



Rural Drainage Program

2003 Accountability Report to the King County Council

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KING COUNTY

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SUMMARY AND OVERVIEW

The Metropolitan King County Council launched the Rural Drainage Program (RDP) in late 1999 by extending the surface water management fee to eastern King County and Vashon Island (Ordinance 13695). The program manages stormwater runoff in order to protect public safety, property, and prevent degradation to the natural environment. In leading to that decision the Executive made several commitments to both the Council and the affected communities regarding staff performance, the provision of service, and the use of funds. This document is intended as a status report on these commitments and the general progress of the extended service areas known as the Rural Drainage Program.

PROGRAM COMMITMENTS

Many of the commitments made by the Executive to the County Council and the public were first stated in the original proposal document for the Rural Drainage Program, while others were made during the County Council's review of the proposal. Specifically, these commitments are as follows:

Spending Fees Where Collected – The program committed that over time, expenditures on surface water services will roughly equal the revenue collected in the same given area. The program divides the service areas into three subsections—the Snoqualmie Valley, Enumclaw Plateau, and Vashon Island—and tracks revenues and expenditures for these areas to ensure one is not subsidizing another. A new section titled “Geographic Equity and Productivity” was added to this report to examine this issue in detail.

Customized Service – The Executive committed that the services provided to rural communities would respond to specific needs and be tailored for the different areas. In response, the program provided increased groundwater monitoring on Vashon Island and non-permit related code enforcement in the Snoqualmie Valley. The program supports Enumclaw Plateau farmers in draining their fields through the Agricultural Drainage Assistance program (ADAP or “Fish and Ditch”) and helps livestock owners comply with the Livestock Management Ordinance through a cost-sharing program. While these services are not exclusive to these areas, they were initially proposed in response to requests from these communities. The different concentrations of services can be reviewed in the service summaries beginning on page 11, and in the detailed listings on page 44.

Limits on Staff – During the fee adoption process, one Council member limited the number of staff working on the program, preferring a greater use of consultants. For the first two years, the program strictly adhered to a limit of 7.3 new full time employees, as well as 5.8 positions previously funded by the current expense fund, the river improvement fund, or the Arts and Natural Resources Initiative Bond. 2002 Council decisions to fund farm and forest programs, changed this significantly by raising the total number of staff funded by the program. Consequently, the program no longer considers this commitment to be in effect.

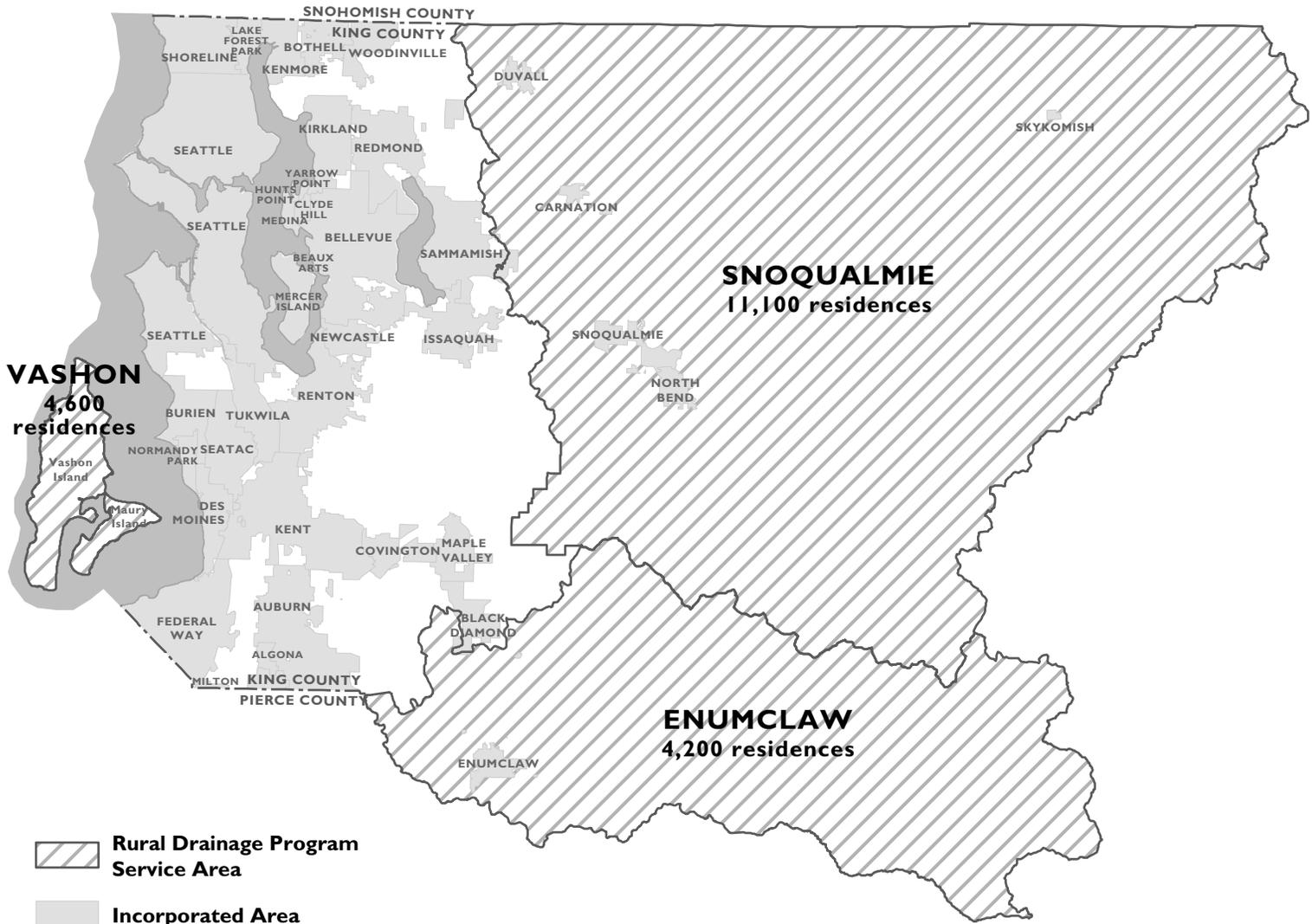
Maintain Rural Character – During the fee adoption process, the Council also expressed concern that drainage solutions not lead to constructing infrastructure that could incrementally unravel the character and promote development in the rural area. To date, all capital construction projects have made extensive use of natural systems and materials such as rock

and woody debris, to shore banks and reroute drainage. Manufactured construction materials such as concrete, metal, or plastic pipe have been used only to make minor adjustments to natural systems, or in situations where existing manufactured materials need to be replaced, such as the Drainage District 13 emergency pipe replacement in 2001.

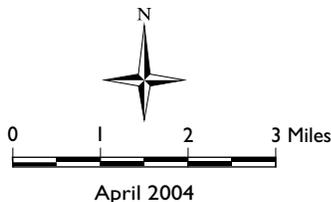
Efficient Service – The Water and Land Division’s strategy for delivering efficient service is to implement a series of performance measures. While this is a long-term project with significant work scheduled during 2004, the division has been tracking the performance of drainage and water quality complaint response activities. The results from this performance measure have led to many customer service improvements. Other measures are being developed to track other aspects of service delivery. These will be implemented in 2004. The Geographic Equity and Productivity section beginning on page 5 provides more relevant information.

RURAL DRAINAGE PROGRAM SERVICE AREA

(Unincorporated King County)



 **King County**
 Department of
 Natural Resources and Parks
 Water and Land Resources Division



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GEOGRAPHIC EQUITY AND PRODUCTIVITY

The Executive committed that over time, fee revenue would be returned to the area in which it was generated through program expenditures. This was done to ensure that fee revenue from one area would not subsidize services in another.

The status of this commitment, as well as the program's productivity, can be understood by reviewing the following three graphs. These graphs are based on expenditure and revenue data collected at the end of each year and allocated to each of the three geographic areas (Snoqualmie Valley, Vashon Island, and Enumclaw Plateau). Detailed listings of expenditure allocations can be seen on page 43.

The first graph (Revenue and Expenditure: 2000-2003) shows the cumulative distribution of revenue and expenditures among the three areas since the program's inception. The graph shows that expenditures lag revenues for all three geographic areas. This lag ranges from 24% of area revenue on Vashon to 8% in the Snoqualmie Valley. This lag also tells us that the program is not as productive as it could be, and that program managers should take action to boost the level of expenditure.

The second graph (Revenue and Expenditure: Relative Comparison, 2000-2003) shows the same information, but as a *percentage* of the program total instead of actual dollar amounts. The graph shows that while the Snoqualmie Valley provided 52% of the revenue, by the end of 2003 it received 55% of the expenditures. Conversely, Vashon provided 23% of the revenue, but only received 20% of the expenditures. The Enumclaw Plateau was largely even. The benefit of this graph is that it assigns priority for directing future expenditures to achieve geographic equity. Even though expenditures lag revenue for all three areas, Vashon is the farthest behind and should receive top priority for future expenditures.

The third graph (Unspent Revenue Projection, 2000-2003) is a measure of program achievement over time, both toward geographic equity and productivity. The graph shows the unspent revenue in each geographic area for the years 2000-2003, then projects expenditures to achieve equity in future years. These projections serve as spending goals for the program in future years.

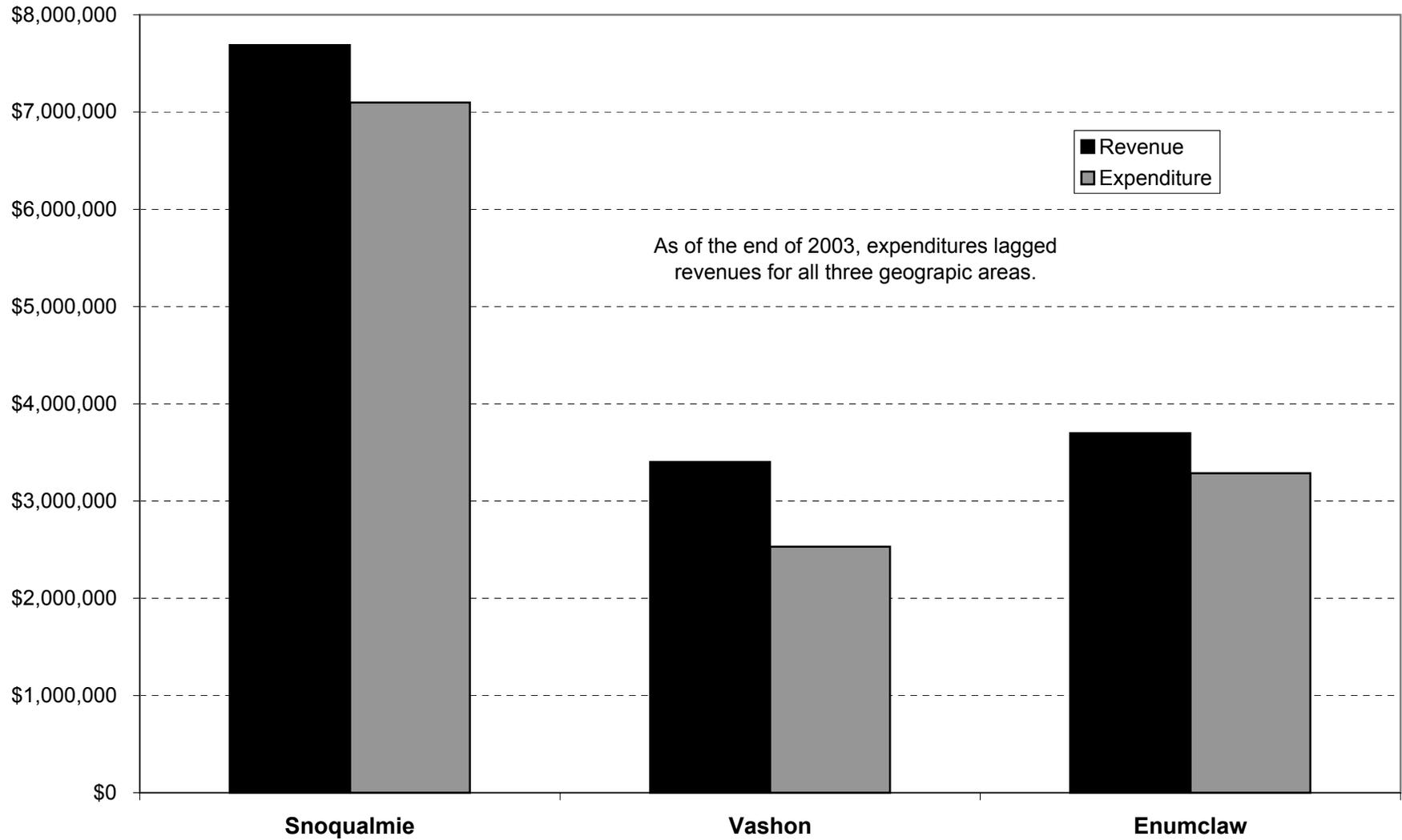
This graph shows that the highest peaks in unspent revenue were seen for the Snoqualmie Valley and Vashon Island in 2002. While the Snoqualmie peak is higher, the Vashon peak is highest relative to the amount of revenue it generates. (Snoqualmie generates twice Vashon's revenue, so the Snoqualmie peak should be twice as high as Vashon's for it to be as severe.)

The graph also shows progress towards reducing unspent revenue in 2003, most noticeably in the Snoqualmie Valley, but also on Vashon Island. This is a clear indication that the program is becoming more productive, and by maintaining its spending goals will have eliminated most reasonable geographic inequity by the end of 2006.

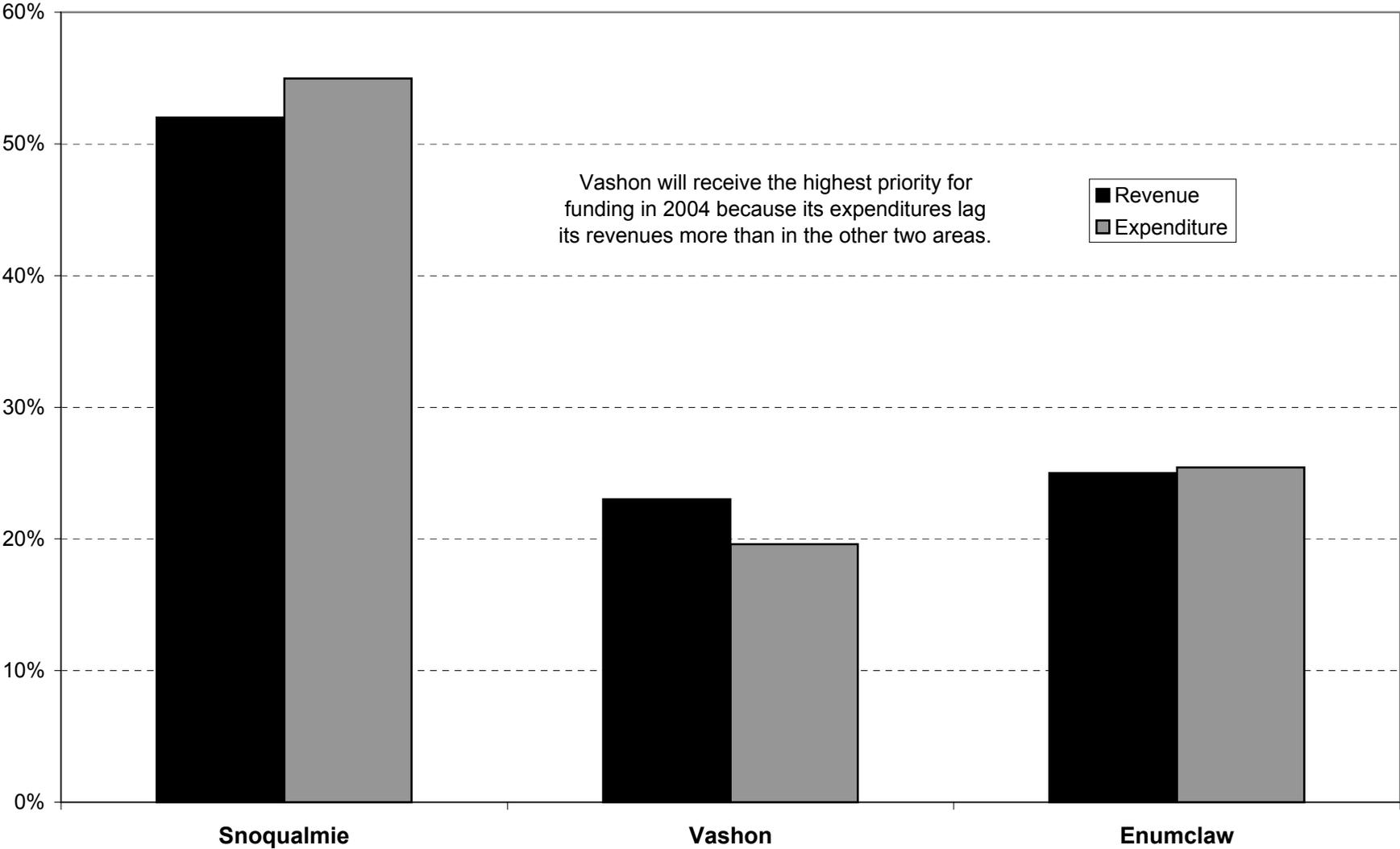
Most of the unspent revenue is found in the capital portion of the program. During its initial years, the program had not adequately identified capital budget needs. Once identified, many projects were over-budgeted and proceeded more slowly than anticipated. Capital program managers are working to resolve these problems in order to meet spending goals. In the beginning of 2004, the division reorganized the management of the capital program for this purpose.

In summary, we can conclude from the data that the Rural Drainage Program is largely meeting the Executive's commitment to geographic equity, but still has work to do. Not one of the three areas is subsidizing another. The lag in expenditures is seen across the board, and is relatively small for the Snoqualmie Valley and Enumclaw Plateau, at around 10%. This lag is due largely to inefficiencies in the capital program, which are being addressed. Finally, spending targets have been set to guide the program towards a greater level of equity and productivity in future years.

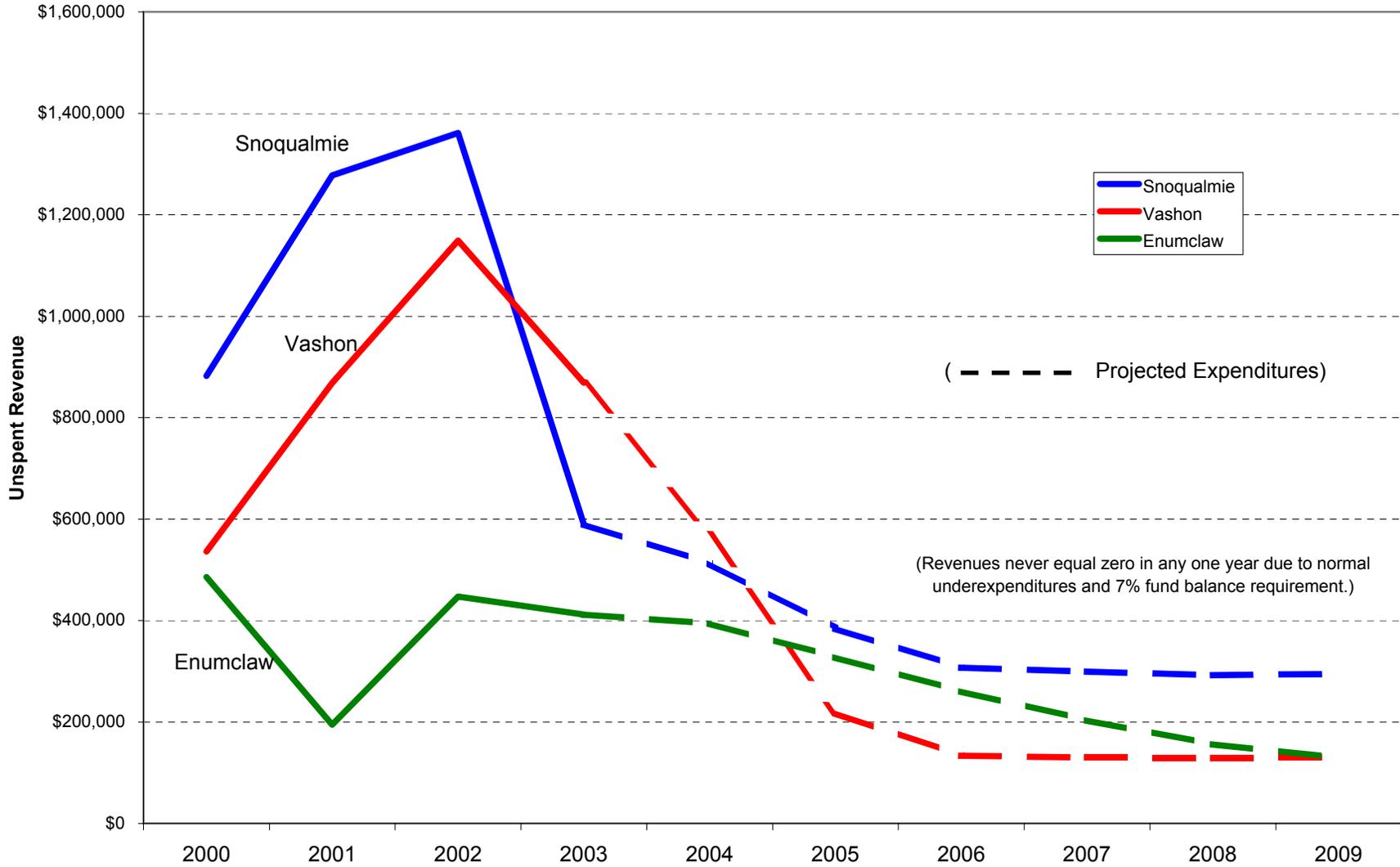
Revenue and Expenditure: 2000 - 2003



Revenue and Expenditure: Relative Comparison



Accumulated Revenue Projection



SERVICE SUMMARIES BY GEOGRAPHIC AREA

The following pages provide a summary services and expenditures provided in each of the three geographic areas (Snoqualmie Valley, Vashon Island, and the Enumclaw Plateau) in the form of three graphs with corresponding explanations. This section is intended to help readers identify which services are most important to their region.

When reading the graphs it is important to bear in mind the following. First, the categories were created by combining one or more programs or projects from the detailed listings on page 43 into a meaningful group. In some cases, a program or project could have been placed in multiple categories. For instance the Agricultural Drainage Assistance Program was placed in "Drainage Projects", but it could also have been placed in "Support for Agriculture". Consequently these graphs are not meant to substitute for the detailed listing, but simply provide an additional vantage point for the reader to understand program accomplishments.

Second, the categories are not uniform between areas. While many are the same, some categories were tailored to be most meaningful to residents of a specific area. For instance, Vashon Island has an entire category for "Groundwater Protection" because of the magnitude of groundwater expenditures and its importance to the Island. However, the much smaller groundwater expenditures in the Snoqualmie Valley were included in the category "Stewardship and Monitoring." Likewise, Snoqualmie and Enumclaw have a separate category for "Drainage Projects" while Vashon's smaller drainage expenditures were combined with "Drainage Projects and Stormwater Facility Management."

The items below correspond directly to the bars on each graph, and provide additional definition of the service.

Snoqualmie Valley

- \$1,833,243 solving drainage problems to protect public safety and property.
- \$970,145 conserving and enhancing wetlands, stream corridors and shorelines, as well as complying with Endangered Species Act mandates to protect salmon.
- \$771,320 enforcing environmental regulations to protect water quality and minimize excess stormwater runoff.
- \$711,856 responding to drainage complaints and maintaining stormwater facilities.
- \$696,078 providing stewardship, monitoring, technical assistance and outreach to protect the valley's natural resources.
- \$671,547 preserving and supporting sustainable agriculture and forestry to improve water quality and prevent erosion.
- \$552,965 identifying and evaluating drainage and aquatic resource protection projects.
- \$323,151 for King County overhead outside the Department of Natural Resources and Parks.
- \$286,231 managing King County owned resource lands in the Snoqualmie Valley.
- \$281,343 for program administration, implementation, and financial tracking within Water and Land Resources Division.

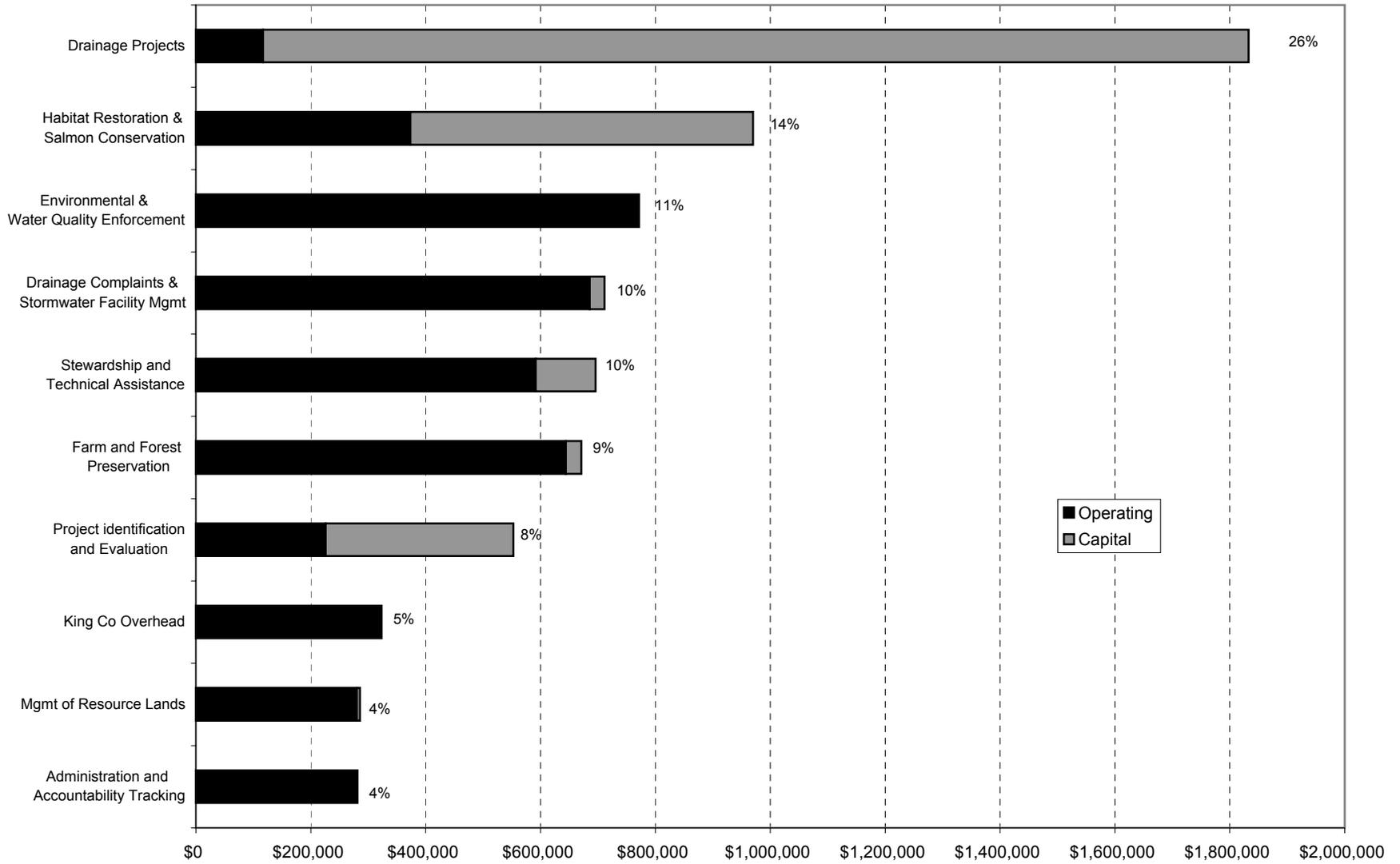
Vashon Island

- \$575,534 conserving and enhancing wetlands, stream corridors and shorelines, as well as complying with Endangered Species Act mandates to protect salmon.
- \$375,217 protecting groundwater through monitoring, education, and working with the Vashon Groundwater Protection Committee to develop policy and programs.
- \$321,560 providing stewardship, monitoring, technical assistance and outreach to protect the valley's natural resources.
- \$281,817 preserving and supporting sustainable forestry and agriculture to improve water quality and prevent erosion.
- \$263,040 identifying and evaluating drainage and aquatic resource protection projects.
- \$241,335 responding to drainage complaints and maintaining stormwater facilities.
- \$197,205 enforcing environmental regulations to protect water quality and minimize excess stormwater runoff.
- \$143,668 for King County overhead outside the Department of Natural Resources and Parks.
- \$132,004 for program administration, implementation, and financial tracking within Water and Land Resources Division.

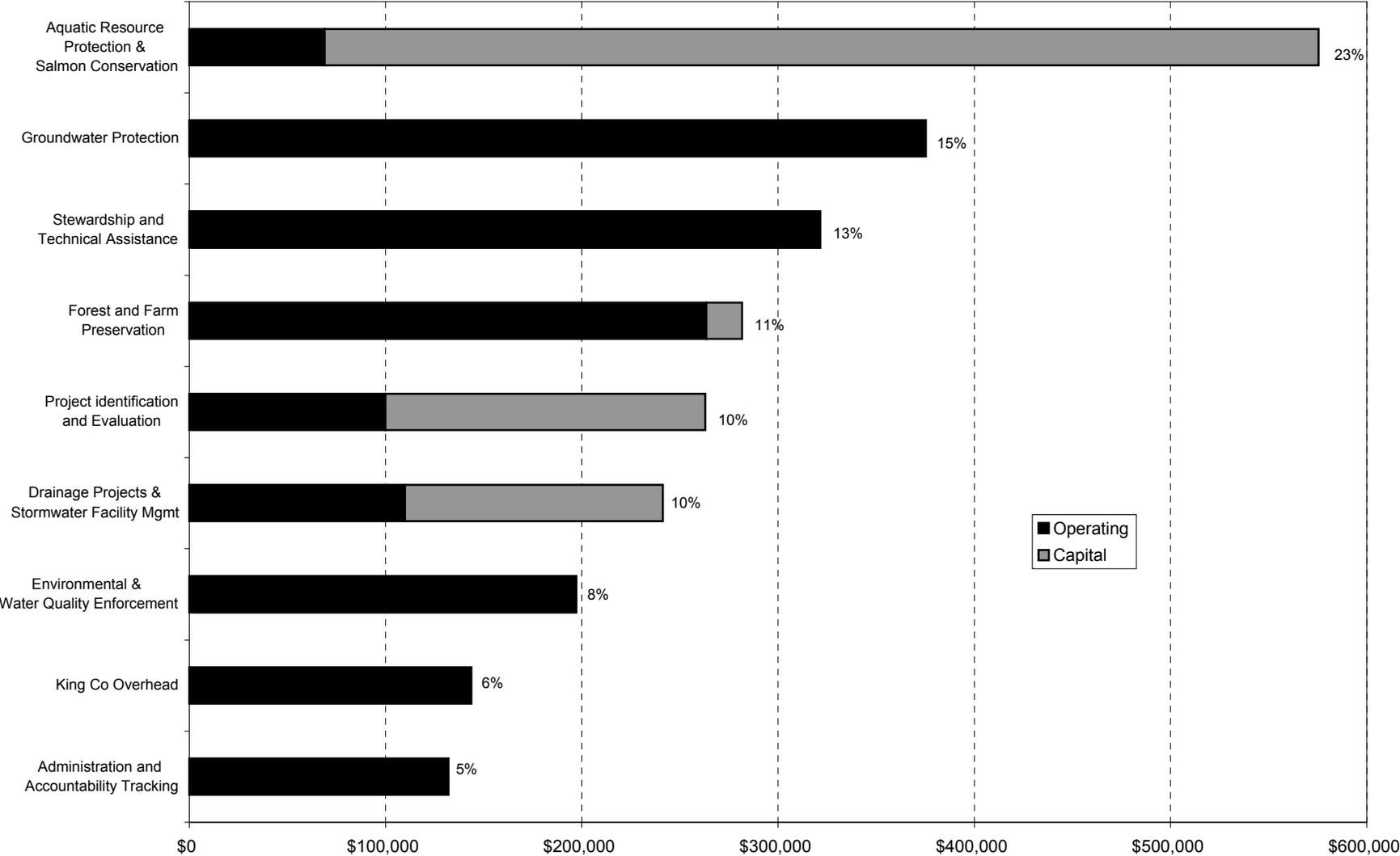
Enumclaw Plateau

- \$856,566 solving drainage problems to protect public safety and property.
- \$540,641 enforcing environmental regulations to protect water quality and minimize excess stormwater runoff.
- \$463,576 providing stewardship, monitoring, technical assistance and outreach to protect the plateau's natural resources.
- \$315,294 preserving and supporting sustainable agriculture and forestry to improve water quality and prevent erosion.
- \$291,102 identifying and evaluating drainage and aquatic resource protection projects.
- \$199,719 conserving and enhancing wetlands, stream corridors and shorelines, as well as complying with Endangered Species Act mandates to protect salmon.
- \$165,740 responding to drainage complaints and maintaining stormwater facilities.
- \$156,569 for King County overhead outside the Department of Natural Resources and Parks.
- \$152,934 managing King County owned resource lands on the Enumclaw Plateau.
- \$142,274 for program administration, implementation, and financial tracking within Water and Land Resources Division.

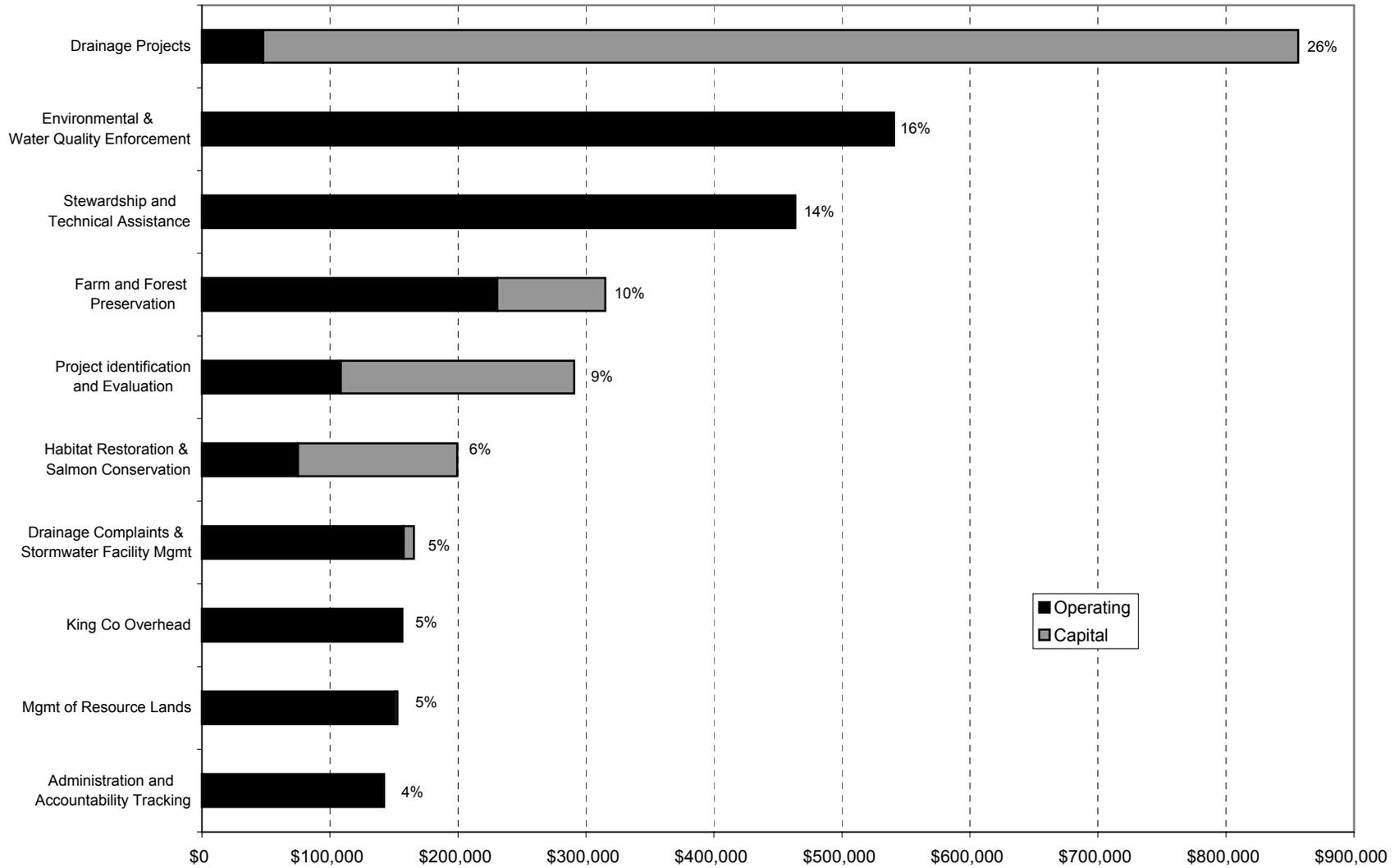
Snoqualmie Service Summary (2000-2003)



Vashon Service Summary (2000-2003)



Enumclaw Service Summary (2000-2003)



OPERATING PROGRAM ACCOMPLISHMENTS

The Rural Drainage Program provides many ongoing services to rural residents to resolve drainage complaints and protect the natural environment. These services include drainage and water quality complaint investigation, maintenance of stormwater control facilities, groundwater monitoring, programs to retain farms and forestland, and enforcement of clearing and grading violations.

In many cases, these program are only partially funded by surface water management fees. Often, many different funding sources are combined to support these activities. Some of these programs, activities and services are specific to a given area or natural resource. Basin steward activities for example are unique to each of the three Rural Drainage Program sub area (Snoqualmie, Enumclaw Plateau and Vashon Island.) The Lake Stewardship Program provides education, monitoring and technical assistance around King County's small lakes.

The following paragraphs describe each of these services, providing a detailed accounting of accomplishments in each area.

DRAINAGE SERVICES

During 2003, the division received 52 drainage complaints from rural citizens and businesses. Approximately half of these were resolved over the phone or referred to other County agencies for assistance. The remainder (28) underwent extensive review by stormwater engineers and many were resolved by offering technical advice. This year, none of the complaints identified violations of King County's Drainage Code and no enforcement action was taken. However, five complaints were forwarded for consideration as capital projects under the Neighborhood Drainage Assistance Program or the Drainage and Habitat Improvement Program.

Division staff completed 120 annual visits to County-owned, residential flow control facilities (stormwater ponds) to inspect them, mow grass and make any necessary repairs. They also inspected 81 privately owned stormwater facilities serving rural businesses and multi-family,



The Rural Drainage Program provides for the annual inspection and maintenance of drainage facilities like this one located on SE 291st. This pond is only one of 12 residential retention/detention ponds on the Enumclaw Plateau.

residential buildings to ensure they were functioning within appropriate standards.

The water quality program investigated 13 complaints in 2002. Valid complaints were resolved by instructing property owners on ways to adjust disposal practices and comply with King County's Water Quality Code. Nine complaints were considered significant enough to warrant more extensive, water quality review by engineering staff. These complaints usually concerned pesticide/herbicide applications and animal waste in streams, oily runoff, or use of oil to suppress dust. In addition, staff completed nineteen water quality audits for rural businesses to catalogue all best management practices necessary for compliance with King County's Water Quality Code.

CODE ENFORCEMENT & 24 X 7 EMERGENCY ENFORCEMENT COMPLAINT TELEPHONE LINE

The Rural Drainage Program funds two code compliance officers and one support person at the Department of Development and Environmental Services (DDES) to provide non-permit-related enforcement of clearing and grading and sensitive areas regulations in rural King County. During 2003, DDES inspectors have responded to 158 new clearing and grading complaints in eastern King County and Vashon Island. Many of these resulted in stop-work orders for permit violations. Some resulted in mitigation and compliance actions to replant cleared areas, restore damaged wetlands, or make other environmental repairs. Of the 158 new cases, 80 were closed, and a backlog of 139 older cases were closed or placed into a complied status.

The Rural Drainage Program also funds the 24-hour complaint line, so that violations can be reported after business hours and on weekends.

2003, code violations break down to:

Snoqualmie Valley

- 81 new cases were opened, 48 of which were closed during the calendar year
- 97 older cases were closed or placed into a complied status

Enumclaw Plateau

- 51 new cases were opened, 23 of which were closed during the calendar year
- 28 older cases were closed or placed into a complied status

Vashon Island

- 26 new cases were opened, 9 of which were closed during the same calendar year
- 14 older cases were closed or placed into a complied status

SNOQUALMIE BASIN STEWARD

The Snoqualmie Basin Steward responds to citizen inquiries, coordinates efforts among diverse public agencies, facilitates watershed improvement projects, provides assistance to monitoring programs, and provides public education and volunteer opportunities within the Snoqualmie watershed. These efforts aim to improve the environmental condition of the watershed.

2003 accomplishments for the Snoqualmie Basin Steward include:

- Received \$325,000 in funding for the Lower Tolt Floodplain Reconnection Project (\$200,000 - Salmon Recovery Funding Board, \$125,000 - King Conservation District). The project will restore natural processes on the Lower Tolt River, thereby restoring habitat for Endangered Species Act-listed Chinook salmon. Funding will be applied to the design of the setback levee and other project elements.
- Received \$650,000 in funding for the Stossel Creek Acquisition/Road Abandonment project (\$250,000 - Conservation Futures Fund, \$400,000 - Roads Division cooperative agreement). The project will reduce impacts to Stossel Creek from a county road that runs through the center of the valley. Funding will be used to acquire private inholdings within the state-owned Marckworth Forest and to negotiate the closure of a county road with the few residents who live along Stossel Creek Road.
- Acquired 10.7 acres of riparian habitat along the Tolt River to add to the Tolt River Natural Area. The funding source for the acquisition was 85% Salmon Recovery Funding grant, 10% King Conservation District grant and 5% Conservation Futures. The acquisition was the continuation of a 2001 project which has added 30 acres to the Tolt River Natural Area. This purchase includes roughly 2500 feet of river.
- Acquired 2 acres of riparian habitat along Griffin Creek to add to the Griffin Creek Natural Area. The funding source for the acquisition was 85% Salmon Recovery Funding grant and 15% King Conservation District grant. The acquisition was a continuation of a 2001 project which has thus far added 11.6 acres of riparian habitat to the Griffin Creek Natural Area. This purchase includes both banks of roughly 1000 feet of stream.
- Completed 6 volunteer events in the Snoqualmie watershed at Chinook Bend, Griffin Creek, and Three Forks Park. At these events, 3000 trees were planted by approximately 300 volunteers.
- Referred three private property owners to the Small Habitat Restoration Program for successful riparian restoration projects on private property.
- Participated in the production of and outreach for the Rapid Rural Reconnaissance effort on the Patterson Creek basin. The effort resulted in several conclusions about watershed health, including the need to retain/increase forest cover, improve fish passage, and replanting of native plants. The project also identified and prioritized projects in the basin.

SNOQUALMIE TECHNICAL ASSESSMENT

The Snoqualmie Technical Assessment provides scientific analysis and assessment of ecological conditions in the Snoqualmie River Valley. It supports the other programs and activities underway in this basin including the Watershed Resource Inventory Area (WRIA) process for recovering listed salmon species.

Ecological Analysis for Salmonid Conservation

- Represented King County on WRIA 7 Technical Committee, providing technical expertise on Snoqualmie and South Fork Skykomish watersheds and on application of models to assess impacts of alternative habitat protection and restoration scenarios on abundance, distribution, and diversity of salmonid (salmon, trout, and char) populations.

- Co-authored and edited two drafts of an Ecological Analysis for Salmonid Conservation which provides the technical foundation for the WRIA 7 Salmonid Conservation Plan.

Snoqualmie Valley Floor Habitat Inventory

- Scoped, planned, coordinated, and provided oversight to reconnaissance-level inventory of Snoqualmie valley floor habitats that was performed (under contract to King County) by the Tulalip Tribes. The information will be used to identify potential salmon habitat protection and restoration projects.

Snoqualmie Watershed Geology Study

- Scoped, planned, and managed project that is in progress by King County geology staff. Project involves summarizing existing information on the geologic history and surficial geology of the watershed, characterizing existing geomorphic processes, assessing where there are current or future erosion, landslide, mass wasting, and sedimentation problems, and assessing how these problems relate to land use, fish, and other aquatic resources. Project will be completed during first quarter of 2004.

Snoqualmie Watershed Water Quality Monitoring Study

- Scoped this two year study in partnership with Washington Department of Ecology (WDOE) to determine compliance with Total Maximum Daily Load requirements and to obtain a more comprehensive picture of existing water quality conditions in the mainstem Snoqualmie River (including the Fall City area) and other waterbodies that are on most recent 303(d) list for violation of state water quality standards.
- Provided information to WDOE on King County pollution prevention efforts and agricultural best management practices in Snoqualmie Valley.

Carnation Wastewater Treatment Plant Outfall Siting Study

- Provided technical assistance (water quality and fisheries expertise) to King County colleagues for evaluating alternative locations for this new wastewater treatment plant and its outfall.

Snoqualmie Watershed Hydrology Study

- Scoped, planned, and managed project that is in progress by King County hydrology staff.
- Project involves modeling of catchment and sub-catchment basins throughout the Snoqualmie Watershed.

Snoqualmie Watershed Stream Habitat Reconnaissance Survey

- Wrote report on reconnaissance-level survey of habitat conditions in Snoqualmie Watershed rivers and streams that was performed (under contract to King County) by the Tulalip Tribes in summer, 2002. Information in the report will be used to guide habitat and aquatic resources management decisions in the watershed and to inform the salmon conservation and recovery plan for the overall Snohomish River Basin.

Technical Assistance

- Provided technical information for King County's response to proposed projects in the Snoqualmie and South Fork Skykomish watersheds, regulatory hearings, and proposed state legislation that would impact these watersheds.
- Reviewed draft documents on the hydrology, geology, and ecology of the Patterson Creek subbasin (Patterson Creek Rapid Rural Reconnaissance Project).

SNOQUALMIE GROUNDWATER PROTECTION

The East King County Groundwater Protection Program seeks to protect groundwater resources by monitoring and assessing the interactions between surface and groundwater in these areas. In 2003 the program accomplished the following:

- Organized, facilitated, and supported 6 East King County Groundwater Protection Committee meetings to solicit recommendations for action, coordinate efforts, and inform the public of on-going activities in the Snoqualmie valley
- Sampled and analyzed 13 ambient water quality wells to provide early warning of possible groundwater problems. (Note: Two wells sampled in previous rounds could not be accessed this time.)
- Taught a groundwater segment to four 5th-grade, and one 2nd-grade class, at Opstad Elementary School, providing students with environmental knowledge.
- Provided groundwater information and brochures at Alpine Days and Snoqualmie Railroad Days festivals.
- Worked with King County's Department of Development and Environmental Services in reviewing several proposed developments that could impact groundwater in the East King County area (including an industrial zoning proposal for a parcel without access to a sanitary sewer).
- Assisted King County's Wastewater Treatment Division to include groundwater issues in a proposed reclaimed water application.

ENUMCLAW BASIN STEWARD

The Enumclaw Basin Steward responds to citizen inquires, coordinates efforts among diverse public agencies, facilitates watershed improvement projects, provides assistance to monitoring programs, and provides public education and volunteer opportunities within the middle Green River and White River basins that drain the Enumclaw Plateau. These efforts aim to improve the environmental condition of the watershed.

2003 accomplishments for the Enumclaw Basin Steward include:

- Received \$425,000 from the Conservation Futures tax levy funds to acquire 40 acres of Dandy Lake and surrounding shoreline. This is one of the few lakes remaining in King County with an undeveloped shoreline.
- Received \$200,000 of Conservation Futures funds to acquire 80 acres of habitat at the headwaters of Icy Creek.
- Received approximately \$29,000 of Conservation Futures funds to begin title work and appraisals toward the purchase of development rights of a dairy farm on Boise Creek. Once purchased, the farm's development rights would be added to the County's Farmland Preservation Program and the property would be permanently protected for agricultural use. This project also aims to purchase a conservation easement along Boise Creek where a buffer area would be restored with native plants to improve and provide habitat fish species.

- Acquired a 6.34 acre undeveloped parcel near the mouth of Newaukum Creek, adjacent to the Green River Natural Area. Aquatic restoration is planned for this parcel.
- Acquired a 6.81 acre conservation easement along Newaukum Creek (just north of Enumclaw) as part of the Big Spring/Newaukum Creek Natural Area. Aquatic restoration is planned for this area.
- Provided technical assistance to the Middle Green River Coalition, a non-profit organization dedicated to the protection and enhancement of open space in the Middle Green River watershed to ensure long-term habitat health and passive recreational opportunities.
- Planted 1700 trees within Whitney Bridge Park to improve habitat.
- Reviewed site management plans for Kanaskat and Green River Natural Areas.
- Coordinated restoration plans with the City of Enumclaw, Mid Sound Fisheries Regional Enhancement Group, and the U.S. Army Corps of Engineers along Newaukum Creek near the City of Enumclaw.
- Initiated conceptual restoration plans for the mouths of Boise and Newaukum Creeks. These conceptual plans will be used to write Salmon Recovery Funding Board restoration grants during 2004.
- Discussed restoration and acquisition projects with property owners along Newaukum and Boise Creeks to provide a pipeline of future projects.
- Assisted several property owners with drainage-related issues.
- Developed a preliminary draft Rural Reconnaissance assessment for the Boise Creek Basin.
- Developed a Current Use Assessment workshop in the Enumclaw area last spring to educate property owners about opportunities for property tax reduction through Current Use Assessment programs.
- Attended the 1st Annual Enumclaw Salmon Festival. Staffed an informational booth and educated property owners about watershed health and actions that an individual can do to benefit aquatic resources.
- Provided technical support to Enumclaw High School and the City of Enumclaw when they applied for watershed and aquatic related grants.

VASHON BASIN STEWARD

The Vashon Basin Steward responds to citizen inquiries, coordinates efforts among diverse public agencies, facilitates watershed improvement projects, provides assistance to monitoring programs, and provides public education opportunities for Vashon-Maury Island. 2003 accomplishments for the Vashon Basin Steward are as follows:

Volunteer monitoring:

- Completed 2002/2003 Salmon Watcher season with 18 sites and 25 volunteers on 5 streams.
- Recruited and trained 30 volunteers for 2003/2004 SW season, expanded to 8 streams with 18 sites.

Land Use / Protection Workshops

- In February, the Vashon Stewardship program assisted King County's Forestry Program in hosting a Forest Stewardship Class. Watershed stewardship efforts on the island, the importance and methods of protecting water resources and helping landowners incorporate these ideas while developing their own site specific Forest Stewardship Plans was discussed.
- In March, the Vashon Stewardship program worked in partnership with the Vashon Maury Island Groundwater Protection Committee to host a workshop that focused on Low Impact Development. At the workshop, 15 landowners learned about development techniques to use in new construction as well as in existing homes and gardens to treat surface water runoff and improve groundwater recharge. Speakers talked about the Low Impact Development movement, development scale pilot projects, and introduced ideas such as rain gardens and green roofs, soil amendments and the beneficial use of native plants.
- In May, the Vashon Stewardship program worked in partnership with Vashon Audubon to hold a workshop called "Living by Water: Beaches and Bulkheads". Forty Vashon shoreline property owners came together to learn more about nearshore habitats and the natural functions that support them, and how to protect this dynamic resource.

Judd Creek Watershed Protection

- Facilitated multi party discussions regarding the conservation of 270 acres of state Department of Natural Resources trust lands proposed for transfer to King County.
- Worked in partnership with the Vashon Land Trust on grant applications, conservation easement language and funding strategies to permanently preserve 83 acres of wetlands and riparian forest in the headwaters of the Judd Creek Watershed.
- Secured \$300,000 for the permanent protection of 30 of the 83 acres in partnership with the Vashon Land Trust.

Identified and/or facilitated the development of habitat restoration projects:

- Worked with King County programs to address continued drainage and erosion problems in the Shinglemill watershed. This resulted in a Small Habitat Restoration Program wattle project to stabilize erosion on Shinglemill Creek.
- Continued work with Washington Trout and Vashon Audubon to identify projects where fish passage could be improved. This resulted in the design of a fish passage, barrier removal project with the Ober Creek beach community, slated for construction in 2004.
- Continued partnership with People for Puget Sound on developing Rapid Shoreline Inventory priority areas. This work resulted in the identification, plan, and project that restored native plants to 200 feet of shoreline on Maury Island. (Collier Project)

VASHON GROUNDWATER PROTECTION

The Vashon Groundwater Protection Program seeks to protect the island's groundwater resources by monitoring and assessing the interactions between surface and groundwater. In 2003, the program accomplished the following:

- Organized, facilitated, and supported 6 Vashon Maury Island Groundwater Protection Committee meetings to solicit recommendations for action, coordinate efforts, and inform the public of on-going activities on the island.
- Developed Critical Aquifer Recharge Area mapping and proposed ordinance language to protect groundwater-sensitive areas from polluting / water-wasteful land uses, based on Best Available Science.
- Sampled and analyzed 19 wells and two springs as sentinels for change in ambient groundwater conditions.
- Taught a groundwater segment to two, 5th-grade classes at Chautauqua Elementary School, providing students with environmental knowledge.
- Provided groundwater information at a booth at the Vashon Strawberry Festival.
- Reviewed an application for a Conditional Use Permit at the Morningside Farms project regarding potential groundwater impacts.
- Developed a work plan for the Vashon Maury Island Water Resource Evaluation to guide King County's long-term efforts for monitoring, data collection, modeling, and dissemination of information about surface and groundwater resources.
- Supplied and compiled data from volunteers measuring groundwater levels in 8 wells, for a total of 71 observations from all around the island.
- Accessed and downloaded data logger from a volunteer well with 18 months of 15-minute water level data.
- Coordinated with state Department of Ecology for measurements in three monitoring wells on Maury Island.

RURAL LAKES STEWARDSHIP

The Rural Lake Stewardship program monitors the water quality of small lakes within the Rural Drainage Program service area in order to assess the real and potential impacts from development, over time. The program empowers citizens to act as stewards of their lakes and watersheds through education, volunteer opportunities, and technical assistance. Program reports, recommendations, and management plans are based on the best available scientific information related to water quality and ecosystem integrity of small lakes in western King County. Here are some of the program's accomplishments during 2003:

- Coordinated volunteer monitoring data collection for eight rural lakes: Alice, Ames, Horseshoe, Joy, Langlois, Marcel, Margaret, and Walsh.
- Conducted April volunteer monitor training on water sample collection and water quality and quantity assessment, to gather data for long term assessment of environmental parameters.

- Conducted a July noxious weeds workshop to help home owners identify and control common native aquatic plants and noxious aquatic weeds in and around their lakes.
- Conducted a November Shoreline Management Plan workshop for volunteer monitors and lakeshore residents.
- Provided technical assistance to more than 145 lakeside residents, agencies and companies dealing with a variety of questions concerning water quality, shoreline and habitat, as well as permitting and other issues.
- Published and mailed the quarterly Lakeside Steward Newsletter to rural King County, lakeside residents. The newsletter provides technical information, education on environmental topics related to lakes, current monitoring results, and promotes lake stewardship.
- Completed an updated version of the Small Lakes Recreation Guide in response to multiple queries from the public on lake access and recreation regulations. The Guide seeks to encourage public appreciation and responsible use of small lakes in the region.
- Analyzed water quality data including the 2002 Annual Volunteer Monitoring Reports.
- Began revisions to “Lakeside Logic” pamphlet.

FOREST CONSERVATION

King County's Forestry Program focuses on the retention of forestland for its environmental, social, and economic benefits. The program provides education, technical assistance, and economic incentives aimed at retaining the forest resources of King County. The following bullets summarize program accomplishments for 2003:

Technical Assistance to Forest Landowners

- Assisted with two 8-week Forest Stewardship Classes (Carnation and Vashon Island.) 31 students learned how to manage and improve their forestland to generate revenue.
- Conducted three workshops on economic opportunities for forest landowners, reaching a total of 75 people.
- Assisted 17 landowners with the development of forest stewardship plans, resulting in 231 acres covered by new forest stewardship plans.
- Assisted 6 landowners in preparing forest management plans required for building permits in the Forest Production District.
- Assisted additional 20 landowners with forestry-related issues such as forest health, reforestation, forest practice permits, conifer release, harvest recommendations, thinning of forest stands, eradication of noxious weeds, and cost share applications.
- Provided continued assistance to the Vashon Forest Stewards, a not-for-profit forest landowner organization that is working to establish a sustainable forestry model on Vashon-Maury Island.

Other Rural Forestry efforts

- Developed Forest Stewardship Plans for Sugarloaf Mountain Forest (285 acres) and Ring Hill Forest (320 acres), both County-owned working forest properties.

- Planned a 60-acre harvest on Taylor Mountain Forest. This will be the first timber harvest on County-owned forestland and will serve as a model of sustainable rural forestry.
- Held monthly meetings with the King County Rural Forest Commission, whose charge is to consider forest conservation and forestry efforts in King County.
- Mailed the Farm and Forest Newsletter to approximately 10,000 residents in the Rural Drainage Program area.
- Obtained \$164,000 in Conservation Futures funding for the acquisition of development rights on 140 acres of working forest properties near North Bend and Black Diamond.
- Assisted Cascade Land Conservancy with the Cedar-Green Initiative to conserve industrial forestland in the Forest Production District in the Cedar and Green River Watersheds by reviewing the Forest Legacy Grant application.

AGRICULTURE PROGRAM

The Agriculture Program combines efforts to preserve prime agricultural soils (The Farmlands Preservation Program) with efforts to make agricultural practices more environmentally friendly (the Livestock Management Ordinance) and programs to encourage agricultural activities (Puget Sound Fresh and FarmLink).

Program staff support the King County Agriculture Commission, as established in 1995. The Commission's role is to advise the King County Council and Executive on ways to enhance and promote commercial agriculture in King County.

Farming in King County provides many environmental benefits such as flood storage in both the agricultural floodplains and farmed wetland complexes, reduction of non-point, source pollution from agricultural practices, aquifer and groundwater recharge, scenic open space, wildlife refuges, and providing King County residents with a safe and local food supply.

In 2003, the program accomplished the following:

- Provided information and technical support on several regulatory issues pertaining to agriculture within the Rural Drainage Program areas. These issues include, but are not limited to, proposed changes to King County's critical areas regulations, wineries, and updates to King County's Comprehensive Plan.
- Provided general information on the Agriculture Program, County-owned farmlands, and issues pertinent to agriculture.
- Provided technical assistance on pasture management, manure management and the Livestock Management Ordinance to over 150 individual landowners.
- Provided "on the ground" technical assistance regarding appropriate horticultural farming practices to 50 new and existing farmers.
- Participated in the planning activities for a digester to process manure produced by dairies on the Enumclaw Plateau. Staff provided technical information on dairy operations and assisted in refining the work of the feasibility study and provided input into the Request for Proposal process currently underway.

- Participated in planning and presenting at ten workshops and classes where approximately 150 landowners discussed livestock management and regulatory issues.
- Assisted in planning five workshops for existing and new farmers to assess the suitability of their property for growing alternative crops.
- Completed the Rural Land Use Study that identifies the amount of acreage devoted to various types of agriculture.

NATURAL RESOURCE LANDS PLANNING AND MANAGEMENT

The Natural Resource Lands Program was created in January 2002 to coordinate the policy, planning and management of approximately 60 County-owned forest and farm sites, totaling almost 8,000 acres. These sites were formerly managed by King County Parks and have now become the responsibility of the Water and Land Division. Surface water management fees collected in Rural Drainage Program service area fund thirty-seven percent of these activities, the remainder is funded by surface water management fees collected in the urban (or original service area) portion of unincorporated King County.

The program manages almost 3,000 acres of County-owned lands in the Rural Drainage Program service area. This inventory is made up of:

- 18 ecological sites, totaling 1,985 acres.
- 2 working resource sites, totaling approximately 500 acres.
- 1 ecological site has 16 acres within the Rural Drainage Program area.
- 3 working resource sites has 537 acres within the Rural Drainage Program area.

The following accomplishments speak to activities conducted during 2003 toward the management of County-owned lands within the Rural Drainage Program area:

County-Owned Land Management Volunteer Activities

- During 2003, the Natural Resource Lands Volunteer Coordinator facilitated 36 projects on King County Parks and natural lands in the Rural Drainage Program service area. This work involved over 957 volunteers who provided over 4,154 volunteer hours on restoration projects.
- Six Park Ambassadors work within the Rural Drainage Program area to steward King County Parks and County-owned, natural resource lands. In 2003 they conducted 42 site visits and reported any drainage / water quality related concerns and / or violation of park rules observed.

Snoqualmie Valley

- Completed Site Management Guidelines for 3 sites; drafted Site Management Guidelines for 3 additional sites.
- Directed and funding the installation of fences, gates and signs, demolition / removal of structures and drainage improvements on County-owned lands.
- 27 volunteer restoration projects at 6 Parks and natural resource land sites were coordinated within the Snoqualmie Valley. These projects resulted in restoration of healthy riparian areas through

plantings of native trees and shrubs and resolved water quality problems and drainage issues on trails.

- Two Adopt-A-Park groups steward two Parks and natural resource land sites, assisting with tree planting and noxious weeds.

Enumclaw Plateau

- Resolved three existing code violations / permit issues on recently acquired King County lands.
- Directed and funded demolition / removal of structures on three natural resource lands sites.
- 250 volunteers participated in two planting events at a Park site to restore pastureland to forest, resulting in 1,300 trees being planted. Local hiking group organized a trail work party at another Park site to resolve erosion problems.

Vashon Island

- Coordination initiated with Washington State Department of Natural Resources regarding transfer of trust land property to King County.

PUBLIC BENEFIT RATING SYSTEM PROGRAM AND TIMBER LAND PROGRAM

The Public Benefit Rating System and the Timber Land programs provide incentives to encourage private landowners to voluntarily conserve and protect land resources, open space and timber. In return for preserving these privately held resources with public benefits, land is assessed at a value consistent with its "current use" rather than the "highest and best use." The reduction in assessed land value is greater than 50% and as much as 90% for the portion of the land participating in the program. Over 650 landowners and 7,500 acres are presently participating in these two programs, mostly located in the Rural Drainage Program service area. 2003 program accomplishments include:

- Presented Public Benefit Rating System, Timber Land and other current use assessment information during scheduled Forest Stewardship classes:
 - Vashon: January 2003, approximately 20 landowners attended.
 - Snoqualmie: April 2003, approximately 20 landowners attended.
 - Enumclaw: (class was cancelled.)
 - Attended critical areas ordinance workshop in Carnation: Spoke with 8-10 landowners.
- Processed program applications received in 2002, during first half of 2003. A total of 47 Public Benefit Rating System and 6 Timber Land applications were received County-wide.
 - Vashon: 13 Public Benefit Rating System, 1 Timber Land processed
 - Snoqualmie: 8 Public Benefit Rating System, 3 Timber Land processed
 - Enumclaw: 2 Public Benefit Rating System, 2 Timber Land processed
- Re-valuated open space properties (enrolled prior to the adoption of a public benefit rating system program) with current criteria. State law and county code require the re-valuation of

old open space taxation property with current public benefit rating system criteria if a county adopts such a program. There are 92 properties in King County that still participate in the old open space program.

Vashon: Completed analysis and re-valuation of 1 property

Snoqualmie: Began process and analysis of 8 properties

Enumclaw: Completed analysis and re-valuation of 4 properties and began re-valuation of 3 properties

- Monitored to ensure compliance with recorded open space taxation agreement and to provide education to enrolled landowners.

Vashon: 14 properties

Snoqualmie: 6 properties

Enumclaw: 62 properties

- Received 56 applications by the end of December 2003 (49 Public Benefit Rating System and 7 Timber Land). These applications will be processed in the first half of 2004.

Vashon: 14 PBRS, 3 Timberland received

Snoqualmie: 9 PBRS, 4 Timberland received

Enumclaw: 5 PBRS, 1 Timberland received

- Responded to over 750 phone calls from landowners and others throughout King County interested in the Public Benefit Rating System, Timber Land and other current use assessment or conservation programs during 2003. Responded to approximately one-third as many email messages.

WATERSHED RESOURCE INVENTORY AREA SALMON RECOVERY PLANNING

In 2001, King County entered into agreements with local jurisdictions from throughout King County and portions of Snohomish County for the joint funding, development, and review of salmon conservation plans. This effort is in response to the listing of chinook salmon under the federal Endangered Species Act and is being handled under the auspices of the Watershed Resource Inventory Area (WRIA) planning process.

King County has four WRIA's within its boundaries: WRIA 7 – Snohomish, WRIA 8 – Cedar/Sammamish, WRIA 9 – Duwamish/Green, and WRIA 10 – Puyallup/White.

The planning effort constitutes four significant steps, which will result in a salmon conservation plan for each watershed. The four steps are 1) the Reconnaissance Assessment to identify what we know now; 2) the Near Term Action Agenda to identified steps to take in the next 3 to 5 years while the conservation plans are completed; 3) the Strategic Assessment to identify what we need to learn and 4) the Comprehensive Conservation Plan to outline what we can do in the future.

The WRIA's in King County are currently completing the Strategic Assessment stage and are developing draft conservation plans. WRIA 7's draft plan is due June 2004, with a final in June 2005. WRIA 8's draft is due March 2004 with a final in August 2004 and WRIA 9's draft plan is due May 2005, with a December 2005 date for the final plan to be adopted. WRIA 10 is pursuing a different approach and is being led by Pierce County.

The tailored approach being undertaken toward the development of these plans will provide a "customized, watershed-based biological and ecological assessments that will serve as the science-based foundation for early- and interim action identification". In other words, each WRIA will have developed a conservation plan that is specific to its situation and needs.

Rural surface water management fee dollars contribute toward King County's participation in the WRIA process. Increased development and growth to the region has compromised stream and other natural resource conditions. The restoration projects being identified through the WRIA planning process, will mitigate longstanding impacts to streams while restoring threatened species. These efforts will prevent more surface water management problems in the future and save money in the long run.

CAPITAL PROGRAM ACCOMPLISHMENTS

The Rural Drainage Capital Program was increasingly productive in 2003. One measure of this productivity is the expenditure rate, or the total expenditure divided by total budget. This rate was increased half again as much, over the 2002 rate, from 40% to 60%, primarily due to a number of construction projects in the Snoqualmie Valley, as well as the acquisition and protection of a large property on Vashon at the headquarters of the Shinglemill watershed. The accomplishments of all 2003 capital expenditures are described in detail below.

LARGE CAPITAL PROJECTS

Herb Farm Drainage Improvements – (Snoqualmie Sub Area)

During large storm events, SE 46th Street in Fall City (the former neighborhood of the renowned Herb Farm restaurant) would flood for over 24 hours, blocking emergency access to residents and flooding homes. This was due to inadequate surface water conveyance from Mitchell Hill drainage basin and from an improperly functioning drainage pipe on SE 46th Street. Historically, when this area was forested, most of the runoff from Mitchell Hill infiltrated into the ground. However, years of development have eliminated much of the forest cover and forced alterations to the natural drainage system.

In the fall of 2003, a drainage improvement project was completed that redirected storm water runoff from Mitchell Hill and SE 46th Street to a natural stream/wetland complex that is part of the Patterson Creek system, using a pipe and conveyance channel.

The stream channel area was planted with 25 feet of native vegetation on each side of the stream. In addition, the wetland area was cleared of invasive vegetation and replanted with native plants. The project team worked closely with property owners to obtain the necessary easements enabling the project to be completed on time.

The project was a success! During the heavy rains this fall and winter there was no residual water on SE 46th Street and residential flooding was alleviated. The community was very supportive of the project and is very pleased with the results.

Tuck Creek Phase II – (Snoqualmie Sub Area)

The objective of the Tuck Creek project was to relieve perpetual flooding of the fields adjacent to Tuck Creek in the Snoqualmie Valley. For years, continual sediment deposit, dredging, and bank shoring raised the creek bed several feet above the valley floor. Because of environmental regulations, continued dredging was not permitted. The creek became filled with sediment from the steep hillside reach along the Woodinville-Duvall Road. With the channel filled with sediment, the stream was in eminent danger of leaving its existing channel during a large storm, that could have caused widespread flooding and fish stranding.

The project constructed a raised farm road parallel to the existing channel, then created a new much larger stream channel between the road and the raised banks of the old channel. This allowed County staff to expedite permitting and avoid many of the obstacles normally associated with altering or relocating a stream channel. The net result is a very large stream corridor with an enhanced stream channel that is sized to provide many years of maintenance free function. The earthwork was substantially completed in 2002 with planting extending into 2003 and the actual stream connection occurring in 2003. The stream channel on the upstream

side of Woodinville-Duvall Rd is still at risk of failure because larger alluvial deposit still fall out of the stream as the stream leaves the hillside and enters the valley floor. As this area is filled with these alluvial deposits the stream will always tend to seek a shorter route to the Snoqualmie River. The shortest route to the Snoqualmie in the case of Tuck Creek is across the Bellemy farm.

In 2003, a separate feasibility stream study was funded by King County Road Services and completed by Water and Land Resources Division staff. This study addressed the problem of sediment building up in the transition zone between the hill and valley on the upstream side of the Woodinville Duvall Road. As of the writing of this document Roads has not undertaken a project at this location.

Patterson Creek Tributary 383 – (Snoqualmie Sub Area)

The Tributary 383 Wetland Restoration Project restored 5.5 acres of degraded agricultural wetland on King County property in the Patterson Creek Basin. The first phase of this project was performed in September 2003 and included grading 427 hummocks and hollows to restore wetland topographic structure. In order to restore habitat for amphibians, increase invertebrate richness and general habitat functions, 846 pieces of small and large woody debris were positioned on the site. Over 1,000 willow live stakes were installed on the site in October 2003, and 1,840 trees and shrubs will be installed in March 2004.

The project is also restoring 4 acres of riparian corridor by planting native trees and shrubs and relocating 700 feet of stream, all on private property. In August 2003, Storybook Creek was relocated out of a straight, trapezoidal channel and placed into a meandering channel with large woody debris to provide structure, native vegetation, and diverse habitat units including riffles, runs, and pools. Planting of the riparian corridor will be performed in 2004 and will require the installation of 2,700 native trees and shrubs.

Vashon Opportunity Project – (Vashon Sub Area)

In 2003, the Vashon Opportunity project acquired a 30 acre site as part of a larger plan to protect the 380 acre Island Center Forest, located in the headwaters of the Judd Creek Watershed. The Smythe Parcel is mostly forested with no structures on it. The acquisition is important for a number of reasons including maintaining the hydrology and water quality in the wetlands and Judd Creek, and for high groundwater recharge. Ancillary benefits include wildlife protection and passive community recreation such as hiking trails.

Natural Lands Capital Improvement Project – (Throughout all three Sub Areas)

This program provides minor improvements to preserve and protect King County-acquired natural lands under the goals of the Rural Drainage Program. Improvements are most often fencing and bollards to restrict access or signs designating property boundaries or specifying rules for entering the property.

Wilderness Rim 2 – (Snoqualmie Sub Area)

Wilderness Rim is a subdivision of several homes built around an enclosed depression outside North Bend. During heavy rains the depression fills, flooding adjacent homes. The proposed solution enlarged the depression to increase the groundwater infiltration rate and eliminate the

flooding. Construction was completed in early 2002. In 2003 project staff monitored the infiltration rate to determine if further modifications were necessary.

Shinglemill Creek Phase II – (Vashon Sub Area)

This project enhanced a creek that was heavily impacted by a giant slope failure, caused by the rerouting of an upstream drainage. The project improved Shinglemill Creek headwater conditions by removing 3 culverts, stabilizing the berm around Johnson pond, and creating a stable channel from Johnson Pond to a nearby wetland area. Both locations were replanted with native vegetation. In 2003, County staff completed final monitoring of the plantings to ensure their continued survival.

DRAINAGE AND HABITAT IMPROVEMENT PROGRAM

The Drainage and Habitat Improvement program is a general-purpose program that designs and constructs drainage structures and/or installs habitat features to improve surface water drainage and/or sensitive habitat. Such projects include elimination of localized flooding, erosion and sediment control, improving fish passage and habitat, and bank stabilization. These projects are typically planned and constructed within a two-year timeframe.

Another service the program provides is technical assistance to the public. Funding is set aside to provide engineering, environmental and/or permit guidance and assistance to the public. The program also offers the public technical professional opinions and provides referrals to other sources more suitable to the public's needs.

Wells Nursery Drainage Improvements – (Snoqualmie Sub Area)

This project is another of the suite of projects to address the Issaquah Fall City Road flooding near 332nd Ave SE. (Also see the Herb Farm project) This project also known as the Koba Pond project is designed to collect the locally generated road runoff between 328th Ave SE and 332nd Ave SE along with the storm water generated at the site of Wells Nursery, (the large parcel to the South of Issaquah Fall City Road between 328th SE and 330th SE). The collected storm runoff is conveyed to an under-utilized retention/detention pond called Koba Pond. The project provided a check valve and overflow out-fall from Koba Pond to the Raging River. Similar to the Herb farm project the overall impact is the reduction or elimination of chronic lowland flooding in the area surrounding the Herb Farm neighborhood.

Wetland 35 – (Snoqualmie Sub Area)

This project is partially associated with the suite of Herb Farm projects completed during 2003. The intent of this work is to upgrade the downstream conveyance of the storm water generated on Mitchell Hill. This project also has a significant fish passage component because it eliminated a near complete fish blockage. The storm water system installed to accommodate the storm runoff from Mitchell Hill and the Herb Farm projects drain directly to this crossing. The scope of the project was to replace a perched, 12" culvert with a much larger, box culvert that meets current environmental regulations for both storm water and stream conveyance, and upstream fish passage. There is documented current use of this stream by Coho salmon but the culvert has been a total blockage to upstream migration except when the road is over-topped and the fish swim over the road. The project provides fish passage to adults and juvenile salmonids and eliminates road flooding. This project was completed in the late summer

of 2003. During the storm of record in October 2003 no overtopping of the road was reported at this culvert location.

Herb Farm – (Snoqualmie Sub Area)

This project identified alternatives and recommended the preferred option for design and construction of a system to alleviate the flooding problems. However, scope of the project was much larger than a typical Drainage Habitat Improvement project so, it was converted to a Capital Improvement Project in 2003 (see project description above). Preliminary analysis funded by the Drainage Habitat Improvement Program, included hydrological analysis and negotiations with King County's Department of Development and Environmental Services and landowners.

Old Vashon Highway – (Vashon Sub Area)

This project was designed to eliminate the chronic flooding of Old Vashon Highway near SE 144th St. The existing system conveyed water across Old Vashon Highway toward a closed depression in the road shoulder that extending onto private property. There was an inoperative culvert crossing private land and dumping the runoff into a county maintained drainage course some 600 feet downstream. The project installed drainage in the road-right-of-way to convey this storm runoff. The new system is sized to convey storm runoff, prevent flooding of the county roadway, and private property and be located for ease of maintenance by the Road Maintenance Division.

Deer Creek – (Snoqualmie Sub Area)

The Deer Creek project was designed and permitted in the 2002-2003 Drainage Habitat Improvement Program with construction complete in summer 2003. This project day-lighted and reconstructed about 200 feet of this low gradient stream that passes under State Route 203, about 2 miles South of Duvall. The goals of the project were to remove a temporal fish barrier, and improve water and habitat quality. The planting component of the project removed invasive vegetation and replanted the area stream banks with native vegetation that is expected to provide both shade and cover improving water quality and juvenile fish survival.

RURAL DRAINAGE FACILITY RETROFIT PROGRAM

This program modifies existing regional storm and county-owned residential retention/detention ponds or bioswales to improve their performance in order to prevent flooding and degradation of natural habitat, or to protect water quality, public health and safety, and public property. In 2003, two bio-swale facilities were regraded to restore appropriate flow rates and re-seeded with grass.

RURAL NEIGHBORHOOD DRAINAGE ASSISTANCE PROGRAM

The Rural Neighborhood Drainage Assistance Program helps private landowners solve drainage problems impacting three or more parcels, often caused by increased development upstream, and for which no other County program is available. Projects range anywhere from a few thousand dollars to over \$100,000, although most projects are between \$5,000 and \$30,000. In 2003, the program accomplished the following:



Water from upstream properties made this erosion problem worse. NDAP is working to redirect the water and stop the erosion.

SOISTER – (Snoqualmie Sub Area)

Individual sections of a concrete culvert, on an access road, had become displaced causing it to not drain properly. The resulting backwater was in danger of covering the road, creating a significant public safety hazard. The problem was resolved by replacing the culvert.

HAMMOND CHANNEL BLOCKAGE – (Snoqualmie Sub Area)

County engineers worked with the Washington State Department of Transportation to remove a blocked drainage channel in the Snoqualmie Valley. King County completed the permitting and technical analysis, while Transportation crews removed the actual blockage.

FOGELBERG CULVERT REPLACEMENT – (Enumclaw Sub Area)

This project will replace a blocked culvert in the Newakum Creek basin of the Enumclaw Plateau. Engineers completed design and permitting in 2003 and, will replace the culvert in 2004.

MANZANITA BEACH – (Vashon Sub Area)

This project reduced minor flooding by increasing an existing, private 2” drain on Vashon Island that connected to a 12” road culvert. King County provided design and permitting and installed new pipe in the road right-of-way and down the steep slope, adjacent to the right-of-way. The property owner installed the remainder of the pipe and the catch basins.

VASHON HEIGHTS DRAINAGE IMPROVEMENTS – (Vashon Sub Area)

The inlet to a 12” was plugged with gravel and it’s outlet could not be located, but believed to have been graded over. Stormwater bypassed the pipe inlet and flooded a house, its access and drainfield. The project replaced the existing 12” pipe with a new 12” pipe with an outlet to the road ditch. The washed out road was regraded and drainage alongside of it was improved.

NORTH VASHON DRAINAGE IMPROVEMENT - (Vashon Sub Area)

A newly constructed residence in North Vashon is prone to flooding from Vashon Highway runoff and from an adjacent steep slope. Engineers completed initial designs for two drainage options and are waiting for property owner response before proceeding.

AGRICULTURAL DRAINAGE ASSISTANCE PROGRAM

The Agricultural Drainage Assistance Program provides technical and financial support to farmers attempting to maintain agricultural waterways. To prevent further loss in farmland, this program provides assistance in obtaining the necessary permits, cost-share funding for best management practices including mitigation, and pre-and post-project monitoring. A web site describing the program’s activities and monitoring reports can be found at: (<http://dnr.metrokc.gov/wlr/waterres/fnd/index.htm>). During 2003, the program accomplished the following:

- In 2003, two agricultural ditches went through the regulatory process, allowing them to be cleaned.
 - Maintenance of 1300 feet of a field ditch occurred in the Snoqualmie Agricultural Production District improving drainage on approximately 30 acres of agricultural land.
 - The permitting process was begun for a 700 foot field ditch maintenance project in Enumclaw. Construction was about to begin on the project, when the landowner had a heart attack and was postponed to 2004. This effort will improve drainage on approximately 6 acres of agricultural land.
- Continued maintenance and monitoring of past projects was conducted. Additionally, permit preparation work was done for 6 future projects in the RDP fee area.
- In 2002, King County signed technical services agreements with Washington State University and the King Conservation District to research and implement how and which best management practices could and should be used while maintaining ditches and how these activities affect threatened salmon species and water quality. This effort is also investigating sediment and reed canary grass control. There are over 20 landowners involved in this five-year research project from four of the agricultural production districts. A

sampling analysis plan was developed and pre- and post- project monitoring occurs monthly. An annual report was developed and distributed to the public. Initial research findings were presented at:

- A landowners meeting in Duvall.
- The Harvest Celebration Tour - three research booth/demonstration sites in Enumclaw, Carnation, and Duvall.
- Total Maximum Daily Load Conference in Skamania, Washington.
- Program staff reviewed and provided comments on proposed changes to King County's critical areas regulations.
- Outreach efforts to educate the public about the program and regulations associated with agricultural ditch maintenance during 2003 included:
 - Ditch maintenance contractor training was conducted in Carnation.
 - Two videos about ditch maintenance were produced and are available to landowners.
 - The program responded to approximately 500 technical information requests from the public, government agencies, and non-profit groups regarding agricultural ditch maintenance.
 - Three Council Members received briefings about the program.
 - Five flyers about the program or related issues were created.

LIVESTOCK MANAGEMENT ORDINANCE COST SHARING PROGRAM

The Livestock Management Cost Sharing Program provides livestock farmers grants that defray implementation costs recommended by King Conservation District-developed farm plans. Implementing these property improvements and practices will also bring farmers into compliance with King County's Livestock Management Ordinance. Because animal nitrates are one of the most significant pollutants found in rural streams, these efforts aim to improve water quality by regulating livestock farming practices, particularly related to manure management.



The LMO Cost-Share program encourages citizen compliance with the County's environmental laws, decreasing non-point source pollution in local streams.

In 2003, \$52,000 was granted towards better livestock-management at the following locations:

- 212th Avenue SE, Enumclaw Plateau: Constructed waste storage structure, installed heavy use area protection and cross fencing.
- SW 236th Street, Vashon: Installed heavy use area protection.
- SW 216th Street, Vashon: Installed heavy use area protection, roof runoff management, cross fencing and constructed waste storage structure.
- SE 432nd Street, Enumclaw Plateau: Installed manure management equipment.
- SE 368th Street, Enumclaw Plateau: Constructed waste storage structure.
- Vashon Highway SW, Vashon: Installed heavy use area protection.
- West Snoqualmie River Road NE, Snoqualmie Valley: Installed manure management equipment.
- 284th Avenue SE, Enumclaw Plateau: Installed heavy use area protection, roof runoff management and cross fencing.
- 342nd Avenue NE, Snoqualmie Valley: Installed heavy use area protection, roof runoff management, buffer fencing, cross fencing and constructed waste storage structure.
- 322nd Way NE, Snoqualmie Valley: Installed heavy use area protection and implemented pasture reseeding.
- SW 238th Street, Vashon: Installed heavy use area protection and roof runoff management.
- SE 400th Street, Enumclaw Plateau: Implemented pasture renovation.
- 218th Avenue SE, Enumclaw Plateau: Installed heavy use area protection, cross fencing and roof runoff management.

- SE 464th Street, Enumclaw Plateau: Installed heavy use area protection, roof runoff management and buried outlet line.
- 234th Place SE, Enumclaw Plateau: Installed heavy use area protection and constructed waste storage structure.
- 228th Avenue SE, Enumclaw Plateau: Installed manure management equipment.
- SE 53rd Street, Snoqualmie Valley: Installed heavy use area protection, roof runoff management and constructed waste storage structure.
- Lake Alice Road SE, Snoqualmie Valley: Installed heavy use area protection and constructed waste storage structure.

SMALL HABITAT RESTORATION PROGRAM

This award-winning program completes small-scale habitat restoration projects along stream corridors and wetlands. These may include stabilizing eroding stream banks, installing livestock fencing, and planting native vegetation. Individual project costs typically range from \$5,000 to \$15,000. Projects are constructed on private or public property as long as they provide benefit to the public at large.

During 2003, the program handled 23 active habitat restoration projects. 14 projects were in the construction phase, 4 projects in the design and permit phase, and 5 projects were being maintained and monitored. These projects improved a total of 4.75 stream miles, 37.42 acres of wetland, and 123 acres of buffer in the Rural Drainage Program service area during 2003.

2003 Rural Service Area Project Construction/Implementation

- **Grand Canyon Erosion Control (Maury-Vashon Island Land Trust Property):** This project provided further stabilization to a rapidly eroding ravine that is a source of sediment to salmon-bearing Shinglemill Creek, downstream. This amends the terraces and willow fascines constructed during 2002 to establish vegetation on very steep, sandy hillsides. The project directly improves 3,100 square feet of stream buffer, and has beneficial effects for much of Shinglemill Creek, one of Vashon's few streams that support coho and chum salmon.
- **O'Hanley Restoration (Private Ownership):** The goal of this ongoing project is to restore fish and wildlife habitat on 153 acres of private property that includes Harris Creek, numerous Class 1 wetlands and the Snoqualmie River. In 2003, a successful volunteer planting event with King County Public Involvement and the Stilly-Snohomish Fisheries Enhancement Taskforce helped to enhance 3.5 acres of riparian buffer along 1200 lineal feet of the Snoqualmie River. In addition, the project received a \$10,000 reimbursement grant from the Stilly-Snohomish Fisheries Enhancement Taskforce. Routine maintenance was performed on previous work at the site. Volunteers and the Washington Conservation Corps may do more planting in this area in 2004.
- **Chinook Bend Reforestation (King County Ownership):** The goal of this ongoing project is to reforest 60-acres of floodplain along the Snoqualmie River. In 2003, approximately 10 acres were planted with 4,000 alder plantings. When plantings are completed, this project will improve 4,500 lineal feet of Class 1 stream.
- **Neal Road Revegetation (King County Ownership):** A habitat management plan (HMP) was prepared in 2001 to restore fish and wildlife habitat on property acquired by King

County using early action salmon recovery funds. This 50-acre site contains Class 2 wetlands, 2000 lineal feet of Snoqualmie River stream bank and an abandoned meander channel used by juvenile salmonids. Initial project construction/planting occurred in fall of 2001 and is ongoing. Approximately 10,000 square feet of river buffer was planted, replanted and maintained during 2003.

- **Whitney Bridge Park Riparian Enhancement (King County Ownership):** Planting on this project began in summer, 2001 and is ongoing. This project enhances 29,250 square feet (0.67 acres) of streamside buffer along 1000 lineal feet of the Green River with a mixture of deciduous and coniferous trees. About 15,000 square feet of buffer were planted during 2003.
- **Striker Riparian Enhancement (Private Ownership):** This project will enhance 1.7 acres of stream buffer on both sides of Langlois Creek with native plantings. Langlois Creek is a small system, but has high concentrations of coho spawning.
- **Middle Fork Snoqualmie River Re-vegetation at Norman Bridge (King County Ownership):** This project removed approximately 1.5 acres of dense blackberry from the banks of the Middle Fork Snoqualmie River near the Norman Bridge and within the Three Forks Natural Area. An irrigation system was installed and the site will be planted during the early Winter of 2004.
- **Anderson Fish Passage Improvement (Private Ownership):** A small gap through a relict beaver dam was widened to prevent re-damming by the beaver and to enable Patterson Creek to flow through a high-quality forested wetland rather than a reed canary grass-infested field. Planting is scheduled for January 2004.
- **Williams Riparian Restoration (Private Ownership):** Blackberry was removed from one half acre of a riparian/wetland area in the Snoqualmie River floodplain. The area was covered with weed-control fabric and planted during the fall of 2003. Further plantings will occur once shade has been established.
- **Camp River Riparian Restoration (Private Ownership):** A parking lot at a Girl Scout camp in the floodplain of the Tolt River was removed and replaced with native plantings, improving one acre of stream buffer. The camp includes more than a mile of river frontage on the Tolt River. Alder will be planted in the buffer during the winter of 2004.
- **Nonis Buffer Revegetation (Private Ownership):** One-half acre of buffer of Harris Creek and a small wetland were improved with native plantings during 2003.
- **Richards Riparian Restoration (Private Ownership):** Over 4000 square feet along 165 lineal feet of Newaukum Creek was planted during December, 2003. Much of the area is within Bonneville Power Administration right-of-way and therefore required appropriate species selection to avoid interference with overhead power lines.

2003 Rural Service Area Project Design and Permitting

Significant design and permitting was accomplished for four projects within the Rural Drainage Program service area including:

- **Chinook Bend Wetland Restoration (King County and Private Ownership):** This project will restore the historic outlet of the open water wetland at Chinook Bend by plugging an existing culvert. The wetland may then provide off-channel rearing habitat for juvenile salmonids. Survey and design work was accomplished in 2003 and construction is scheduled for 2004.

- **Lower Griffin Creek Wetland Enhancement (Private Ownership):** Cottonwood and willow poles with beaver protection will be planted in the wetland buffer near the mouth of Griffin Creek, at the Snoqualmie River. Installation is scheduled for Spring, 2004.
- **Ober Creek Fish Passage Restoration (Private Ownership):** Design and most of the permitting was completed during 2003 for this culvert replacement project on Vashon Island. The project will provide fish access to approximately 1000 linear feet of habitat upstream of the culverts. Construction is scheduled for the summer of 2004.
- **Taylor Mountain Re-vegetation (King County Ownership):** Landslide bowls and bank erosion caused by channel incision will be re-vegetated during the spring of 2004.

2003 Rural Monitoring and Maintenance

Monitoring and/or maintenance helped ensure the success of three past Small Habitat Improvement Program projects within the Rural Drainage Program service area.

- Novack Fish Passage Project
- Pt. Robinson
- Bucholtz/Wendell
- Cunningham
- Dreschel

COMMUNITY PARTNERSHIP GRANTS PROGRAM

This program provides small grants to neighborhood groups to solve drainage, water quality, and habitat problems. The program is being publicized through press releases in community newspapers, targeted mailings to community service groups, and through the World Wide Web. In 2003, King County expenditures were in support of the following grants:

- **Snoqualmie Indian Tribe** Snoqualmie Conservation Corps. The tribe is establishing and training a Snoqualmie Conservation Corps to restore salmonid stream habitat on private and public lands in the Snoqualmie Watershed. Projects will be selected in a manner beneficial to Snoqualmie Watershed Forum priorities. The Corps will also work in conjunction with King County's Small Habitat Restoration Project team. Approximately 10 to 20 youth will work a total of between 960 and 1920 hours on these projects.
- **City of Snoqualmie:** Kimball Creek Water Quality Monitoring and Water Quality Improvement Plan. Kimball Creek which flows through farmland and residential areas before it reaches the Snoqualmie, has degraded water quality. The City of Snoqualmie is developing and implementing a water quality monitoring and improvement plan to address these water quality problems. Mount Si High School and University of Washington students are participating in water quality planning, research, sampling, testing and analysis as a part of their class work. Other groups involved in community education and stream restoration include the Meadowbrook Farm Preservation Association and the Snoqualmie Rotary Club.
- **Friends of the Trail:** Middle Fork Snoqualmie River Drainage Cleanups. In continuation of an effort to minimize the problem of illegal dumping and littering in rural areas of Washington State, Friends of the Trail fosters greater protection of the Snoqualmie by

organizing cleanups and carrying out education and public awareness/outreach activities. Clean-ups are conducted by volunteers and court-adjudicated youths.

RURAL CAPITAL RECONNAISSANCE

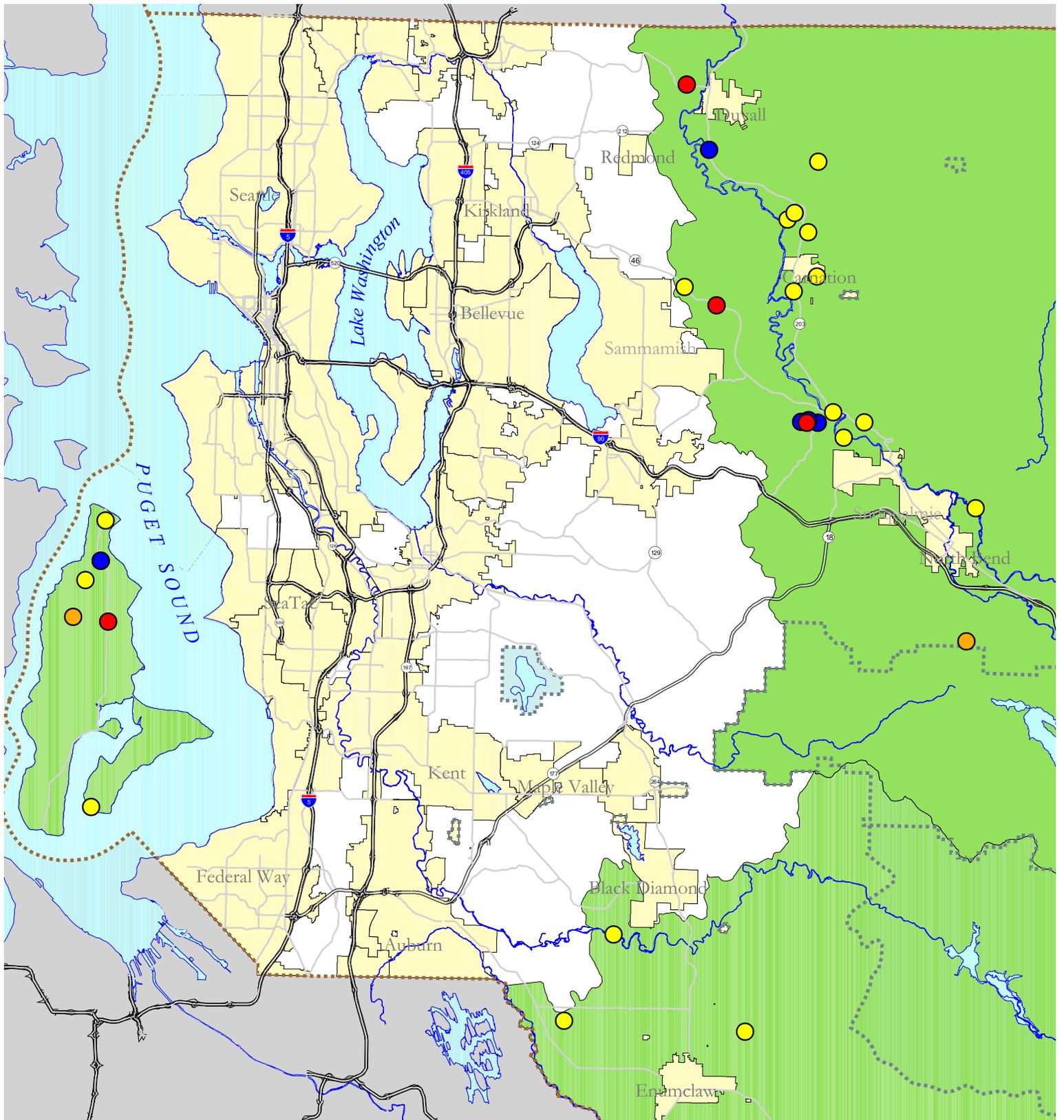
The objective of the Rural Drainage Program's Capital Reconnaissance effort is to identify and prioritize capital project needs throughout the new 1,400 square mile rural service area of Eastern King County and Vashon/Maury Island. This project will provide a comprehensive 6-year, rolling list of projects that seek to resolve problems caused by stormwater runoff. These projects will be funded by allocations in the capital budget. Work has focused on: (1) developing a prioritized list of capital projects for consideration in 2004, and (2) understanding the capital needs across the new service area for funding in subsequent years.

An early phase of the reconnaissance effort, completed in 2001, identified approximately 15 potential early action projects. The consultant conducted feasibility analyses on nine of these projects, many of which are now being implemented under the Rural Drainage Program's capital program.

In 2002, a consultant team led by Tetra Tech, Inc. was hired to conduct rural landscape assessments and capital project reconnaissance for three areas: Patterson Creek Basin, Boise Creek Basin, and Vashon and Maury Island. The scope was subsequently expanded to include hydrology modeling and a detailed stream habitat analysis for all three basins, and to allow for an island-wide assessment of Vashon Island, as opposed to just two basins on Vashon. The result of this expanded effort will be a more complete understanding of the habitat conditions and surface water needs within these areas.

In 2003 the Patterson Creek (Snoqualmie) analysis was completed. Based on the analysis conducted, 32 action items were identified to improve surface water drainage problems, restore natural flows, improve sediment regimes, restore fish passage/habitat, and reduce risks to public health and safety. These action items consist of constructed projects, acquisitions, studies, and programs.

The analysis for the Boise Creek basin (Enumclaw Plateau) and Vashon-Maury Island will be completed in early 2004. Based on analysis completed to date, 35 action items were identified for the Boise Creek drainage basin and 36 action items on Vashon-Maury Island. These action items consist of constructed projects, acquisitions, studies, and programs to be rolled into the proposed 6-year capital-budget-funded list for the rural area beginning in the 2005 budget process. These projects have been ranked and evaluated for their urgency, effectiveness, feasibility, and benefit to the community.



2003 Rural Drainage Program

- Rural Drainage Program Service Area
- Large Capital Projects
- Rural Neighborhood Drainage Assistance Program
- Drainage and Habitat Improvement Program
- Small Habitat Restoration Program
- Natural Lands Capital Improvement Project



1" = 5 miles



King County

Department of Natural Resources and Parks
Water and Land Resources Division

File: jeaniep/swes027/projects/rural04.apr

Geographical Allocation of Expenditures

Operating

	2000			2001			2002			2003			Area Totals		
	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw
1 Complaint Investigation	\$41,835	\$11,714	\$30,121	\$35,583	\$10,543	\$19,769	\$32,481	\$15,909	\$17,897	\$51,093	\$14,138	\$34,926	\$160,992	\$52,304	\$102,713
2 Residential Facility Maintenance	\$38,389	\$1,745	\$3,490	\$128,286	\$5,831	\$11,662	\$154,596	\$7,027	\$14,046	\$159,925	\$7,269	\$14,539	\$481,196	\$21,872	\$43,737
3 Commercial Facility Inspection	\$10,744	\$8,953	\$2,686	\$800	\$666	\$200	\$10,131	\$8,442	\$2,533	\$20,562	\$17,135	\$5,140	\$42,236	\$35,197	\$10,559
4 Engineering Studies	\$79	\$35	\$38	\$0	\$0	\$0	\$0	\$0	\$0	\$1,127	\$499	\$542	\$1,206	\$534	\$580
5 WQ Compliance	\$7,642	\$1,124	\$12,060	\$8,643	\$2,123	\$4,397	\$14,228	\$8,982	\$14,188	\$15,878	\$11,407	\$9,859	\$46,391	\$23,636	\$40,504
6 Environmental Enforcement	\$160,705	\$30,132	\$60,264	\$79,940	\$29,978	\$223,167	\$226,772	\$56,719	\$94,497	\$257,511	\$56,740	\$122,209	\$724,929	\$173,569	\$500,137
7 Agriculture	\$0	\$0	\$0	\$87,044	\$0	\$29,015	\$106,288	\$21,618	\$52,243	\$122,685	\$11,502	\$57,509	\$316,017	\$33,120	\$138,767
8 ADAP Support	\$90,070	\$0	\$30,023	\$26,998	\$0	\$17,999	\$0	\$0	\$0	\$0	\$0	\$0	\$117,068	\$0	\$48,022
9 Rural Forest Retention	\$0	\$0	\$0	\$49,000	\$0	\$21,000	\$163,258	\$75,537	\$4,873	\$70,530	\$104,890	\$5,425	\$282,788	\$180,428	\$31,299
10 Natural Lands Mgmt	\$0	\$0	\$0	\$0	\$0	\$0	\$48,261	\$2,161	\$21,610	\$231,876	\$2,639	\$129,293	\$280,137	\$4,800	\$150,902
11 PBRS	\$0	\$0	\$0	\$0	\$0	\$0	\$16,481	\$28,347	\$21,096	\$28,705	\$21,529	\$39,470	\$45,186	\$49,876	\$60,566
12 Snoqualmie Steward	\$10,656	\$0	\$0	\$128,595	\$0	\$0	\$117,922	\$0	\$0	\$129,929	\$0	\$0	\$387,101	\$0	\$0
13 Vashon Steward	\$0	\$44	\$0	\$0	\$54,290	\$0	\$0	\$117,321	\$0	\$0	\$127,800	\$0	\$0	\$299,455	\$0
14 Enumclaw Steward	\$0	\$0	\$7,474	\$0	\$0	\$43,754	\$0	\$0	\$142,986	\$0	\$140,911	\$0	\$0	\$0	\$335,126
15 Lakes Stewardship	\$21,086	\$0	\$18,699	\$29,772	\$0	\$26,401	\$36,070	\$0	\$31,987	\$36,709	\$0	\$32,553	\$123,637	\$0	\$109,641
16 Vashon Groundwater	\$0	\$28,265	\$0	\$0	\$123,158	\$0	\$0	\$101,464	\$0	\$0	\$122,330	\$0	\$0	\$375,217	\$0
17 East King County Groundwater	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$42,023	\$0	\$0	\$42,023	\$0	\$0
18 Snoqualmie Tech Support	\$0	\$0	\$0	\$49,932	\$0	\$0	\$62,226	\$0	\$0	\$105,086	\$0	\$0	\$217,243	\$0	\$0
19 CIP Recon Support	\$6,729	\$2,976	\$3,235	\$102,021	\$45,125	\$49,049	\$3,965	\$1,754	\$1,906	\$113,160	\$50,051	\$54,404	\$225,875	\$99,906	\$108,594
20 Cap Project Transfer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21 Rural Coordinator	\$38,462	\$17,012	\$18,491	\$38,462	\$17,012	\$18,491	\$44,627	\$19,739	\$21,455	\$20,836	\$9,216	\$10,017	\$142,388	\$62,979	\$68,456
22 Overhead	\$130,206	\$57,591	\$62,599	\$73,006	\$32,291	\$35,099	\$39,432	\$18,177	\$20,165	\$80,508	\$35,609	\$38,706	\$323,151	\$143,668	\$156,569
23 Misc. Technical Support	\$2,989	\$1,322	\$1,437	\$11,005	\$4,867	\$5,291	\$23,577	\$10,428	\$11,335	\$1,554	\$687	\$747	\$39,124	\$17,305	\$18,810
24 ESA Compliance	\$0	\$0	\$0	\$0	\$0	\$0	\$78,000	\$34,500	\$37,500	\$78,000	\$34,500	\$37,500	\$156,000	\$69,000	\$75,000
25 Administration	\$0	\$0	\$0	\$830	\$367	\$399	\$30,890	\$21,227	\$21,864	\$107,236	\$47,431	\$51,556	\$138,955	\$69,025	\$73,819
Total	\$559,592	\$160,913	\$250,618	\$849,916	\$326,252	\$505,692	\$1,209,204	\$549,353	\$532,183	\$1,674,933	\$675,373	\$785,305	\$4,293,644	\$1,711,890	\$2,073,798
Annual Grand Total			\$971,123			\$1,681,859			\$2,290,740			\$3,135,611			\$8,079,333

Capital

	2000			2001			2002			2003			Area Totals		
	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw	Snoqualmie	Vashon	Enumclaw
1 Wilderness Rim	\$32,387	\$0	\$0	\$33,404	\$0	\$0	\$118,977	\$0	\$0	\$1,483	\$0	\$0	\$186,251	\$0	\$0
2 Shinglemill Phase II	\$0	\$0	\$0	\$0	\$53,790	\$0	\$0	\$4,538	\$0	\$0	\$3,953	\$0	\$0	\$62,281	\$0
3 Tuck Creek Phase II	\$407	\$0	\$0	\$72,499	\$0	\$0	\$214,502	\$0	\$0	\$40,970	\$0	\$0	\$328,377	\$0	\$0
4 Neighborhood Drainage Assistance	\$3,195	\$450	\$23,542	\$7,194	\$368	\$138,697	\$67,591	\$18,321	\$64,576	\$71,885	\$13,535	\$14,599	\$149,864	\$32,674	\$241,415
5 East KC Groundwater	\$4,938	\$0	\$0	\$56,583	\$0	\$0	\$42,672	\$0	\$0	\$0	\$0	\$0	\$104,193	\$0	\$0
6 Small Habitat Restoration Program	\$19,347	\$3,650	\$10,124	\$117,239	\$11,447	\$19,060	\$51,226	\$17,848	(\$9,957)	\$96,194	\$44,638	\$16,590	\$284,006	\$77,583	\$35,816
7 Drainage & Habitat Improvements	\$22,271	\$35,908	\$30,897	\$24,899	\$9,659	\$54,986	\$140,001	\$11,932	\$33,693	\$282,474	\$101,021	\$15,042	\$469,645	\$158,520	\$134,619
8 LMO Cost Share	\$0	\$0	\$0	\$7,963	\$0	\$24,095	\$9,721	\$11,448	\$25,182	\$9,871	\$6,945	\$35,386	\$27,556	\$18,394	\$84,663
9 Agricultural Drainage Assistance Prog	\$141,990	\$0	\$0	\$88,640	\$0	\$48,927	\$109,403	\$0	\$64,662	\$170,555	\$0	\$83,508	\$510,588	\$0	\$197,098
10 CIP Reconnaissance	\$40,157	\$17,762	\$19,306	\$51,632	\$22,837	\$24,823	\$36,549	\$35,474	\$35,474	\$155,304	\$78,185	\$91,127	\$283,642	\$154,258	\$170,731
11 Rural Partnership Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$5,208	\$92	\$20,100	\$64,607	\$1,374	\$1,494	\$69,815	\$1,466	\$21,594
12 Facility Retrofit	\$0	\$0	\$0	\$2,495	\$81	\$89	\$2,134	\$73	\$79	\$1,482	\$0	\$0	\$6,111	\$154	\$168
13 Engineering Studies	\$0	\$0	\$0	\$10,780	\$3,600	\$3,913	\$7,154	\$12,504	\$3,021	\$2,181	\$1,336	\$1,048	\$20,115	\$17,441	\$7,983
14 Drainage District 13 Repair	\$0	\$0	\$0	\$0	\$0	\$297,091	\$0	\$0	\$3,203	\$0	\$0	\$0	\$0	\$0	\$300,294
15 Emergency / Rapid Response	\$0	\$0	\$0	\$0	\$0	\$0	\$33,386	\$0	\$0	\$41,411	\$1,899	\$2,428	\$74,798	\$1,899	\$2,428
16 Shamrock Park	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$71	\$0	\$0	\$71	\$0	\$0
17 Herb Farm	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$231,404	\$0	\$0	\$231,404	\$0	\$0
18 Vashon Opportunity Project	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$285,944	\$0	\$0	\$285,944	\$0
19 Habitat Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,448	\$8,876	\$11,777	\$43,448	\$8,876	\$11,777
20 Patterson Crk Trib 383 Restoration										\$8,258	\$0	\$0	\$8,258	\$0	\$0
21 Natural Lands CIP										\$6,094	\$0	\$2,031	\$6,094	\$0	\$2,031
Total	\$264,691	\$57,769	\$83,869	\$473,327	\$101,783	\$611,681	\$838,523	\$112,231	\$240,034	\$1,227,692	\$547,706	\$275,032	\$2,804,234	\$819,489	\$1,210,616
Annual Grand Total			\$406,330			\$1,186,792			\$1,190,788			\$2,050,430			\$4,834,339

2004 Operating Budget

Stormwater

Residential Stormwater Facilities Maintenance	\$159,272
Commercial Stormwater Facility Inspections	\$52,053
Drainage Enforcements	\$21,522
WQ Compliance	\$69,604
Environmental Enforcement (DDES)	\$447,645
Drainage Complaint Response	\$115,909
Engineering Studies	
Stormwater Admin	

Stewardship

Enumclaw Steward	\$135,211
Snoqualmie Steward	\$121,056
Vashon Steward	\$132,455
Basin Steward Admin	\$69,293
Lake Stewardship	\$120,373
Snoqualmie Assesment	\$90,596
Vashon Ground Water	\$287,971
East KC Ground Water	\$132,678
Contribution to Regional ESA Planning	\$150,000

Rural & Resource Programs

Rural & Resource Programs Admin	\$100,497
Forest Preservation	\$101,466
Natural Lands Management	\$141,826
Forestry/Ag Incentive Program	\$52,548
Agriculture Preservation	\$191,466

Capital Transfer

Transfer to Capital Budget	\$1,521,409
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Admin and Overhead

Rural Program Coordinator	\$46,825
King County Overhead Costs	\$216,173

Total	\$4,477,848
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2004 Capital Budget

	Project Description	Budget
0A1061	Patterson Creek Trib 383	\$93,101
0A1791	Natural Lands CIP	\$86,595
0A1810	Green River Ecosystem Restroration Projects	\$75,000
0B1060	Herb Farm	\$50,313
0B1787	Vashon Opportunity Project	\$329,251
0B1795	Wilderness Rim Drainage Improvements	\$5,747
0F1795	Tuck Creek Phase II	\$3,406
0G1795	Shamrock Park	\$99,929
0L1795	Raging River / Preseton Reach	\$120,000
0A1796	Neighborhood Drainage Assistance	\$50,082
0A1800	ESA Grant Match	\$1,827,792
0A1798	Small Habitiat Restoration	\$262,847
0A1799	Drainage and Habitat Improvements	\$201,875
0A1800	Agriculture WQ Cost Share	\$157,659
0A1801	Agriculature Drainage Assistance	\$596,445
0A1802	CIP Reconnaissance	\$238,896
0A1803	Emergency and Rapid Response Projects	\$183,341
0d1797	Habitat Feasibility Analysis	\$35,933
0A1806	Rural Partnership Grants	\$287,124
0A1808	Stormwater Facility Retrofits	\$27,568

\$4,732,904