

# WRIA 9 3YWP Narrative

May 21, 2013

## I. Context

---

*Question 1: Provide a brief overview of the characteristics of your Chinook Salmon Recovery area.*

The Green/Duwamish and Central Puget Sound Watershed (WRIA 9), located entirely within King County, stretches from the Cascade Mountains in the east to Vashon and Maury Islands in the west. The major river is the Green River, which flows over 82 miles before becoming the 11-mile long Duwamish River. The Duwamish provides a 6-mile zone where fresh and salt water mix, serving as a transition zone for juvenile salmonids. Major tributaries include the Black River, Springbrook Creek, Mill Creek, Soos Creek, Jenkins and Covington Creeks, Newaukum Creek, and Crisp Creek. Many small streams drain directly to Puget Sound along the mainland shoreline and Vashon and Maury Islands. Green/Duwamish Chinook spawn in the watershed (along with chum, coho, and pink salmon and winter steelhead), while the juveniles of other systems use the nearshore habitats.

Howard Hanson Dam, constructed in 1961, blocks fish passage to over 45 percent of the watershed. The area above the dam, known as the Upper Green Sub-watershed, historically supported fall Chinook salmon and is believed to have supported a run of spring Chinook.

*Question 2: Describe the process for developing your 3YWP narrative and project/activity list. Who are the stakeholders involved and what are their roles? Are harvest and hatchery managers involved in your planning group or have they had an opportunity to comment or consult on your 3YWP?*

WRIA 9 developed a project prioritization and sequencing methodology that was used by the WRIA 9 Implementation Technical Committee to evaluate and rank all of the priority projects by sub-watershed. The highest priority projects from this effort will be the focus of future restoration and acquisition efforts. As current projects on the 3-Year Work Plan are completed, this prioritized list is being used to draw projects for addition to the work plan. The WRIA 9 prioritization methodology has been posted on the WRIA 9 website and Habitat Work Schedule to make it accessible to the SRFB Review Panel Members, and RCO staff.

The WRIA 9 Implementation Technical Committee includes representatives from the following organizations: Tacoma Public Utilities, Washington Department of Ecology, City of Seattle, City of Auburn, City of Tukwila, EarthCorps, City of Kent, and the Washington Department of Fish and Wildlife. Other entities that engage in the process include the Puget Sound Partnership, Urban Waters Partnership, and King County.

While the Washington Department of Fish and Wildlife is involved in the development of our 3YWP, the staff that participate are not harvest or hatchery managers. Currently, the Muckleshoot Indian Tribe does not participate in WRIA 9 activities. The fundamental

incongruities between the recently released Soos Creek Hatchery Genetics Management Plan and the WRIA 9 Salmon Habitat Plan highlight the disadvantages of this lack of H-integration.

In 2013, WRIA 9 staff worked with a consultant to develop the 3YWP narrative. Project sponsors provided updates, such as cost estimates and project status, to projects on the project list.

## **II. Background/Planning/Logic of the Recovery Chapter**

*Question 1: What are the recovery goals for your watershed for Chinook salmon? Include information on both population goals (VSP parameters) and habitat goals.*

The short and long-term Chinook population goals in WRIA 9 are as follows:

Short Term (10-15 years)	Increase abundance of natural origin salmon to between 1,000 and 4,200 annually
Long Term (50-100 years)	Increase abundance of natural origin salmon to 27,000 annually
Short Term Productivity	Increase population growth rate of natural origin salmon
Long Term Productivity	Stabilize population growth rate at the equilibrium
Short Term Spatial Structure	Increase distinct spawning aggregations in the Middle Green
Long Term Spatial Structure	Achieve distinct spawning aggregations above Howard Hanson Dam
Short Term Diversity	Protect existing life history types and increase variability in age structure
Long Term Diversity	Re-establish spring population upstream of Howard Hanson Dam
	Re-establish historical run and spawn timing of existing fall population

WRIA 9's five-year and ten-year goals, and our accomplishments through 2011, are as follows:

<b>Benchmark</b>	<b>Five-Year Goal</b>	<b>Accomplishments 2005-2011</b>	<b>Ten-Year Goal</b>
<b>NEARSHORE</b>			
Protect shoreline	2.5 miles	3.6 miles*	4 miles
Restore shoreline	6,700 feet	1,820 feet	10,700 feet
Restore pocket estuaries	5	1	3
<b>DUWAMISH</b>			
Restore shallow water habitat	10 acres	3.5 acres	21.5 acres
Restore shoreline bank	1.5 miles	0.75 miles	2.5 miles
<b>LOWER GREEN RIVER</b>			
Restore reconnected off-channel habitat, including riparian vegetation	8.3 acres	5.2 acres	13.3 acres

Complete levee setbacks	6,700 feet	0 feet**	10,700
<b>MIDDLE GREEN RIVER</b>			
Restore reconnected off-channel habitat, including riparian vegetation	25 acres	38.8 acres*	40 acres
Complete levee setbacks	7,500 feet	3,300 feet	12,000 feet
Tributary improvement	9 miles	5.5 miles	14.4 miles

\*Five-Year Goal exceeded

\*\*Levee setbacks prior to 2005 total nearly 6,400 feet

Updating of accomplishment information for 2012 projects and projects completed by other project sponsors is currently in progress.

*Question 2: What is the current strategy to accomplish the recovery goals and what assumption(s) is this strategy based on?*

WRIA 9's strategy to accomplish the recovery goals focuses on four fundamental action types:

- Protect currently functioning habitat and habitat-forming processes from degradation;
- Connect the Upper Green River by restoring access for salmon;
- Restore habitat that contributes to the survival of juvenile salmon; and
- Increase Duwamish River estuary habitat.

To realize this strategy, the watershed has adopted a funding policy that directs 40% of funding to the Duwamish Estuary Transition Zone, 30% of funding to rearing habitats, and 30% to spawning habitats.

This strategy is based on the following assumptions:

- Protection of good habitat is crucial to prevent further declines in salmon populations.
- Providing access to the Upper Green will open up 40% of the watershed's habitat to salmon for the first time in over 50 years. This reconnection will help improve spatial structure, genetic diversity, and abundance.
- The lack of good rearing habitat in the watershed generally and specifically in the Duwamish River estuary is a major limiting factor for the survival of Chinook.

*Question 3: What new knowledge or information has changed your strategy, assumptions or hypotheses since your recovery chapter was written?*

- Project selection has changed slightly based upon the project prioritization process. Projects previously were chosen opportunistically based upon availability; that focus has changed to select the most ecologically beneficial projects. As currently active projects are completed, projects that rated high in the process will be added to future work plans.
- Four projects currently being designed and constructed through the King County Flood Control Zone District are included, although the projects are completely funded through the district. Coordination with WRIA 9 staff is ensuring that the projects include benefits to salmon to the maximum extent possible. However, engineering

requirements and safety concerns are the priority concern when designing these projects, and ecological benefits are secondary.

- King County policies regarding salmon restoration projects in the Agricultural Production Districts are impeding restoration opportunities in the Lower and Middle Green. Unless these issues can be resolved, the Habitat Plan goals for restoring off-channel habitat and levee setbacks will not be met.

*Question 4: How is the sequencing and timing of actions or projects done in such a way as to implement the strategy as effectively as possible?*

The project prioritization process adopted by the Implementation Technical Committee in winter 2008 allows WRIA 9 to direct its limited resources strategically. Projects were evaluated based upon a set of diagnostic questions including the program objectives, consistency with accepted standards for successful restoration, expected population response, habitat response, scale of the project, and time lag between project implementation and resulting benefits to Chinook salmon.

### **III. Plan and Gaps**

---

*Question 1: What are the obstacles or barriers for implementing monitoring and adaptive management? Where could you use support for development of your M&AM plans?*

The *WRIA 9 Status and Trends Monitoring Report: 2005-2010* notes that due to lack of funding and capacity, WRIA 9 has not monitored the effectiveness or the implementation status of the 30 watershed-wide and sub-watershed programmatic and regulatory actions identified in the WRIA 9 Salmon Habitat Plan. In addition, the lack of Tribal participation and WDFW hatchery and harvest manager participation in WRIA 9 efforts means that H-integration has not occurred. WRIA 9 could use assistance with bringing the Muckleshoot Indian Tribe and additional WDFW staff to the table, and with funding and capacity support for development of the M&AM plan.

*Question 2: Considering all actions affecting salmon recovery in the watershed, is the Chinook salmon resources likely to be closer to, or further from, the recovery goals ten years from now as it is today?*

This question is difficult to answer with any certainty, especially since ten years covers only two sequential Chinook life cycles. However, several major concerns exist in WRIA 9 that indicate that the decisions made in the next ten years could have significant effects on our ability to recover this resource:

- We are implementing the Plan at roughly 10% of the levels necessary to recover Chinook. Without dedicated, sustainable funding and additional staff resources, this pace is unlikely to increase.
- Negotiations with the US Army Corps of Engineers on levee vegetation management should be completed within the next ten years. The result of these negotiations, which are not in the watershed's control, could have significant positive or negative effects on Chinook in the Green River. A new Total Maximum Daily Load temperature report for

the mainstem of the Green River indicated that water temperature in the Lower Green River sub-watershed was likely to reach sub-lethal to lethal temperatures in 1 out of every 10 summers, according to the model used. Similarly, water temperature data from King County's gauges shows multiple examples of very high temperatures occurring annually. The final Corps revegetation policy will have significant effects on our ability to lower temperatures in the mainstem of the river – either for better or for worse.

- The recently released Soos Creek Hatchery Genetics Management Plan, as written, will release sub-yearling hatchery Chinook into the Green River during the time that large numbers of wild juvenile Chinook are using the estuary in May. Our data suggest that the hatchery sub-yearlings out-compete the wild juveniles in the estuary, resulting in a reduction in growth of the wild fish. Similarly, we believe WDFW takes too many natural origin Chinook off the spawning grounds each year, raising the potential for the entire population to become domesticated and to reduce productivity to levels that will make recovery almost impossible. The continued disconnect between habitat, harvest, and hatchery planning in WRIA 9 is not simply a policy matter: it is having a direct, negative effect on the growth and survival of wild Chinook salmon in the Green River.

That said, there are also many positive signs in the watershed:

- The US Army Corps of Engineers is working to develop a downstream fish passage facility at Howard Hanson Dam. We anticipate that the Corps will build this facility in 2017. Once constructed, fish will be able to access over 300 square miles, or over 45% of the watershed, for the first time in more than 50 years. This reopening will have a significant positive effect on the spatial structure and genetic diversity of the Green/Duwamish Chinook population.
- The WRIA 9 Forum has exceeded two of its five-year benchmarks and has 23 projects underway and 64 projects in the pipeline. These projects are protecting and restoring habitat for Chinook.
- In most years, we have met our goal of 1,000 to 4,200 natural origin spawners annually. However, in 2009 only 207 natural origin spawners returned, and in 2011 the number was 903. We have more work to do.

**Three-Year Watershed Implementation Priorities - Puget Sound Salmon Recovery Plan  
 WRIA 9 Habitat Work Schedule for Green/Duwamish and Central Puget Sound Watershed**

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
<b>Duwamish Subwatershed: Enlarge Duwamish estuarine transition zone habitat by expanding shallow water and slow water areas, and expand/enhance the estuary, particularly vegetated shallow subtidal and intertidal habitats and brackish marshes. VSP parameters for this subwatershed focus on productivity.</b>																			
<b>North Wind's Weir (Project, DUW-10) COMPLETED!</b>	1	Shallow Water Habitat Rehabilitation at RM 6.3: Create two acres of off-channel, shallow water habitat in the transition zone	King County	\$3,200,000	\$1,974,000	\$950,000 (2007)	King County \$325,000; US ACOE \$1,600,000; KCD \$325,000	Reduced habitat capacity. Competition with Hatchery origin juveniles.	Transitions zone estuary.	Shallow water habitat restoration.	Chinook	Steelhead, Bull trout, Orca	Monitoring	\$20,000	Monitoring	\$20,000	Monitoring	\$20,000	2014
<b>Duwamish Gardens Shallow Water Habitat Creation at RM 7.0 Project DUW-7) Acquisition Completed!</b>	1	Acquire land within transition zone in order to create shallow-water habitat.	Tukwila	\$2,846,000	\$1,000,000	\$1,500,000		Reduced habitat capacity. Competition with Hatchery origin juveniles.	Transitions zone estuary.	Shallow water habitat restoration.	Chinook	Steelhead, Bull trout, Orca							
<b>Duwamish Gardens Shallow Water Habitat Creation at RM 7.0 Project DUW-7) Restoration in design phase; 30% design expected June 30, 2013</b>	1	Restore estuarine transition zone habitat to provide critical habitat for juvenile salmon in the Duwamish Transition Zone.	Tukwila	\$3,300,000	\$150,000	\$1,000,000	SRFB 2010 \$197,299; KCD \$150,000 (2010),	Reduced habitat capacity. Competition with Hatchery origin juveniles.	Transitions zone estuary.	Shallow water habitat restoration.	Chinook	Steelhead, Bull trout, Orca	Construction	\$2,000,000	Revegetation finalized/stewardship and maintenance	\$20,000	Stewardship and maintenance	\$0	2015
<b>Duwamish Revegetation (Program WW-5)</b>	1	Plant native trees in the riparian zone/floodplain of the Green River and Soos Creek	King County	\$150,000	\$150,000	\$0	\$150,000	Loss of Habitat	Riparian	Riparian	Chinook	Steelhead	Construction (revegetation)	\$200,000	Construction (revegetation)	\$0	Construction (revegetation)	\$15,000	2016
<b>Subtotals</b>				<b>\$9,496,000</b>	<b>\$3,274,000</b>								<b>\$2,220,000</b>		<b>\$40,000</b>		<b>\$20,000</b>		
<b>Lower Green River Subwatershed: Protect/restore refuge, habitat complexity and connectivity for juvenile salmon over range of flow conditions and variety of locations. VSP parameters for this subwatershed focus on productivity.</b>																			
<b>Riverside Estates Levee Setback Project (LG-1) - (Reddington Levee)</b>	3	Levee setback, revegetation, benching, LWD.	King County Flood Control District (KCFCD)	\$3,038,983	\$3,038,983	\$0	KCFCD	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Construction	\$2,748,715					2014
<b>Riverview Park Restoration (Project LG-7) CONSTRUCTION COMPLETED 2012</b>	1	Provide summer rearing habitat and high flow winter refuge through excavation of an off-channel area combined with placement of large woody debris and	Kent	\$7,613,571	Kent (\$1,696,742)	\$150,000 (2006); 500,000 (2009);	ACOE (\$4,500,000) KCD (\$840,000), Kent (1,696,742)	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Monitoring	Funded	Monitoring	\$0	Monitoring & Adaptive Management	\$20,000	2015
<b>Downey Farmstead Restoration Project (formerly Lower Green River Acquisition) (Project LG-7) ACQUISITION COMPLETE</b>	1	Acquire three properties immediately upstream of the Mullen Slough confluence and demolish buildings on one. A feasibility study will determine options for modifying Frager Road, reconnection of the upland to the river, and restoration of riparian habitat.	Kent	\$1,205,085	\$230,000	\$975,085 (2003)	Kent \$180,000; King County \$25,000; Green River Flood Control Zone District \$25,000	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca							
<b>Lower Green Acquisition (Downey Farmstead) (Project LG-7)- DESIGN AND CONSTRUCTION - Project currently in final design</b>	1	The current conceptual design for this project is to excavate a perennial side channel connected to the Green River mainstem at both ends. This concept would require Frager Road S to be relocated to a location adjacent to SR 516. The channel would contain contain anchored large wood installations in the wetted channel. Stream banks would be shaped to create a stable angle of repose and be planted with native vegetation.	Kent	\$6,100,000	\$810,000	\$4,750,000	Green River Flood Control District, King Conservation District, City of Kent, King County	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Final design and permitting	Funded	Construction	\$4,750,000	Construction/Revegetation		2015
<b>Mill Creek Floodplain Wetland and Off-Channel Habitat Rehabilitation (Project LG-7) - Leber Property - DESIGN AND CONSTRUCTION [design complete, seeking construction funding]</b>	1	The project will construct a side-channel off of Mill Creek, providing 2 acres of floodplain habitat below the ordinary high water mark, increase floodplain refuge habitat for Chinook and other salmonids, enhance riparian habitat and increase floodplain storage.	Kent	2300000 (construction)		\$100,000 (2006), \$200,000 (proposed 2010)	APPROVED: CFT: \$100,000 (2005 or 2006); City of Kent: \$100,000 (2005 or 2006)	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Complete Design & Permitting	\$0	Construction	\$3,500,000			2014

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
<b>Teufel/Rosso Nursery Off-Channel Rehabilitation and Riparian Restoration Between RM 20.8 and 20 (LG-9) - ACQUISITION</b>	1	Acquire property and rehabilitate habitat by constructing an outlet at RM 20.1. Actions would include removing fill, excavating off-channel flood refugia for juvenile rearing habitat, and planting native wetland and riparian vegetation.	KCFCD,	\$3,500,000	KCFCD, CFT/Parks Levee,		KCFCD	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Instream		Chinook	Steelhead, Bull Trout, Orca							
<b>Teufel/Rosso Nursery Off-Channel Rehabilitation and Riparian Restoration Between RM 20.8 and 20 (LG-9) - RESTORATION</b> <i>Currently seeking design funding for 2014</i>	1	Acquire property and rehabilitate habitat by constructing an outlet at RM 20.1. Actions would include removing fill, excavating off-channel flood refugia for juvenile rearing habitat, and planting native wetland and riparian vegetation.	KCFCD,	\$2,500,000	KCFCD, King Conservation District		KCFCD	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Instream		Chinook	Steelhead, Bull Trout, Orca	Design	\$300,000	Design		Construction	\$2,000,000	2013
<b>Mainstem Maintenance (Project LG-10) - Boeving Levee Setback- initial design by USACOE in partnership with Kent began in 2013</b>	2	Boeving Levee Setback and Restoration between RM 18 and 17.1 to enable extensive habitat rehabilitation.	Kent & USACOE	\$12,000,000	\$4,000,000	\$8,000,000	GRFCZD, KCD, Kent, ACOE	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Instream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Design and permitting	\$300,000	Complete Construction/Monitoring	\$8,000,000	Monitoring	\$50,000	2016
<b>Desimone Levee (Project LG-13) -</b>	3	Levee setback, revegetation, benching, LWD.	King County	\$2,844,256			KCFCD	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Instream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Design	\$80,607	Engineering, design, permitting.	\$898,673	Construction	\$1,864,976	2015
<b>Subtotals</b>				<b>\$38,801,895</b>	<b>\$3,781,256</b>	<b>\$1,225,085</b>								<b>\$680,607</b>		<b>\$17,148,673</b>		<b>\$3,934,976</b>	

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
Nearshore Subwatershed: Protect, restore, or rehabilitate: sediment transport processes by reconnecting sediment sources and removing shoreline armoring; pocket estuaries, lagoons, and spits; and sediment quality, particularly in Elliott Bay. VSP parameters for this subwatershed focus on productivity.																			
<b>Pier 90 Shallow Water Habitat Rehabilitation (NS-1)</b>	1	Protect and expand that area of shallow water habitat. The land comprising shoreline east of Pier 90 would need to be purchased. The riprap and fill would be moved in order to create additional shallow water habitat and the shoreline planted with riparian vegetation.	City of Seattle	\$2,500,000				Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Feasibility, Technical Design	\$500,000	Design and permitting	\$750,000	Construction	1,250,000	2015
<b>Myrtle Edwards Park Small Pocket Beaches/Shallow Water Habitat Rehabilitation (NS-2)</b>	1	Create pocket beaches in Myrtle Edwards Park on Elliott Bay in Seattle. Riprap armoring would be removed and the slopes would be graded back to create natural slopes. Pocket beaches have a mix of sediments placed on them. Riparian area would be planted with native vegetation. A shallow water bench may also be constructed.	City of Seattle	\$6,000,000				Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Feasibility, Technical Design	\$500,000	Design and permitting	\$750,000	Construction	\$4,000,000	2015
<b>Elliott Bay Shoreline Enhancements(Project NS-4) -</b>	1	Create shallow water habitat benches and fish friendly structures along the waterfront, install a shoreline beach. This would open up a migration corridor and increase the amount of shallow water area for juvenile Chinook foraging.		\$56,000,000	unknown	unknown	unknown	Loss of habitat	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Construction	\$5,600,000	Construction		Construction/Monitoring		2016
<b>Beaconsfield-On-The-Sound (project NS-11) - Acquisition</b>	1	Purchase and restore one of the last major privately-held undeveloped feeder bluffs along the mainland marine shoreline.	Normandy Park	\$1,000,000	\$70,500	\$50,873 (2005-2006); \$100,000 (2006); \$380,739 (2007)	Cascade Land Conservancy \$2,977 (2005), KCD \$64,500 (2006); Normandy Park \$6,000 (2005), CFT (2008 submitted)	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Acquisition	\$600,000	Acquisition	\$300,000	Revegetation	\$250,000	unknown
<b>Piner Point Restoration Bulkhead Removal (Project NS-17) - Restoration</b>	1	Remove creosote bulkhead,	King County	\$243,894	\$243,894		0 King Conservation District \$180,000 (2010) and King County (63,894)	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish							
<b>Dockton Heights- Restoration - CONSTRUCTION IN 2013</b>	3	Remove creosote pilings, restore shoreline		\$490,000	490,000		0 Dalco Oil Spill Mitigation Funding	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Construction		Monitoring		Monitoring		
<b>Maury Island Gravel Pit Acquisition (NS-17) - completed!</b>	1			\$39,000,000	19,000,000		0 \$19,000,000 Conservation Futures, \$18,000,000 WA ASARCO settlement, \$2,000,000 private donors	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish							
<b>Maury Island Fill Removal (NS-20) - (remnant dock footing)</b>	2			\$150,000	80,000		\$80,000 SWM	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish			Design and permitting	\$80,000	Construction	\$200,000	2016
<b>Burien Seahurst Park Shoreline Restoration, Phase II (Project NS-5) - CONSTRUCTION TO BEGIN Fall 2013</b>	1	Continue shoreline restoration actions conducted in southern portion of Seahurst Park in Burien by removing a portion of shoreline armoring in the central area of the park, restoring natural beach slopes, and adding riparian vegetation.	Burien	\$5,675,000	\$4,225,000	\$750,000 (2010)	KCD (\$510,000), ESRP (\$700,000), SRFB 2009 (\$750,000), USACE (\$3715,000)	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish	Construction (construction to begin 2013, with remainder of work in 2014)	\$6,500,000	Revegetation, stewardship and monitoring	\$50,000	Monitoring	\$50,000	Construction complete in 2014, monitoring complete in 2017

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
Point Robinson Estuary Restoration	1	Salt Marsh Reconnection and Improvements	King County	\$500,000				Loss of habitat,	Estuary and salt marsh	Nearshore.	Chinook	Orca, forage fish	Design and Pre-Construction Monitoring	\$100,000			Construction	\$400,000	2015
Cove Creek - Restoration (NS-7)	1	Fish blockage removal and pocket estuary restoration. Project would restore the mouth of Cove Creek and move the stream crossing upstream. The northern half of the bulkhead would be removed and stream mouth area restored.	King County	\$487,000.17			CFT, NOAA, PEL, SRFB	Loss of habitat,	Estuary and fish blockage removal	Nearshore.	Chinook	Orca, forage fish	Design and Pre-Construction Monitoring	\$100,000	Acquisition (see separate project below)	\$387,000.17	Monitoring		
Cross Landing Estuary (NS-17) - Restoration	1	Restoration of the pocket estuary is dependent upon acquisition.	King County	\$50,000				Loss of habitat,	Estuary and fish blockage removal	Nearshore.	Chinook	Orca, forage fish			Design and permitting	\$100,000.00	Construction (revegetation )	\$400,000	
Raab's Lagoon Restoration - Pocket Estuary Restoration (plant shoreline) (NS-17)	2	Revegetation	King County	\$100,000	\$0	\$0	King County SWM (\$100,000)	Loss of habitat	Nearshore estuary	Nearshore.	Chinook	Orca, forage fish	Construction (revegetation 2011 and 2012)	\$100,000	Monitoring and Maintenance		Monitoring and Maintenance		
McSorley Creek at Saltwater State Park - Design (NS-15) Design proposed to begin in 2013	1	Removal of nearshore armoring, enhance fish passage																	
Maury Island Marine Park (NS-17)	2	Invasive Removal and Revegetation.		\$1,200,000			King County SWM (\$1,200,000)	Loss of habitat	Nearshore	Revegetation/invasive control	Chinook	Orca, forage fish	revegetation underway						
Functioning Nearshore Habitat on Vashon/Maury Island - Portage (Project NS-17)	1	Reconnect salt marsh to Puget Sound	King County	\$400,000			ESRP, SRFB, NOAA, King County	Loss of habitat	Salt Marsh	Nearshore.	Chinook	Orca, forage fish	Feasibility		Acquisition		Design		
Restoration of shoreline between Piner Point and Northilla	1	Nearshore restoration	King County	\$600,000			Conservation Futures, King County,		Nearshore feeder bluff	Restoration	Chinook	Orca, forage fish					Design		
Maury Island Revegetation	2	Revegetation at Glacier Pit.		\$500,000			King County SWM (\$10,000)	Loss of habitat	Nearshore estuary and riparian	Nearshore.	Chinook	Orca, forage fish	(revegetation 2011 and 2012)	\$30,000	Construction (revegetation)	\$40,000	Construction (revegetation )	\$100,000	

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
<b>Marine Nearshore Acquisition Projects</b>																			
<b>Beaconsfield on the Sound (Project NS -11) - ACQUISITION</b>	1	Protect sites with high habitat resource values - Southwest Drift Cell - South Shoreline	Normandy Park	\$1,100,000				Loss of habitat,	Nearshore beach.	Acquisition	Chinook	Orca, forage fish	Feasibility	\$125,000	Acquisition	\$2,000,000	Acquisition	\$4,500,000	2014
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island-Inspiration Pt. (Project NS-17) (inholdings)</b>	2	Protect sites with high habitat resource values - Inspiration Pt.	King County	\$500,000			Conservation Futures, NOAA	Loss of habitat,	Nearshore beach.		Chinook	Orca, forage fish	Acquisition						2008
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island-Neill Pt. (Project NS-17)</b>	2	Protect sites with high habitat resource values - Neill Pt.	King County	\$500,000			Conservation Futures, NOAA	Loss of habitat	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						
<b>Functioning Nearshore Habitat on Vashon/Maury Island - Portage (Project NS-17)</b>	3	Acquisition needed in order to reconnect salt marsh to Puget Sound	King County	\$400,000						Land acquired									
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island-Rabb's Lagoon (Project NS-17)</b>	3	Protect sites with high habitat resource values - Rabb's Lagoon	King County	\$100,000	unknown	unknown	Conservation Futures, NOAA	Loss of habitat	Nearshore beach.		Chinook	Orca, forage fish	Acquisition						
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island-Piner Pt. (Project NS-17) Acquisition Completed!</b>	2	Protect sites with high habitat resource values - Piner Pt.	King County				SRFB	Loss of habitat	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island-NorthIlla (Project NS-17) - seeking Asarco funding</b>	2	Protect sites with high habitat resource values - NorthIlla	King County	\$1,100,000			Conservation Futures, NOAA	Loss of habitat	Nearshore beach.		Chinook	Orca, forage fish	Acquisition						
<b>Functioning Nearshore Habitat Protection on Vashon/Maury Island- Pt. Heyer (Project NS-17) -</b>	1	Protect sites with high habitat resource values - Pt. Heyer Drift Cell	King County	\$10,000,000	\$2,450,000	\$360,000	KC SWM; CFT (2008, submitted); RCO ALEA (2008, 2010 submitted; KC Park Levy (2008, 2010 submitted)	Loss of habitat,	Nearshore beach.	Land acquired	Chinook	Orca	Acquisition	\$1,500,000	Acquisition	\$1,500,000	Acquisition	\$1,500,000	
<b>Cross Landing - Acquisition (NS-17) -</b>	2	Protect sites with high habitat resource values	King County	\$1,000,000	\$800,000	\$0	Conservation Futures and Parks Levy	Loss of habitat,	Nearshore beach.	Land acquired	Chinook	Orca					Acquisition	\$1,000,000	
<b>Subtotals</b>				<b>\$111,058,894</b>	<b>\$220,500</b>	<b>\$531,612</b>								<b>\$15,655,000</b>		<b>\$2,457,000</b>		<b>\$6,650,000</b>	
<b>Porter Levee Setback and Floodplain Reconnection (Project MG-17) - DESIGN AND PERMITTING. Project is funded to 30% design, additional funding will be sought in 2013/2014 for final design</b>	1	Remove (modify) existing levee to facilitate river connection to floodplain. LWD placement and riparian revegetation would be included	King County	\$650,000		\$200,000 (2011)	\$1,000,000 KCD; \$500,000 SWM	Loss of Habitat	Floodplain, riparian	Riparian, intream flow	Chinook	Steelhead	Design & Permitting	\$200,000	Design & Permitting	\$450,000			2014
<b>Porter Levee Setback and Floodplain Reconnection (Project MG-17) - CONSTRUCTION</b>	1	Remove (modify) existing levee to facilitate river connection to floodplain. LWD placement and riparian revegetation would be included	King County	\$2,400,000		\$200,000 (2011)		Loss of Habitat	Floodplain, riparian	Riparian, intream flow	Chinook	Steelhead				\$1,000,000	Construction	\$2,400,000	2014

Project Name	Priority Tier	Project Description	Likely sponsor	Total cost of first three years/phases	Local Share	SRFB/PSAR	Source of Funds	Primary Limiting Factors	Habitat Type	Activity Type	Primary Species	Secondary Species	2014		2015		2016		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
<b>Capital Projects</b>																			
<b>Newaukum Creek Mouth Restoration Between Creek Miles 0.0 and 4.3 (Project MG-8) - Completed!</b>	1	Place large woody debris and plant native trees along the lower 4.3 miles of the creek, and reconfigure the lower 1,800 feet of the creek near the mouth.	King County	\$1,175,000		\$788,581 (2004)	King County, ACOE	Riparian areas and LWD recruitment	Intream, riparian	Riparian, intream flow	Chinook	Steelhead, bull trout	Design & Permitting	\$100,000	Construction	\$1,075,000	Monitoring/Adaptive Management		
<b>Newaukum Creek Restoration Between Creek Miles 0.0 and 14.3 - Both Banks (Project MG-6)</b>		Restore process-based ecological functions that include wetland and riparian restoration along Newaukum Creek (Enumclaw Plateau).	King County	\$300,000			\$200,000 KCD; \$100,000 SWM	Loss of Habitat	Riparian	Riparian, intream flow	Chinook	Steelhead	Construction	\$100,000	Construction	\$100,000	Construction	\$100,000	Ongoing
<b>Middle Green Riparian Revegetation(Program WW-5)</b>		Plant native trees in the riparian zone/floodplain of the Green River and Soos Creek	King County	\$200,000			\$200,000; SWM \$50,000	Riparian areas and LWD recruitment	Riparian	Riparian	Chinook	Steelhead	Construction	\$150,000	Construction	\$150,000	Construction	\$150,000	Ongoing
<b>Setback and Removal Pautzke Levees to Reconnect the Floodplain and Allow Channel Migration near RM 32(Project MG-18 ) Completed!</b>	1	Fenster Levee Phase IA - Remove levees, lower the elevation of terraces and construct engineered logjams to reinstate floodplain connectivity and channel migration.	Auburn, King County	\$1,400,000		\$675,900 (2005-2006)	Green River Flood Control Zone District \$90,000; City of Auburn \$33,000	Channel structure/complexity	Intream, riparian	Riparian, intream flow	Chinook	Steelhead, bull trout	Construction	\$1,225,000	Monitoring/Adaptive Management	\$75,000	Monitoring/Adaptive Management	\$75,000	2008
<b>Setback and Removal of Fenster Levees _Phase 1 to Reconnect the Floodplain and Allow Channel Migration near RM 32 (Project MG-18 ) Construction completed!</b>	1	Pautzke Levee - Remove levees, lower the elevation of terraces and construct engineered logjams to reinstate floodplain connectivity and channel migration. Phases A - E.	King County	\$3,500,000				Channel structure/complexity	Intream, riparian	Riparian, intream flow	Chinook	Steelhead, bull trout	Design & Permitting	\$100,000	Construction	\$3,400,000			
<b>Setback and Removal of Fenster Levees _Phase 2 to Reconnect the Floodplain and Allow Channel Migration near RM 32(Project MG-18 ) Currently in design Construction planned for 2013</b>	1	Fenster Levee Phase IB - Remove levees, lower the elevation of terraces and construct engineered logjams to reinstate floodplain connectivity and channel migration.	Auburn, King County	\$600,000 - \$800,000		\$250,000 (2007)		Channel structure/complexity	Intream, riparian	Riparian, intream flow	Chinook	Steelhead, bull trout	Design & Permitting	\$150,000	Construction	\$650,000			2010
<b>Big Spring Creek Acquisition (Project MG-7) - Completed</b>	1		King County	\$2,115,000				Stream flow patterns. High H2O temperature.	Intream, riparian	Water quality	Chinook	Coho							
<b>Big Spring Creek Restoration (Project MG-7)</b>	1	Construct new stream channel to replace ditch. Connect coldwater springs to Newaukum Creek.	King County	\$4,079,728	\$4,019,728	\$60,000	KCD:	Stream flow patterns. High H2O temperature.	Intream, riparian	Water quality	Chinook	Coho	Construction	\$1,973,000	Construction	\$785,000	Construction	\$285,000	2014
<b>Subtotals</b>				<b>\$20,520,000</b>															
<b>Totals</b>				<b>\$39,924,586</b>															
<b>Non Capital Programs-Not Prioritized</b>																			
Lead entity coordination			Lead entity	\$225,000									Staffing (1 FTE)	\$75,000	Staffing (1 FTE)	\$75,000	Staffing (1 FTE)	\$75,000	Ongoing
Seahurst Environmental Learning Center (annual basis)			City of Burien and Environmental Science Center	\$30,000															
Project Management and Public Outreach			WRIA Staff																
Stewardship & Educational Outreach			WRIA Staff																