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Waterways 2000

Rock Creek Natural Area Management Plan

December 10, 1996



**King County
Department of Natural Resources
Parks and Recreation Department**

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PREFACE

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Waterways 2000 Program Overview

Old timers talk of salmon so thick you could walk across the backs of them, but in recent years the numbers have greatly declined, with some species close to being listed as endangered. Salmon have a deep history as a major northwest cultural symbol, are vital to the fishing industry, and are a major keystone species linked through the biological system to a variety of other wildlife species. For these reasons, salmon became the central symbol of the Waterways 2000 program. The challenge was to protect their threatened habitat and to do it without additional government regulation.

The Waterways 2000 program was initiated in 1993 through action of the King County Executive and Council, who asked the King County Open Space Citizens Oversight Committee (COC) to develop the program. The vision for Waterways was to conserve a system of interlocking greenways along King County's extensive network of streams and rivers that would accomplish the following goals:

- Protect salmon runs and river habitat systems through a watershed approach,
- Preserve recreational, scenic, cultural and wildlife resources, or enhance existing protected resources,
- Encourage property owners and residents to participate voluntarily,
- Foster stewardship through citizen and government partnerships and environmental education,
- Create a strong constituency for supporting salmon and waterways protection, and
- Develop pilot projects for urban waterways.

Over the last three years the Waterways 2000 program has demonstrated that the protection of salmon runs and aquatic resources can be achieved in King County with an active, ongoing, working partnership among governmental agencies, local communities and property owners. This preface gives a brief overview of how the program was developed and its major components.

History of Program Development

In January 1994, a Waterways 2000 subcommittee of the King County Open Space Citizen's Oversight Committee (COC) was formed to evaluate King County's seventy-two basins. The Subcommittee enlisted prominent scientists and resource experts to participate on a Waterways Advisory Panel (WAP) to develop criteria and identify the highest-value resource areas. Concurrently, the Subcommittee developed criteria for evaluating the basins for the other objectives. Public meetings were held in April 1994 to solicit comments on the criteria, and to identify issues and community support. Stakeholders, representing recreational, agricultural, development, urban, and Tribal interests were involved throughout the process.

In June 1994, six basins were selected that would provide the best opportunities for achieving the Waterways goals (see Table I, page iv). Stream reaches within these basins were selected over the summer and basin teams made up of citizens, County staff and stakeholders were formed for each basin. During September to December 1994 the Basin Teams met with citizens at town hall meetings and in the field to develop specific recommendations for property acquisition and stewardship strategies. The Subcommittee reviewed the recommendations and presented a report to the full COC that was then transmitted to the County Executive and County Council. The County Council approved the Waterways 2000 Acquisition and Stewardship Report in February 1995 and implementation began.

The King County Council appropriated over \$14.8 million to Waterways 2000 from several funding sources, including Conservation Futures Tax levy funds, 1989 Open Space Bond Fund reallocations, Real Estate Excise Tax Bond funds and King County general funds. The COC also recommended appropriating \$600,000 of 1989 Open Space Bond interest earnings to the project, for a total of over \$15.4 million.

The Citizen Oversight Committee recommended that King County use most of the \$15.4 million to acquire property interests in six critical resource basins and one urban creek watershed in unincorporated King County. The COC recommended that \$697,000 be allocated to support the first two years of essential basin stewardship and site management, and that King County grant \$800,000 to the City of Seattle and \$800,000 to four suburban cities for urban waterways demonstration projects.

Program Implementation

Acquisition: The Waterways 2000 program emphasized cost-effective acquisitions, leveraging of public funds, and other incentives to encourage property owners to participate in resource conservation without King County purchasing their property outright. Property owners participated on a strictly voluntary basis. In addition, potential acquisitions were evaluated for their value to the conservation of the entire system, not as isolated pieces.

By June 30, 1996, King County had acquired 1,173 acres of fee simple or conservation easement property interests. An additional 334 acres were protected through the open space tax benefits program (PBRs).

Stewardship: Stewardship by property owners, as well as by agencies and community groups on public lands, is a critical component and a highly cost-effective strategy to help improve habitat and aquatic resource conditions regionally. The basin teams developed stewardship strategies for each basin. During 1995, the basin stewardship program provided over thirty opportunities for citizen involvement and education. These activities included stream restoration, non-native plant removal,

native planting and salvage, park adoptions, watershed festivals, litter clean-up, and workshops on native plants or amphibian monitoring. Over 600 people participated in these events, volunteering over 1700 hours and planting 3500 native trees and shrubs. Partnerships have been built with citizens, community groups, and schools. Similiar events are occuring during 1996.

Urban Program: Another important goal of Waterways 2000 was to develop pilot programs that demonstrate how aquatic resources in urban streams and rivers can be better protected and cared for. Building a regional constituency for conservation is important to the success of the program and to do this urban dwellers must also be able to see tangible results. Since urban waterways are typically degraded compared to more rural waterways, the criteria were adapted to reflect this. Incorporated cities were asked to work with their citizens to develop and submit proposals for urban projects to be funded through Waterways grants.

Site Management: A site management plan (SMP) guides the short and long-term management of a site or stream reach to achieve desired conditions or outcomes that are consistent with the overall goals of the Waterways 2000 program. The plan recommendations are based on a synthesis of information gathered from resource and human use inventories and from meetings with the community. In addition to conserving the sites resources, the plan recommendations seek to involve the community in the management of a site, provide educational opportunities and instill the value of preserving natural areas within the community.

Implementation of the SMP involves regular maintenance, resource management, public partnerships, and public access tasks. Each site can be expected to initially require differing levels of traditional maintenance. Over time, site needs may vary considerably due to use patterns and the ability to enlist volunteers in the Adopt-a-Park Program and for special projects. Resource management is needed to ensure that the quality and condition of aquatic and other natural resources on Waterways 2000 sites is maintained or improved. Public partnerships include recruiting and supporting volunteer efforts, education, and interpretive programs. Finally, site improvements, such as trails or gates, support and control public access and use.

**Table I. River Basins and Reaches
Selected for the Waterways 2000 Pilot Program**

Bear Creek Basin:	Upper Bear Creek - Paradise Lake to Woodinville-Duvall Road Reach Upper Bear Creek - Woodinville-Duvall Road to Tolt Pipeline Reach Cottage Lake Creek Headwaters Reach Mid-Bear Creek - Tolt Pipeline to NE 116 th Reach Mid-Cottage Lake Creek Reach
Lower Cedar River Basin	Rock Creek Shaw/Landsburg Reach Peterson Creek Reach
Griffin Creek Basin	Middle Zone Reach east of Carnation/Fall City Road Forest Zone Reach
Patterson Creek Basin	Tributary 0383 Main Stem Reach 3B Main Stem Reach 3A Canyon Creek Reach
Middle Green River Basin	O'Grady Reach Newaukum Creek Confluence Reach Auburn Narrows Reach
Middle Fork Snoqualmie River Basin	Oxbox Reach South of Three Forks Reach

Section One

INTRODUCTION

The Rock Creek Natural Area was purchased under the Waterways 2000 program because it provides opportunities to achieve the broad program goal of conserving high quality aquatic resources. The quality of the resources on the site is unusual for not only the Cedar River Basin but also for King County as a whole. The site is in exceptional condition given its proximity to the developing suburban fringe, and retains a "wild" character that one would expect of lands further removed from a growing city. The creek is potentially one of the most productive in the Cedar River system and benefits greatly from the site's heavily wooded riparian and upland areas. The integrity of the resources on the site also makes it extremely valuable as a reminder of the resource quality which was once common in the county and now is being conserved through the Waterways 2000 program.

Location and Context

The Rock Creek Natural Area comprises 98 acres and is located in east King County, approximately 0.5 mile east of State Route (SR) 169 and 0.75 mile north of SR 516. To the south of and immediately adjacent to the site is a 40 acre parcel purchased as a Cedar River Legacy property. Scattered single-family homes border the site to the north and west; higher density subdivisions of single-family homes border the southwest; undeveloped forest borders the south; and several hundred acres of clear-cut commercial forestlands border the southeast and east. Lake Youngs Pipeline and King County Cedar River Regional Trail traverse the northeastern portion of the site.

Planning Process

The Rock Creek planning team collected and analyzed available data, conducted field trips with citizens and agency staff, and developed proposals for the use of the Rock Creek site. The team visited the site with instructors from Rock Creek Elementary in order to assess the current interest in the site. These groups provided invaluable input into the planning process. Prior to the County's acquisition of the site, the community near the site was very active in expressing its concern for the preservation of the site's resources. Many citizens - some in the informal organization "Save Rock Creek" - voiced their interests during the review of the Draft EIS for the Wilderness Retreat and Wilderness 50 developments. These citizens helped raise the awareness of the valuable resources found in and along Rock Creek.

Natural Features

The Rock Creek Natural Area is the site of the highest quality aquatic habitat in the Cedar River Basin Planning Area and is one of the two best aquatic habitats remaining in the Lake Washington drainage. Rock Creek is potentially the best tributary habitat in the Cedar River watershed for chinook, sockeye and coho salmon, and steelhead and cutthroat trout. The

creek is unique in that it draws its flow primarily from those groundwater springs, and as a result has stable hydrology and high water quality and is not subject to damaging flood flows. However, the potential of the creek to provide high quality in-stream habitat is directly affected by groundwater withdrawal upstream of the Rock Creek Natural Area by the City of Kent. The good physical condition of the Rock Creek watershed, in which minimal urban development has occurred, is an important contributing factor to the quality of the stream habitat.

Rock Creek's riparian zone contains both coniferous- and deciduous-dominated forest areas. Deciduous forest dominates on the west side of the creek while the eastern bank is dominated by either mature conifers or a deciduous/coniferous mix. These forested areas provide several important benefits to the creek, including shade, detrital contributions critical to food web processes, and inputs of large organic debris that contribute to stream channel stability and to the creation of habitat complexity. An example of this contribution to complexity is the numerous high quality pools that have formed behind large organic debris in the high gradient stream reaches. Overall, Rock Creek's low water velocities, high habitat complexity, and clean gravels are key elements in its support of aquatic wildlife.

In addition to the stream and riparian areas that make it so valuable, the site contains upland forest and wetland areas that are critical to the health of the stream and the wildlife that visit the site. There are several distinct forested areas on the site, the differences between which are related primarily to the age or type of the trees in these areas. The oldest forest cover is found on the western portion of the site along the Lake Youngs Pipeline and south of the King County Cedar River Regional Trail. The majority of the site lies within a somewhat younger coniferous forest stand. The trees in this "younger" area are relatively widely spaced, providing an opening for the development of a shrub layer. Finally, there is an area of deciduous forest near Rock Creek and the Lake Youngs Pipeline right-of-way.

Four wetlands, comprising 1.12 acres, occur on the site. These include two palustrine forested wetlands, a palustrine forested/palustrine emergent wetland and a palustrine scrub-shrub wetland. All but the northwestern-most wetland are dominated by deciduous vegetation in the tree canopy and shrub layer. The vegetation of the northwestern wetland is dominated by a coniferous tree layer.

The site is used by a variety of wildlife, including, and of particular note, a herd of wild elk, cougar, bear, black tail deer, bald eagle, red-tailed hawk, pileated woodpecker and Pacific giant salamander.

Site Use

Currently, the Rock Creek Natural Area is the site of a range of human activity, some of which is consistent with the public access goals of the Waterways program and some of which is not. Activities consistent with the program goals include low-impact use by hikers, bird-watchers, and groups of students from neighboring Rock Creek Elementary School taking part in environmental education. These school groups comprise approximately 25 to

30 students at a time and visit the site on an irregular basis, largely in the fall and spring. These low-impact uses take place primarily on the site's several trails and occur year-round. At times the site is also used for higher impact recreation which is not consistent with Waterways 2000 goals. These forms of recreation include All-Terrain-Vehicle (ATV) use and horse-riding. Evidence of past use is also apparent, most notably a footprint of the early phase of development by the previous owner. This takes the form of a rough gravel road running southwest of the creek and faint roads east of the creek.

Opportunities

In the context of the Waterways 2000 program, the Rock Creek Natural Area holds many opportunities for action and education that will contribute to both resource protection and restoration and the development of a sense of ownership and a stewardship ethic among visitors. Particularly promising is the opportunity to strengthen an existing relationship with the elementary school. The school has used the site for environmental education and have expressed an interest in continuing this use, in addition to contributing to the stewardship of the site. Additional opportunities include the following:

- exploring the relationship of salmonid and wildlife populations to the quality of their habitat
- monitoring the process of succession in forest habitats
- re-establishing native vegetation as a way of supporting endemic wildlife and repairing damage from past uses
- studying the role of the site's habitat in relation to the loss of like habitat in the surrounding area
- participating in the collection of biological information to be used in guiding ecological management decisions.

Section Two:

A VISION FOR THE ROCK CREEK NATURAL AREA

The vision for the Rock Creek Natural Area is one in which the community, with the assistance of County staff, works for the protection of the health of the stream, forest, and wildlife and in conjunction learns about the importance of this site to the health of the watershed. County staff and the community, including students and teachers from the Rock Creek Elementary School, will work to support the key ecological aspects of the site. Visitors will be welcome to use the site for passive recreation, especially for purposes that foster a sense of community ownership and stewardship of the site and that do not have detrimental effects on its resources. Overall, the County and the community will collaborate in an effort to conserve the high quality natural resources that make this site so valuable

