

King County Surface Water Management Rate Study - 2012 Outreach Group Report

Introduction

The King County Water and Land Resources Division (WLRD) has been working on a study to determine future surface water management (SWM) program needs and requirements in unincorporated King County and to evaluate possible changes to the current SWM fees and discount program.

As a component of this study, King County and EnviroIssues (consultant) conducted two outreach group meetings in May and June 2012 to solicit feedback and gain a more thorough understanding of differing public perspectives. The intent was not to necessarily achieve consensus (due to the limited time) but to hear a representative sampling of input and ideas. These meetings also provided an opportunity for King County to inform participants about various SWM issues the County is currently facing.

Outreach Group Participants

Outreach group participants were identified by King County staff, and additional recommendations were made by EnviroIssues and other interested parties. County staff made every effort to identify participants who were from different parts of the county and had both interests in the topic and some on-the-ground experience with the technical aspects of SWM.

EnviroIssues contacted each potential participant (phone/email) to extend the invitation, describe goals and objectives, and answer general questions. In cases where an invited individual was unable to participate, King County and EnviroIssues worked to identify alternatives. The resulting participants were geographically dispersed from around unincorporated King County and represented a variety of interests, including, but not limited to, business, environment, agriculture, livestock, forestry, and private property (see following table for details).

Participants

Name	Organization/Interests	Meeting #1	Meeting #2
Jimmy Blais	Gary Merlino Construction Company	X	X
Tom Carpenter	4 Creeks Unincorporated Area Council	X	X
John Chaney	Rural Forest Commission	X	X
Bruce Chattin	Washington Aggregates & Concrete Association	X	X
Karen Deal	Lakeside Industries	X	
Matt Hinck	CalPortland		X
Bobbi Lindemulder	Agriculture/Livestock		X
Philip McCready	Vashon-Maury Island Groundwater Protection Committee	X	X
Bernie McKinney	Middle Green River Coalition;		X

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Name	Organization/Interests	Meeting #1	Meeting #2
	Rural Forest Commission		
Pat Traub	Executive's Rural Business Committee; Equestrian		X
Heather Trim	People for Puget Sound	X	X

County and EnviroIssues Staff

Name	Organization/Affiliation	Meeting #1	Meeting #2
Curt Crawford	King County	X	X
Jane Lamensdorf-Bucher	King County		X
Joanna Richey	King County	X	X
Ray Outlaw	EnviroIssues	X	X
Pat Serie	EnviroIssues	X	
Nicole Addington	EnviroIssues		X

Meetings

Both meetings were attended by King County SWM staff, facilitated by EnviroIssues, and included PowerPoint presentations and focused discussion opportunities. This report summarizes feedback received; complete summaries from each meeting can be found as appendices to this report. Specific meeting content and participation are described herein. Both meetings were held at the Renton Community Center on weeknights from 6 to 8:30 p.m.

Meeting One – May 14, 2012

King County staff provided participants with an overview of the SWM programs and fee structure, water quality and surface water management needs and permit requirements, and the SWM discount program (existing and proposed). This meeting focused on developing a general level of understanding of SWM program requirements and drivers. Participants asked a variety of clarifying questions about SWM programs and the outreach process.

Meeting Two – June 5, 2012

This meeting offered participants an opportunity to follow-up on county responses to questions identified during the first meeting and to recap key concerns and issues. King County staff also sought specific feedback on proposed discount program changes, discussed the effects of annexations on SWM revenue,

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and asked participants to share their thoughts on how to invest SWM funding in stormwater and water quality programs.

Summary of Feedback

The following summarizes major themes heard during the two outreach meetings and outlines recommendations, questions, concerns, and other topics identified as important to consider in more detail at a later date. Throughout each of the meetings, the concepts of fairness and equity to landowners were commonly discussed and became an important principle for discussing any changes to the status quo.

Outreach group participants were also asked to review the content of this report and provide feedback, which is incorporated below, to ensure the report accurately represents the information shared and discussed. The resulting feedback provided additional details regarding a range of topics including: funding priorities, the need for additional meetings and further discussion, incentives and discounts, equity of SWM fees, and outreach and education.

SWM Programs and Fee Structure

King County outlined the basic structure of SWM fees during the first outreach meeting, which consists of a flat rate for residential properties and rate classes for commercial and other non-residential properties based on the amount of impervious surface area, calculated per parcel/year (very light class) or per acre/year (other non-residential classes). The fees fund a variety of services, but the current revenue generated is not sufficient to address all stormwater and related water quality problems.

- In general, the group felt the fee structure should more accurately reflect the on-the-ground impacts of stormwater runoff and reward those who reduce or minimize impacts.
- Some participants were concerned about exemptions for undeveloped parcels since different vegetation types have vastly different surface water management capabilities and impervious surface is not the only contributor to the problem.
- The group was curious to learn if there are any examples of a fee structure based on benefits received from SWM programs, rather than on estimated contribution to the problem as King County does. To respond, King County found that other jurisdictions in the region also charge fees based on contribution to the problem; in fact, King County was unable to identify any jurisdictions that charge based on benefits.
- Businesses have a greater incentive to reduce their SWM fees through incentive programs than homeowners who pay much smaller SWM fees.
- Incentives for stewardship for both large and small parcel owners would help (e.g., incentives to replace invasive with native plants). Other counties, such as Snohomish, may provide examples.
- Some expressed concern that the fee structure is “out of balance” between urban and rural types of development.

Discount Program (existing and proposed changes)

The existing discount (“rate adjustment”) program includes discounts for property owners who are low-income and disabled or senior citizen, as well as for open space, public schools, and facilities that meet

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specific criteria for stormwater management. Additionally, the 65/10 program gives property owners a discount if greater than 65 percent of the property is in a native condition and less than 10 percent consists of impervious surface.

The proposed new discount program would allow incremental percentage discounts up to 90 percent based on the type and level of stormwater management facilities in use for a given parcel. Participants generally agreed that the new discount program appears to be a sound and logical approach.

- The group generally agreed incentives for companies to make water quality improvements is a major benefit of the new program and gives property owners some level of control.
- Gravel industry representatives expressed strong support for the proposed SWM fee discount program and urged its advancement to the King County Council for consideration.
- Currently, public school districts with stormwater curricula are exempted regardless of the area of impervious surface. Many participants felt school exemptions should be further analyzed and likely reduced, since schools also contribute to problems caused by stormwater runoff.
- Questions were also raised regarding the appropriateness of discounts for state and county roads and whether the the roads agencies actually do equal value water quality work. King County noted that the discount for state roads is in state law.
- Several participants questioned the impact to revenue if residential parcels began to widely take advantage of the 65/10 discount, although participants noted that the requirement to allow the county to conduct property inspections and the rigorous application process would likely deter many property owners.
- Some participants expressed concern that biennial inspection of facilities may not occur often enough to ensure parcels are meeting discount program expectations.
- They agreed that receiving credit for activities that have SWM benefits creates necessary incentives for actions that improve water quality.

Aggregation Discount

While the group felt the new discount program overall sounded reasonable, there was also discussion about a potential aggregation policy where several adjacent parcels under a single ownership could be combined into one SWM fee unit to lower the overall rate class and SWM fees accordingly. Gravel industry representatives supported the aggregation discount, while other participants felt the option should be further examined. King County noted they are looking into the pros and cons, as well as administrative challenges, of an aggregation discount option.

Some participants described potential benefits of aggregation including:

- Water quality and discharge for aggregated parcels would not change since management practices would not change.
- Large companies (e.g., gravel mine) manage stormwater by site, not individual parcel.
- Aggregation would allow SWM fees to better reflect the effectiveness of the facility and other onsite management practices.

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- The environmental effect would not change and there would be an economic benefit to the property owner.

Some participants raised concerns about aggregation and requested more detailed analysis:

- If the SWM fees were individually calculated based on a parcel's actual impervious area, there would be no need for aggregation.
- Administrative costs for additional rate categories would need to be recovered.
- The main question should be whether aggregation leads to a net positive benefit to the environment. Economic benefits should be secondary.
- Larger companies might receive greater benefits from aggregation while smaller companies might not benefit or may be negatively impacted under the program.
- SWM revenue for county stormwater programs could be reduced.

Annexations

As a growth management policy, the state encourages more densely populated unincorporated areas, which require a more concentrated level of service, to be annexed to cities. Several large annexations from the King County unincorporated area have occurred recently, and several more are expected. During the second outreach meeting, King County outlined the issues regarding annexations in terms of decreasing SWM revenues and potential impacts to services. Staff noted the predicted revenue losses are significant and that the County must maintain a base capacity to offer certain services; below a threshold funding level, the County can no longer provide those services. Participants acknowledged this as a significant challenge.

- One participant argued that funding can be cut below what King County considers necessary, although other participants agreed the County must maintain base level funding to sustain certain services.
- Some participants questioned whether National Pollutant Discharge Elimination System (NPDES) permit requirements for King County would remain the same when areas are annexed.
- Several participants noted outsourcing and partnerships can be a useful approach to help address revenue declines, although some funding would still be needed to implement these approaches.

Water Quality and Surface Management Needs

King County illustrated the needs and expectations for SWM programs. For example, stormwater runoff has been found to be a major cause of Puget Sound pollution. To help address this, there are many developed areas that would require substantial retrofitting for which the total cost would exceed \$1.1 billion. King County understands it will not be able to raise this level of funding or complete all the work identified, but the County is trying to find ways to continue to make progress. Staff noted two-thirds of the developed landscape was built prior to the 1990s and has inadequate stormwater controls, and that priority SWM funding often must be spent on safety and property protection, leaving other projects unfunded indefinitely.

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- Some participants thought that landowners should be responsible for controlling stormwater runoff and flooding on their own properties unless the problem is caused elsewhere, and inquired whether developers had any liability.
- One participant noted that horizon goals (e.g., 10 years) seem arbitrary and requested clarification of how goals were developed. Others disagreed and stated that we have a large amount of work to do and we need to keep at it at a brisk pace. King County said the focus is on protecting public safety and property from uncontrolled runoff and improving water quality.
- One participant questioned the net benefit of completing all the projects identified. King County responded the benefit would be runoff more closely resembling pre-development forest conditions. However, the actual impact would need to be measured for each individual basin.

Investment Priorities

During the second outreach meeting, participants were asked to consider what programs and project types to invest the SWM revenues in and to share how they would prioritize funds for these various services.

Many participants acknowledged this was a challenging but helpful exercise. While the group felt unable to identify specific percentages for each investment category, they felt strongly that three categories should be key priorities: retrofits, restoration, and outreach. Some in the group expressed frustration and concern that, even with increased revenue, it would be difficult to see marked improvement in water quality overall.

Retrofits and Restoration

The group identified the retrofits and restoration service categories as providing the largest direct benefit to the environment.

One participant added the caveat that retrofits alone are not enough. Restorations should be considered holistically. Maintenance plans should be in place for facilities that are currently being constructed. Without these, completed projects can be taken over by invasive species or other problems that decrease the overall environmental benefit.

The group agreed that preventive action is preferable to reactive efforts. One participant noted that just fighting fires does not get to progress and does not solve the problems. Others said that when possible, maintenance should be performed before facilities become a threat to public safety or property. Preventive maintenance also often costs less than emergency maintenance.

Another participant noted forest health significantly effects water quality and the movement of water through the system. Healthy forests and native vegetation, occurring even on small land areas and through restoration efforts, can provide low-maintenance, long-term value to the entire system.

Restoration should include many options to help infiltrate surface water, such as reforestation previously logged parcels sitting fallow, replanting upland parcels, setting up rain gardens, and implementing low-impact development retrofits.

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Outreach

Participants also identified outreach and education, in both rural and urban environments, as crucial to informing landowners about the importance of SWM and to engage them in active land stewardship. Some noted that homeowners should be educated to care about the impacts of stormwater runoff from their property. The group stressed that outreach can lead to behavior change at person-to-person, farm-to-farm, or business-to-business levels. Many participants believe that people will want to do their part if they have the tools and knowledge to do so. One participant commented that a marketing plan to educate and reach property owners would help get them to buy into the solutions to the problems.

Several participants suggested that partnerships (e.g., Boeing, King Conservation District, Middle Green River Coalition), could help reach larger audiences and provide positive examples to smaller landowners.

Participants specifically mentioned how workshops could provide incentives for all landowners and opportunities to learn stewardship and best management practices.

Other Comments on SWM Investment Categories

- Some services do not need to be provided by King County if they are provided elsewhere.
- A vision or mission statement is important – what is the ultimate goal of King County’s SWM programs? Is it to protect water quality?
- Industry is required to meet NPDES requirements, while the public has the option of whether to fund SWM projects. Residential projects are not required by law.
- New technologies continue to allow developments to better address SWM issues, but technology cannot address every problem at this point, so SWM services will still be required.
- Obtaining funding for restoration projects can be difficult and time-consuming.
- King County could institute a rating system that would allow businesses to receive recognition and advertise themselves as being environmentally friendly if they meet certain requirements.
- King County should focus on small business and residential operators and find ways to incentivize onsite water management and improved pollution control best management practices.

Additional Topics

During each of the meetings, topics were discussed that were beyond the scope of the rate study but that participants felt needed future focused discussion. Participants were encouraged to share their ideas on these topics and this feedback is documented below.

National Pollutant Discharge Elimination System Requirements

One of the major drivers for King County to re-evaluate the SWM fee program is due to new requirements identified in the 2013-2018 NPDES permit. The new permit will require increases to existing as well as new requirements for SWM.

The outreach group participants generally understood these changes but shared the following feedback:

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- Cross-jurisdictional coordination is extremely valuable as it will be important to avoid duplicating efforts. Participants felt cross-jurisdictional coordination could be improved.
- The group discussed the new regional monitoring approach and generally regarded it as an improvement but noted that effective and timely monitoring is critical.
- Some in the group expressed concern that management practices (BMPs) required by the NPDES permit should be sound and reflect peer-reviewed science.
- Participants expressed concern that additional requirements in the NPDES permit are not associated with additional funding.

Efficiency

During the first outreach meeting, some participants asked for more information on the efficiency of SWM programs. King County responded that there is a requirement to increase efficiency by three percent every year and they are always looking for ways to improve efficiency beyond those requirements, especially in the face of declining revenue and increased NPDES costs.

Some participants requested more information on the proportion of funding spent on on-the-ground work versus other activities, such as research and permitting, to better understand how much direct action is achieved with SWM funds. Staff noted the County has a goal to transfer 30 percent of funds to capital projects and that there are a number of other projects that would be considered on-the-ground work but are not included in the capital projects budget. There was also comment on apparent duplication of conservation efforts.

Many in the group expressed a desire to further discuss efficiency in hopes of helping the County provide more and better services for less.

Comparison of King County SWM Fees

The group requested a comparison of SWM fees in King County versus SWM fees charged by other jurisdictions. King County provided a table listing SWM fees by adjacent counties as well as in major cities such as Seattle and Tacoma. Many participants noted that several other jurisdictions break residential properties into different rate classes depending on the amount of impervious area while King County charges a flat rate for all residential properties.

Other Funding Sources

The group was interested in learning about other funding sources for SWM projects and programs. King County provided information about the types of other revenues, such as grants that are received from a variety of sources. While the County has received \$5-7 million annually in project grants, it was noted that grant funding is highly variable and cannot be relied upon from one year to the next.

The group was very interested in further discussion on alternative funding sources.

King County Surface Water Management Rate Study Outreach Group Meeting #1 Summary Notes

Outreach Group Meeting #1

May 14, 2012

6:00 – 8:30 p.m.

Renton Community Center, Renton

Participants

Name	Organization/Affiliation
Jimmy Blais	Gary Merlino Construction Company
Tom Carpenter	4 Creeks Unincorporated Area Council
John Chaney	Rural Forest Commission
Bruce Chattin	Washington Aggregates & Concrete Association
Karen Deal	Lakeside Industries
Philip McCready	Vashon-Maury Island Groundwater Protection Committee
Heather Trim	People for Puget Sound

Other Attendees

Name	Organization/Affiliation
Curt Crawford	King County
Joanna Richey	King County
Ray Outlaw	EnviroIssues
Pat Serie	EnviroIssues

Meeting Summary

Introductions and Agenda

Pat Serie of EnviroIssues welcomed the group of participants and led a round of introductions. Participants briefly introduced themselves and described their interest in the King County Surface Water Management (SWM) rate study.

Pat then briefly reviewed the agenda topics, which included:

- Purpose and scope for the study and related outreach
- Background on Surface Water Management
- Overview of the SWM program and fee structure
- Water quality and surface water management needs

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Prepared by EnviroIssues

King County Surface Water Management Rate Study

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- Surface water management discount programs (existing and proposed)

Purpose and Scope for the Study and Related Outreach

Joanna Richey of King County (presentation emailed separately on 5/15/12) briefly explained that the County expects to make changes to the SWM programs and fee structure to meet surface water management needs and is seeking feedback from this group as well as other ratepayers in the service area (via public meetings and/or website comments and surveys). Feedback collected during stakeholder meetings and from other public input will inform the rate study and recommendations to the King County Council (Council).

Question (Bruce Chattin): How did we get here and how does this work fit with other previous work?

Joanna responded that the County is hoping to get everyone attending the stakeholder meeting to the same level of understanding and incorporate their feedback into a draft budget proposal. She noted the schedule is tight and only two stakeholder group meetings are currently planned [a third meeting will be added in August]. The County may ask for additional help. She also noted this work is intended to incorporate work already completed to change the SWM fee discount schedule.

Background on Surface Water Management

Joanna described how surface water is managed naturally in undeveloped areas and how it becomes stormwater run-off on less-pervious surfaces. King County is responsible for managing surface water for all of unincorporated King County; cities have similar separately funded programs.

Joanna summarized current legal requirements under the National Pollutant Discharge Elimination System (NPDES) permit, issued by the Washington State Department of Ecology (Ecology). Joanna explained that a new 1-year permit will be issued in 2012 followed by a new 5-year permit for 2013-2018.

Joanna compared current and new permit requirements, noting the 2013 permit will increase some existing requirements and add some new ones.

Question (Tom Carpenter): Who is responsible for cross-jurisdiction coordination? Joanna answered that the NPDES permit requires permitted municipalities to coordinate with one another but the nature of coordination is highly variable. The group discussed some examples of coordination or lack thereof and generally agreed this was an area in need of improvement.

Question (John Chaney): Are there more prescriptive monitoring requirements in the new permit? Joanna answered there are new, more prescriptive requirements in the 2013 permit. Heather Trim noted this will include a new regional approach to monitoring that is generally regarded as better and may be less expensive. John expressed concern about monitoring, noting it must be timely and useful to be effective.

Question (Tom Carpenter): What does increased mapping mean? Joanna explained the County will be required to convert all of their stormwater facilities spatial information (maps) into an electronic format. Tom noted he would like to know more about this process and agreed to discuss the topic with County staff at another time.

Question (Tom Carpenter): What's the status of the peer review of the best management practices (BMPs) required by the permit? Joanna and many in the group agreed the new BMPs being proposed in

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the new permit are related specifically to low impact development. They are generally accepted as sound – reflecting peer reviewed science.

Question (Tom Carpenter): Doesn't the County already have basin plans for much of the County? Joanna said that while some basin plans exist, they are quite old and do not meet new requirements. The new permit identifies six specific basins; the County must prepare a basin plan for one of those six during the next five-year permit schedule.

Question (Jimmy Blais): Is there duplication between the state, county, and/or local jurisdictions? Curt Crawford acknowledged there is potential for some duplication of effort with regard to inspections but there are instances where there are very clear, separate roles. He noted that while this topic is not part of tonight's discussion, it is an issue important to raise with Ecology and one which Ecology is working on.

Question (Bruce Chattin): Are the new requirements about improving water quality? Joanna answered yes, that all the new requirements are intended to help improve water quality.

Overview of the SWM Program and Fee Structure

Joanna described the history of the SWM fee in unincorporated King County, which began in 1987, and the fee structure.

Question (John Chaney): Is there an assumption that undeveloped parcels do not contribute to the problem and are therefore exempt? Joanna responded yes, that is the assumption. John expressed concern about this assumption, noting different vegetation types have vastly different surface water management capabilities and impervious surface is not the only contributor to the problem. He explained the need to look at the problem holistically.

Question (group): Are there examples in the state or elsewhere of those who benefit being charged a SWM fee? Neither Joanna nor Curt is aware of an example but agreed to research further [response is that Pierce and Snohomish counties and most cities in King County charge SWM fees based on contribution to the problem; so far we have not found any jurisdictions that charge based on benefits].

Question (group): When was the last time single-family residences were evaluated, as new technology may be more accurate? Joanna said they were evaluated in 1999 and are again being evaluated in 2012 using both on-the-ground measurements and remote sensing. Curt noted that remote sensing is still not as accurate as field visits, although the analysis is not yet complete. Joanna added that the residential parcel inventory appears to be slightly different than in 1999 primarily due to the changing character of the SWM service area due to annexation of urban areas. This could change the average percentage of impervious surface on residential parcels, which is the basis of the flat SWM fee rate they are charged. Non-residential and commercial properties are charged based on actual measured impervious surface.

Joanna then reviewed the 2012 budget summary of roughly \$22 million, noting the Council approved an increase two years ago for capital projects because there was a large gap between need and available funding.

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Question (Tom Carpenter): How is funding allocated to projects? Is it based on where the funding comes from? Joanna clarified that work is prioritized by need, although the different sources of funding are used for different project types.

Joanna agreed to provide information on other SWM fees in the region at the next meeting.

Question (Tom Carpenter): Are there other sources of funding besides the SWM fee? Joanna said yes, such as state and federal grants. **The group requested more information with regard to other sources of funding, particularly the amounts.** Several noted it will be important to tell the whole story about funding sources when presenting information to the public.

Water Quality and Surface Water Management Needs

Joanna summarized known water quality and SWM-related capital needs over the next ten years. There was discussion among the group about how 10-year goals could be arbitrary and therefore the group needs to better understand how those goals were developed. Tom noted specifically for habitat restoration projects, compared to the amount of time required to create the current need, 75 years for restoration might be considered reasonable by some.

Joanna briefly highlighted some of the service options being considered based on evaluation of service gaps, which will be a topic during our next meeting.

Surface Water Management Discount Programs (existing and proposed)

Curt reviewed the existing discount program structure. Joanna noted that state and county roads received a 70 percent discount and it is assumed the discount funds are used for stormwater services within the road right of way. There was some discussion about the assumption and Joanna said there is limited quantitative analysis confirming this assumption is true but that both state and county roads do manage stormwater facilities within their roads right of way.

The group noted the discount for low-income and senior citizen property owners needs to be clarified as to whether one or both characteristics are required to receive the discount [clarification is that a property owner must be both low-income and senior to qualify].

There was significant discussion regarding school exemptions. Joanna and Curt clarified that only public school districts with stormwater curricula can be exempted. Curt noted the schools must submit their curricula but the standards are not very specific.

Question (Jimmy Blais): Are exemptions on the table? Joanna said exemptions are not specifically on the table but the County would welcome feedback.

Question (group): Can we calculate the school district square footage? Curt said the discount for school districts totals approximately \$800,000.

Curt reviewed the details of the new discount program the County is proposing to implement. The group generally felt the discount program was a good idea. There was some discussion about how this affected overall revenue but Curt noted the impact to revenues was relatively small.

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Question (Tom Carpenter): Is efficiency part of this overall discussion? Joanna said that efficiency is not something they plan to discuss in great detail but would be willing to have those discussions at another time. EnviroIssues will keep a running list of other discussion topics as well as action items.

Wrap-Up and Next Steps

Pat reviewed the general agenda for the next meeting, which includes further discussion on service level drivers and funding level options.

Philip McCready noted it would also be good to include some discussion on effectiveness. He noted an example of Vashon Island door-to-door outreach as being highly effective at changing behavior at a very low cost.

Joanna agreed to send the presentation out to the group and also asked the group to send any follow-up questions to Ray Outlaw at EnviroIssues who will organize them and ensure they are responded to.

Summary of Action Items:

- Research examples in the state of those who benefit being charged SWM fees – Joanna/Curt [DONE]
- Provide details on other SWM fees in the region at the next meeting – Joanna [DONE]
- Provide more information with regard to other sources of funding for SWM activities, particularly the amounts and primary uses – Joanna/Curt [DONE]
- Clarify whether the discount for low-income and senior citizen requires one or both characteristics for property owners to receive the discount – Joanna/Curt [DONE]
- Provide the presentation to the entire group – Joanna/Ray [DONE]

**King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes**

Outreach Group Meeting #2

June 5, 2012

6:00 – 8:30 p.m.

Renton Community Center, Renton

Participants

Name	Organization/Affiliation
Jimmy Blais	Gary Merlino Construction Company
Tom Carpenter	4 Creeks Unincorporated Area Council
John Chaney	Rural Forest Commission
Bruce Chattin	Washington Aggregates & Concrete Association
Matt Hinck	CalPortland
Bobbi Lindemulder	Agriculture/Livestock
Philip McCready	Vashon-Maury Island Groundwater Protection Committee
Bernie McKinney	Middle Green River Coalition & Rural Forest Commission
Pat Traub	Executive's Rural Business Committee & raises horses
Heather Trim	People for Puget Sound

Other Attendees

Name	Organization/Affiliation
Curt Crawford	King County
Jane Lamensdorf-Bucher	King County
Joanna Richey	King County
Ray Outlaw	EnviroIssues
Nicole Addington	EnviroIssues

Meeting Summary

Introductions and Agenda

Ray Outlaw of EnviroIssues welcomed the group of participants and led a round of introductions. Ray then briefly reviewed the agenda topics, which included:

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- Meeting #1 recap
 - Briefly revisit parking lot topics
 - Discount program
- Effects of annexations on King County Stormwater Management (SWM) funds
- SWM investment options: What do you value?
- Proposed 3rd meeting

Meeting #1 – Parking Lot Topics

Jane Lamensdorf-Bucher of King County apologized for missing the first meeting. She heard there were many questions brought forward for further discussion and wanted to provide more information to respond to these questions.

What are other alternative funding sources?

Jane referred the group to an information packet provided by King County. On the first page were listed various funding sources for SWM in King County. Jane said grant sources are highly variable and cannot be predicted from one year to the next. Grant funding amounts to approximately \$5-7 million per year.

How do SWM fees in King County compare with other regions?

Jane provided a list of other SWM fee amounts for several cities in King County as well as for Pierce and Snohomish counties and the City of Tacoma. Jane said King County SWM fees are in the middle range. She also noted that all these jurisdictions base their SWM fee on contribution to the problem rather than benefit from services provided.

Question (Matt Hinck): Are the SWM fees structures comparable across the different jurisdictions? Jane said SWM fees across all jurisdictions are based on the amount of impervious surface area. Residential fees are generally set at a flat rate, but some jurisdictions have different rate classes depending on the size of the residential property.

Does any jurisdiction base its fees on benefits of services provided rather than contribution to the problem?

Joanna Richey of King County said she spoke with a county attorney who has been working on SWM issues for over 12 years. This lawyer has evaluated case law and litigation associated with SWM. While he was unable to say definitively that there has never been a jurisdiction that collected fees based on benefits, he has never heard of one. All the SWM fee structures he is aware of are largely based on some surrogate for impervious surface area.

Efficiency

Jane said King County is required to increase efficiency by three percent every year. King County is continuously looking for ways to provide services more efficiently and does not simply cut staff to be more efficient. Efficiency is becoming increasingly important as King County revenues decrease as a result of annexations. Jane added that the county is always open to suggestions on how to be more efficient.

Question (Tom Carpenter): The efficiency question was originally about the ratio between on-the-ground work and other activities, such as research and permitting. What is the percentage of SWM dollars that are going to on-the-ground projects? Joanna said the policy goal is to transfer 30 percent of the fund to

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capital projects on an annual basis, which is similar to other jurisdictions. Approximately 20 percent is spent on overhead costs.

Question (Tom Carpenter): There are no data to help evaluate whether that 30 percent is reasonable or if it should be readjusted. Shoveling dirt is more efficient than studying that dirt. Joanna said there are many services considered “on-the-ground” that are not in the capital budget. Many projects in King County’s operating budget manipulate ground surface, but are not included in the capital costs category.

How does King County prioritize capital projects?

Jane said prioritization criteria are included in the information packet for review.

Other questions?

Jane added there were several other miscellaneous questions that are also answered from information included in the packet and that the county is still working on more detailed responses to questions submitted via email

Discount Program

Curt Crawford of King County reviewed the discount program principles. He said the discount program being proposed is in response to a Council budget proviso that raised the question of how King County applies discounts for SWM fee ratepayers. In 2011, King County worked with a stakeholder group from the gravel industry to develop a new discount program for commercial properties. The proposed new program could result in discounts of up to 90 percent. Curt added those properties that have greater than 65 percent natural condition and less than 10 percent impervious surface area can receive a flat discount of 80 percent under the 65-10 discount program.

Question (Heather Trim): Facilities maintenance does not always occur regularly, especially over time. How frequently are properties receiving the discounts examined or assessed? Curt said King County inspects properties every other year. On the year King County does not inspect the property, that property owner must certify that they have done the required inspection and maintenance.

Question (John Chaney): If eligible residential property owners are able to participate in the 65-10 program, it would likely have a major impact on SWM fees. Curt said the discount can be applied to residential sites. The program is advertised on King County’s website and is available to anyone that meets the criteria. Property owners must sign a covenant allowing King County employees to inspect the property, which may not appeal to some property owners.

Question (Tom Carpenter): Can King County provide an example of a business that would have a fee increase under the new discount program? Curt said a property owner may receive a 54 percent discount under the previous discount program for a pre-1990 flow control system. That older flow control facility would qualify for only a 20 percent discount under the new program, leading to a \$9,000 increase in SWM fees for that property.

Comment (Matt Hinck): Companies still get credit for certain activities and this would create incentives for actions like installing facilities that improve water quality. Joanna said if the King County Council adopts the proposed discount program, it would not be retroactive. The new program will likely go into effect in 2013. It may take two or three years of site inspections before the existing facility database is fully populated with the data needed to correctly apply the new discounts. For example, on parcels where we currently don’t know the impervious area served by the facility, we will assume it is 100 percent of the

King County Surface Water Management Rate Study Outreach Group Meeting #2 Summary Notes

area until we determine otherwise through the next site inspection. King County is strongly supportive of incentivizing facility upgrades that have positive impacts.

Comment (Tom Carpenter): The cost to retrofit a facility would be high compared to what the SWM fee would be. Jimmy Blais said costs are relative to how much the property is paying. His company has paid hundreds of thousands in SWM fees; depending on the size of the property, some would spend less on retrofits than on fees.

Many in the group generally agreed the discount program made sense and would be beneficial.

Comment (Tom Carpenter): Intuitively, the discount program makes sense. Tom said his concern was about the flat rate, which seems to have been addressed with this proposed discount plan. He did not have any negative opinions to share on the program since it does seem to incentivize beneficial improvements and grandfather older programs so the property owner has some control.

Comment (Jimmy Blais): As an industry, we all support the proposed discount program. He noted that the aggregation discount has not been mentioned. Joanna said additional analysis is still needed on that aspect of the discount program. She asked Jimmy to provide more information on aggregation for those who are not familiar with it.

Jimmy said there are sand and gravel mines covering multiple parcels that all drain to one basin. Ten different parcels may be served by the same flow control device and best management practices based on which basin each parcel is in. Under the existing SWM fee structure, each parcel is eligible for a discount based on the SWM facilities on that parcel. The gravel industry and King County discussed aggregation of those parcels into one unit for SWM fee discount purposes since they are all served by the same device and handled as one site by the company.

Comment (Tom Carpenter): Water quality and discharge for an aggregated parcel would be the same as if that parcel was separated. It is important to measure against the outcome. Curt said King County was not in favor of aggregation as noted in the Council proviso report [sent to the group after the meeting] because there did not appear to be a water quality benefit to aggregation. Joanna added that in a previous report, King County committed to becoming outcome-based. King County is examining various sites managed by single businesses as single outcomes and trying to identify the multiple conditions that would apply under single-business operations. King County has not determined what those conditions might consist of and the conditions need to be administratively feasible.

Comment (Matt Hinck): One of the issues that drive the aggregation discussion is the base rate structure. Matt added that if the SWM rate was exactly linear to the impervious area, then the need for aggregation would be eliminated.

Comment (Tom Carpenter): The administrative costs of additional rate categories would have to be recovered. SWM fees should not become more difficult to manage. Tom used the example of the cost of a postage stamp, which is the same cost regardless of if a letter is going across the street or across the country because the service is the same. Heather asked whether impacts or benefits to the environment from aggregation have been analyzed. Joanna said King County is considering the issue. Jane added that aggregation is only being considered for parcels that are under the same ownership.

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Comment (John Chaney): There should be a rational basis for any discount, including aggregation. The important consideration is whether there is a net positive benefit to the environment; any economic benefits should be secondary. John agreed with the importance of ensuring any program is administratively feasible and meets objectives. Curt said King County conducted an analysis of the previous year to determine the potential revenue impacts of aggregation and the county determined the current revenue impact from discounts would more than double. Jimmy Blais said that aggregation would have an economic benefit for property owners but would be neutral in environmental impact.

Comment (Heather Trim): There is some concern that the “big dogs” will receive the discount, while smaller businesses will not receive the same benefits or potentially suffer under aggregation. Matt said aggregation is an attempt to move toward economic fairness. Some businesses are paying a disproportionately higher SWM fee for the same level of impact.

Comment (Bruce Chattin): The aggregation question is important to industry. Time keeps running out before a full discussion can be held and there is a perceived concern about revenue reduction. People would like to know if aggregation is being considered or not. If it is not being seriously considered, it is important to understand why since it is consistent with the SWM program. Parcels are managed by site; not individually. Joanna said King County is not dismissing the possibility of aggregation. They are currently considering all the issues from both environmental and economic perspectives as well as the impact of revenue reductions to King County and the administrative feasibility.

Comment (Tom Carpenter): The discussion about revenue impacts is unclear. Revenue impacts are phenomena seen in a rated system where a certain amount of dollars must be received. This assumption is not necessarily valid for SWM fees. The conversation is much more dynamic than a question of whether to apply aggregation discounts or not. The question is if we are benefitting the environment. It does make sense to have the same amount of revenue, but the concern becomes how to make sure larger companies receiving aggregation discounts do not have negative impacts on smaller companies. There are ways to solve this problem from a business management perspective.

Comment (Pat Traub): Use of 65-10 discount by residential property owners could cause revenues to go down.

Comment (Jimmy Blais): It is unlikely a lot of residential parcel owners would apply for the 65-10 discount because of the required covenant on the parcel that allows King County to have access to the property. The application process costs several hundred dollars and requires many hours to develop maps and deliver all the materials to King County.

Comment (Pat Traub): The application could be done through a farm plan.

Comment (John Chaney): Any discounts should be equitable. Discounts that can be applied to both commercial and residential properties should take into account whether they are equitably applied. The system being proposed does appear to be more rational than the current approach, which is a step in the right direction. How the discounts are marketed should be discussed, as well as the outcome of an aggregation discount.

Comment (Bruce Chattin): The question is how to achieve outcomes and benefits. How revenues are generated is a different question.

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Annexation

Jane briefly described the impacts of annexation in King County over the next several years.

Question (Pat Traub): Will some of the parcels King County is currently monitoring be incorporated through annexations? Jane said that annexed parcels will become the responsibility of the city that parcel resides in. However, King County must have a base capacity for some activities such as monitoring and public outreach. Below a certain level of funding, the county cannot provide that service at all. Site-specific projects would decrease, but National Pollutant Discharge Elimination System (NPDES) permit requirements will remain the same on parcels still within King County. A ballpark estimate is that for every dollar being lost because of annexation, King County is still required to provide about 50 cents worth of services to unincorporated property owners.

Comment (Tom Carpenter): That is a problem that needs to be fixed. King County should consider operating at funding levels below what they are considering necessary in order to provide certain services. The entire process should be re-engineered.

Comment (Heather Trim): The argument that budgets can be cut indefinitely only goes so far. There is a certain base funding level that must be maintained in order to provide services.

Comment (Bobbi Lindemulder): Snohomish County has contracts with various cities for some aspects of the NPDES permit. Cities conduct outreach and workshops, which is less expensive than having someone working part-time for the county. Outsourcing can be very useful. Jane said King County already outsources some services.

King County Service Categories

Jane pointed out the service areas being funded by SWM fees and asked meeting participants where they feel King County should spend SWM fees.

Comment (Pat Traub): The county could sell grass cut on King County lands. Also, there are some services that do not need to be provided by King County if they are provided elsewhere.

Comment (Bernie McKinney): Any successful business spends 11-16 percent of its budget on advertising/outreach/education. That amount could go much farther for SWM fees in order to educate landowners across the board. The county should ask landowners how they can help steward their land so it is a better property in terms of SWM.

Comment (Pat Traub): Is there a vision or mission statement? What is the goal and what is King county trying to accomplish? Jane said the focus is on water quality improvement by addressing stormwater that falls to the ground and hits impervious surfaces. Joanna said they are trying to protect public safety and property from uncontrolled runoff in addition to water quality.

Heather Trim added that the Puget Sound Partnership (PSP) has assessed all the creeks and rivers in King County, giving them a score based on overall health. The goal of PSP is to improve all scores so all creeks and rivers are considered high quality. That is a metric that can be used to evaluate King County's goals.

King County Surface Water Management Rate Study Outreach Group Meeting #2 Summary Notes

Question (Bobbi Lindemulder): How does a potential SWM fee increase for protection of public health and water quality interact with flood control district funds? Jane said the SWM fees for surface water management are separate from the fees collected for the Flood Control District and are generally for different purposes.

Jane referred to a map showing watershed processes that have been ongoing since Chinook salmon were listed. The map showed multi-jurisdictional government-approved watershed plans that are needed to meet the goals of salmon protection in the next 10 years.

Jane then referred to another map illustrating stormwater capital programs. Curt said a lot of the developed landscape has little or no stormwater control, especially developments built prior to the 1990s, which comprise about two thirds of the developed landscape. There are 64 small stream basins where ongoing monitoring is showing degraded stream health and/or water quality and where development occurred without sufficient stormwater controls. It would cost an estimated \$1.1 billion dollars to install the additional stormwater controls needed to restore stream health and water quality. The addition of these controls is referred to as “stormwater retrofitting.” The stormwater capital program currently receives approximately \$2.2 million a year, which is used mostly to address public safety and drainage problems. To address the stormwater retrofit needs of these 64 small stream basins over a 100-year period would require an additional capital investment of about \$11 million per year.

Jane said the purpose of the maps is to provide a sense of the problem. King County is aware that they will not be able to fund or complete all these projects.

Comment (Matt Hinck): Industry is required to meet NPDES permit requirements and must spend money to be in compliance. The public has the option of whether or not to spend money on many of these SWM projects.

Comment (Heather Trim): King County's SWM programs are not the only way these issues are being addressed. There are new laws being considered and programs to encourage behavior change. The map may differ dramatically in the next few years depending on available technology and the amount of effort expended on these programs.

Comment (Bobbi Lindemulder): What would be the impact of completing all the projects identified by King County? How would these projects benefit the public? Curt said runoff patterns would more closely resemble forest conditions pre-development. The actual impact would need to be measured basin by basin because each is different. It is estimated to cost \$8 million to retrofit Basin #9, the highest priority basin for King County, with the appropriate stormwater control.

Question (Bruce Chattin): How do we accomplish all the work identified to complete Basin #9? Joanna said completing Basin #9 would require either \$8 million in additional revenue or taking that money from other services. Most funding for stormwater retrofitting is from grants.

Comment (Pat Traub): People should be responsible for repairing flooding in their own basement, unless the problem is caused by an unmaintained ditch or another issue upstream. The party responsible for the damage should be responsible for paying to fix the damage. Curt said that effective stormwater controls were not required on new developments until the 1990s when the size of flow control facilities increased dramatically and water quality treatment of stormwater runoff was first required. Before 1990, many

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controls were ineffective or nonexistent and thus contributed to water quality and quantity problems. The county established the SWM program to address such problems.

Question (Bernie McKinney): Flooding is a liability issue. Do developers face liability? Curt said developers are not liable since their plans were approved and met the standards at the time. King County has no authority to seek liability, but there have been cases brought by downstream parties against upstream developments.

Comment (Heather Trim): This funding exercise is difficult because there is no sense for how much these different categories actually cost and what the environmental benefits are. It would be more helpful to discuss principles and determine which activities best meet the priority environmental goals. New developments will be able to better address stormwater issues as technology continues to improve, but the technology is not able to address every problem at this point. Curt added that there are cumulative impacts occurring that better construction practices cannot address.

Comment (Bruce Chattin): Retrofitting and restoration would have the largest benefit to the environment out of the listed service categories.

Comment (Heather Trim): In addition to those two categories, outreach is also an incredibly important service category to prioritize. Outreach leads to behavior change at person to person, farm to farm, or business to business levels.

Comment (Pat Traub): Boeing often holds outreach talks on stormwater. King County should partner with bigger business on education in order to reach more people than by holding small meetings. Boeing conducts restoration projects through outreach programs. Many other large businesses have these programs as well.

Comment (Bernie McKinney): One issue with restoration projects is that funding can be difficult to obtain. Many organizations spend the majority of the year working on securing funding for the following year's restoration projects. It should be easier to obtain funding. Retrofitting a structure is not necessarily enough; many of the retrofits are full of invasive plant species and do not have the same environmental benefits as a natural parcel of land. It is important to look at restoration holistically and determine maintenance plans for facilities being built now. Otherwise, new stormwater ponds end up filled with reed canary grass.

Question (Jimmy Blais): Why is King County funding habitat restoration projects when there is funding from other sources? How does King County decide where to spend funds? Bobbi said county funding can be used as a leveraging tool to obtain additional funding. Larger funds require a match component from a local source. Even a small contribution from King County can allow additional grant dollars from other sources that will help fund the overall project. King County funding demonstrates local commitment to the project.

Comment (Jimmy Blais): If a parcel is paying 10 percent of its budget into a fee to address a certain concern, that 10 percent should be spent on addressing that specific concern. Jane said that stormwater runoff leads to pollution, erosion and other issues, which has led to problems for salmon survival, among other things. Stormwater runoff is currently the single most unaddressed toxic form of pollution in Puget Sound.

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Comment (Bruce Chattin): Businesses would like to know how they can help King County reduce their SWM fees and invest in themselves to reduce runoff. Homeowners likely do not have much incentive to reduce their SWM fee because those are not large enough compared to the investment that would be required to reduce the fee.

Comment (Bobbi Lindemulder): There could be ratings for meeting certain requirements. Businesses could be given recognition depending on how much they have done to address SWM issues. Business would be able to advertise as being environmentally friendly.

Comment (Bernie McKinney): Incentivizing homeowners will be a much larger challenge than incentivizing businesses.

Comment (Heather Trim): People need to be told how to change their behavior; if you just tell people there is a problem, no one will take action.

Comment (Pat Traub): The challenge is how to change homeowner behavior. \$133 isn't much to do this.

Comment (Bernie McKinney): Educate homeowners and get them to care.

Ray noted that he heard restoration, retrofits, and education resulting in behavior change were the three priority service categories.

Comment (Bobbi Lindemulder): Focus on preventive maintenance instead of reactive maintenance. Facilities should be improved before there is a threat to public safety or property.

Comment (Pat Traub): Take preventive actions instead of reactive. Stop just putting out fires, work on addressing the cause of fires. Will get farther in the long run.

Comment (Bobbi Lindemulder): Think bigger scale – look beyond individual properties to Puget Sound-scale.

Comment (Bruce Chattin): Bruce suggested reducing the exemptions to schools since schools are also contributing to problems caused by stormwater.

Question (Heather Trim): If roads are given exemptions from SWM fees, how much money are they spending on their own to address stormwater? Jane said roads agencies partly address stormwater by the way the road is built, along with continued maintenance and repairs. Curt added that roads are given a 70 percent discount; not an exemption.

Question (Pat Traub): Is the SWM discount based on the year the road was built or repaired? Jane said the discount is based on the structure set by Washington State law for the state roads agency.

Comment (Bruce Chattin): It would be helpful to hear from the Council about what information they are looking for. If we move forward with the discussion from today, the message will be shaped differently. Jane said that the information heard during these meetings would be reported to the Council.

Comment (Pat Traub): Large corporations could be approached to help with funding and receive some recognition, such as a plaque displayed at a project site they helped sponsor. Schools do community

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projects and there are also many community groups that can help address stormwater. It is frustrating that King County staff who are supposed to be working for rural landowners have offices located in Seattle, which is costly. Pat also noted that many rural residents don't like government.

Comment (Bobbi Lindemulder): Consider outsourcing such as Snohomish County does with the Snohomish Conservation District.

Question (Jimmy Blais): What does King County mean when they say they are going to be revising the SWM rate structure? Jane said King County is re-evaluating some of the rate classes because of changes in land use and density from when the fee structure was last revisited. Fees will still be based on the amount of impervious area.

Question (Jimmy Blais): Is King County considering increasing fees for less dense areas to make up for the fee difference after annexation? Jane said King County is looking at whether the fee structure is reasonable based on the information currently available. King County currently charges the same rate for all residential properties, but the amount of impervious surface may vary between smaller and larger properties. One potential change could include different size classes for residential properties. In addition, the land-use characteristics are changing so it is appropriate to revisit the fee structure.

Question (Bruce Chattin): Is 50 percent of the program emphasis focused on impacts from residential properties? Do homeowners see 50 percent of the program benefits? Joanna said that way of thinking makes sense intuitively but she did not have an immediate answer. She added that residential ratepayer fees provide more than half of the SWM revenues. In addition, as noted earlier, SWM fees are based on contribution to the problem, not benefits from the programs.

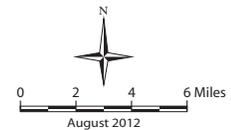
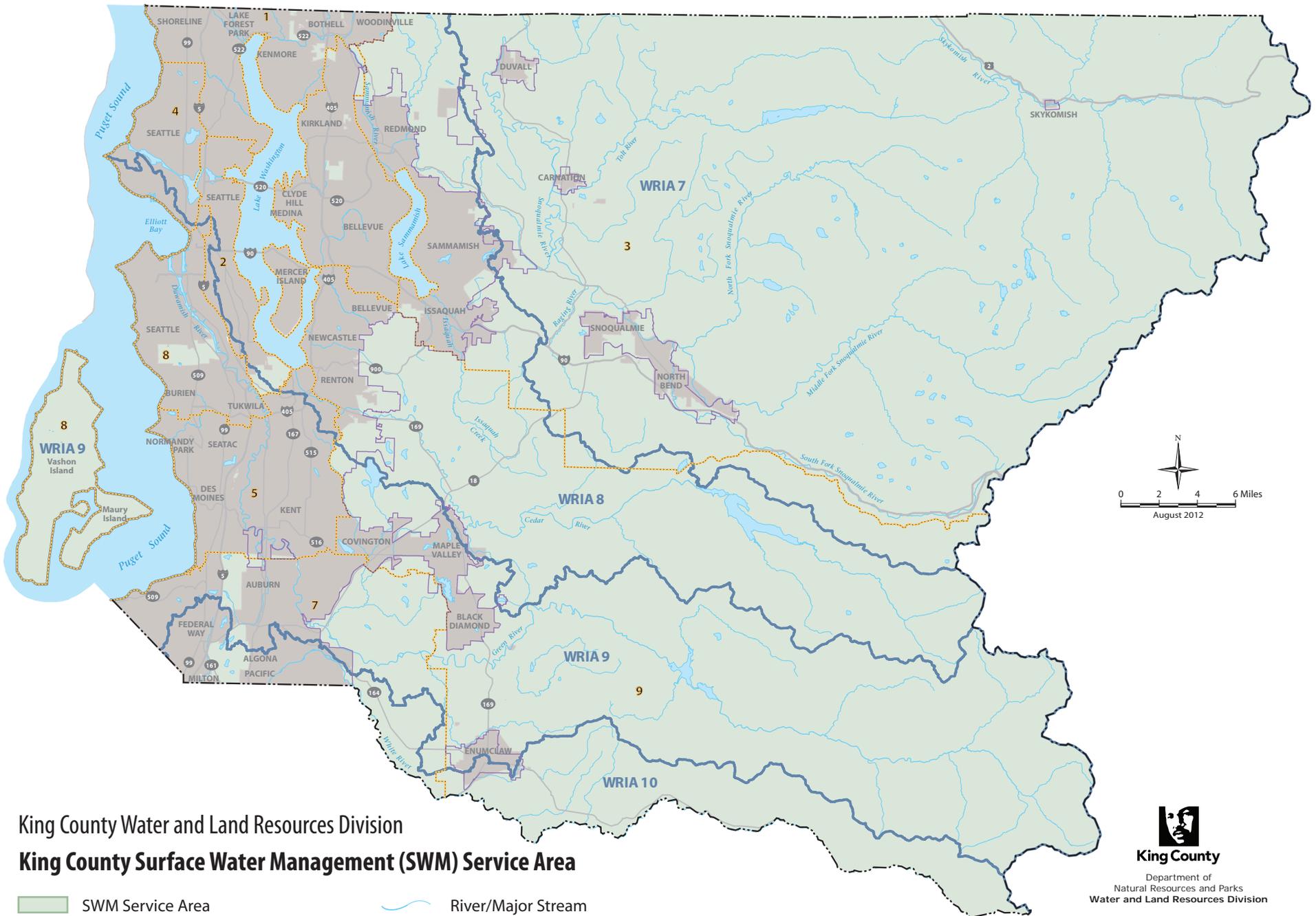
Wrap-Up and Next Steps

Jane said the next meeting is proposed for August. King County is revising the rate structure model and requires time to have all the information programmed into the system before King County will be prepared to hold another meeting with the most up-to-date information on costs.

Ray said the next meeting is tentatively scheduled for August 13 or 14. The group indicated a preference for August 14. Some people wanted to hold a meeting earlier and potentially have additional meetings to further discuss the issues. Jane said King County would schedule a meeting for August 14 and send out more specific information closer to the meeting date.

Summary of Action Items:

- Share discount program budget proviso report – Jane/Ray [DONE]
- Send presentation and materials to the group – Jane/Ray [DONE]
- Complete and send responses to specific information requests – Jane [DONE]



King County Water and Land Resources Division

King County Surface Water Management (SWM) Service Area

- SWM Service Area
- WRIA Boundary
- Metropolitan King County Council District Boundary and Number
- Urban Growth Area Boundary
- River/Major Stream
- Major Road
- Lake
- Incorporated Area



King County

Department of
Natural Resources and Parks
Water and Land Resources Division

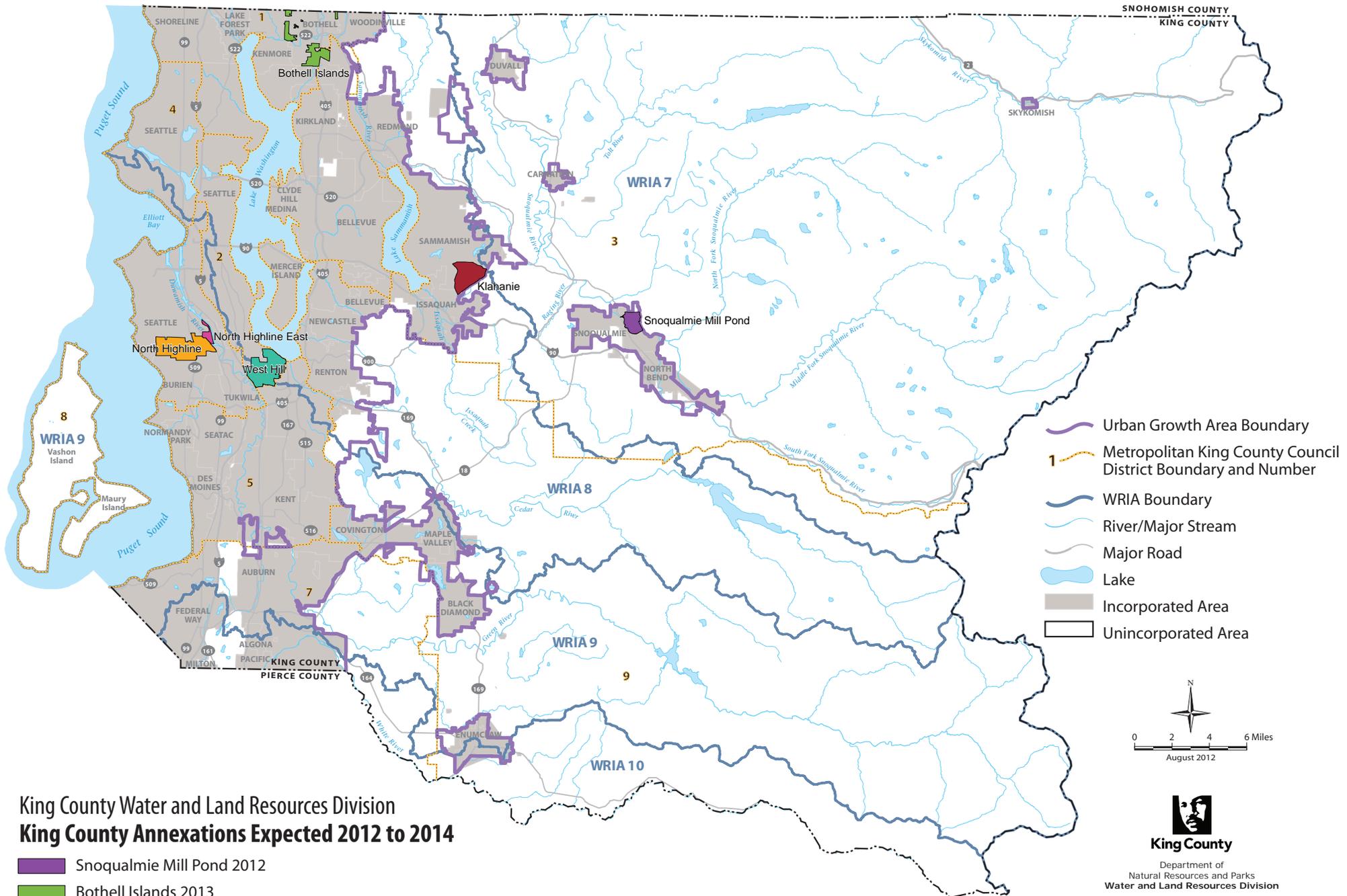
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Appendix 3. SWM Fees of Other Jurisdictions for Residential Parcels

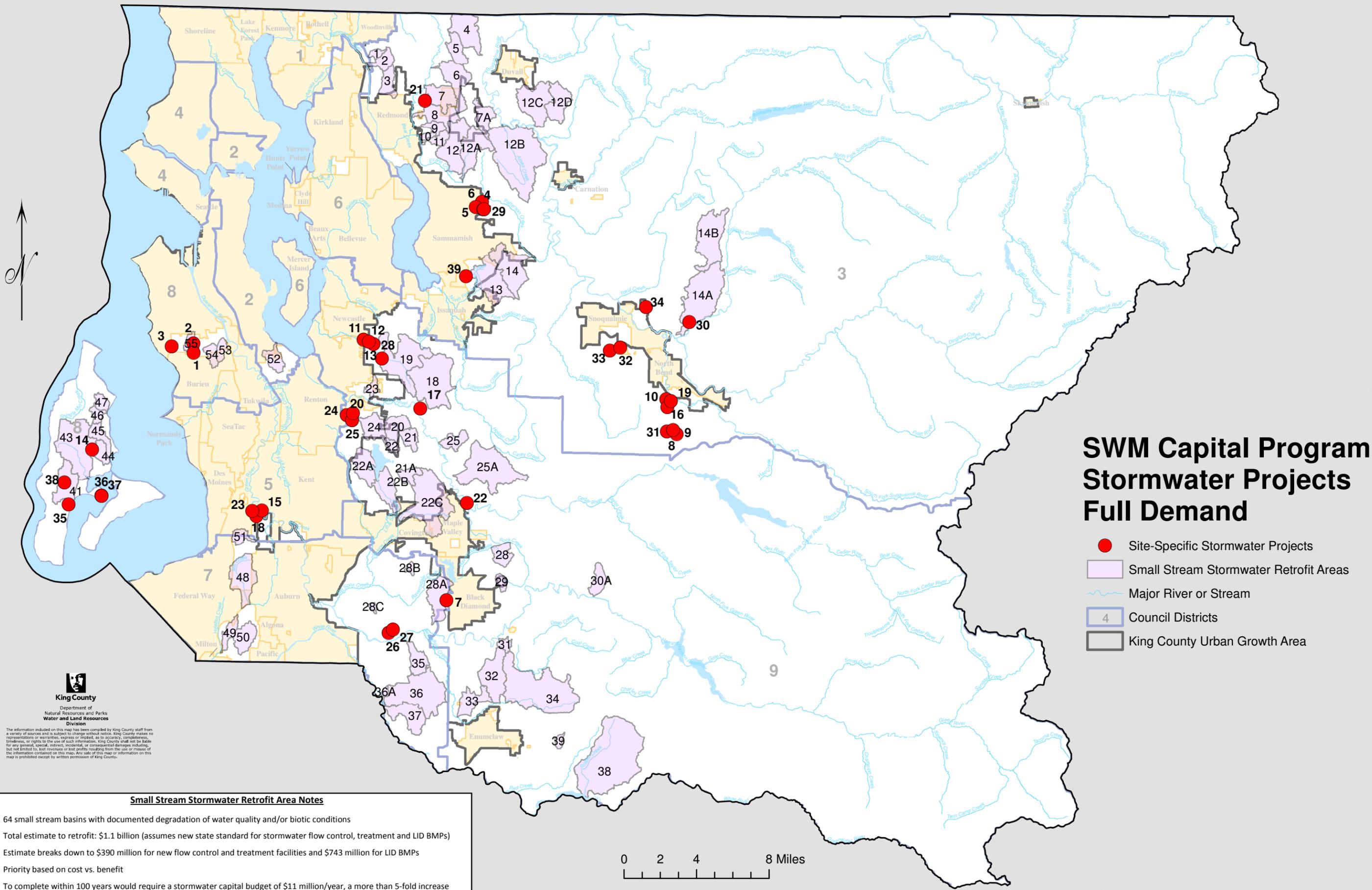
Jurisdiction	2011		2012
	Annual (\$)	Monthly (\$)	Annual (\$)
Algona	66.00	5.50	66.00
Auburn	179.40	14.95	193.56
Bellevue	169.44	14.12	225.24
Bothell	110.06	9.17	126.57
Burien	117.44	9.79	120.68
Covington	175.66	14.64	175.66
Des Moines	138.27	11.52	150.73
Duvall	203.04	16.92	209.52
Federal Way	85.15	7.10	85.15
Issaquah	168.96	14.08	168.96
Kenmore	166.80	13.90	167.40
King County*	133.00	11.08	133.00
Kirkland	191.69	15.97	201.24
Lake Forest Park	143.46	11.96	152.07
Maple Valley	103.02	8.59	115.02
Mercer Island	164.64	13.72	179.52
Milton	186.00	15.50	186.00
Newcastle	159.36	13.28	159.36
Normandy Park	192.00	16.00	192.00
North Bend	118.32	9.86	148.32
Pacific	128.52	10.71	128.52
Pierce County*			108.39
Redmond	198.72	16.56	198.72
Renton	124.44	10.37	138.12
Sammamish	150.00	12.50	150.00
SeaTac	82.80	6.90	82.80
Seattle*	234.94	19.58	261.66
Shoreline	138.01	11.50	141.46
Snohomish County*	106.00	8.83	122 inside UGA**; 90 outside UGA
Snoqualmie	129.60	10.80	\$ 133.20
Tacoma*	204.00	17.00	\$ 213.84
Tukwila	93.00	7.75	\$ 102.00
Woodinville	87.15	7.26	87.15
Mean Average	\$ 145.28		\$ 153.18
Median	\$ 140.87		\$ 150.37
Lowest	Algona \$66.00		Algona \$66.00
Highest	Seattle \$234.94		Seattle \$261.66

*Jurisdictions have Phase I NPDES stormwater permits, which have stricter requirements and are more costly to implement.

**UGA means urban growth area.



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SWM Capital Program Stormwater Projects Full Demand

- Site-Specific Stormwater Projects
- Small Stream Stormwater Retrofit Areas
- Major River or Stream
- Council Districts
- King County Urban Growth Area



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Small Stream Stormwater Retrofit Area Notes

- 64 small stream basins with documented degradation of water quality and/or biotic conditions
- Total estimate to retrofit: \$1.1 billion (assumes new state standard for stormwater flow control, treatment and LID BMPs)
- Estimate breaks down to \$390 million for new flow control and treatment facilities and \$743 million for LID BMPs
- Priority based on cost vs. benefit
- To complete within 100 years would require a stormwater capital budget of \$11 million/year, a more than 5-fold increase



Key to Map of Small Stream Stormwater Retrofit Areas

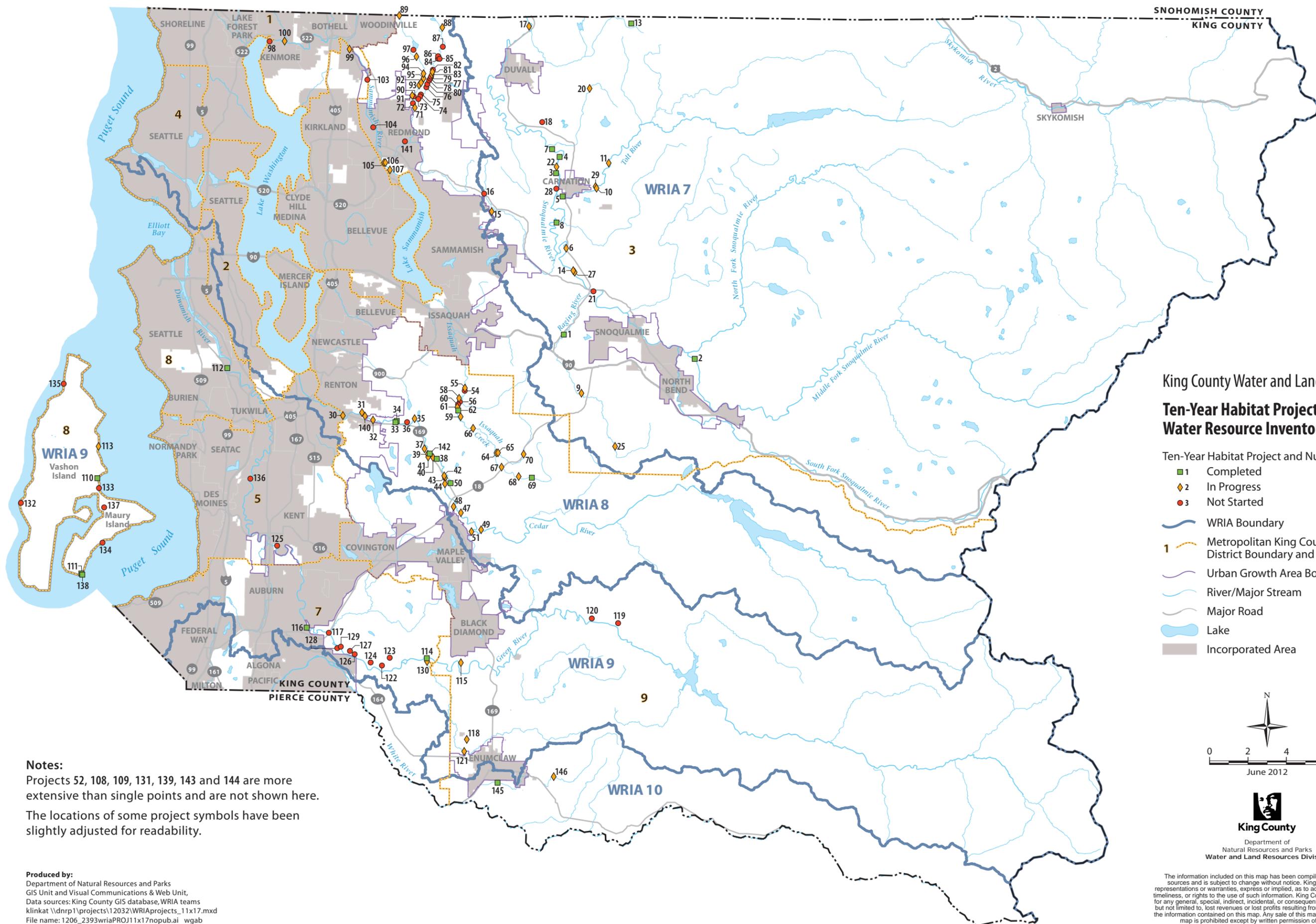
(See map – Appendix 5 – for locations)

- Sixty-four small stream basins with documented degradation of water quality and/or biotic conditions.
- Total estimate to retrofit: \$1.1 billion (assumes new state standard for stormwater flow control, treatment and low impact development best management practices).
- Estimate breaks down to \$390 million for new flow control and treatment facilities and \$743 million for low impact development best management practices.
- Priority based on cost vs. benefit.
- To complete within 100 years would require a stormwater capital budget of \$11 million/year, a more than 5-fold increase, which is likely beyond the capacity of SWM fees.
- This is a preliminary analysis that would require additional evaluation and review.

Small Stream Stormwater Retrofit Areas		
(in order or priority)		
Area No.	Small Stream Name	Retrofit Cost
9	Bear Creek Trib 0114	\$8 M
2	Sammamish Riv Trib 0090	\$19 M
11	Evans Creek Trib 0108	\$6 M
1	Gold Creek Trib 0088	\$6 M
3	Sammamish Riv Trib 0095B	\$20 M
12	Evans Creek Trib 0110	\$28 M
48	Mill Creek Trib 0051	\$55 M
8	Mackey Creek Trib 0129	\$14 M
54	Duwamish Riv Trib 54	\$7 M
25A	Taylor Creek Trib 0320	\$55 M
24	Madsen Creek Trib 0305	\$51 M
22B	Little Soos Creek Trib 0092	\$18 M
18	McDonald Creek Trib 0212	\$34 M
55	Lake Hicks Trib 55	\$26 M
5	Bear Creek Trib 0134A	\$16 M
52	Lake Washington Trib 52	\$29 M
53	Ham Creek Trib 0002	\$7 M
13	Issaquah Creek Trib 0181	\$16 M
23	Lower Cedar Riv Trib 0307	\$5 M
12A	Evans Creek Trib 0106	\$24 M
22	Shady Lake Trib 22	\$7 M
32	Cristy Creek Trib 32	\$30 M
33	Spring Creek Trib 0119	\$24 M
22A	Soos Creek Trib 0095A	\$18 M
22C	Jenkins Creek Trib 0087	\$40 M
49	Hylebos Creek Trib 49	\$23 M
36A	Mud Mountain Trib 0047	\$2 M

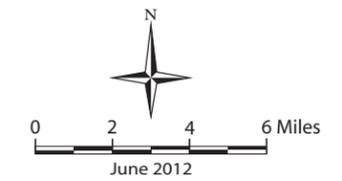
Area No.	Small Stream Name	Retrofit Cost
28B	Grass Lake Trib 28B	\$2 M
36	Mud Mountain Trib 0048	\$86 M
51	Bingamon Creek Trib 51	\$13 M
46	Gorsuch Creek Trib 0121	\$9 M
6	Struve Creek Trib 0131	\$25 M
35	Middle Green Riv Trib 0107	\$19 M
10	Evans Creek Trib 0107	\$2 M
50	Trout Lake Trib 0033	\$26 M
45	Ellisport Creek Trib 0123	\$13 M
12D	Lake Marcel Trib 0284	\$13 M
21A	Shadow Lake Trib 0089	\$10 M
12B	Ames Lake Trib 0278	\$33 M
21	Otter Lake Trib 21	\$7 M
37	Mud Mountain Trib 0050	\$35 M
7A	Snoqualmie Riv Trib 0276	\$8 M
4	Tuck Creek Trib 0267	\$27 M
43	Judd Creek Trib 0129	\$29 M
19	May Creek Trib 0282	\$37 M
44	Ellis Creek Trib 0124	\$11 M
34	Newaukum Creek Trib 0014	\$33 M
47	Dillworth Creek Trib 0120	\$3 M
25	Lake Francis Trib 0317	\$5 M
20	Peterson Creek Trib 0328	\$12 M
28C	Lake Holm Trib 28C	\$2 M
12C	Weiss Creek Trib 0281	\$20 M
14	Patterson Creek Trib 0382	\$12 M
41	Fisher Creek Trib 0139	\$15 M
29	Rock Creek Trib 0338	\$4 M
14A	Tate Creek Trib 0529	\$5 M
7	Seidel Creek 0129	\$6 M
28A	Middle Green Riv Trib 0113	\$6 M
28	Covington Creek Trib 28	\$3 M
30A	Middle Green Riv Trib 0149	\$2 M
31	Middle Green Riv Trib 31	\$0 M
38	Scatter Creek Trib 0073	\$6 M
39	Mud Mountain Trib 39	\$1 M
14B	Ten Creek Trib 0442	\$3 M
	Total	\$1,133 M

**10-Year Total
(Assuming 100-Year Schedule) \$113 M**



King County Water and Land Resources Division
**Ten-Year Habitat Projects from
 Water Resource Inventory Area (WRIA) Plans**

- Ten-Year Habitat Project and Number
- 1 Completed
 - ◆ 2 In Progress
 - 3 Not Started
 - WRIA Boundary
 - Metropolitan King County Council District Boundary and Number
 - Urban Growth Area Boundary
 - River/Major Stream
 - Major Road
 - Lake
 - Incorporated Area



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

Notes:
 Projects 52, 108, 109, 131, 139, 143 and 144 are more extensive than single points and are not shown here.
 The locations of some project symbols have been slightly adjusted for readability.

Produced by:
 Department of Natural Resources and Parks
 GIS Unit and Visual Communications & Web Unit,
 Data sources: King County GIS database, WRIA teams
 klinkat \\dnrp1\projects\12032\WRIAprojects_11x17.mxd
 File name: 1206_2393wriaPROJ11x17nopub.ai wgab

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Key to Map of 10-Year Habitat Projects from Water Resource Inventory Area (WRIA) Plans

See map for locations.

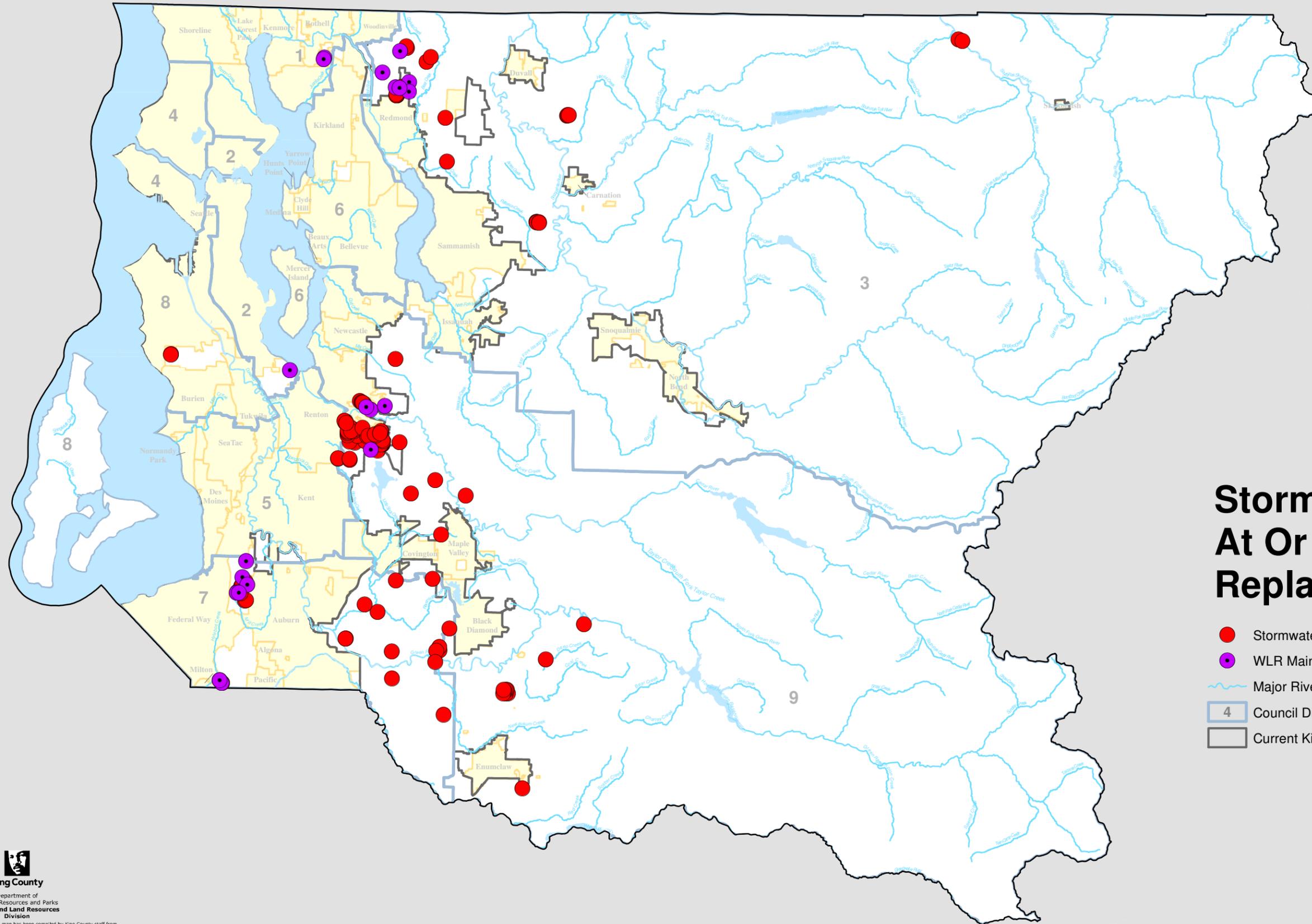
Key	Project Name	Status	WRIA
1	Raging River Preston Reach Restoration	Completed	7
2	Three Forks Natural Area Restoration	Completed	7
3	Camp Gilead Off Channel Reconnection	Completed	7
4	Chinook Bend Reach Restoration	Completed	7
5	Lower Tolt River Floodplain Reconnection	Completed	7
6	Snoqualmie River Riparian Restoration	In Progress	7
7	Stillwater Harris Creek Habitat Restoration	Completed	7
8	Stout Property Riparian Restoration	Completed	7
9	Raging River Upper Preston Reach Acquisition	In Progress	7
10	Tolt River Natural Area Acquisition	In Progress	7
11	Tolt River San Souci Acquisitions	In Progress	7
13	Stossel Creek Acquisition	Completed	7
14	Fall City Natural Areas Acquisition	In Progress	7
15	Patterson Creek State DNR Land Acquisition	In Progress	7
16	Patterson Creek - stevlingson Acquisition	Not Started	7
17	Cherry Creek Mouth Restoration	In Progress	7
18	East Fork Weiss Creek Fish Passage Improvement	Not Started	7
20	Harris Creek Tributary Fish Passage Improvement	In Progress	7
21	Lower Raging River Restoration	Not Started	7
22	McElhoe/Person Levee Setback	In Progress	7
25	Raging River Kerriston Reach Restoration	In Progress	7
27	Snoqualmie River Fall City Reach Reconnection	In Progress	7
28	Snoqualmie River Footbridge Off Channel Reconnection	Not Started	7
29	Tolt River Natural Area Floodplain Reconnection	In Progress	7
30	Maplewood Neighborhood Flood Buyouts	In Progress	8
31	Cedar Reach 4- Acquisition and Habitat Protection Upstream of Ron Regis Park	In Progress	8
32	Bucks Curve Buyout and Restoration	In Progress	8
33	Cedar Rapids - Ricardi Reach Floodplain Restoration	Completed	8
34	Cedar Rapids - Ricardi Reach Floodplain Acquisition	Completed	8
35	Jones Reach Protection	In Progress	8
36	Protect Riparian Buffer Behind Scott-Indian Grove Levee	Not Started	8

Key	Project Name	Status	WRIA
37	Belmondo Reach Acquisition	In Progress	8
38	Lions Club Side Channel Restoration	Completed	8
39	Cedar Grove Road- Rainbow Bend Levee Removal	In Progress	8
40	Cedar River Rainbow Bend Restoration	In Progress	8
41	Lower Lions Stream Reach Acquisition	In Progress	8
42	218th Place Side Channel Protection and Enhancement	In Progress	8
43	Mouth of Taylor Creek Reach Acquisition	In Progress	8
44	Royal Bend Habitat Protect	In Progress	8
47	Dorre Don Area Flood Buyouts/Restoration- Reach 14	In Progress	8
48	Dorre Don Meanders Reach Acquisition	In Progress	8
49	Landsburg Reach Protection	In Progress	8
50	Lower Taylor Creek Floodplain Restoration	Completed	8
51	Floodplain Acquisition and Restoration Near Mouth of Rock Creek/Cedar River	In Progress	8
52	Evaluation of Potential LWD Sites on Cedar River	In Progress	8
54	Issaquah Creek Reach 9- Potential Sites for Removal of Bank Hardening	Not Started	8
55	Issaquah Creek Reach 9- Stream Buffer Protection	In Progress	8
56	Issaquah Creek Reach 10- Potential Sites for Removal of Bank Hardening/McDonald Creek Confluence Restoration	Not Started	8
58	Issaquah Creek Reach 10- Stream Buffer Protection	In Progress	8
59	Issaquah Creek Reach 11- Log Cabin Site Restoration	In Progress	8
60	Issaquah Creek Reach 11- Potential Sites for Removal of Bank Hardening	Not Started	8
61	Issaquah Creek Reach 11- Riparian Restoration	In Progress	8
62	Issaquah Creek Reach 11- Issaquah Creek/Lake Sammamish Waterways Program	Completed	8
64	Carey/Holder/Issaquah Creek Confluence Easement	In Progress	8
65	Carey/Holder/Issaquah Creek Confluence Easement	In Progress	8
66	Issaquah Creek Reach 12- Issaquah Creek/Lake Sammamish Waterways Program	In Progress	8
67	Carey Creek Reach 1- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
68	Carey Creek Reach 2- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
69	298th St. Culvert Removal and Restoration	Completed	8
70	Holder Creek Reach 3- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
71	Bear Creek Forest Cover Protection	In Progress	8
72	Bear Creek Reach 6- Protect Undeveloped Properties	Not Started	8

Key	Project Name	Status	WRIA
73	Bear Creek Reach 7- Reforest Cleared Areas	Not Started	8
74	Reach 7- Bear Creek Waterways Program	Not Started	8
75	Bear Creek Reach 7- Forest Cover Protection	Not Started	8
76	Bear Creek Reach 8- LWD addition	Not Started	8
77	Swanson Horse Farm Restoration (Bear Creek)	Not Started	8
78	Reach 8- Bear Creek Waterways program	Not Started	8
79	Bear Creek Reach 9- Opportunistic Large Woody Debris Additions	Not Started	8
80	Bear Creek Reach 9- Restoration with private property owners/restore riparian areas, increase in channel complexity and add LWD in Bear Creek reach 9	Not Started	8
81	Reach 9- Bear Creek Waterways Program	In Progress	8
82	Bear Creek Reach 10- Evaluate Locations for LWD Additions	Not Started	8
83	Bear Creek Reach 10- Bear Creek Waterways program	In Progress	8
84	Bear Creek Reach 12- Forest Cover Protection	Not Started	8
85	Bear Creek Reach 12- Bear Creek Waterways	Not Started	8
86	Bear Creek Reach 13- Bear Creek Waterways	Not Started	8
87	Bear Creek Reach 14- Bear Creek Waterways	Not Started	8
88	Bear Creek Reach 15- Bear Creek Waterways	In Progress	8
89	Cottage Lake Creek Forest Cover Protection	In Progress	8
90	Cottage Lake Creek Reach 1- Explore Restoration of Floodplain Connectivity	Not Started	8
91	Cottage Lake Creek Reach 1- Bear Creek Waterways Program	In Progress	8
92	Riparian Restoration at Nichol's Farm	In Progress	8
93	Cottage Lake Creek Reach 2- Nichol's farm	In Progress	8
94	Cottage Lake Creek Reach 3- Riparian Buffer Restoration	In Progress	8
95	Cottage Lake Creek Reach 3- Bear Creek Waterways Program	In Progress	8
96	Cottage Lake Creek Reach 4- Bear Creek Waterways Program	In Progress	8
97	Cottage Lake Creek Reach 5,6- Bear Creek Waterways	Not Started	8
98	Sammamish River Mouth Wetland Restoration	Not Started	8

Key	Project Name	Status	WRIA
99	Sammamish River 3B- Enhance Tributary Confluences of Derby, Gold and Woodin Creeks	In Progress	8
100	Swamp Creek Regional Park Wetland and Stream Restoration	In Progress	8
103	Sammamish River 4A: Enhance Tributary Confluences with Sammamish River	Not Started	8
104	Enhance Tributary Confluences at Willows and Peters Creeks	Not Started	8
105	Sammamish River Reach 6A- Restoration (Willowmoor/Marymoor meander)	In Progress	8
106	Riparian Revegetation between Weir and Confluence of Bear Creek	In Progress	8
107	Riparian Revegetation Between Lake Sammamish and Weir	In Progress	8
108	Sediment Source Study and Beach Nourishment Program	In Progress	8
109	Map Feeder Bluffs for Protection	In Progress	8
110	Ellis Creek Salwater Marsh Protection/Restoration	Completed	9
111	Piner Point on Maury Island (Acquistition)	Completed	9
112	North Wind's Weir Shallow Water Habitat Rehabilitation	Completed	9
113	Point Heyer Driftcell Preservation (Acquisition)	In Progress	9
114	Newaukum Creek Riparian Planting/LWD Placement RM 0-4.3	Completed	9
115	Flaming Geyser Floodplain/Side Channel Reconnection	In Progress	9
116	Fenster-Pautzke Setback and Floodplain Reconnection	Completed	9
117	Hatchery Park LWD Placement	Not Started	9
118	Big Spring Creek	In Progress	9
119	Upper Middle Green River Side Channels	Not Started	9
120	Burrner Slough (Kanaskat North) Off-Channel Creation	Not Started	9
121	Newaukum Creek Riparian Planting/LWD Placement RM 0-14.3	In Progress	9
122	Lones Levee Removal/Channel Migration Restoration	Not Started	9
123	Burns Creek Replanting, LWD Placement, Fencing	Not Started	9
124	Turley Levee Setback, Floodplain Reconnection	Not Started	9
125	Levee Setback to Reconnect Floodplain/Channel Migration	Not Started	9
126	Hamakami Levee Breach to Reconnect Floodplain	Not Started	9
127	Kaech Side Channel and Wetland Reconnection	Not Started	9
128	Neely and Porter Levees Setback and Floodplain Reconnect	Not Started	9

Key	Project Name	Status	WRIA
129	Ray Creek Replanting, Off-Channel Reconnection, Fencing	Not Started	9
130	Middle Green Acquisitions	In Progress	9
131	Functioning Nearshore Habitat Protection	Not Started	9
132	Sanford Point Feeder Bluff Restoration on Vashon Island	Not Started	9
133	Tramp Harbor Intertidal Fill Removal on Vashon Island	Not Started	9
134	Maury Island Fill Removal	Not Started	9
135	Sandy Beach Fill and Derelict Pier Removal on Vashon Island	Not Started	9
136	Boeing Levee Setback and Restoration-Mainstem	Not Started	9
137	Raab's Lagoon Evaluation of Habitat Improvement	Not Started	9
138	Piner Point Bulkhead Removal	Completed	9
139	Planted 8,500 Trees and Shrubs on King County Natural Areas along the Green River	In Progress	9
140	Elliot Bridge Habitat Acquisitions	In Progress	8
141	Evans/Bear Creek Restoration-Reach 4&5	Not Started	8
142	Cedar River Rainbow Bend Acquisition	Completed	8
143	SHRP Green River Restoration Project	Completed	9
144	SHRP Snoqualmie River Restoration Project	Completed	7
145	Initiated Construction on the Lower Boise Creek Restoration Project.	Completed	10
146	Contacted landowners along Middle Boise Creek reach to gauge interest in a project to benefit fish habitat and drainage	In Progress	10



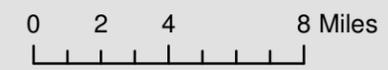
Stormwater Pipes At Or Near Replacement Age

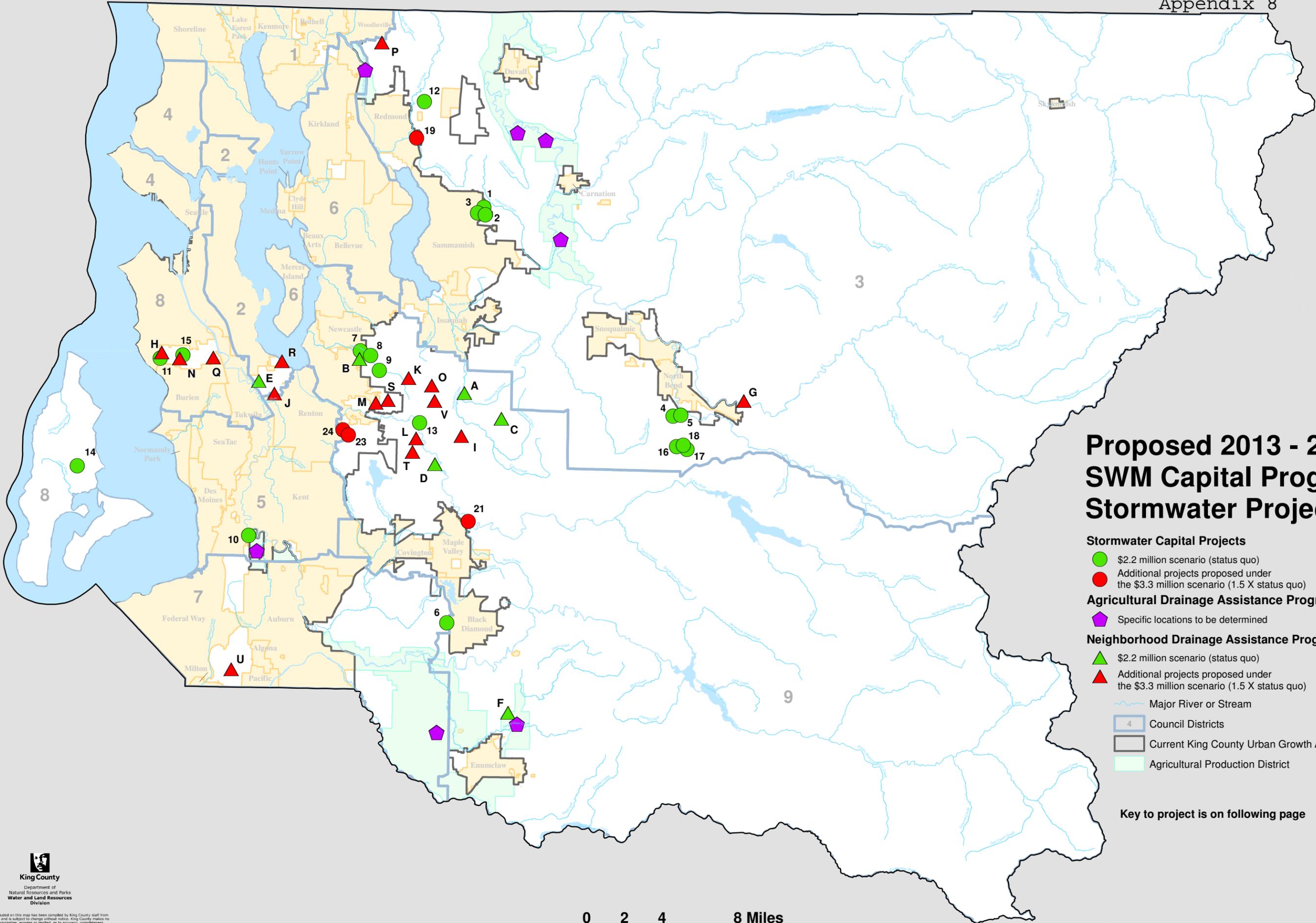
- Stormwater Conveyance Pipes
- WLR Maintained Stormwater Detention Pipes
- Major River or Stream
- 4 Council Districts
- Current King County Urban Growth Area



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Proposed 2013 - 2014 SWM Capital Program Stormwater Projects

- Stormwater Capital Projects**
- \$2.2 million scenario (status quo)
 - Additional projects proposed under the \$3.3 million scenario (1.5 X status quo)
- Agricultural Drainage Assistance Program (ADAP)**
- ◆ Specific locations to be determined
- Neighborhood Drainage Assistance Program (NDAP)**
- ▲ \$2.2 million scenario (status quo)
 - ▲ Additional projects proposed under the \$3.3 million scenario (1.5 X status quo)
- Major River or Stream
 - 4 Council Districts
 - Current King County Urban Growth Area
 - Agricultural Production District

Key to project is on following page



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**Proposed 2013 - 2014 SWM Capital Program Stormwater Projects
Funding Scenarios**

See map for locations.

Status Quo/Base = \$4.2 million

Baseline Programs - County-Wide			
	Program Name	2013 SWM Funding	2014 SWM Funding
	Greenbridge-Hope Vashon Island - Costshare	\$92,000	
	Stormwater Capital Management Reserve		\$50,000
	Project Support Services	\$200,000	\$200,000
	Monitoring & Maintenance Program	\$60,000	\$60,000
	Emergency Opportunity Program	\$30,000	\$30,000
	Facility Remediations	\$130,000	\$75,000
	Feasibility Program	\$75,000	\$75,000
	ADAP (3 Projects 2013, 4 Projects 2014)		\$20,000
	Stewardship Water Quality Cost-Share	\$75,000	\$75,000
	Hazard Dam & Lake Remediation	\$30,000	\$30,000
	NDAP	\$25,000	\$25,000
	SUBTOTAL for Programs	\$717,000	\$640,000

NDAP Projects	
Map Key	Project Name
A	Snodderly
B	Donnelly
C	Gudin
D	Geist
E	Kobuki
F	Quiles

Individual Projects/Programs (in priority order)

Map Key	Project Name	2013 SWM Funding	2014 SWM Funding
15	White Center Regional Stormwater Pond Improvements	\$11,000	\$8,000
11	Seola Pond Retrofit	\$30,000	\$265,000
2	Allen Lake Outlet Channel Culvert Replacements and Vegetation Management	\$121,000	\$25,000
1	Allen Lake 244th Avenue Culvert Improvements	\$50,000	\$175,000

3	Allen Lake Project Planning/Community Relations	\$25,000	\$50,000
6	Horseshoe Lake Permanent Pumping Solution	\$125,000	\$358,000
17	Wilderness Rim Emergency Overflow	\$75,000	\$15,000
16	Wilderness Rim Infiltration Pond Interim Overflow Improvements	\$75,000	
4	Clough Creek Project Planning/Community Relations	\$50,000	\$15,000
7	May Creek Drainage Improvement Reach 2	\$350,000	\$343,000
8	May Creek Long Marsh Sediment Management	\$93,000	\$11,000
9	May Creek Project Planning/Community Relations	\$50,000	\$50,000
14	Vashon Park & Ride LID Retrofit	\$125,000	\$50,000
10	Mill Creek/Mullen Slough Project Planning/Community Relations	\$50,000	\$50,000
18	Wilderness Rim Flooding Proofing Improvements	\$115,000	\$22,000
13	Upper Jones Road Ravine Erosion	\$60,000	\$45,000
SUBTOTAL for Individual Projects		\$1,405,000	\$1,482,000

TOTAL for Status Quo/Base	\$2,122,000	\$2,122,000
GRAND TOTAL for Status Quo/Base	\$4,244,000 for bi-ennium	

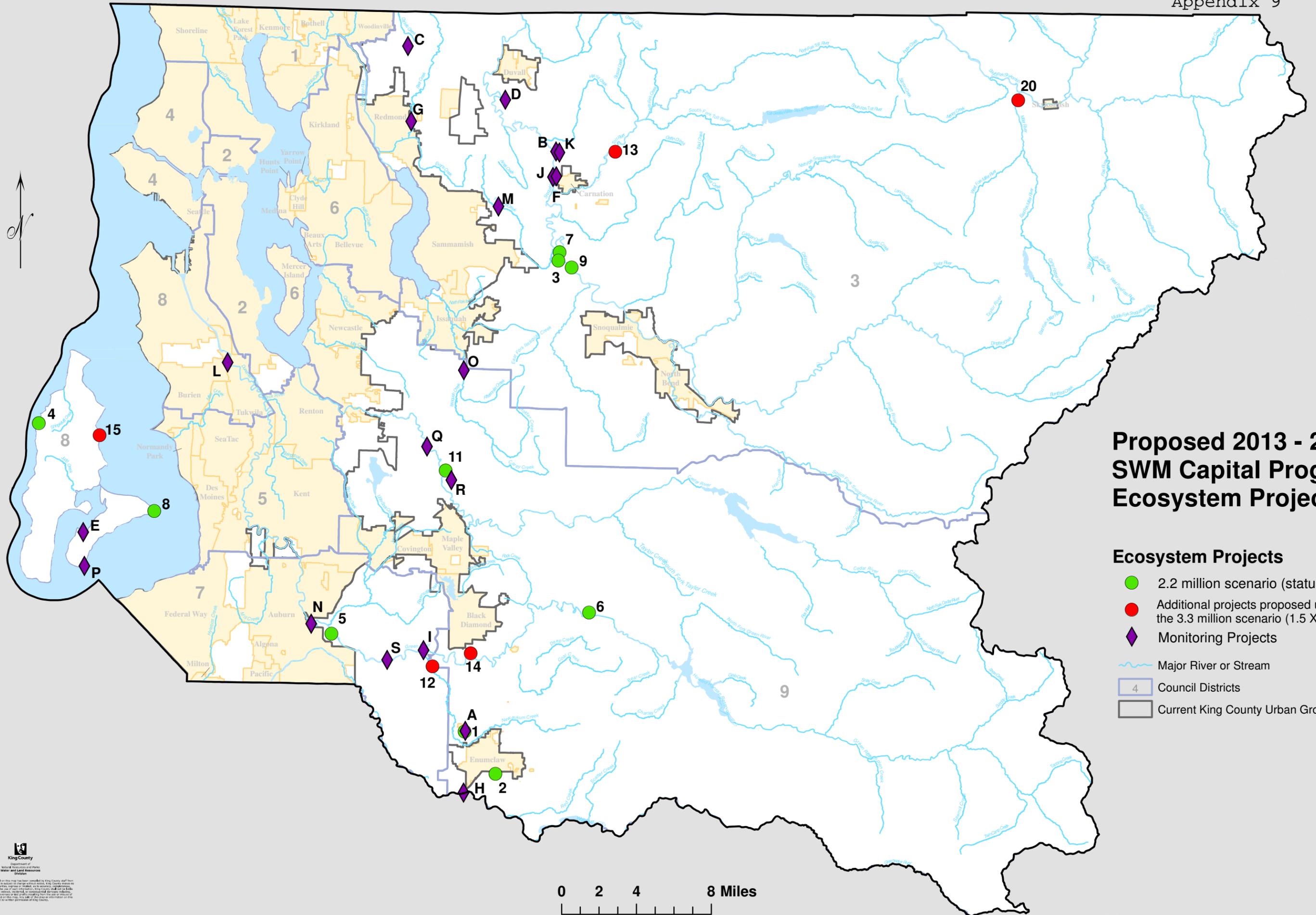
Projects For Capital Bond Funding = Additional \$3.8 Million

Additional Projects/Programs (in priority order)

Map Key	Project/Program Name	2013 SWM Funding	2014 SWM Funding
13	Upper Jones Road Ravine Erosion		\$300,000
14	Vashon Park & Ride LID Retrofit	\$115,000	\$40,000
5	Clough Creek Buyout & Sediment Facility	\$345,000	\$150,000
24	Fairwood 11 Regional Facility Remediation	\$120,000	
12	Tuscani Facility Remediation	\$75,000	
21	Cedar Valley Facility Remediation	\$75,000	
	Aging Stormwater Pipe Assessment Program	\$500,000	\$300,000
23	Fairwood 11 Pipe Replacement 2	\$100,000	\$250,000
	NDAP	\$105,000	\$105,000
	ADAP	\$50,000	\$100,000
	Small Stream Basin Stormwater Retrofit Program	\$600,000	\$470,000
TOTAL for Capital Bond Projects		\$2,085,000	\$1,715,000
GRAND TOTAL for Capital Bond Projects		\$3,800,000 for bi-ennium	

NDAP Projects	
Map Key	Project Name
G	Ferguson
H	Thompson

I	Scott
J	Proctor
K	Schultz
L	Hood
M	Smith
N	Lemba
O	Lazaro
P	Tybur
Q	Hardin
R	Mangini
S	Angelides
T	Farley
U	Rees/Queen
V	Moore



Proposed 2013 - 2014 SWM Capital Program Ecosystem Projects

Ecosystem Projects

- 2.2 million scenario (status quo)
- Additional projects proposed under the 3.3 million scenario (1.5 X status quo)
- ◆ Monitoring Projects
- Major River or Stream
- Council Districts
- Current King County Urban Growth Area



**Proposed 2013 - 2014 SWM Capital Program Ecosystem Projects
Funding Scenarios**

See map for locations.

Status Quo/Base = \$3.8 million

Baseline Programs - County-Wide

Map Key	Project Name	2013 Funding Request	2014 Funding Request
	Restoration Management Reserve (Contingency)	\$75,000	\$30,000
	Project Management Standards & Accountability	\$135,000	\$25,000
	Reconnaissance & Scoping	\$50,000	\$50,000
	Monitoring & Maintenance	\$270,000	\$280,000
	Small Habitat Restoration Program	\$240,000	\$240,000
	Hazard Removal & Protection	\$200,000	\$300,000
	Community Watershed Improvements	\$10,000	\$10,000

Individual Projects/Programs (in priority order)

1	Big Spring Creek Stream & Wetland Restoration - Construction	\$300,000	\$33,000
2	Middle Boise Creek- Evans Restoration - Planting	\$31,000	
3	Upper Carlson Levee Removal & Floodplain Restoration- Design/Construction	\$253,000	\$500,000
4	Cove Creek Estuary Enhancement - Design	\$130,000	\$40,000
5	Porter Levee Setback & Floodplain Restoration - Design	\$62,000	\$29,000
6	Kanaskat Reach Floodplain Restoration - Planting	\$20,000	
7	Snoqualmie Fish Passage Improvement - Design	\$70,000	
8	Pt Robinson Salt Marsh Reconnection - Feasibility	\$50,000	\$140,000
9	Aldair Levee Removal & Floodplain Restoration - Design		\$184,000
	Ecosystem Feasibility/R648A Watershed Projects - Planning	\$25,000	\$27,000
11	Mouth of Taylor Creek Restoration - Feasibility		\$34,000

Monitoring Projects

Key	Project Name
A	Big Spring Creek Stream & Wetland Restoration
B	Chinook Bend Levee Removal & Floodplain Restoration
C	Cold Creek Wetland Mitigation
D	Deer Creek Drainage Improvement & Stream Enhancements
E	Dockton Heights Shoreline Restoration

F	Gilead Off-Channel Habitat Reconnection
G	Lower Bear Creek Natural Area Habitat Enhancement
H	Lower Boise Creek Stream & Floodplain Restoration
I	Lower Newaukum Creek Stream & Floodplain Restoration
J	Lower Tolt River Levee Setback & Floodplain Restoration
K	McElhoe-Pearson Floodplain Restoration
L	North Winds Weir Intertidal Restoration
M	Patterson Creek Stream & Wetland Restoration
N	Pautzke Levee Removal & Floodplain Restoration
O	Petty Bank Stabilization
P	Piner Point Bulkhead Removal & Shoreline Restoration
Q	Rainbow Bend Levee Removal & Floodplain Restoration
R	Taylor Creek Stream & Wetland Restoration
S	Wallace Home Demolition & Floodplain Restoration

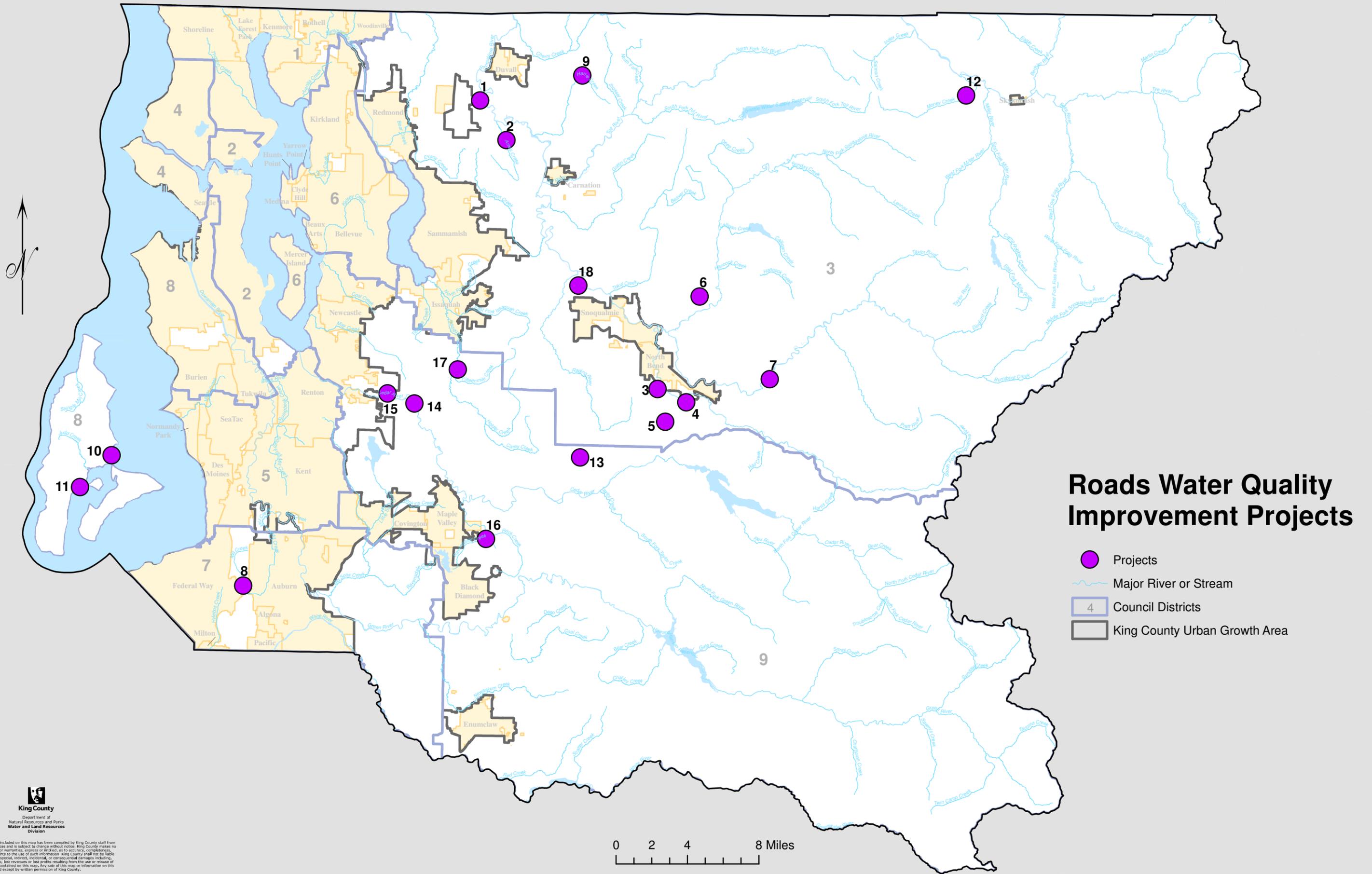
TOTAL for Status Quo/Base		\$1,900,000	\$1,900,000
GRAND TOTAL for Status Quo/Base		\$3,800,000 for bi-ennium	

Projects For Capital Bond Funding = \$3.8 Million

Additional Ecosystem Projects		2013	2014
Map Key	Project Name	Funding Request	Funding Request
	Restoration Management Reserve (Contingency)		\$45,000
	Project Management Standards & Accountability		\$45,000
	Reconnaissance & Scoping	\$65,000	\$65,000
	Small Habitat Restoration Program	\$155,000	\$150,000
	Hazard Removal & Protection	\$150,000	\$10,000
	Post-Project Remediation	\$100,000	\$100,000
2	Middle Boise Creek-Evans Restoration	\$50,000	
4	Cove Creek Restoration Project/Vashon	\$60,000	
J	Tolt River Floodplain Reconnection	\$75,000	\$50,000
5	Porter Levee Setback/Green River	\$78,000	\$100,000
	Community Watershed Improvements/Vashon	\$10,000	\$10,000
	Ecosystem Feasibility/R648A Watershed Projects	\$190,000	\$190,000
	Green River Riparian Revegetation	\$100,000	\$75,000
2	Middle Boise Reach-Scale Improvements		\$50,000
	Auburn Narrows Road Removal/Restoration	\$50,000	
	Maury Island Fill Removal		\$100,000
G	Lower Bear Creek Restoration-Klapp	\$50,000	\$100,000
	South Fork Skykomish & Miller Feasibility/Restoration	\$100,000	

1	Big Spring Creek Restoration	\$100,000	
1	Big Spring Creek Revegetation		\$48,000
1	Lower Newaukum Feasibility - Planning	\$30,000	
3	Upper Carlson Levee Removal & Floodplain Restoration- Design/Construction	\$279,000	\$488,000
	Snoqualmie Fish Passage Improvement Design		\$162,000
9	Aldair Levee Removal & Floodplain Restoration	\$172,000	\$107,000
6	Kanaskat Reach Floodplain Restoration - Planting	\$10,000	\$5,000
	Marine Shoreline Revegetation/Vashon	\$76,000	

TOTAL for Capital Bond Funding		\$1,900,000	\$1,900,000
GRAND TOTAL for Capital Bond Funding		\$3,800,000 for biennium	



**Proposed 2013-14 SWM-Funded Capital Program
Roads Water Quality Improvement Projects**

See map for locations.

Map Key	Project Name (in priority order)	2013 SWM Funding	2014 SWM Funding
3	Clough Creek Ditch Capacity Improvement	\$225,000	
1	Novelty Hill Road Bank Stabilization and Ditch Capacity Improvement/Bear Creek	\$50,000	
8	Peasley Canyon Drainage Improvement/Green River		\$150,000
18	Neal Road Drainage Ditch Capacity Improvement		\$50,000
11	Vashon Highway Drainage Improvement	\$200,000	
2	NE 80 th Farm Ditches Capacity Improvement/Snoqualmie River	\$30,000	
15	Jones Road Drainage Improvement/Cedar River		\$150,000
4	Riverbend Ditch Capacity Improvement/South Fork Snoqualmie River	\$30,000	
17	SE Issaquah Hobart Road at Nudist Camp Creek Drainage Improvement/Issaquah Creek		\$30,000
5	Wilderness Rim Ditch Capacity Improvement/Snoqualmie River		\$60,000
10	Dockton Road Drainage Improvement		\$500,000
9	Stossel Creek Road Drainage Improvement/Snoqualmie River	\$15,000	
16	Ravensdale Black Diamond Drainage Installation/Cedar River	\$20,000	
12	Money Creek Gravel Road Ditch Capacity Improvement/Skykomish River	\$15,000	
6	North Fork Gravel Road Ditch Capacity Improvement/Snoqualmie River		\$15,000
7	Middle Fork Gravel Road Ditch Capacity Improvement/Snoqualmie River		\$15,000
13	Kerriston Road Drainage Capacity Improvement/Raging River		\$600,000
14	Jones Road at approximately 20005 Bank Stabilization/Cedar River		\$300,000
	Countywide Annual High Pollution Generating Intersection Stormwater Retrofit Program on Various Water Bodies	\$140,000	\$560,000
	TOTAL	\$725,000	\$2,430,000
	GRAND TOTAL	\$3,155,000	