners protecting habitat beyond what is required by regulations. Over 21,000 acres of privately-owned property are currently protected through King County's current use taxation programs (PBRs, farm and forest lands) in the WRIA 8 watershed.

In 2006, King County worked with a local community group, Friends of Wetlands for Issaquah North Fork, to protect forest cover and headwater streams and wetlands in the Grand Ridge area (which drains to both Issaquah Creek in WRIA 8 and Patterson Creek in the Snoqualmie basin). The group held neighborhood meetings and contacted property owners. As a result, 19 landowners with a total of 83 acres enrolled in PBRs in 2006. An additional seven landowners from the area with a total of 22 acres enrolled in 2007.

Current Status of Funding

A doubling of KCD funding in 2006 and the infusion of new PSAR funding in 2007 helped to offset the drop in SRFB funds. WRIA 8 appears to be close to meeting its funding strategy goals for these four grant programs when they are combined. However, combined 2008 funding levels for these programs are expected to drop back to 2006 levels because there are no PSAR funds for 2008. The Puget Sound Partnership may generate future funding for salmon projects that benefit Puget Sound recovery, but no other new regional funding sources have been identified at this time.

The WRIA 8 funding strategy set a goal of increasing funding by 50% in the following categories: Corps of Engineers, federal grants, state grants, and new regional funding sources (PSAR discussed above). Funding for the Corps of Engineers has not increased as hoped due to emergency national demands. Federal matching funds for the Lake Washington General Investigation Study were \$253,000 in 2006 and \$310,000 in 2007, below the 2004 level of \$500,000 and far short of the goal of \$2 million for Corps funding in the WRIA 8 funding strategy. The other funding sources have not been tracked.

Future WRIA 8 implementation surveys should include sources of funding for implementation of WRIA 8 Plan recommendations. WRIA 8 may also wish to periodically conduct more in-depth surveys of funding sources for salmon-related activities, similar to surveys done in 2004 when developing the WRIA 8 funding strategy.

V. LAND USE AND PLANNING

Land use and planning activities are crucial to the health of our streams because so many of the causes of habitat degradation stem from the way we use land and water—how and where we build our homes, shops, factories and roads, how we dispose of our waste, and how we extract natural resources. For instance, rainwater runoff entering streams from our roads and other non-porous surfaces often contains materials toxic to fish and people, and water volumes during storms can contribute to flooding as well as damage streambanks and other critical areas. How we develop, restore, or preserve our shorelines affects whether young fish can find food or shelter from predators as they migrate to sea, or whether they can find suitable places to rest or reproduce when they return. How we use the land today—and how we handle the cumulative effects of yesterday's land-use decisions—will determine the health of our streams and rivers tomorrow.

Overlaps with other regional plans and programs

The WRIA 8 Plan contains a large number of specific and general land-use recommendations for voluntary actions that local governments can take to protect Chinook salmon and other freshwater resources. While the WRIA 8 land use and planning recommendations are voluntary, these recommendations overlap with many other regional plans and programs with similar goals. Many of these regional programs are mandatory.

In 2007, the WRIA 8 Service Provider Team won a U.S. EPA grant (administered through the Washington Department of Ecology) to identify areas where actions called for in other programs in the watershed overlap with

priority recommendations in the WRIA 8 Plan (Figure 6). Identifying these overlaps helps local governments coordinate their actions more effectively while furthering WRIA 8 salmon recovery. In 2008, the WRIA 8 Team will be working with WRIA 8 partners to create a strategy that optimizes these overlaps between WRIA 8 Plan recommendations and other regional programs and identifies critical actions that may not have adequate visibility through other programs and that therefore need more attention.

WRIA 8 Survey Results for Land Use and Planning

Highlights from the WRIA 8 survey regarding land use and planning recommendations include:

- Seven local jurisdictions already have programs promoting low-impact development, and eight more have proposed programs for 2008.
- Fifteen jurisdictions offer educational materials addressing water quality, and three others plan to do so in 2008.
- All respondents have existing stormwater management regulations or programs underway, and all either have updated or plan to update their activities to bring them up to the newest standards required by the Washington Department of Ecology.
- Groundwater protection efforts are underway in ten jurisdictions, including designation of critical aquifer recharge areas.
- Nineteen jurisdictions have updated their Critical Areas or Sensitive Areas Ordinances in the past four years, as required by the state Growth Management Act. Updates are required to ensure that the latest scientific knowledge (“Best Available Science”) is incorporated in local regulations.
- Twelve jurisdictions have programs promoting water conservation.
- Nine jurisdictions offer incentives (for example, reduced fees or taxes) to property owners who protect or restore ecological functions on their property.



Friends of Madrona Woods transformed Madrona Park Creek from an underground pipe into almost 1,400 feet of open stream channel, installed a fish passage culvert, and created 400 feet of shoreline cove along Lake Washington.

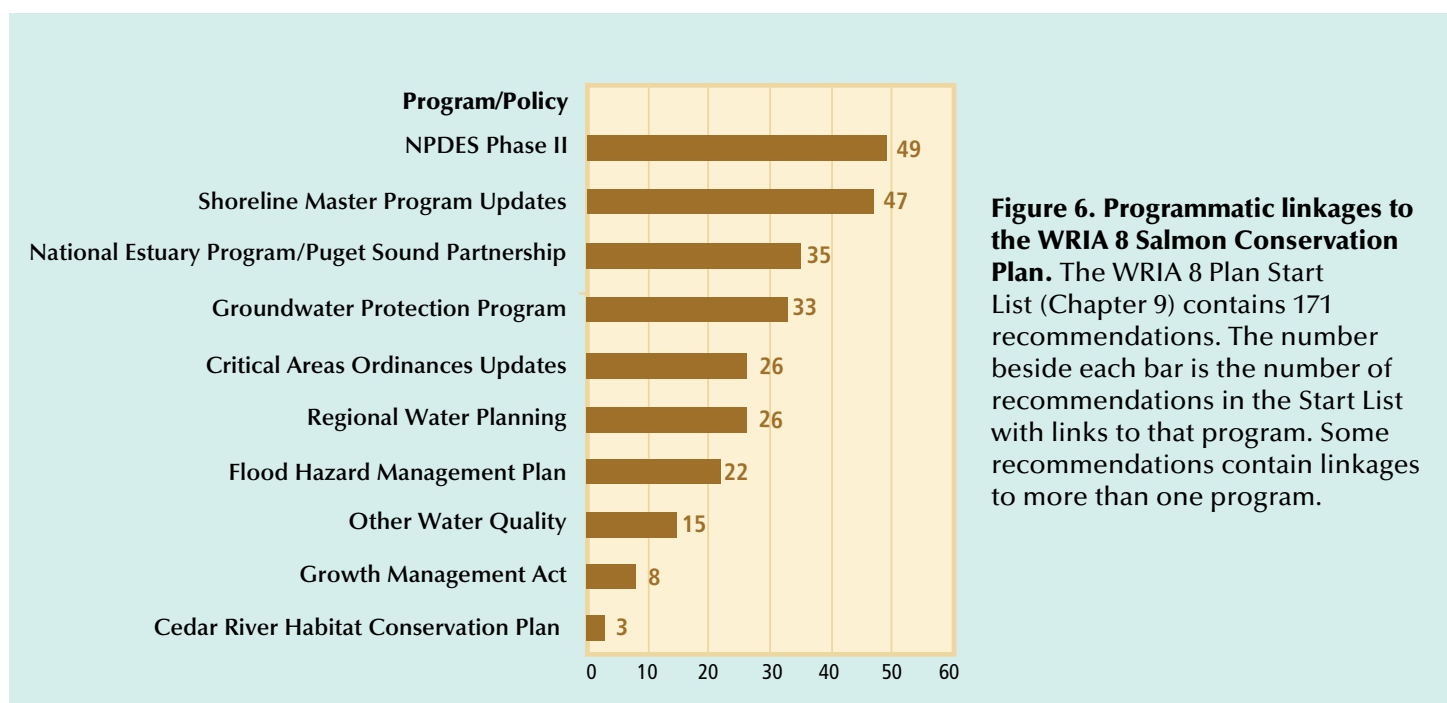


Figure 6. Programmatic linkages to the WRIA 8 Salmon Conservation Plan. The WRIA 8 Plan Start List (Chapter 9) contains 171 recommendations. The number beside each bar is the number of recommendations in the Start List with links to that program. Some recommendations contain linkages to more than one program.



VI. OUTREACH AND EDUCATION

Public education and outreach in the context of salmon recovery refers to actions supporting either habitat protection and restoration activities or land use policies, or that in some other way encourage human awareness of how our choices affect salmon and other species. Education and outreach is crucial to salmon recovery because only an informed and engaged public will be motivated to make the personal choices that might be necessary to save salmon, or to support public officials taking stands for clean water and a healthy environment.



The WRIA 8 Plan calls for a wide range of public outreach and education activities, including workshops for home or property owners, tours highlighting environmentally friendly designs, campaigns using newsletters or brochures, and promotion of stewardship or best management practices. WRIA 8 partners have made significant progress in these areas, both cooperatively and as individual jurisdictions.

Cooperative highlights include:

- **Salmon SEEson**—In 2007, the WRIA 8 Communications Committee launched a campaign to promote fall salmon viewing opportunities around the Lake Washington/Cedar/Sammamish watershed through press releases, posters, and the WRIA 8 website. WRIA 8 worked with existing public salmon viewing programs such as Cedar River Salmon Journey and Water Tenders’ “Meet the Salmon” on Bear Creek. The campaign invited the public to view salmon from September through December at seven locations to increase awareness and support for salmon conservation. Plans are to continue this as an annual fall campaign.
- The King County Salmon Watcher salmon monitoring program (2007) used 121 volunteers to survey 125 sites on 49 streams in WRIA 8. Salmon watchers collect weekly information from established sites along WRIA 8 streams. Because volunteers collect the data in this program, agencies can gather more information from far more locations than would otherwise be possible.
- The Seattle Aquarium Beach Naturalists Program reported 10,461 public contacts on WRIA 8 shorelines in 2007, where they engage the public on nearshore issues. The 2007 program had a salmon-in-the-nearshore theme, which included a salmon training evening for all volunteer naturalists, and salmon talking points based on beach group discussions after salmon lectures.
- Several WRIA 8 jurisdictions are actively participating in a new outreach effort focused on stormwater issues—STORM, or Stormwater Outreach for Regional Municipalities—and this group plans to focus a portion of its energy on Lake Washington, Lake Sammamish, and the Cedar River.

Volunteers with Friends of the Cedar River Watershed restoring habitat along Cavanaugh Pond on the Cedar River (upper photo) and at Taylor Creek, a tributary to the Cedar River (lower photo).

Additionally, the recent implementation survey revealed the following (results reported as a percentage of survey respondents; 21 of 27 jurisdictions):

- 80% currently promote stormwater best management practices.
- 71% either currently promote low impact development or plan to do so in 2008.

- Over 50% have programs in place to encourage commercial car washes or offer car wash kits.
- Approximately 50% run a Natural Yard Care program or have one proposed for 2008. King County also coordinates a large Natural Yard Care program, in which five WRIA 8 jurisdictions participate.
- Nearly 70% currently hold volunteer events to raise awareness about forest cover and/or the importance of riparian vegetation.

These efforts are important to the recovery objectives of WRIA 8 and form a base upon which to build future work, yet there are several areas where work outlined in the WRIA 8 plan has not yet started. Some areas where education and outreach programs should be extended further include:

- Education specifically directed toward landscaping contractors
- Workshops and demonstration projects for lakeshore property owners
- Outreach targeted at shoreline property owners about the importance of shorelines to salmon health
- Greater use of garden tours to showcase salmon-friendly landscape design



Members of Water Tenders enjoying an outing. Water Tenders is a citizen volunteer group that has been working to protect streams and wetlands in the Bear Creek Watershed since 1989.

Improving Lakeshore Habitat for Juvenile Salmon

Recent research shows that juvenile Chinook salmon need shallow water habitat, with a gentle slope, small substrate, and overhanging vegetation as they migrate and rear in Lake Washington and Lake Sammamish. Much of WRIA 8's lakeshores are privately owned and bulkheaded (70% of the Lake Washington Shoreline is hardened).

The WRIA 8 Plan recommends outreach to property owners to use more salmon-friendly shoreline techniques and dock designs. WRIA 8 has joined with the University of Washington (UW), NOAA Fisheries, the City of Seattle, and other lakeshore jurisdictions to tackle this implementation challenge.



During the 2006-2007 school year, a group of graduate students from the UW Environmental Management Keystone Project surveyed lakeshore residents to identify barriers to more salmon-friendly shoreline techniques and potential incentives to reduce those barriers. Seattle Public Utilities also surveyed property owners within their jurisdiction. Through

these efforts we've learned that property owners are very frustrated with the permitting process, but many would be open to considering alternative shoreline management techniques with improved information and incentives such as tax breaks, streamlined permitting, and demonstration projects.

Many good things are happening on this issue in 2008. Another graduate student team from the UW is studying lakeshore permitting and will be making recommendations for how it might be improved. The City of Seattle is developing an attractive, informative guidebook for lakeshore property owners and hopes to install a demonstration project in 2009.



“Everyone doesn’t have to love salmon to protect salmon. You can protect trees and streams because you like to hike or mountain bike, walk your dog or go riding, or because you get a tax break to keep 50 percent of your property in trees.”

—Joan Burlingame, long-term volunteer for Cedar River Salmon Journey, Rock Creek advocate and citizen member of WRIA 8 Salmon Recovery Council

In order to further salmon recovery goals in WRIA 8, it is important to both continue and expand existing programs and create new ones. Ultimately, salmon recovery hinges on awareness among the general public that our everyday activities affect salmon habitat and recovery, and outreach and education programs can help achieve this end.

VII. LOOKING AHEAD

Positive signs

There are many reasons to be hopeful about the future for salmon recovery in WRIA 8. The partners in the WRIA 8 Plan have been working for many years, both individually and collectively, to restore Chinook salmon in the watershed. More than a hundred projects to restore or protect salmon habitat have been completed in the last decade, and fully half the projects on the 10-year Start List are expected to begin within the first five years of implementation. There is a strong commitment among local governments and community groups to take the actions necessary to implement the plan. Scientific monitoring reports positive (though preliminary) trends in adult salmon returning to spawn, survival of young fish, and productivity. Local governments are making progress on land use and planning elements of the Plan, and important education and outreach efforts are underway.

These initial steps are encouraging, but they are only the first steps on a long road. Restoring Chinook salmon in the Lake Washington/Cedar/Sammamish watershed is a long-term process, and many challenges remain.

Challenges

Implementing all elements of the Plan. Restoring habitat alone will not be sufficient to recover salmon. At the governmental level, land-use decisions we make today, how we enforce rules already on the books, and how we prepare for tomorrow will have an equal or greater impact on the future of Chinook in our watershed. Public education and outreach can be powerful tools to teach people how their actions affect the environment. Citizens and community groups will need to be partners in finding ways for salmon and people to live together.

Monitoring progress. This progress report is an important part of implementing the WRIA 8 Plan. It helps WRIA 8 participants and the public to know if actions recommended in the Plan are being done. Over time, monitoring and scientific research will be essential to determine whether the actions being taken are improving habitat and salmon survival or if additional or different actions are needed. Tracking progress, checking effectiveness of actions, and making needed changes in strategy are all part of adaptively managing salmon recovery efforts for the Lake Washington/Cedar/Sammamish watershed.

Funding. Long-term, stable funding sources are needed for salmon recovery efforts and monitoring. There is some good news on funding, such as the doubling of local King Conservation District funds, but other important funding sources have declined or have not materialized. Meeting the funding goals set forth in the WRIA 8 Plan will require increased effort to find new sources of funding as well as the continued strategic use of those sources we rely upon today.