

October 31, 1994

Introduced By: Derdowski, Vance,
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cedarmo2/jl

Proposed No.: 94-586

MOTION NO. 9410

A MOTION approving the Cedar River Legacy project.

WHEREAS, the Cedar River basin has historically supported the largest run of sockeye salmon in the United States outside Alaska and still contains some of the finest salmonid habitat remaining in King County, and

WHEREAS, the run of Cedar River sockeye has dramatically declined in recent years, as have runs in the Cedar River of coho and chinook salmon and steelhead trout, due to causes that are not now known with certainty, and

WHEREAS, without efforts to restore critical habitat that has been degraded and to prevent further degradation of habitat, anticipated development in the Cedar River basin could make any other efforts to protect and restore runs of Cedar River salmonids futile, and

WHEREAS, many of the actions necessary to protect habitat in the Cedar River basin would also serve other important county goals, such as the preservation of open space, the creation of scenic trail systems and the reduction of flooding and erosion problems, and

WHEREAS, the surface water management division and the office of open space, implementing projects approved by the county council in the 1994 budget, have already initiated some of these actions through a project that has come to be known as the Cedar River Legacy, and

1 WHEREAS, the Cedar River Legacy project is an important
2 element of the Waterways 2000 Program, which is a county
3 initiated program committed to protecting the county's
4 critical waterways to preserve these systems for habitat and
5 recreation purposes, and

6 WHEREAS, the adopted 1994 budget also contains funding
7 assistance for a study of Lake Washington and the Cedar River
8 to determine factors contributing to the decline in its
9 population of sockeye and other key salmonids, and

10 WHEREAS, this study, which is being led by the
11 Washington Department of Fisheries and which is supported by
12 the Muckleshoot Indian Tribe and federal, state and local
13 agencies, can be considered as assistance to the Cedar River
14 Legacy because of the close relationship between the
15 productivity of habitat in the Cedar River and the role of
16 Lake Washington as a place for salmonids to mature, and

17 WHEREAS, in coordination with interested members of the
18 county council, the surface water management division is
19 creating a Cedar River Watershed Council, which would include
20 representatives of businesses, tribal governments, public
21 agencies and citizens active in the watershed, as a means of
22 increasing interest in protecting the watershed and
23 participating in the Cedar River Legacy, and

24 WHEREAS, the Cedar River Watershed Council could help
25 set priorities for capital improvements and property
26 acquisitions in the basin, coordinate actions among
27 implementing agencies, build a stewardship ethic among
28 landowners in the basin, and raise funds to match or
29 supplement county revenues directed to the basin, and

1 WHEREAS, a Cedar River Basin Steward has been hired on a
2 temporary basis to facilitate these efforts for the surface
3 water management division, and

4 WHEREAS, the Cedar River Legacy provides an opportunity
5 for early implementation of key actions to be recommended in
6 the Cedar River Basin Plan, with funding from both county and
7 non-county sources, and

8 WHEREAS, the Cedar River Legacy project would benefit
9 from formal recognition and approval by the county council as
10 an integrated effort, coordinated with the local community
11 and key interested parties, to restore and protect critical
12 salmonid habitat in King County;

13 NOW, THEREFORE BE IT MOVED by the Council of King
14 County:

15 The Cedar River Legacy, as described more fully in
16 Attachment A, is hereby approved as a program to protect and
17 restore areas providing critical salmonid habitat in the
18 Cedar River basin; as a source of funding for county
19 contributions to the ongoing study of reasons for the decline
20 in salmonid populations in Lake Washington and associated
21 actions to halt that decline; and as a catalyst for
22 establishing the Cedar River Watershed Council and Cedar
23 River Basin Steward for the coordination and support of

1 Legacy activities. The priority listing for specific open
2 space acquisitions in the attachment is also hereby approved;
3 provided, that no more than one-and-a-half (1.5) acres shall
4 be used as a trailhead parking lot at the Landsburg Natural
5 Area property.

6 PASSED by a vote of 10 to 0 this 31st day of
7 October, 1994.

8 KING COUNTY COUNCIL
9 KING COUNTY, WASHINGTON

10 Kent Pullen
11 Chair

12 ATTEST:

13 Gerald A. Peterson
14 Clerk of the Council

15 Attachments:

16 A. Program Description, Cedar River Legacy

**CEDAR RIVER LEGACY:
PROGRAM DESCRIPTION & 1994 PROGRESS REPORT**

I. Introduction

In recent years, the Cedar River Basin has experienced a precipitous decline in salmon stocks. At the same time, a substantial amount of historic salmonid habitat in this basin has been lost or degraded by development. These changes are due to many causes including flood control, water diversion, and substantial increases in stormwater runoff caused by urbanization. However, some habitats in the basin that are threatened by urbanization are remarkable for their healthy, almost pristine, conditions.

The Cedar River Legacy program is a comprehensive management approach to protect and restore the long-term health of the Cedar River and its tributary systems. The major goals of this initiative are to reverse the recent trend of declining salmon runs in this system and to enhance passive recreation opportunities for the enjoyment of those who live, work and play in the basin, in ways consistent with reducing flooding and water quality problems. To achieve this goal, the Legacy integrates and builds on a variety of approaches including the Surface Water Management Division's (SWM) watershed planning and management efforts in the Cedar Basin and the Parks Division's Cedar River Greenway open space acquisition plan. Hence, some of this effort can also benefit flood damage reduction, water quality, and park and recreation goals.

The Legacy is an integrated watershed-level approach that includes the following four elements:

- *Watershed Protection* to reduce or eliminate flooding and erosion problems and prevent degradation of priority aquatic habitats;
- *Habitat Restoration* to reestablish key aquatic habitats that have been lost or degraded;
- *The Lake Washington Salmon Ecological Studies* to identify and redress factors contributing to declining salmon populations in the Lake Washington Basin, including the Cedar River, and,
- *The Watershed Council and Basin Steward* to seek public and private sector support in implementing the Legacy.

Carrying out this integrated program throughout the basin landscape can protect existing high quality habitat, while enhancing and restoring the historic habitat for salmonids and other aquatic wildlife species in the basin. Coupled with similar efforts by the Seattle Water Department in the upper

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watershed, the Legacy holds the promise for recovering much of the historic natural productivity throughout the Cedar River watershed.

LEGACY BUDGET AND MANAGEMENT RESPONSIBILITIES

Complete implementation of the Legacy is currently estimated to cost about \$55 million, though this would not be paid entirely with county funds. The Legacy hopes to use county funds to leverage state and federal matching dollars to reduce the local share. For 1994, the County Council has approved an initial *Habitat/Open Space Acquisition* program totalling \$2 million by combining funds from the 1993 Parks and Open Space Real Estate Excise Tax (REET) bond and the 1993 Regional Conservation Futures acquisition program bond. In addition, the Council appropriated one million dollars to the SWM Division to implement the *Habitat Restoration*, the *Lake Washington Salmon Ecological Studies*, and the *Basin Steward and Cedar Watershed Council*.

II. LEGACY ELEMENTS

WATERSHED PROTECTION ELEMENT

The Legacy watershed protection element includes measures to protect existing high quality aquatic habitats from future degradation as the basin continues to urbanize. These habitats include the Cedar mainstem, Taylor, Peterson, and Rock Creek subbasins and the Walsh Lake Diversion Ditch, over 70 Class I and II wetlands, and nine lakes. The forthcoming Cedar Basin Plan (draft expected January 1995) will propose a wide range of watershed protection recommendations to protect and restore the landscape-level mosaic of high quality habitats in the basin. The four components of this element include a mix of land acquisitions, land conservation, and regulatory approaches. The 1994 funding for the Legacy program allows for an early start in implementing one of the most important protection elements, i.e. open space/habitat acquisition.

- o *Open Space/Habitat Acquisition* - Integrates the Parks Division open space and the Waterways 2000 proposals for the Cedar Basin into the Legacy to help safeguard healthy stream and wetland habitats through either acquisition of conservation easements or fee simple purchase (See Chart 2 for acquisition sites)

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In addition, the following watershed protection measures will be proposed in the forthcoming Cedar River Basin Plan. Following public and interagency review, the plan will be proposed to the Metropolitan County Council and the City of Renton for adoption.

- o **Wetland Management Areas** - Wetlands are a vital part of the Cedar Basin landscape because they store, cleanse, and gradually release stormwater into the system, support fish and wildlife, and contribute to the natural beauty of the basin. Wetland Management Areas (WMA) are intended to minimize effects of urban development that can overwhelm the ability of wetlands to withstand deterioration. WMAs build on the intent of the Sensitive Areas Ordinance to protect wetlands by proposing subcatchment requirements for expanded buffers, impervious area limits, forest retention, and where possible, enhanced infiltration requirements for high quality wetlands designated as Significant Resource Areas (SRAs).

Example: The Peterson Creek subbasin is one of the most productive salmonid stream and wetland systems in the basin. A series of four large wetlands and three lakes would be protected from future development by designation as WMAs. This would sustain resident and anadromous fish in a continuous habitat corridor extending downstream through what is now good to excellent salmonid habitat. In addition, water quality and wildlife would be protected and erosion problems avoided or reduced.

- o **Land Use and Other Regulatory Measures** - Proposes land use modifications and enhanced development standards to protect salmonid habitat in erosion-prone subbasins with SRAs.

Examples: A one-half mile wide corridor along much of the Rock Creek (the best salmonid habitat in the lower Cedar basin) would be protected by reducing to rural densities, those areas currently zoned at urban densities. Onsite detention, infiltration, and clearing standard requirements would be upgraded in Rock, Peterson, and Taylor creeks to protect these highly productive systems.

- o **Water Quality Improvements** - Establishes a comprehensive program to target water quality improvements and enforce the Water Quality Ordinance in catchments tributary to SRAs.

Examples: 1) Expand catch basin clean-out programs and construct bioswales to capture pollutants from road runoff and from highly developed residential areas like Fairwood and Renton Highlands, that drain to Madsen and Maplewood Creeks, respectively; 2) increase maintenance of on-site septic systems to reduce their high failure rates; and 3) encourage prudent animal-keeping practices by creating a Best Management Practices demonstration site in Taylor Creek, where the highest

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concentration of fecal bacteria from livestock-keeping practices can be found in the basin.

Estimated Watershed Protection Element Cost: \$ 15.2 million (Open Space/Habitat Acquisition)

1994 Element Budget: \$2 million

HABITAT RESTORATION ELEMENT

The recent alarming declines in salmon runs in Cedar River, Lake Washington, and throughout the Pacific Northwest have been linked to loss of habitat due to impacts from urbanization. The Habitat Restoration element is aimed at increasing the quality and availability of habitat for juvenile and adult salmonids in the Cedar River mainstem and in several important tributary reaches. In this element, as in the Watershed Protection Element, the recommendations reflect the forthcoming Cedar Basin Plan. The 1994 projects funded under the Cedar Legacy are important early action projects to restore habitat in the Cedar basin. The element includes the following programs (see Chart 3 for current projects and Chart 4 for a comprehensive listing):

- o **Mainstem Enhancement/Restoration** - Restores and enhances mainstem salmonid habitats at over 50 sites. Wetlands, riparian areas, and in-stream habitats would also be improved at selected locations by SWM's CIP and small habitat programs* through planting of conifers and strategically placing large woody debris.

Example: Former side-channel habitats would be reconnected to the mainstem by removal of non-essential dikes and revetments, or by excavation of connecting channels to the mainstem. Groundwater-fed ponds for fish rearing would be excavated and riparian vegetation enhanced. In some instances, a long-term floodplain buy out and restoration program would be implemented.

The funded 1994 program for habitat restoration consists of several of these mainstem and tributary habitat restoration sites that can be permitted and built fairly quickly (i.e. in 1994 and 1995).

- o **Tributary Enhancement/Restoration** - Enhances degraded tributary habitat by realigning channels away from roads and hazardous areas, adding large woody debris, and revegetating disturbed riparian areas.

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Examples: The lower reach of Taylor Creek would be routed back into its former meandering channel, away from Maxwell Road. A surrounding riparian wetland would be revegetated to create a wider, more functional floodplain, to reduce local flooding and improve fish and wildlife habitat.

- o **Mitigation Banking** - Identifies sites for mitigation of unavoidable adverse impacts associated with future development. Because mitigation banking concentrates restoration efforts on large high value wetland systems or stream segments in key resource areas, the value of the mitigation can be greater than mitigation areas with poor conditions and little hope of significant future improvement.

* SWM has recently established a dedicated program to carry out small habitat improvements, including revegetation and fencing to protect riparian areas. The program will use limited heavy equipment, take advantage of the Washington Conservation Corps, and seek expedited and programmatic permits to accomplish results more quickly.

Example: Mitigation for unavoidable adverse impacts from development or flood control projects could be better sited and designed and provide a substantial net increase in habitat quantity and quality for salmonids.

Estimated Habitat Restoration Element Cost: \$ 37.8 million (\$21.4 million for habitat restoration projects; \$16.4 million for multiple purpose projects to reduce flood damage, improve habitat and water quality)

1994 Element Budget and Priorities: \$660,000 - Mainstem and Tributary Enhancement/Restoration

LAKE WASHINGTON SALMON ECOLOGICAL STUDIES ELEMENT

The precipitous decline of salmon in the Cedar River, and throughout the Lake Washington Basin, is not only attributed to habitat degradation, biological and water quality changes in Lake Washington are

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also likely contributing factors. Lake Washington depends on the Cedar River for almost 50 percent of its clean freshwater supply. In turn, salmon depend on this clean water to support their food supply in the lake when migrating between the Cedar River and Puget Sound. Due to the high degree of interdependence between Lake Washington and the Cedar Basin, understanding the cause of changes in the lake can help improve conditions for salmonids in both systems.

The Lake Washington Salmon Ecological Studies (Lake Washington Studies) were initiated by an interagency technical committee, composed of King County, Muckleshoot Indian Tribe, Seattle Water Department, U.S. Fish and Wildlife Service, Metro, and chaired by the Washington Department of Fisheries and Wildlife (WDF&W). The purpose of this 5 year study is to assess the ecological health of the Lake Washington Basin; to determine likely causes of sockeye, coho, and chinook salmon and steelhead trout declines in this basin; and to recommend appropriate corrective actions for implementation at the local and regional scale. This element of the Legacy involves King County as principal contributor of technical coordination, funding, and development of the study recommendations.

King County's participation in this study is important because of its role as a regional leader in surface water management and land use issues. It is also important to assure the integrity and value of investments in protecting and enhancing the Cedar River basin itself. King County should have a central role in ensuring that the management of this study is a collaborative effort among the other local entities and state and federal agencies.

The study has three key aspects: an analysis of Lake Washington proper, an evaluation of in-migrating salmon survival to Lake Washington and a limited tributary assessment, as described below.

- o *Lake Washington Assessment* - Evaluates water quality and interactions among salmonid predators and competitors over the five year study period with emphasis on factors affecting sockeye abundance.

Example: King County SWM funding will support an assessment by the University of Washington of juvenile sockeye feeding habitats.

- o *In-migrating Salmon Survival Counts* - Tracks salmon survival from key migration areas into Lake Washington.

Examples: An assessment of the effects of sea lion predation on migrating salmon and trout at the Chittenden Locks and recommendations for corrective actions. Enumeration of sockeye populations entering Lake Washington from the Cedar basin.

- o *Tributary Assessment* - Review existing information on stream habitat conditions.

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Example: An assessment to classify and identify impacts to salmonid spawning and pool habitat conditions in key tributary reaches.

Estimated Lake Washington Salmon Ecological Study Cost: \$ 2 million (to be shared among participating entities)

1994 King County Share and 1994 Priorities: \$200,000 - Lake Washington Assessment and In-migrating Salmon Survival Counts

WATERSHED COUNCIL AND BASIN STEWARD ELEMENT

To implement the multiple components of the Legacy as quickly as possible will require substantial cooperation from public agencies, the private sector, and the range of other interests in the basin. A Cedar Watershed Council is proposed to facilitate implementation of the Legacy by fund-raising efforts and helping to build long-term stewardship in the basin community. The Basin Steward will assist the Watershed Council in accomplishing these roles.

Cedar River Watershed Council

The Cedar River Watershed Council is intended to play an ongoing leadership role in implementing the basin plan, coordinating policies and activities of public agencies and involving the basin community in implementing the Legacy. The County Council would serve as the original sponsor of the council, confirming its initial members and agreeing on its proposed mission. SWM would work with other members of the Watershed Management Committee and the Citizens Advisory Committee that have overseen development of the basin plan to recruit members and refine the council's mission. It is expected that the mission of the watershed council would evolve over time and that at some point it would begin appointing its own members, while continuing to work in coordination with the county and other agencies that are implementing the basin plan and the Legacy.

Ideally, the Council is envisioned to have 9-15 members representing the following broad base of responsibilities and interests in watershed protection and fisheries management in the basin:

1. Local, state, and federal agencies
2. Elected officials
3. Muckleshoot Indian Tribe

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4. Business and development groups
 5. Environmental and community organizations; and
 6. Individual community leaders and residents

To develop a specific list of Legacy supporters and individual members to invite on the Council, the Watershed Management Committee and Citizens Advisory Committee would be surveyed about the form and function of the Council in October and November 1994. As background information, the WMC and Citizens Advisory Committee in November would be offered a review of model councils for discussion about the new Watershed Council. Invitations to participate on the Council would be sent in December. To provide a smooth transition from the planning process, the Watershed Council would be convened in January/February 1995, after the Cedar River WMC has completed the Public Draft Basin Plan. In addition to educating itself as to the basin plan and providing its comments during the public comment period, one of the first tasks of the Council would be to assist in seeking additional resources from state government and other sources to implement the plan and the Legacy.

Basin Steward

The Cedar River Basin Steward will provide a broad range of public involvement and education opportunities to the basin community while assisting in the implementation and coordination of the Legacy projects. An important role of the Basin Steward will be to facilitate habitat restoration projects by working with landowners in preparing agreements to construct projects on private land. The Watershed Protection Element of the Legacy will also be supported by the steward's implementation of education programs to raise public awareness of human impacts on aquatic systems and of the availability of conservation incentive programs, such as the existing tax credits. Special emphasis will be placed on developing steward leaders in neighborhoods within Wetland Management Areas, significant nonpoint pollution source areas, and sites where habitat restoration projects are proposed. The Basin Steward will coordinate this effort. The chief role of the steward in supporting the Watershed Council will be to help the Council become an effective watershed management force that attracts public and private project resources to supplement local implementation funds.

Estimated Basin Steward and Watershed Council Start-up Cost (1994 - 1996): \$500,000

1994 Budget and Priorities: \$156,894 - Begin Basin Steward activities and establish the Watershed Council

III. 1994 IMPLEMENTATION PROGRESS

Since the Legacy began in January 1994, the following important milestones have been reached (see Chart 1)

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Open Space / Habitat Acquisition - Under the *Watershed Protection Element*, 25 candidate open space acquisition sites were identified (see Chart 2). The five sites judged as most likely to convert to urban uses and with willing sellers became the highest priorities. Negotiations to purchase these sites are underway, and expected to be completed in 1995.

Habitat Restoration - During the first six months of the program, sixty-eight possible restoration projects were screened for the *Habitat Restoration Element* to identify ten pilot projects with the highest probability of quick implementation, i.e. easily permitted, with landowners judged as willing participants (see Chart 3).

The original ambitious goal of implementing the majority of the pilot habitat restoration projects in 1994 will not be achieved. County code-related procedural requirements, a policy conflict with Washington Department of Fisheries & Wildlife (WDF&W), and federal permit requirements have slowed permit processes. Securing permits and landowner agreements for these projects also proved to be more difficult than expected. Consequently, only portions of two of the ten pilot projects will be permitted and implemented in 1994, with the rest delayed to 1995, or beyond.

During the remainder of 1994, the project team will work on several fronts: to expedite implementation of the habitat projects in 1995; to establish the Watershed Council; to increase the Legacy's visibility in the basin; and continue gathering information on the causes of salmon declines.

Preparing the habitat project permits will include drafting minor amendments to the Sensitive Areas Ordinance and the Shoreline Management Program; negotiating a general permit with the U.S. Corps of Engineers to cover all the habitat restoration projects; and resolving fish policy conflicts with WDF&W, while seeking the remaining construction permits and landowner agreements.

Watershed Council and Basin Steward - During the first and second quarter of the year, program staff were assembled and the Basin Steward and Watershed Council planner were hired. In the remainder of the year, the form, issues, and membership of the Watershed Council will be discussed and decided, with the goal of establishing the Council by the beginning of 1995. One of the Council's first tasks will be to support the Basin Steward's efforts to obtain grants to supplement current funds. The Basin Steward will also continue working with landowners on the habitat projects, while emphasizing stewardship building in the basin through informational workshops and other events, presentations to community groups, and maintaining regular office hours in the basin.

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Lake Washington Salmon Ecological Studies - By February 1995, the Lake Washington study is scheduled to yield basic information about the effects of predation on salmon and steelhead populations.

Chart 4: Preliminary Basin Plan Habitat Restoration Projects
(inclusive of 1994/95 projects in Chart 3)

Habitat Predominant Projects		\$21,424,952	Preliminary Estimated Cost
Malabar Projects	Project Name	Project Description	Estimated Cost
*VF-01	Mapiewood Heights Site	Invert local spring into excavated beaded channel, add LWD	\$257,701
*VF-02	Elliot Levee	Excavate GW pond and channel	\$856,652
VF-04	Lower Summerfield	Excavate GW pond and channel	\$440,580
VF-05	Summerfield	Excavate side channel and two ponds	\$548,328
*VF-06	Herrmann Levee	Excavate two ponds and side channel behind levee	\$377,929
VF-07	Jones Road WBT	Deepen and enlarge wetland and improve channel	\$128,236
VF-08	Ricardi Pond	Excavate GW channel	\$283,078
VF-09	Jeffries/Cook	Excavate two ponds and channel, tie into Ricardi Pond (#7)	\$1,555,258
VF-11	LCR Wetland #103	Excavate 4 ponds and channel	\$118,625
VF-12	LCR Wetland #37A	Excavate GW channel	\$213,076
VF-13	LCR Wetland #37B	Excavate two GW ponds with separate channels, adjacent to #37A	\$166,016
VF-15	WPA Levee	Excavate GW pond and channel behind levee	\$150,122
VF-17	Lower Rainbow Bend	Excavate GW pond	\$105,607
VF-18	Upper Rainbow Bend	Excavate GW pond, channel	\$321,157
*VF-19	Trib 0316 A	Excavate and connect 3 ponds	\$124,343
*VF-21	Lion's Club	Enhance cover and riparian condition	\$92,142
VF-22	Jan Road Ponds	Excavate and connect 5 ponds	\$224,016
VF-23	Jan Road Floodway	Excavate 2 GW channels (connect to Project 22) and 2 ponds	\$520,765
VF-24	Jan Road Levee	Excavate GW pond, channel	\$506,942
VF-25	Rutledge-Johnson Side Channel	Enhance habitat	\$53,462
VF-26	Rutledge-Johnson Pond	Excavate GW pond, connect to existing side channel (Ref37)	\$80,604
VF-27	Lower Taylor Creek Improvements	Add LWD and underplant conifers	\$89,821
VF-28	Taylor Creek Coho Ponds	Excavate two ponds and channels	\$138,809
VF-29	Taylor Creek Peninsula	Excavate 8 ponds and outlet channels	\$279,469
VF-30	Gutschmann Levee B	LWD, conifer additions, channel to Taylor Creek	\$62,424
VF-31	Gutschmann Levee A	Excavate GW Pond and connect to side channel	\$204,806
VF-33	Witte Road WBT A	Increase habitat complexity in GW channel	\$165,465
*VF-34	Witte Road WBT B	Excavate fish-usable GW channel	\$388,912
VF-35	Dorre Don Meander A	Excavate two GW ponds, improve existing pond, add connecting channels	\$157,982
VF-36	Dorre Don Meander B	Excavate 1 GW pond and 2 channels	\$135,981
VF-37	Dorre Don Meander C/Side channel	Channel improvements	\$115,087
VF-38	Dorre Don Meander C/Ponds	Excavate two GW ponds, outlet to channel (#37)	\$215,225
VF-39	Dorre Don Meander C/#40	Excavate Pond and channel	\$133,134
VF-40	Lower Dorre Don, Lower Pond	Construct Pond, realign tributary 0336	\$239,078
VF-41	Lower Dorre Don, Upper Pond	Excavate GW pond and outlet channel	\$133,212
VF-42	Dorre Don Meander D	Excavate 2 GW ponds and 2 channels	\$480,175
*VF-43	Spoerer WBT	Enhance WBT with pools, LWD and revegetate	\$135,048

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Chart 4: Preliminary Basin Plan Habitat Restoration Projects
(inclusive of 1994/95 projects in Chart 3)

*VF-44	Welland 79	Make culvert passable, add LWD, underplant conifers	\$57,519
*VF-45	Illeath-O Keefer's	Excavate upper portion W1, 79 and GW channel to private pond	\$316,588
*VF-46	Rock Creek Pond	Install culvert under 250th in 2 existing ponds, underplant with conifers	\$23,826
VF-47	Rock Creek Pond Enlargement	Enlarge existing (1)W pond, see Project VF-46, above	\$47,202
*VF-48	Rock Creek Ponds	Excavate 2 GW ponds	\$59,859
*VF-49	Arcadia Will	Channel improvements: remove lining, add LWD, Excavate 3 small pools	\$35,247
*VF-50	Upper Arcadia Will	Install fish passable culvert, improve two ponds, add LWD, add riparian vegetation	\$110,942
VF-52	INRR side channel	Excavate pools add LWD, add boulders, underplant conifers	\$92,780
VF-53	Welland 70	Excavate GW pond and outlet channel	\$375,536
VF-54	landsburg Oxbow	Divert water from landsburg into oxbow lake, percolating in along NE shore	\$772,187
MS-02	Lower Jones Road	Remove 13 homes, setback revetment to the road and revegetate	\$9,000,000
MS-03	Progressive- Investment	Lay back revetment, revegetate	ND
MS-06	WPA-Cedar Mountain	Remove 6 homes, remove existing levee, revegetate	ND
MS-09	Rutledge-Johnson	Lay back levee, revegetate	ND
MS-12	Orchard Grove	Raise and relocate 20 homes closer to SE 238th St. (Dorre Don Way), lay back levee, revegetate	ND
Tributary Projects			
TR-01	Maplewood Ravine Restoration	Add LWD, enhance riparian vegetation	\$150,000
TR-02	Lower Molasses Restoration	Add LWD, enhance riparian vegetation	ND
TR-03	Lower Madsen Stranding	Repair high flow-low flow bypass to reduce fish stranding	\$10,000
TR-07	Upper Tributary 0316A	Add LWD, fence Welland 32, restore riparian vegetation	\$40,000
TR-11	Peterson Lake Outlet	Add LWD, underplant conifers	\$30,000
*TR-12	Lower Peterson	Add LWD	\$30,000
TR-14	Walsh Lake Diversion Ditch	Add baseflow and LWD	\$50,000
Multiple Benefit Projects			\$16,400,000
Mainstem Projects			
MS-01	Person Revetment	Lay back revetment and revegetate	\$800,000
MS-04	Ricardi	Remove 2 homes, lay back dike, revegetate	\$600,000
MS-07	Rainbow Bend	Remove 7 homes, remove revetment, revegetate	\$7,200,000
MS-11	Dorre Don	Remove 20 homes, remove dike, revegetate	\$5,400,000
MS-10	Rhode	Lay back levee, revegetate	\$1,500,000
Tributary Projects			
TR-04	Tributary 0305 Restoration	Add LWD, enhance riparian vegetation	ND
TR-05	Tributary 0306	Add LWD, enhance riparian vegetation	ND
TR-08	Lower Taylor	Realign channel away from road and restore wetland vegetation	\$900,000
* 94/95 Projects			ND--cost not determined
** partially completed			

Chart 3: Cedar Basin Legacy Habitat Enhancement & Restoration Projects

1994 HABITAT PROJECTS	
1994 Projects	Cost Estimates 9410
Tributary 0316 (Cedar Grove Rd trib.) Enhancement: Phase 1 - Remove oily sediments, place large woody debris (LWD) in creek, and revegetate streambanks to enhance habitat for coho overwintering.	\$ 20,000
Maplewood Homeowners Open Space Enhancement: Phase 1 - Replant floodplain vegetation with homeowners association volunteers to enhance floodplain and riparian functions which will benefit multispecies of fish and wildlife.	\$ 10,000
1994 Project Total	\$ 30,000
1995 HABITAT PROJECTS	
*Proposed High Priority 1995 Projects	Cost Estimates
Upper Elliot Levee (along Maplewood Golf Course) Enhancement - Joint project with Renton to rebuild levee, and enhance existing pond and side-channel habitats. Remove invasive wetland plants, deepen portion of pond to enhance site for coho salmon and wildlife. Spawning area for sockeye may be constructed depending on cost.	\$235,000 (done in conjunction with FEMA ¹ project)
Upper Elliot Levee (Groundwater-fed Channel) - Excavate groundwater-fed habitat and restore floodplain vegetation as a significant area for sockeye spawning and limited coho overwintering habitat.	\$150,000
Rock Creek Diversion - Increase flows to lower 2 miles of Rock Creek by eliminating an unpermitted diversion to benefit steelhead trout, and sockeye and coho salmon.	\$ 10,000
Wetland 79 Culvert - Install a weir to control water levels in wetland and ensure fish access, and to provide coho overwintering and limited sockeye spawning habitat.	\$ 35,000
Rock Creek Culvert - Install culvert between wetland and Rock Creek to provide access to currently unused open water wetland, and add LWD to provide rearing area for coho.	\$ 30,000 [cost assumes open space purchase of lower Rock Creek Properties (see Chart 2)]
Maplewood Homeowners Open Space Enhancement: Phase 2 - Hand-excavate ponds and channels, add LWD, restore riparian vegetation, and work with homeowners. Project will provide overwintering habitat for coho salmon and enhance floodplain functions for wildlife.	\$ 25,000
Arcadia Pond - Clean excessive sediments out of existing pond to enhance coho salmon rearing potential.	\$ 15,000
Proposed High Priority 1995 Project Total	\$ 500,000
Design, Survey, Permitting, and Easement Costs	\$ 130,000
1994/1995 High Priority Project Total	\$ 660,000

* Projects proposed to be completed in 1995 with existing 1994 funds.

¹ FEMA - Federal Emergency Management Administration

9410

Cedar Basin Legacy Habitat Enhancement & Restoration Projects (cont.)

1994/1995 High Priority Project Total	\$660,000
*Proposed Medium Priority 1995 Projects	
Lion's Club Channel Enhancement - Fence stream, place LWD in creek and revegetate streambanks to enhance spawning habitat for sockeye and spawning and rearing habitat for coho salmon.	\$ 45,000
Wetland 79 Stream/Pond Enhancement - Clean-out pond sediment & rechannelize inlet to pond to enhance and increase sockeye spawning and coho rearing habitat.	\$100,000
Tributary 0316 Enhancement: Phase 2 - Add LWD, restore riparian vegetation, and work with residents of Cedar Grove Mobile Home Court. Project will enhance coho overwintering habitat.	\$ 40,000
Arcadia Creek - Deepen existing channel and add LWD to enhance coho overwintering habitat.	\$ 15,000
Peterson Creek: Phase 1 & 2 - Place LWD in existing stream channel, work with property owners and revegetate streambanks to enhance habitat for coho salmon and steelhead trout.	\$ 100,000
Herzman Channel - Excavate groundwater-fed channel to provide new spawning habitat for sockeye and limited overwintering habitat for coho salmon.	\$ 400,000
Witte Road Channel - Excavate groundwater-fed channel and enhance existing channel to enhance existing habitat and provide new habitat for sockeye salmon spawning and coho rearing.	\$ 200,000
Spoerer Floodplain Restoration - Restore floodplain and spring-fed channel along Cedar River to restore habitat for wildlife and fish values, especially sockeye, steelhead and coho salmon.	\$ 50,000
Proposed Medium Priority 1995 Project Total	\$ 950,000
1994-95 PROPOSED PROJECT TOTALS	\$ 1,610,000

* Projects would be implemented as funding becomes available.

CHART 1: 1994 Cedar Basin Legacy Program Status

1994 MIS ESTIMATES

AGENCY STATUS

AGENCY	STATUS
<i>Habitat Restoration Element Budget - \$600,000</i>	<i>Element estimated to be 40% complete</i>
o Assemble project team	Completed 1/94
o Hire Watershed Restoration Team	Completed 3/94
o Select pilot projects (see Chart 1)	Completed 3/94
o Prepare SAU & SMP code amendments ¹	Completed 7/94
o Obtain construction permits	4 of 10 pilot projects permissible for '94 implementation due to County & federal code requirements. WDFW permits also uncertain due to policy conflicts. Permits for remaining 6 projects anticipated by 7/95.
o Obtain landowner agreements	Easement agreement secured for 3 of the 4 permissible pilot projects. Completion of other landowner agreements expected by 5/95.
o Implement 1994 pilot projects	Expected 12/94
o Resolve policy conflicts with WDFW ²	Expected 12/94
o Prepare COE general permit ¹	Expected 12/95
<i>Watershed Council & Basin Steward Element: Budget - \$140,000</i>	<i>Element estimated to be 40% complete</i>
o Hire Council Facilitator & Basin Steward	Completed 5/94
o Gather comments on Watershed Council from entities, basin residents, & organizations	Expected 9/94
o Conduct public education events	Expected 9/94-11/94
o Establish Watershed Council	Expected 12/94
<i>Habitat Protection Element: Budget - \$1 million ea. fm. 1994 budget & unencumbered Cedar Greenway funds (1989 Open Space bond)</i>	<i>Element estimated to be 35% complete</i>
o Select candidate acquisition sites	Completed 5/94
o Complete acquisitions	Acquisition of the five 1994 priority sites is being sought. Expected completion 12/95
<i>Lake Washington Salmon Ecological Studies Element: Budget - \$200,000 (County contribution)</i>	<i>1994 is the first of the 5 year study. Assessment of overall progress was unremarkable although King County's contributions are being completed as scheduled.</i>
o Develop a L. Washington bioenergetics model, study salmonid predation & early life needs	Expected 12/94 - 2/95
o Assess steelhead predation at Chillenden Locks	Expected 2/95
o Enumerate Cedar sockeye fry population	Completed 6/94

¹ Agencies COE - U.S. Corps of Engineers
 MIT - Muckleshoot Indian Tribe
 OOS - King County Office of Open Space

² Unanticipated new tasks

SWD - Seattle Water Department
 SWM - King County Surface Water Management Division
 WDFW - Washington Department of Fish and Wildlife

Chart 2: Cedar Basin Legacy Open Space Acquisition Priorities

Site Name	Subbasin	Size (in acres)	Priority Estimated Price	Legacy Funds	Other Funds
1994/1995 Highest Priority Recommended Purchases (High Threat/High Value):					
Watkins Property	Mainstem	41	\$620,000	\$170,000	\$450,000*
Landsburg Natural Area	Mainstem	36	\$650,000	\$650,000	—
Lower Rock Creek Properties	Rock	4	\$80,000	\$80,000	—
Wingert Property	Mainstem	5	\$60,000	\$60,000	—
Wilderness 50/Wilderness Retreat	Rock	99	\$3,000,000 **	\$1,040,000	To be identified
	Subtotal			\$2,000,000	(existing open space funds)

As funding becomes available, the following properties will be purchased:

High Priority (Moderate Threat/High Value)

Peterson Lake/Wetland 42	Peterson	80 - 143	\$500,000 to \$1,400,000
Belmondo Addition	Mainstem	117	\$650,000
Rainbow Bend Flood Plain	Mainstem	30	\$900,000
Lower Taylor Creek/Maxwell Road/ 255th Ave. SE Properties	Taylor	4-5	\$50,000
Dorre Don LB Meander	Mainstem	21	\$510,000
Lower Dorre Don	Mainstem	5	\$1,250,000
	Subtotal		\$3,860,000 to \$4,760,000

Medium Priority (Low Threat/High Value)

Rock Creek/Plum Creek Timber	Rock	40-60	\$1,000,000
Landsburg Oxbow/Wetland 69	Mainstem	7	\$150,000
Webster Lake/Wetland 33	Trib. 0317	aprx. 64	\$2,800,000
LCR Wetland 14/Hamilton Property	Peterson	81	\$400,000
BN Nose/Peninsula	Mainstem	10	\$100,000
Belmondo Conservation Easement	Mainstem	15	\$20,000
Trib 0316A Mouth	Mainstem	3-5	\$50,000
LeRoy's Addition	Mainstem	30	\$1,000,000
Roger Lemon Properties/LCR Wetland 32	Trib. 0316A	22	\$250,000
	Subtotal		\$5,770,000

Low Priority (Low Threat/Low-High Value)

Upper Rock Creek/LCR Wetland 93	Rock	85	\$275,000
Upper Rock Creek/LCR Wetland 92	Rock	359	\$200,000
Lower Madsen Church Property	Madsen	8	\$500,000
Shaw Remainder	Mainstem	20	\$200,000
	Subtotal		\$1,175,000

Total	\$12,895,000 to \$13,705,000
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* IAC (\$223,600), 1989 Open Space Bond (\$19,207), CFT Annual Allocation (\$207,193)

** Estimated cost of a full-fee acquisition. King Co. will use funds to negotiate a less than full-fee acquisition or a bargain sale.