

**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	2011		2012		2013		Likely end date
													Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost	
Capital Projects																			
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.																			
North Wind's Weir (Project DUW-10) COMPLETED!	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	950000 (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	Construction	\$1,975,000	Monitoring/ Adaptive Management	\$85,000	Monitoring/ Adaptive Management	\$85,000	2009
Riverbend Hill (Project DUW-6)	1	Reshape and revegetate the riverbank along South 115th Street at river miles 7.2 to 6.9, right bank, including relocation of South 115th. Set back the revetment where possible. The project would include placement of large	Tukwila	Habitat project costs to be determined		Unknown at this time	CFT (2008, submitted)	Reduced habitat capacity. Competition with Hatchery origin juveniles.	Transitions zone estuary.	Shallow water habitat restoration.	Chinook	Steelhead, Bull Trout, Orca	Design, engineering.		Permitting		Construction		2011
Duwamish Gardens Shallow Water Habitat Creation at RM 7.0 Project DUW-7) Acquisition Completed!	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	Feasibility	WDFW Engineering Assistance; PSAR 5% Capacity Funding	Design and permitting	\$300,000	Construction	\$2,200,000	2012
Duwamish Gardens Shallow Water Habitat Creation at RM 7.0 Project DUW-7) Restoration in design phase		Restore estuarine transition zone habitat to provide critical habitat for juvenile salmon in the Duwamish Transition Zone.	Tukwila				Proposed SRFB 2010 \$127,000; KCD \$150,000 (2010),												
Riverton Creek Flapgate Removal and Restoration	1	Removed flapgates and restore an open water connection of Riverton Creek to the Duwamish River. This will restore and enhance salmonid habitat within Riverton Creek and improve its connection to the Duwamish River using natural processes and habitat elements to facilitate upstream migration and to	Tukwila	Feasibility phase: \$50,000	\$7,500	\$42,500	Tukwila \$7500	Reduced habitat capacity. Competition with Hatchery origin juveniles.	Transitions zone estuary.	Fish passage	Chinook	Coho	Design, engineering.	\$300,000	Construction	\$750,000	Monitoring/ Adaptive Management	\$100,000	2013
Subtotals				\$3,250,000	\$1,981,500	\$992,500							\$1,975,000			\$85,000		\$85,000	
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.																			
Riverview Park Restoration (Project LG-7) Design complete, construction planned for 2011	1	Provide summer rearing habitat and high flow winter refuge through excavation of an off-channel area combined with placement of large	Kent	\$3,500,000	KCD \$40,000 (2006) PENDING: \$50,000, PENDING: Kent \$617,000	\$150,000 (2006); 500,000 (2009);	ACOE (\$2,000,000) KCD (\$500,000), Kent	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	construction	Funded	Monitoring/ Adaptive Management	\$200,000	Monitoring & Adaptive Management	\$50,000	2013
Riverside Estates Levee Setback Project LG-1)	1	Levee setback, revegetation, benching, LWD.	King County	\$3,038,983			KCFCZD	Altered stream flow, channel structure & complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout, Orca	Construction	\$290,268	Construction	\$447,637	Construction	\$2,301,078	2011

CAVEAT: Subwatersheds listed in order of priority. Projects prioritized 1 through 3.

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Capital Projects																			
Rosso Nursery Off-Channel Rehabilitation and Riparian Restoration Between RM 20.8 and 20 (LG-9)	1	Acquire property and rehabilitate habitat by constructing an outlet at RM 20.1. Actions would include removing fill, excavating off-channel flood refugiaum for juvenile rearing habitat , and planting native wetland and riparian vegetation.	KCFCZD,	\$3,500,000	KCFCZD, CFT/Parks Levee, WWRP,		KCFCZD	Altered stream flow, channel structure& complexity, riparian areas, LWD.	Instream		Chinook	Steelhead, Bull Trout,Orca	Design	\$300,000	Design and permitting	\$300,000	Construction	\$2,000,000	2013
Downey Farmstead Restoration Project (formerly Lower Green River Acquisition) (Project LG-7)	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. Also acquire the Koch property on the left bank downstream of Riverview Park.	Kent (lead), King County, Green River Flood Control Zone District	\$1,200,000		\$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	Final design and permitting	\$300,000	Construction	\$2,500,000	Monitoring	\$20,000	
Desimone Levee Phases 1-4 (Project LG-13)	1	Levee setback, revegetation, benching, LWD.	King County	\$2,844,256			KCFCZD	Altered stream flow, channel structure& complexity, riparian areas, LWD.	Intream	Instream flow	Chinook	Steelhead, Bull Trout,Orca	Design	\$80,607	Engineering, design, permitting.	\$898,673	Construction	\$1,864,976	2011
Mill Creek Floodplain Wetland and Off-Channel Habitat Rehabilitation (Project LG-7)	2	Restore lower 0.3 miles of Mill Creek and adjacent segments of currently armored riverbank.	Kent	\$1,500,000	no match required	\$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	\$100,000	Construct Project	\$1,400,000	Monitoring & Adaptive Management		2009
Mill Creek - Wetland 5K	2	Restore the lower portion of Mill Creek - Wetland 5K, improve riparian vegetation	Auburn	\$3,500,000	\$1,210,000			Altered stream flow, channel structure& complexity, riparian areas, LWD.	Instream	Instream flow	Chinook	Steelhead, Bull Trout,Orca	Construction	\$700,000	Monitoring	\$20,000	Monitoring	\$200,000	2013
Mainstem Maintenance (Project LG-10)	1	Boeing Levee Setback and Restoration between RM 18 and 17.1 to enable extensive habitat rehabilitation.	Kent & King County	\$2,733,347			GRFCZD, KCD, Kent, ACOE	Altered stream flow, channel structure& complexity, riparian areas, LWD.	Instream	Instream flow	Chinook	Steelhead, Bull Trout,Orca	Design Restoration Construction, Permitting	\$150,000	Construction	\$1,075,211	Complete Construction	\$1,658,136	2012
Subtotals				\$11,518,586	\$3,781,256	\$1,225,085								\$1,920,875		\$6,841,521		\$8,094,190	
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.																			
Pier 90 Shallow Water Habitat Rehabilitation (NS-1)	1	Protect and expand that area of shallow water habitat. The land comprising shoreline east of Pier 90 would need to be purchases. The riprap and fill would be moved in order to create additional shallow water habitat and the shoreline planted with	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

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Capital Projects																			
Myrtle Edwards Park Small Pocket Beaches/Shallow Water Habitat Rehabilitation (NS-2)	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	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
Beaconsfield-On-The-Sound (project NS-11)	1	Feeder Bluff Protection and Restoration of Beach Feeding Processes in Normandy Park: Purchase and restore one of the last major privately-held undeveloped feeder bluffs along the	Normandy Park	\$500,000	\$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	Feasibility, Technical Design	\$100,000	Acquisition	\$150,000	Construction	\$250,000	
Piner Point Restoration Bulkhead Removal (Project NS-17) - Restoration	1	Remove creosote bulkhead,	King County	\$225,000	225,000	0													
Dockton Heights																			
Burien Seahurst Park Shoreline Restoration, Phase II (Project NS-5) - Design Completed, proposed for construction in 2011, funding secured	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	Burien		\$150,000		Burien, IAC, PSAW, KCD \$150,000 (2007)	Loss of habitat,	Nearshore beach.	Nearshore.	Chinook	Orca, forage fish			Feasibility	\$40,000	Design, engineering, permitting	\$100,000	Const. in 2011
Dockton Road Removal and Feeder Bluff Restoration on Vashon Island (Project NS-19)	1	Remove road and intertidal fill. Acquire upland properties if threatened by erosion. Project depends on Roads deciding to abandon the road.	King County Roads Division					Loss of habitat,	Nearshore embayment.	Nearshore.	Chinook	Orca, forage fish	Feasibility, Technical Design						
Ellisport Creek Fish Passage Improvements on Vashon Island (proj NS-9)	2	Improve fish passage, beach condition, and cleanup hydrocarbons. This is a two phase project: 1) acquisition and 2) cleanup.	King County and/or Vashon-Maury Island Land Trust	Acquisition \$20,000 Cleanup \$500,000 Culvert replacement \$500,000				Altered stream flow.	Instream, riparian.	Fish passage.	Chinook	Orca, forage fish	Acquisition	\$20,000	Cleanup	\$500,000	Culvert Removal	\$500,000	2011
Evaluate How to Improve Habitat Value of Raab's Lagoon/Pocket Estuary on Maury Island (Project NS-14)	3	Work with property owner and neighbors to identify ways to improve habitat.	King County	Costs not available				Loss of habitat,	Nearshore embayment.	Nearshore.	Chinook	Orca, forage fish	Feasibility, Technical Design						
Marine Nearshore Acquisition Capital Projects																	Weed removal and revegetation	COST	
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Dockton (Project NS-17)	2	Protect sites with high habitat resource values - Dockton	King County	Adequate funding secured			Conservation Futures, NOAA	Loss of habitat,	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						2008

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Capital Projects																			
Functioning Nearshore Habitat Protection - South Shoreline (Project NS -11)	1	Protect sites with high habitat resource values - Southwest Drift Cell - South Shoreline	Normandy Park	\$7,000,000	\$2,500,000			Loss of habitat,	Nearshore beach.	Acquisition	Chinook	Orca, forage fish	Feasibility	\$125,000	Acquisition	\$2,000,000	Acquisition	\$4,500,000	2014
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Inspiration Pt. (Project NS-17)	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
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Neill Pt. (Project NS-17)	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						
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Rabb's Lagoon (Project NS-17)	3	Protect sites with high habitat resource values - Rabb's Lagoon	King County				Conservation Futures, NOAA	Loss of habitat	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Piner Pt. (Project NS-17) Acquisition Completed!	2	Protect sites with high habitat resource values - Piner Pt.	King County	Adequate funding secured; need \$100,000 for bulkhead removal			SRFB	Loss of habitat	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						
Functioning Nearshore Habitat Protection on Vashon/Maury Island-Northilla (Project NS-17)	3	Protect sites with high habitat resource values - Northilla	King County	Adequate funding secured			Conservation Futures, NOAA	Loss of habitat	Nearshore beach.	Land acquired	Chinook	Orca, forage fish	Acquisition						
Functioning Nearshore Habitat Protection on Vashon/Maury Island- Pt. Heyer (Project NS-17)	1	Protect sites with high habitat resource values - Pt. Heyer Drift Cell	King County	\$2,400,000	\$1,200,000	250000 (2007)	KC SWM; CFT (2008, submitted); RCO ALEA (2008, 2010 submitted; KC Park Levy (2008, 2010	Loss of habitat,	Nearshore beach.	Land acquired	Chinook	Orca	Acquisition	\$1,500,000	Acquisition	\$1,500,000	Acquisition	\$1,500,000	2008
Subtotals				\$4,636,000	\$220,500	\$531,612								\$2,745,000		\$2,190,000		\$6,100,000	
Middle Green River Subwatershed: Protect/restore habitat that provides refuge and habitat complexity for juvenile salmon over a range of flow conditions and a variety of locations; enhance natural sediment recruitment by reconnecting sediment sources to river; protect and restore spawning and rearing habitat in lower Newaukum and Soos Creeks; maintain regional groundwater recharge and base flows to mainstem Green River.																			
Middle Green River Reach (Projects MG 12, MG-13, MG-14, MG-15, MG-16)	1	Reconnect floodplain area of the Green River allowing natural processes to be re-established including the creation of side-channel habitat and the	King County																
Porter Levee Setback and Floodplain Reconnection (Project MG-17)		Remove (modify) existing levee to facilitate river connection to floodplain. LWD placement and riparian revegetation would be	King County	\$1,500,000			\$1,000,000 KCD; \$500,000 SWM	Loss of Habitat	Floodplain, riparian	Riparian, intream flow	Chinook	Steelhead	Design & Permitting	\$250,000	Construction	\$1,000,000	Construction	\$250,000	2014
Newaukum Creek Mouth Restoration Between Creek Miles 0.0 and 4.3 (Project MG-8) Completed!	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		
Newaukum Creek Restoration Between Creek Miles 0.0 and 14.3 - Both Banks (Project MG-6)		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

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Capital Projects																			
Promote the Planting of Native Trees (Program WW-5)		Plant native trees in the riparian zone/floodplain of the Green River and Soos Creek	King County	\$450,000			\$300,000 KCD; \$150,000 SWM	Loss of Habitat	Riparian	Riparian	Chinook	Steelhead	Construction	\$150,000	Construction	\$150,000	Construction	\$150,000	Ongoing
Setback and Removal of Fenster and Pautzke Levees to Reconnect the Floodplain and Allow Channel Migration near RM 32 (Project MG-18) Completed!	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
Setback and Removal of Fenster and Pautzke Levees to Reconnect the Floodplain and Allow Channel Migration near RM 32 (Project MG-18) Construction planned for 2011/2012	1	Fenster Levee Phase IB - Remove levees, lower the elevation of terraces and construct engineered logjams to reinstate floodplain connectivity and channel migration.		\$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
Setback and Removal of Fenster and Pautzke Levees to Reconnect the Floodplain and Allow Channel Migration near RM 32 (Project MG-18) Construction completed!	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	
Big Spring Creek Restoration (Project MG-7)	1	Construct new stream channel to replace ditch. Connect coldwater springs to Newaukum Creek.	King County	\$3,043,000 estimate			KCD: \$500,000 (estimate); SWM: \$250,000 (estimate); Corps: \$2,293,000	Stream flow patterns. High H2O temperature.	Intream, riparian	Water quality	Chinook	Coho	Construction	\$1,973,000	Construction	\$785,000	Construction	\$285,000	2008
Subtotals				\$20,520,000															
Totals				\$39,924,586															
Non Capital Programs-Not Prioritized																			
Lead entity coordination			Lead entity	\$225,000									Staffing (1 FTE)	\$75,000	Staffing (1 FTE)	\$75,000	Staffing (1 FTE)	\$75,000	Ongoing
Adaptive management and monitoring			Multiple stakeholders	\$600,000									Staffing (3 FTEs)	\$200,000	Staffing (3 FTEs)	\$200,000	Staffing (3 FTEs)	\$200,000	Ongoing
Nearshore Habitat Workshop			King County	\$35,000															
Support Seahurst Environmental Learning Center			City of Burien and Environmental Science Center	\$150-\$200K															
Create incentives Program to Remove Failing Septic Systems on Washon/Maury Island			King County																
Project Management and Public Outreach			WRIA Staff																
Stewardship & Educational Outreach			WRIA Staff																
Water Conservation Incentive Programs			Multiple stakeholders																