

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

This three-year implementation work plan update was developed by the WRIA 6 Salmon Technical Advisory Group (TAG) and lead entity staff as a planning tool for local and regional WRIA 6 salmon recovery partners. It summarizes the priorities and funding needs for the next three years of our ten-year work plan (2008-2010).

This version of the implementation work plan (IWP) includes many of the projects submitted in the 2007 version of the work plan as well as additional projects that have been started, or identified as important to local salmon recovery partners over the past year. Expanded project categories include additional acquisition projects; restoration/enhancement design and construction projects related to past or on-going assessments; additional restoration/enhancement feasibility projects; and an expanded list of non-listed species projects.

Top tier projects are those that address priority actions, in priority geographic areas, working to protect priority ecosystem processes, and priority habitats as identified in the WRIA 6 Salmon Recovery Plan. There are several suites of actions identified in this matrix that address key first steps, two of which are the targeted integrated nearshore protection projects and the site specific feasibility assessments. Project sequencing and prioritization schemes are being developed by the local TAG.

This year's IWP update reflects project funding secured through the Salmon Recovery Funding Board (SRFB) and Puget Sound Acquisition and Restoration (PSAR) Fund for nearshore acquisitions along the Whidbey shoreline of Skagit Bay; for protection planning for the nearshore habitats on South Camano; for assessment of watershed wide juvenile Chinook origins; and for removal of known derelict nets along the west side of Whidbey. It also reflects funding secured through the Estuary and Salmon Restoration Program, supplemented by a SRFB location scope change, for completion of the Crescent Harbor Marsh restoration project. In addition, there are a number of projects that have received partial funding from partner budgets. Based on the report on the 2005 & 2006 West Whidbey Fish Use Assessment, the local scoring criteria for SRFB projects has been updated to prioritize projects that protect critical habitats and ecosystem processes. The revised criterion is attached. Future review of the Island salmon recovery geographic and habitat priorities are planned to take place following completion of the juvenile Chinook origins project in 2010. A summary and analysis of all the nearshore fish use data for WRIA 6 is included as a task in this project. Funding is being sought to fully fund the genetic analysis of chum samples taken along west Whidbey in 2005-06 to determine whether or not these fish from Hood Canal summer runs. Initial work on an adaptive management framework is being carried out by graduate students from the University of Washington School on the Environment. The plan also contains a number of in-stream fish blocking projects throughout the WRIA 6 watershed.

The matrix does not contain any capital hatchery projects. In addition, to date, there has been limited discussion about H-integration in WRIA 6. As a nearshore watershed that supports independent Chinook populations in nearshore and marine waters, this issue has been postponed until there is better information about H-integration in neighboring watersheds. This IWP does not contain any in-stream flow protection projects because none were identified as high priorities in the WRIA 6 Watershed Plan.

Goals and Objectives

Learning more about salmon use of WRIA 6 habitats, setting measurable goals, establishing a robust protection strategy, and working with the community to find solutions that work for fish and people are the primary goals of the 2005 Watershed Resource Inventory Area (WRIA) 6 Multi-Species Salmon Recovery Plan (SRP).

It is likely that WRIA 6 provides critical rearing and migratory function to all of the twenty-two Chinook populations in Puget Sound and early science suggests the ten Whidbey Basin populations use WRIA 6 marine shorelines extensively, particularly during early life stages when they are most vulnerable. WRIA 6 habitats support the abundance, productivity, spatial structure and diversity of the Puget Sound Chinook evolutionarily significant unit. Initial habitat and marine process analysis suggests that areas of WRIA 6 still provide a high degree of function and value. These areas are top priority for stewardship and voluntary protection actions, and already receive protection thru various regulatory programs. While

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

protection is the primary focus, it is also understood that some restoration may be necessary to reach recovery targets. Project sponsors have identified and are ready to proceed with restoration feasibility assessments and enhancement activities as a part of this 3-year implementation plan.

There is still much to learn. The 2005 SRP hypothesizes that those areas closest to the major river deltas (the east side of Whidbey and Camano Islands) are of highest value in providing early juvenile rearing habitats. We call these areas Geographic Area 1. Results from 2005 and 2006 research on the west side of Whidbey show that juvenile salmon use the central section of West Whidbey extensively. This area is currently in Geographic Area 3, the lowest geographic priority in the 2005 SRP. The results have prompted a revision of the SRFB scoring criteria, decreasing the value of geographic area criteria and making the range between geographic areas smaller (see attached ranking criteria). Research focused on fish origins is still critical to developing a robust salmon recovery strategy and plan. Once this research is complete, a synthesis of all of the fish distribution data collected in WRIA 6 will be done. This data will be used to craft and revise the 2010-11 WRIA 6 Salmon Recovery Plan.

Involving the community and gaining participation of private citizens is important to the success of the WRIA 6 salmon recovery plan. Outreach to WRIA 6 communities is necessary to develop salmon recovery solutions that will support multiple interests. A critical component of the 10 year plan is to build relationships, foster an understanding of the key role WRIA 6 plays in regional salmon recovery, and implement projects that demonstrate positive outcomes for fish and people. An assessment of community knowledge and values is being conducted as a part of the WRIA 6 Watershed Integration project. The results of this assessment will be used as a starting point for developing a formal outreach and education plan.

Chinook are recognized as the most prevalent ESA listed species using WRIA 6 habitats. Projects that address forage fish habitat, particularly sand lance and herring spawning habitat, are included in the main listing of projects because of the importance of forage fish as components of the Island County marine ecosystem and the food web that supports salmon. Since the WRIA 6 plan is a multi-species plan, a small number of non-listed species projects are included in the last section of the matrix

The 3-year work program includes both capital and non-capital activities that are of high priority in the near-term. The list contains many non-capital projects that are essential for developing quantifiable goals, establishing partnerships, and executing the long-term protection program. The capital projects include protecting ecosystem processes that support salmon, protecting nearshore habitats that salmon utilize, and ensuring opportunities for future enhancement/restoration in areas where key habitats have been altered and land-owners are willing participants. Protection activities focus on voluntary actions that complement the shoreline regulations adopted by Island County in 2001 and critical areas regulations being updated this year. The salmon recovery program is directly involved in updating these rules.

The non-capital projects include protection planning, nearshore science, education and outreach activities, and basic organizational capacity. Protection of existing function is a combination of regulatory and voluntary efforts. Assessment and planning is necessary to determine where there are gaps in protection and how to advance them in a manner supported by the community. One area of focus is to develop public land habitat conservation plans to ensure our public land management supports recovery objectives. Research needs in the 3-year timeframe are targeted to support the development of quantifiable goals such that progress can be measured and habitat protection ensured. Education for high priority shoreline reaches will focus on learning more about community willingness to participate in protection and enhancement projects, targeted outreach to shoreline landowners in Geographic Area 1, and community outreach about nearshore functions and how local actions support salmon recovery efforts.

Securing funding for organizational capacity for local salmon recovery partners continues to be a critical need identified in this matrix. The Future Habitat Project Development section addresses the need for funding for groups that have minimal staff capacity to participate in WRIA 6 salmon recovery activities, and groups that have historically chosen not to participate in the WRIA 6 process due to funding limitations. These groups provide critical scientific, technical, or policy support necessary for plan

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

implementation. Identifying and securing basic capacity funding is a critical step if local salmon recovery activities are going to deliver protection and restoration results in this timeframe.

Activities in the 3-year implementation work program are screened based on the hypotheses described in the plan. This means that the east side of Camano and Whidbey Islands are the highest priority with decreasing priority as one moves west. The plan provides hypotheses about the key nearshore habitats and processes. It is unlikely that these will change significantly in the three-year timeframe, though it is likely that spatial specificity and clarity about what is truly necessary to protect habitat and process function will improve. Research in this timeframe may also suggest key activities necessary to support individual populations. Many activities in this matrix are beginning steps – protection planning, review of public land management plans, and outreach to landowners. These activities are critical for strategic implementation of a wide range of protection activities.

Activities in this work program support the goals, objectives, and actions in the SRP. This work program provides an updated estimate of the overall funding necessary to move salmon recovery activities forward in WRIA 6 under the SRP. This list reflects the projects and programs that support regional Chinook recovery as they have been identified by the organizations that are currently actively involved in salmon recovery in WRIA 6. Many of the projects target protection and research efforts in the highest priority geographic area. The multi-species section of the list represents projects that are currently on the ground or projects where applications have been submitted to one or more funding program. Capacity funding continues to be a critical factor in the ability of organizations to participate in WRIA 6 salmon recovery processes. In addition, tribal funding has provided additional focus on identifying potential nearshore lagoon restoration sites within the Whidbey Basin.

The total cost of the capital need in this updated IWP is approximately \$9.4 million for the next 3 years. Approximately \$3.4 million of this has already been secured, leaving a capital need of just under \$6 million. The capital projects list reflects projects that potential project sponsors are ready to implement if funding is secured. The costs listed for many of the projects were provided by project sponsors and in some cases are rough estimates of project costs. Funding for high value nearshore acquisitions and/or easements in Geographic Area 1 continue to be a key component of this capital projects list. Nearshore habitat acquisition is an expensive, but sometimes necessary activity in our rapidly developing shoreline communities. The total cost of the non-capital need in this updated IWP is approximately \$2.5 million, less than one million has been secured. The costs listed in this section of the plan are critical for providing human capacity to accomplish both capital and non-capital projects; and for projects that will address non-capital protection activities and targeted education activities.

The following priorities are listed in column two of the IWP.

Key to Priority Tier Abbreviations

A = Action Priorities

- 1 = Marine Fish Distribution, Protection, Capacity Funding, Targeted Shoreline Education
- 2 = Restoration, Habitat Assessments, General Education

GA = Geographic Area

- 1 = Skagit Bay, Port Susan
- 2 = Saratoga Passage, SW Whidbey, NW Whidbey
- 3 = Central-West Whidbey

H = Habitat Priorities

- 1 = Mudflats, marshes, pocket estuaries
- 2 = Sand/gravel beaches, sandflats, instream/riparian
- 3 = cobble beaches, rocky shore, uplands

P = Process Priorities

- 1 = Shoreline Sediment Transport, Tidal Exchange, Hydrology
- 2 = Nutrient Cycles, Food Web, Animal/Plant Communities
- 3 = Upland / Coastal Stream Processes

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

Capital Projects-Habitat

At this time the WRIA 6 habitat goal is still quite general: “Over the long term, achieve a net increase in salmon habitat through protection, enhancement, and restoration of naturally-functioning ecosystems that support self-sustaining salmon populations and the species that depend on salmon”. If further habitat losses are to be avoided, a continued commitment to long-term protection must be encouraged. In addition, where we have significant scientific knowledge and local commitment to restoration of key nearshore environments, we should pursue these projects.

Habitat Restoration

Goal: Over the long-term, enhance and restore Chinook, sand lance, and herring habitat functions where there is supporting scientific knowledge and local commitments. Protect and enhance WRIA 6 marine food webs for all salmon that migrate through WRIA 6 marine waters.

Strategy: Pursue restoration projects as identified through ongoing feasibility assessments and continue ongoing habitat projects. Pursue actions that coincide with ongoing regional efforts, such as ghost nets removal, creosote debris removal in key nearshore habitats, and Spartina control.

Results: Restoration of salmonid access to 200 acres of marsh at Crescent Harbor (north Saratoga Passage). Enhancement and restoration of approximately 1,000 feet of sand and gravel beach at Cornet Bay, just west of active forage fish spawning area. Additional targeted restoration projects where landowner willingness is established. Removal of ghost nets from salmon migration corridors. Removal of creosote debris from sand lance spawning beaches and herring spawning areas. Continued Spartina control in juvenile salmon rearing habitats.

Magnitude/Sequence: The actions in this list are initial steps towards a net increase in Chinook, sand lance, and herring habitats in Island County. They are also vital in the building of positive examples of how restoration can occur in a manner the community supports. Marine debris and invasive species can dramatically impact nearshore ecosystem functions for salmon. All of these actions coincide with ongoing regional efforts.

Funding: Total estimated project costs are approximately \$3.8 million over the next 3-year period; approximately \$1.18 million has been secured

Changes between 2007 and 2008: Only one project has been added to this list. Funding has been secured for an initial phase of derelict net removal and for the completion of the Crescent Harbor Marsh Restoration project.

Habitat - Acquisition for Future Restoration

Goal: Provide permanent protection for nearshore habitats in areas where there is opportunity for significant restoration.

Strategy: Acquire and/or gain conservation easements where nearshore habitats provide an opportunity to increase the amount of nearshore habitat accessible to fish, focusing on opportunities to restore high priority habitats such as pocket estuaries and marshes.

Results: Acquisition of one or more habitat areas that will lead to pocket estuary and/or marsh restoration in Geographic Area 1.

Magnitude/Sequence: Opportunities to purchase, or gain conservation easements on nearshore habitat with restoration potential, should be pursued where the community shows a willingness to participate.

Funding: Total estimated project costs are approximately \$2.2 million over the next 3-year period; approximately \$1.36 million has already been secured for acquisitions in Skagit Bay.

Changes between 2007 and 2008: The Whidbey Camano Land Trust secured funding for two acquisitions on the northeast shore of Whidbey.

Habitat – Acquisition for Protection

Goal: Provide permanent protection for high quality nearshore habitats that are at risk.

Strategy: Acquire and/or gain conservation easements on high quality nearshore habitats that are at risk, focusing on top priority habitats.

Results: Acquisition of pocket estuary, marsh, and upland habitat in Port Susan, contiguous to over 7,000 acres of protected nearshore habitat.

Magnitude/Sequence: Protecting high quality habitats is critical to the overall goal of a net increase in

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

habitat. Opportunities to purchase, or gain conservation easements on high quality nearshore habitat, should be pursued as soon as possible.

Funding: Total estimated project costs are approximately \$3.4 million over the next 3-year period; approximately \$900,000 has already been secured for acquisitions in Port Susan.

Changes between 2007 and 2008: Acquisition costs have significantly increased for the Livingston Bay project and local watershed organizations are actively pursuing additional funding.

Non-Capital Projects

Harvest Management Support

Goal: Assess harvest practices to inform improved management of fisheries.

Strategy: Assess terminal area incidental harvest using test fishery procedures.

Results: Improve management of terminal area fisheries.

Magnitude/Sequence: Small scale test fishery proposed to assess specific Whidbey Basin populations.

Funding: Total estimated project costs are approximately \$60,000 over the next 3-year period; the project sponsor for the Port Susan project has secured funding.

Changes between 2007 and 2008: This is the first year that harvest management projects have been a part of the 3-year IWP in WRIA 6. This project is also on the Snohomish Basin 3-year IWP.

Future Habitat Project Development:

Goal: Over the long-term, enhance and restore Chinook, sand lance, and herring habitat functions where there is supporting scientific knowledge and local willingness.

Strategy: Many of the top priority nearshore restoration projects in WRIA 6, restoration of pocket estuary and marsh habitats, are constrained by existing beachfront communities. Securing landowner support for restoration projects require a detailed, site specific feasibility study. Studies are necessary to identify and alleviate community concerns, infrastructure constraints, and evaluate design alternatives.

Results: Secure landowner support, establish outreach to neighboring landowners, and evaluate project alternatives at potential project sites bordering Skagit Bay, Saratoga Passage, and West Whidbey. Develop initial project designs for sites where landowner willingness is established and site evaluation shows significant benefit for salmon.

Funding: Total estimated project costs are approximately \$425,000 over the next 3-year period; approximately \$240,000 has already been secured.

Changes between 2007 and 2008: Four of these projects are ongoing and next steps should be identified for these sites by the end of 2008.

Habitat Protection

Goals: Complement regulatory protections through implementation of voluntary protection strategies along targeted shoreline reaches. Protect nearshore habitat through regular monitoring of habitat quality. When possible, incorporate salmon recovery information in updates of local code. Ensure that local, state, and federal agencies manage resources on public lands in a manner that supports salmon recovery.

Strategies: Evaluation of nearshore protection needs and outreach to landowners to provide wide range of technical assistance. Initiate strategic implementation of stewardship outreach and other protection actions in these areas. Establish a local citizen assessment team to provide early assessment in case of nearshore and marine oil spills. Work with local, state, and federal agencies to evaluate and update habitat management plans on public lands.

Results: Establish methods for nearshore protection evaluation. Where there is a demonstrated willingness, protect high-quality nearshore habitats in areas of multiple private landowners. Preparation for early assessment of oil spill response needs. Establish assurances that management action on publicly owned nearshore properties protects known Chinook, sand lance, and herring habitats.

Magnitude/Sequence: Initial integrated protection projects focus on Geographic Area 1 which covers 26 Whidbey and Camano drainage basins that flow to Skagit Bay and Port Susan (approx. 40 sq. miles) and the nearshore areas along the shoreline of these basins. These nearshore areas are some of the widest in Island County, have the highest concentration of sand lance spawning sites, are recognized by WDFW as herring spawning habitat, and are generally within 5 miles of one of the Whidbey Basin natal rivers.

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

This area is hypothesized to be critical for juvenile Chinook from the Skagit, Snohomish, and Stillaguamish rivers. These activities will provide templates for evaluation of the rest of the WRIA 6 nearshore. Over the last several years the importance of oil spill preparedness has been highlighted throughout the Sound. Early assessment and response is critical during spill events.

State and federal agencies own and manage significant areas of nearshore in Island County. While these agencies already address salmon needs in their management practices, the projects identified in this section are intended to broaden the relationships between agencies and local technical advisors and identify opportunities for additional protection and/or enhancement.

Funding: Total estimated project costs are approximately \$1.14 million over the next 3-year period; approximately \$400,000 has already been secured

Changes between 2007 and 2008: Funding was secured for protection planning on South Camano and the Island County Critical Areas Ordinance Update for wetlands was completed.

Watershed Plan Implementation and Coordination

Goal: Coordinate and implement salmon recovery projects in WRIA 6. Secure basic level funding for local/regional organizations, allowing staff participation in WRIA 6 salmon recovery work. The organizations that are requesting capacity funding are keys to implementing high priority activities, but have limited capacity to participate in protection, restoration, and science planning processes and project review.

Strategy: Maintain funding for salmon recovery staff. Work with regional organizations to secure funds for other organizations that have expertise in basic salmon recovery support (protection, restoration, and/or nearshore science). Secure funding for development and future implementation of adaptive management program for the WRIA 6 salmon recovery plan.

Results: Increased efforts around targeted salmon and nearshore focused stewardship outreach, landowner technical assistance, project review, data synthesis and distribution, development of quantifiable habitat goals, key research needs, protection strategy, and adaptive management activities as needed. Continuation of local coordination of the following: Salmon Recovery Funding Board process; the Community Salmon Fund process; coordination between local salmon recovery partners, Puget Sound regional staff, and state Department of Fish and Wildlife Lead Entity staff.

Magnitude/Sequence: The groups that are requesting funding at this time are actively participating to some extent in salmon recovery activities, but are facing the need to cut back on their participation due to funding constraints. Given the small size and rural character of WRIA 6, capacity funding will continue to be a key issue, if the plan is to be implemented. Initial development of an adaptive management framework is being pursued through a partnership between the University of Washington School on the Environment and the Marine Resources Committee. Recommendations from the framework may be utilized in future salmon recovery efforts.

Funding: Total estimated project costs are approximately \$1.5 million over the next 3-year period; approximately \$460,000 has already been secured

Changes between 2007 and 2008: \$55,000 in capacity funding for developing capital projects was secured through the Puget Sound Acquisition and Restoration funds, this will be distributed to project sponsors as small grants in the spring of 2008. Initial steps are underway to develop recommendations needed to create a local adaptive management framework.

Outreach and Education

Goal: Provide outreach to residents and visitors throughout WRIA 6 about the importance of nearshore habitats and opportunities to protect and restore habitats. Provide targeted outreach to residents and visitors throughout WRIA 6 about the importance of nearshore habitats to Chinook, sand lance, and herring. Landowner stewardship programs will focus first on communities in Geographic Area 1.

Strategy: Complete an assessment of citizen knowledge about salmon in WRIA 6 to gauge the level of landowner willingness to participate in voluntary protection, enhancement, and restoration projects. Develop and implement targeted outreach strategies using existing programs, and when necessary, new materials and programs.

Results: Provide a baseline summary of citizen knowledge to salmon recovery partners and elected officials in WRIA 6. Increase community awareness of local salmon recovery issues, specifically the habitat needs of Chinook, sand lance, and herring; and links between upland and nearshore habitats. Direct shoreline landowner outreach to communities/homeowners associations in Geographic Area 1.

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

Magnitude/Sequence: This activity is meant to expand local knowledge about the community and make use of this to target current programs and develop complimentary programs. Outreach to local schools, and other community venues provide vital support for local salmon recovery efforts. The activities identified here are meant to target current and new programs.

Funding: Total estimated project costs are approximately \$384,000 over the next 3-year period; approximately \$43,000 has already been secured

Changes between 2007 and 2008: The baseline assessment is in process. Targeted shoreline landowner workshops were presented in 2007 and are planned for 2008.

In stream Flow Protection

Goal: Maintain freshwater resource quantities sufficient to support salmon recovery and other beneficial uses.

Strategy: Assessment of coastal watershed freshwater resources to inform future project development.

Results: Increased habitat data about freshwater connectivity.

Magnitude/Sequence: This issue is a data gap for WRIA 6 related to habitat structure and function.

Funding: Total estimated project costs are approximately \$40,000 over the next 3-year period; funds have not yet secured funding for this project.

Changes between 2007 and 2008: This is the first year that watershed assessment has been on the 3-year IWP.

Habitat Project Monitoring

Goal: Initiate monitoring activities to evaluate salmon recovery projects in WRIA 6.

Strategy: Ensure follow-up monitoring occurs after projects are completed.

Results: Data from this monitoring program will be used as a part of the future WRIA 6 salmon recovery adaptive management program.

Magnitude/Sequence: These activities are the initial steps towards a robust project monitoring program.

Funding: Total estimated project costs are \$75,000 over the next 3-year period; funds have not yet been secured for this project.

Changes between 2007 and 2008: None

Stock Monitoring Support

These activities should be a part of a regional monitoring program

Goal: Initial quantification of the relationships between nearshore habitat functions and Chinook life histories based on data collected over the last five years.

Strategy: Pursue fisheries science collaboratively at sub-region scale, addressing the Whidbey Basin and the west side of Whidbey as distinct sections of WRIA 6. Continue marine fish distribution surveys, identify stock origins, and initiate an evaluation of marine trophic interactions as an initial step in H-integration.

Results: Initial quantification of habitat goals and qualitative statement about likely VSP responses.

Magnitude/Sequence: The funding amounts listed with these projects address the funding necessary for research in WRIA 6. Local activities should be linked to actions throughout each sub-region to provide the best results. These activities are necessary steps towards quantifiable recovery goals.

Funding: Total estimated project costs are approximately \$1.5 million over the 3-year period; approximately \$1 million has been secured

Changes between 2007 and 2008: Monitoring in Skagit Bay as an Intensively Monitored Basin is ongoing and funding for the juvenile Chinook origins project was secured through the 2007 SRFB/PSAR grant round.

Research

Goal: Increase specificity in identifying projects and habitat priorities; increase knowledge about species that support salmon in the nearshore.

Strategy: Local understanding of the ways in which nearshore habitats provide functions for salmon is continuing to evolve. This section identifies two types of research: 1) hydrologic modeling for the Whidbey Basin and for Admiralty Inlet, which are considered to be key steps towards increasing our

March 2008
WRIA 6 (Island) 2008 3-Year Implementation Work Plan Narrative

understanding of benefits to fish and the dynamics at individual sites; and 2) specific assessments on habitat components – forage fish and eelgrass.

Results: These research projects will be integral to creation of adaptive management of the salmon recovery plan.

Magnitude/Sequence: Completing these projects are critical steps to increasing our ability to best prioritize habitat projects.

Funding: Total estimated project costs are approximately \$30,000 over the 3-year period; little or no funding has been secured.

Changes between 2007 and 2008: The hydrologic model project has been combined into one project description. Both forage fish projects and the eelgrass monitoring project have been added to the IWP this year.

Priority Projects and Programs Benefiting Non-Listed Species

Goal: Protect and restore upland hydrology, water quality, and riparian habitats with value for multiple salmonid species, focusing on projects in salmonid bearing streams and projects with significant outreach components.

Strategy: The actions listed in this section target upland hydrology and water quality; and instream fish passage and riparian projects. These projects represent some of the key activities for both listed and non-listed species being pursued by local salmon recovery partners.

Results: Improved upland hydrology, water quality and riparian habitats benefiting salmon in the nearshore and the health of Puget Sound.

Magnitude/Sequence: Protecting and enhancing water quality and quantity feeding the nearshore is a key priority for maintaining the health of Puget Sound.

Funding: Total estimated project costs are approximately \$2.5 million over the 3-year period; approximately \$1.5 million has been secured

Changes between 2007 and 2008: Most of the projects added to this list have secured funding and focus on water quality improvements.

2008 three-year Watershed Implementation Priorities Template																			
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008		2009		2010		Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting
									Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost					
Capital Projects																			
Habitat Restoration																			
Remove several miles of dikes to restore over 760 acres of intertidal and riverine wetlands as well as riparian revegetation at the mouth of the Nisqually River.	1	1, 2, 3, 7	Nisqually Refuge Estuary Restoration 760 acres	Ducks UNisqually Land Trustd / USFWS	\$12,000,000	\$5,000,000	\$7,000,000	Federal/Ducks Unlimited/SRF B/ESRP/PSAR	project construction	\$3,000,000	project construction	\$7,000,000	project completion	\$2,000,000	2010	Estuary river delta	wetland	chinook, chum, cutthroat, Bull Trout	steelhead, coho, pink
Revegetate surge plain forest and remove final remnant dikes and bridge pilings on east side of estuary	1	1,2,3,7	Red Salmon Slough Estuary Restoration Phase 3	Nisqually Tribe	\$505,000	\$145,000	\$360,000	WRP, NFWF, ESRP	revegetation, design	\$200,000	reveg, permitting, secure funding for construction	\$120,000	Revegetation, dike/bridge removal	\$185,000	2010	Estuary river delta	wetland	chinook, chum, cutthroat, Bull Trout	steelhead, coho, pink
Secure landowner willingness, design and construct next phase of restoration of Mashel in the Eatonville Reach from Smallwood Park to Little Mashel confluence. Add more log-jams and increase off-channel habitat.	1	1,3	Mashel Eatonville Reach in-stream Restoration Phase II	South Puget Sound Salmon Enhancement Group (SPSSEG)	\$950,000	\$859,888	\$90,112	SRFB	project design	\$100,000	design, permitting, securing construction funds	\$100,000	project construction, riparian reveg	\$750,000	2011	Instream, Riparian	In-stream Flow, Riparian	Coho, Chinook, Steelhead, Cutthroat	Pink
Restore first mile of Lower Ohop Creek on Nisqually Land Trust property adjacent to Hwy. 7. Including channel reconstruction and valley floor revegetation	1	1,3,4,5,6	Lower Ohop Valley restoration - Phase I	SPSSEG	\$2,700,000	\$400,000	\$2,300,000	SRFB, Pierce Conservation District Assessment, PSAR	project design, permitting, construction, revegetation	\$1,700,000	riparian/wet and revegetation, channel monitoring and inspection	\$200,000	Revegetation/ adjacent wetland restoration, construction	\$800,000	2010	instream, riparian, upland, wetland	Instream wetland, riparian, Upland-Wetland, Water Quality Improvement, Upland-Agriculture	Coho, Steelhead, Cutthroat, Chinook	Pink
Restore 1.5 miles of Lower Ohop Creek below Hwy. 7. Including channel reconstruction and valley floor revegetation	1	1,3,4,5,6	Lower Ohop Valley restoration - Phase II	SPSSEG	\$2,700,000	\$2,700,000	\$0	Unknown	secure funds	\$0	secure funds	\$0	project construction (figure represents first year implementation estimate only)	\$2,700,000	2011	instream, riparian, upland, wetland	Instream wetland, riparian, Upland-Wetland, Water Quality Improvement, Upland-Agriculture	Coho, Steelhead, Cutthroat, Chinook	Pink
Restore over 2 miles of Lower Ohop Creek upstream of first two phases of project. Including channel reconstruction and valley floor revegetation	1	1,3,4,5,6	Lower Ohop Valley restoration - Phase III	SPSSEG	\$3,150,000	\$3,150,000	\$0	Unknown	secure funds	\$0	secure funds	\$0	project construction (figure represents first year implementation estimate only)	\$3,150,000	2011	instream, riparian, upland, wetland	Instream wetland, riparian, Upland-Wetland, Water Quality Improvement, Upland-Agriculture	Coho, Steelhead, Cutthroat, Chinook	Pink
Oversee all riparian restoration projects in the Nisqually watershed. Work with all interested organizations to restore a minimum of 15 acres of riparian and wetland buffers and maintain projects for 3 years. This includes all cost incl. staff and crew time, equipment	1	1,3,4,5,6	Nisqually vegetation management	Nisqually Tribe	\$1,075,791	\$925,791	\$150,000	Nisqually Tribe	groundtruth, review assessment, prioritize mainstem reveg site, revegetate priority areas	\$341,250	continue to implement planting plans, maintain plantings	\$358,313	continue to implement planting plans, maintain plantings	\$376,228	on-going	Riparian	Riparian	Chum, Coho, Chinook, Steelhead, Pink, and Cutthroat	
channel migration zone restoration	1	1,3,5	Northern Powell Creek Restoration	Nisqually Land Trust (Nisqually Land Trust)	\$52,000	\$44,200	\$7,800	Nisqually Land Trust	permits, remove rip-rap, buildings, concrete and fences, prep site for planting	\$15,000	planting	\$37,000			2010	instream, riparian, upland	Instream, riparian, upland-vegetation	chinook,	all salmonids
Remove old bridge abutment, road culverts and decommission old Weyerhaeuser haul road to reconnect Powell Creek and open up Nisqually mainstem floodplain.	1	1,3,7	Powell Creek/Nisqually mainstem off-channel reconnection	Nisqually Land Trust/SPSSEG	\$212,000	\$20,000	\$192,000	SRFB, USFWS, PSC (Pacific Salmon Commission)	construction	\$192,000	revegetation, restoration maintenance	\$15,000	restoration maintenance	\$5,000	2010	Instream, Riparian, Upland, Wetland	Fish Passage, In-Stream Flow, In-Stream Wetland, Upland Wetland	Coho, Chinook, Steelhead, Cutthroat	Chum

2008 three-year Watershed Implementation Priorities Template																			
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008	2009	2010	Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting			
									Year 1 Scope	Year 1 Cost	Year 2 Scope						Year 2 Cost	Year 3 Scope	Year 3 Cost
Restoration of access to small pocket estuary in South Sound, just west of Nisqually Delta on Thurston County shoreline.	1	2,7	Beachcrest pocket estuary restoration	SPSSEG	\$208,500	\$170,000	\$38,500	SRFB	complete design	\$38,500	identify, secure construction funds, construct project	\$160,000	monitor and/or identify funding	\$10,000	2010	Nearshore Embayment	Fish Passage, Nearshore	Chinook	Coho, Steelhead, Bull Trout, Chum, Pink, Cutthroat Trout
Identify and develop restoration projects including: estuarine reconnection and enhancement, marine riparian planting, beach enhancement, removal of softening of shoreline armor.	1	2	Nisqually - Pt. Defiance nearshore restoration project	SPSSEG	\$1,675,000	\$1,500,000	\$175,000	SRFB, PSAR, USFWS, NFWF	assessment, feasibility, preliminary design	\$175,000	secure design funds, develop full design	\$500,000	secure construction funds	\$1,000,000	2010	Riparian, Nearshore Beaches, Nearshore Embayments	Fish Passage, Riparian, Nearshore	Chinook, Chum, Bull Trout	Coho, Steelhead, Pink, Cutthroat Trout, Sand Lance and Surf Smelt
Recreate historic connection between the Nisqually mainstem and Harts Lake Creek	2	1,3,7	Nisqually River Wilcox Reach Side-channel	SPSSEG/Tribe	\$275,000	\$275,000	\$0	SRFB, others	Feasibility study and design	\$50,000	permitting, securing construction funds	\$25,000	project construction	\$200,000	2011	instream	fish passage, instream-wetland	Chum, Coho, Chinook, Steelhead	Pink, Cutthroat
Restoration of the riparian buffer along a small strip of the Nisqually mainstem	2	3	Hahn Restoration	Nisqually Land Trust	\$15,000	\$12,750	\$2,250	Nisqually Land Trust	weed control	\$10,000	planting	\$5,000			2009	riparian, upland	riparian, upland-vegetation	chinook,	all salmonids
25 acre riparian restoration at a small pocket estuary	2	2,3	Hogum Bay Restoration	Nisqually Land Trust	\$30,000	\$25,000	\$5,000	EMT	nothing	\$0	cultural survey, inventory and management plan	\$7,000	weed control and planting	\$23,000	2012	nearshore embayment, riparian, upland	riparian	Chinook, Chum, Bull Trout, Cutthroat	Coho, Steelhead,
Farm planning and implementation focused on high priority salmon reaches	2	1,3,4,5,6,7	Nisqually Basin farm planning	Conservation Districts	\$680,000	\$680,000	\$0	unknown	landowner outreach, farm plan development	\$220,000	landowner outreach, farm plan development, plan implementation/cost share	\$226,600	landowner outreach, farm plan development, plan implementation/cost share	\$233,400	on-going	In-Stream, Riparian, wetland, upland	riparian, water quality improvement project, upland agriculture,	all salmonids	
155 acre mainstem, off channel and migration zone restoration	2	3,4,5,6	Wilcox Flats Nisqually River mainstem and off channel restoration	Nisqually Land Trust	\$100,000	\$85,000	\$15,000	Nisqually Land Trust	weed control and planting	\$35,000	debris removal, weed control and planting	\$35,000	weed control and planting	\$30,000	2012	riparian, upland	riparian, upland-vegetation	chinook,	all salmonids
110 acre restoration and public access project	2	1,3,5	Yelm Shoreline Land Trust restoration project	Nisqually Land Trust	\$200,000	\$170,000	\$30,000	Nisqually Land Trust	project design and permits	\$50,000	begin restoration and project implementation	\$25,000	restoration and project implementation	\$125,000	2012	instream, riparian, upland	fish passage, riparian	chinook,	all salmonids
Replace partial fish barrier at Horn Creek. A man-made waterfall at rivermile 1.0 precludes most salmon from migration upstream.	2	1,7	Horn Creek Fish Passage Project	Pierce Co.	\$132,000	\$132,000	\$0	Unknown	secure funds, start designs	\$15,000	obtain permits, complete final designs	\$25,000	construction and replanting of site	\$92,000	2010	instream	Fish passage	Coho, Steelhead, Chum	Cutthroat, Chinook, Pink
Replace partial fish barrier culvert on Brighton Creek under Harts Lake Loop Road with a fish-friendly culvert	2	1,7	Brighton Creek Culvert Replacement Project	Pierce Co.	\$820,000	\$820,000	\$0	Unknown	secure funds, start designs	\$15,000	obtain permits, complete final designs	\$25,000	construction and replanting of site	\$780,000	2010	instream	Fish passage	Coho, Steelhead,	Cutthroat
Identify and eradicate invasive knotweed in the Nisqually River watershed, with a focus in the riparian buffer and floodplain of salmon-bearing streams	2	3,4,5	Japanese Knotweed eradication	Pierce Co. Noxious Weed Board	\$75,000	\$50,000	\$25,000	Community Salmon Fund	identification and control	\$25,000	identification and control	\$25,000	identification and control	\$25,000	2010	riparian, upland, wetland	instream, wetland, upland	chinook, coho cutthroat, steelhead	pink, chum
Annually Replant 3 to 5 acres of reed canary grass wetlands of the lower Tanwax creek valley.	2	3,4,5,6	Tanwax Creek Riparian restoration	Multiple potential sponsors	\$96,000	\$96,000	\$0	unknown	revegetate stream channel and maintain	\$31,000	revegetate stream channel and maintain	\$32,000	revegetate stream channel and maintain	\$33,000	2018	riparian, wetland	riparian, wetland, water quality improvement	Coho	Cutthroat, Chinook, steelhead
Restore the riparian forests along the lower Red Salmon Creek and all its tributaries on the Nisqually Land Trust properties.	3	1,3,4,5,6	Red Salmon Creek/Wash Creek restoration phases IV and V	Nisqually Land Trust	\$50,000	\$0	\$50,000	USFWS, NFWF Community Salmon Fund, Lone Star mitigation funds	phase IV	\$10,000	finish phase IV, begin phase V	\$30,000	finish phase V	\$10,000	2011	Riparian	Riparian	Chum	Coho, Steelhead, Cutthroat

2008 three-year Watershed Implementation Priorities Template																			
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008	2009	2010	Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting			
									Year 1 Scope	Year 1 Cost	Year 2 Scope						Year 2 Cost	Year 3 Scope	Year 3 Cost
Enhance the salmon food source by distributing 30000 pounds of salmon carcasses annually into the most utilized and under-nourished salmon streams.	3	5	Salmon Carcass nutrient enhancement	Nisqually Tribe	\$77,273	\$57,273	\$20,000	Nisqually Tribe	store carcasses, organize volunteer salmon carcass distribution	\$25,000	store carcasses, organize volunteer salmon carcass distribution	\$25,750	store carcasses, organize volunteer salmon carcass distribution	\$26,523	on-going	In-Stream, Riparian	Nutrient Enrichment	Coho, Steelhead, Cutthroat, Chinook	Chum, Pink
Identify and eradicate invasive plant species on the Nisqually Wildlife Refuge	3	3,4,5	Invasive species management at NWR (obj. 1.4)	USFWS	\$222,000	\$222,000	\$0	Unknown	identification and control (1FTE plus operational costs)	\$72,000	identification and control (1FTE plus operational costs)	\$74,000	identification and control (1FTE plus operational costs)	\$76,000	on-going	Estuary river delta	wetland	chinook, chum, cutthroat, bull trout	pink, coho, steelhead,
Boundary protection and restoration	3	1,3,4,5	Nisqually Mainstem Land Trust Boundary protection and restoration	Nisqually Land Trust	\$45,000	\$38,000	\$7,000		surveys, trash removal and fencing	\$40,000	weed control and planting	\$5,000			2010	riparian	riparian, project maintenance	chinook,	all salmonids
Replace partial fish barrier at Horn Creek under Harts Lake Loop Road with a passable culvert	3	1,7	Harts Lake Loop Road Horn Creek culvert replacement project	Pierce Co.	\$294,000	\$294,000	\$0	Unknown	secure funds, start designs	\$15,000	obtain permits, complete final designs	\$25,000	construction and replanting of site	\$254,000	2010	instream	Fish passage	Coho, Steelhead, Chum	Cutthroat, Chinook, Pink
Replace concrete culvert under pedestrian trail with footbridge on small floodplain channel.	3	1,7	Nisqually Pines Culvert Replacement	SPSSEG	\$25,000	\$0	\$25,000	NFWF	construction	\$23,000	Re-planting	\$2,000			2009	In-Stream, Riparian	Fish Passage, Riparian	Coho	steelhead, chinook, cutthroat trout
Culvert replacement project near Piessner Road upstream of large floodplain wetland	3	7	Powell Creek Neighborhood Road Culvert Replacement	SPSSEG	\$100,000	\$100,000	\$0	FFFP	project design	\$10,000	Project Construction	\$90,000			2010	Instream	Fish Passage	Coho, Steelhead, Cutthroat	Chum and Chinook
Replace partial fish barrier at Lackamas Creek under a private road with a fish-friendly concrete box culvert	3	1,7	Lackamas Creek (Thurston Co.) Culvert Replacement	SPSSEG	\$176,000	\$176,000	\$0	Unknown	secure funds, start designs	\$20,000	obtain permits, complete final designs	\$30,000	construction and replanting of site	\$126,000	2010	instream	Fish passage	Coho, Steelhead,	Cutthroat, Chinook, Chum, Pink
			Acquisition for future restoration																
Acquire 1 mile Ohop creek, 100 acres	1	1,3,4,5,6	Lower Ohop Protection Project	Nisqually Land Trust/Pierce Co.	\$1,200,000	\$1,200,000	\$0	Unknown	acquire property	\$600,000	acquire rest of property	\$600,000			2010	Instream, Riparian, Upland, Wetland	Land Protection	Chinook, Steelhead, Coho	Cutthroat, Pink
Acquire 45 of riparian and floodplain acres near the mouth of the Little Mashel into the Mashel River	1	1,3,4,5,6	Little/Big Mashel Confluence Protection	Nisqually Land Trust/Pierce Co.	\$250,000	\$250,000	\$0	SRFB	acquire property	\$250,000					2009	Instream, Riparian, Upland	Land Protection	Chinook, Steelhead, Coho	Cutthroat, Pink
Acquire up to 200 acres of wetland and riparian forest in the McAllister valley and Lower Nisqually valley to be incorporated into the Nisqually	1	1, 3	Lower Nisqually mainstem, McAllister Creek acquisition	USFWS	\$1,500,000	\$1,500,000			negotiate with sellers, begin purchasing properties	\$500,000	purchase properties	\$750,000	purchase properties	\$250,000	2011	instream, riparian, wetland, estuary river delta	Land Protection	chinook, chum, cutthroat, coho, steelhead,	
Acquire 1 mile Mashel shoreline, 200-400 ft. buffer, 20 - 40 acres	1	1,3	Mashel Riparian Habitat Acquisition Project	Town of Eatonville/Pierce County	\$1,689,510	\$866,224	\$823,286	Washington Wildlife and Recreation Fund	acquire match	\$695,250	negotiate with sellers purchase properties	\$994,260			2009	Instream, Riparian, Upland	Land Protection	Chinook, Steelhead, Coho	Cutthroat, Pink
			Acquisition for protection																
Acquire 50 acres, 0.5 mile of Nisqually Mainstem per year	1	1,3,4,5,6	Mainstem Protection Project	Nisqually Land Trust/Pierce Co.	\$2,500,000	\$2,500,000	\$0	Unknown	acquire properties	\$833,334	acquire properties	\$833,333	acquire properties	\$833,333	on-going	Instream, Riparian, Upland	Land Protection	all salmon	
Acquire small parcels as available along Ohop Creek and Mashel River	1	1,3,4,5,6	Upper Watershed small properties protection	Nisqually Land Trust/Pierce Co.	\$470,000	\$470,000	\$0	Unknown	acquire property	\$170,000	acquire property	\$150,000	acquire property	\$150,000	on-going	Instream, Riparian, Upland	Land Protection	Chinook, Steelhead, Coho	Cutthroat, Pink

2008 three-year Watershed Implementation Priorities Template																				
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008		2009		2010		Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting	
									Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost						
Acquire easement over 250 acres along Nisqually mainstem and Horn Creek	1	1,3,4,5,6	Wilcox Area Protection Project	Nisqually Land Trust/Pierce Co.	\$750,000	\$750,000	\$0	Unknown			acquire easement	\$750,000			2010	Instream, Riparian, Upland	Land Protection	all salmon		
Acquire over 180 acres of Ohop valley including large amounts of wetland and 1 mile of Ohop Creek	2	1,3,4,5,6	Upper Ohop valley protection	Nisqually Land Trust/Pierce Co.	\$800,000	\$800,000	\$0	Unknown			acquire property	\$800,000			2010	Instream, Riparian, Upland, Wetland	Land Protection	Coho, Steelhead	Chinook, Cutthroat	
Acquire easement over 249 acres, 1.2 miles of Nisqually mainstem, off channel creek and large wetland	1	1,3,4,5,6	McKenna Area Protection Project	Nisqually Land Trust	\$750,000	\$750,000	\$0	Unknown			acquire easement	\$750,000			2010	Instream, Riparian, Upland, Wetland	Land Protection	all salmon		
Acquire intact South Puget Sound nearshore habitat as it becomes available.	1	2	South Sound Nearshore Protection Project	multiple sponsors	\$3,000,000	\$3,000,000			acquire properties	\$1,000,000	acquire properties	\$1,000,000	acquire properties	\$1,000,000	on-going	Riparian, Nearshore Beaches, Nearshore Embayments	Land Protection	Chinook, Chum, Bull and Cutthroat Trout	Coho, Steelhead, Pink, Sand Lance and Surf Smelt	
Hatchery																				
Low Impact Seasonal Weir Final Design, Engineering, Construction Blueprints	1	allowing adaptation of naturally spawning fish	Seasonal Weir Final Design	Nisqually Indian Tribe	\$190,550	\$0	\$190,550	Hatchery Reform 2007	Begin process of final Design	\$90,000	Complete Final Design	\$100,550	NA						Chinook	
Acquire necessary permits and Fort Lewis Landowners agreement for low impact seasonal weir	1	allowing adaptation of naturally spawning fish	Seasonal Weir permitting and	Nisqually Indian Tribe	\$70,000	\$70,000	\$0	not identified yet	Begin process to obtain all required permits and agreements	\$40,000	complete process to obtain all required permits and agreements	\$30,000	NA						Chinook	
Construct a low impact seasonal weir to preclude hatchery chinook salmon from straying above Rivermile 11.5	1	allowing adaptation of naturally spawning fish	Seasonal Weir	Nisqually Indian Tribe	\$2,400,000	\$0	\$2,400,000	federal appropriation	NA	\$0	Begin Construction	\$1,000,000	Complete construction and install for operations	\$1,400,000					Chinook	
Other																				
Total Capital Need					\$44,210,623	\$30,304,125	\$13,906,498													
Non-Capital Programs																				
Harvest Management Support																				
Negotiate with co-managers and Canada to ensure total harvest rate on Chinook is consistent with recovery plan objectives.			Renegotiation of pre-terminal harvest rates	Nisqually Tribe	\$1,013,040	\$333,361	\$679,679	BIA	3 FTE Harvest policy and technical staff	\$323,500	3 FTE Harvest policy and technical staff	\$339,675	3 FTE Harvest policy and technical staff	\$349,865	on-going	NA	NA		Chinook	
Determine landing and encounter rates for terminal recreational fishery	1		Chinook/Chum Creel Survey	Nisqually Tribe/ WA Dept of Fish and Wildlife	\$250,000	\$250,000	\$0		Chinook Survey of recreational survey	\$100,000	Chum Survey	\$100,000	Report	\$50,000	2010		research	Chinook, Chum		
Investigate selective fishing methods and opportunities for Tribal Net Fishery	1		Selective Fishery Investigation	Nisqually Tribe	\$300,000	\$300,000	\$0		Survey methods and design study	\$100,000	Implem ent study	\$100,000	Study Results	\$100,000	2010		research	Chinook, Chum, Steelhead		
Future Habitat Project Development																				
Complete the Lower Nisqually River Restoration assessment and identify at least one project to complete to full design	1	1,2,3,4,5,6	Lower Nisqually Restoration feasibility and design	Nisqually Tribe	\$344,000	\$330,000	\$14,000	BIA	complete feasibility analysis	\$14,000	secure design funds	\$20,000	complete design work	\$310,000	2010	instream, riparian, wetland	fish passage, instream wetland, riparian, sediment reduction,	Chinook, Steelehad, Coho, Chum, Pink, Cutthroat		

2008 three-year Watershed Implementation Priorities Template																			
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008		2009		2010		Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting
									Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost					
Oversee any forestry activity in the Nisqually Watershed for compliance under Forest and Fish rules		1,3,4,5,6,7	Forest and Fish/watershed analysis prescription implementation monitoring/technical assistance	Nisqually Tribe	\$298,354	\$0	\$298,354		Staffing (1 FTE)	\$95,275	Staffing (1 FTE)	\$100,039	Staffing (1 FTE)	\$103,040	on-going	Riparian, Upland Vegetation	Instream Flow, Riparian, Sediment Reduction, Water Quality Improvement, Upland Vegetation	all salmonids	
			Watershed Plan Implementation & Coordination																
		1,2,3,4,5,6,7	In-stream, off-channel, and estuary habitat project Restoration Biologist	Nisqually Tribe	\$328,300	\$238,300	\$90,000	numerous project funds	1 FTE (including 54% indirect)	\$105,000	1 FTE (including 54% indirect)	\$110,000	1 FTE (including 54% indirect)	\$113,300	on-going	NA	NA	all salmonids	
		1,2,3,4,5,6,7	Salmon Recovery Project Technician	Nisqually Tribe	\$126,591	\$86,166	\$40,425	Tribe	.5 FTE (including 54% indirect)	\$40,425	.5 FTE (including 54% indirect)	\$42,446	.5 FTE (including 54% indirect)	\$43,720	on-going	NA	NA	all salmonids	
		1,2,3,4,5,6,7	Lead entity coordination/Salmon Recovery Program Management	Nisqually Tribe	\$387,341	\$267,341	\$120,000	WDFW	Staffing (1 FTE + 54% indirect)	\$124,740	Staffing (1 FTE + 54% indirect)	\$129,360	Staffing (1 FTE + 54% indirect)	\$133,241	on-going	NA	NA	all salmonids	
		1,2,3,4,5,6,7	GIS support for plan development/implementation	Nisqually Tribe	\$387,341	\$287,341	\$100,000	Tribe	Staffing (1 FTE + 54% indirect)	\$124,740	Staffing (1 FTE + 54% indirect)	\$129,360	Staffing (1 FTE + 54% indirect)	\$133,241	on-going	NA	NA	all salmonids	
		1,2,3,4,5,6,7	Development and Coordination of Adaptive Management Program	Nisqually Tribe	\$368,676	\$368,676			Staffing (1 FTE + 54% indirect)	\$118,580	Staffing (1 FTE + 54% indirect)	\$123,200	Staffing (1 FTE + 54% indirect)	\$126,896	on-going	NA	NA	all salmonids	
		1,2,3,4,5,6,7	Identify and research key uncertainties to improve plan	Nisqually Tribe	\$368,676	\$368,676			Staffing (1 FTE + 54% indirect)	\$118,580	Staffing (1 FTE + 54% indirect)	\$123,200	Staffing (1 FTE + 54% indirect)	\$126,896	on-going	NA	NA	all salmonids	
use tools EDT, Managing for Success to complete structure and priorities for an Adaptive Management plan		1,2,3,4,5,6,7	complete Adaptive Management plan and database	Nisqually Tribe	\$100,000	\$100,000			complete structure, tracking database	\$75,000	update, adjust structure	\$25,000		\$0		NA	NA	all salmonids	
		1,2,3,4,5,6,7	Adaptive Management database	Nisqually Tribe	\$255,780	\$255,780					1 FTE data manager, database maintenance costs, maintenance, data input	\$126,000	1 FTE data manager, database maintenance costs, maintenance, data input	\$129,780	on-going	NA	NA	all salmonids	
			Outreach & Education																
Conduct environmental education program at Nisqually NWR to serve up to 15,000 students annually		1,2,3,4,5,6,7	Nisqually National Wildlife Refuge Education Program (obj. 3.1, Goal III)	USFWS	\$237,000	\$237,000	\$20,000	Friends of Nisqually NWR, USFWS	outreach and education	\$75,000	outreach and education	\$79,000		\$82,000	on-going				

2008 three-year Watershed Implementation Priorities Template																			
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008		2009		2010		Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting
									Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost					
outreach and education for K-12 students in the Nisqually watershed		1,2,3,4,5,6,7	Nisqually River Education Project	Nisqually River	\$270,000	\$130,000	\$140,000	City of Yelm, Dept. of Ecology, EPA, NFWF, Nisqually Indian Tribe, Pierce Co. Thurston Co.	1 FTE plus program costs	\$90,000	1 FTE plus program costs	\$90,000	1 FTE plus program costs	\$90,000	on-going				
outreach and education for all residents in the Nisqually watershed and surrounding areas		1,2,3,4,5,6,7	Nisqually Stream Stewards	Nisqually Tribe	\$375,000	\$275,000	\$100,000	Nisqually Tribe, WDFW,	1 FTE plus program costs	\$120,000	1 FTE plus program costs	\$125,000	1 FTE plus program costs	\$130,000	on-going				
Instream Flow Protection																			
Habitat Project Monitoring																			
physical and biological monitoring of the refuges estuary restoration projects		1, 2, 3, 7	Refuge Estuary Restoration Project Monitoring	USFWS	\$424,000	\$424,000	\$30,000	Tribe	pre project and post project monitoring	\$135,000	post project monitoring	\$141,000		\$148,000			Project Maintenance	chinook, chum, cutthroat, Bull Trout	steelhead, coho, pink
Monitoring of the physical and biological response to the 140 acres of tribal estuary restoration on the east side of the river		2,3,7	Monitoring of estuary restoration at Red Salmon Slough	Tribe	\$174,000	\$119,000	\$55,000	Tribe	project monitoring	\$55,000	project monitoring	\$58,000	project monitoring	\$61,000	2016	Estuary river delta	Project Maintenance	chinook, chum, cutthroat, Bull Trout	steelhead, coho, pink
Monitoring of the physical and biological response to the restoration of Ohop Creek.		1,3,4,5,6	Ohop monitoring plan	SPSSEG / Tribe	\$190,000	\$180,000	\$10,000	Tribe	Write monitoring plan /implement first year pre-project	\$80,000	Implement 2nd year pre-project /As-built	\$60,000	Implement 1st year post-project	\$50,000	2018	Instream, riparian, wetland	Project Maintenance	Coho, Steelhead, Cutthroat, Chinook	Pink
Monitoring of the physical and biological response to the restoration of Mashel River.		1,3,4,5,6	Mashel monitoring plan	SPSSEG / Tribe	\$190,000	\$150,000	\$40,000	BIA	Continue to monitor restoration and control reaches	\$80,000	Continue to monitor restoration and control reaches	\$60,000	Continue to monitor restoration and control reaches	\$50,000	2018	Instream, riparian, wetland	Project Maintenance	Coho, Steelhead, Cutthroat, Chinook	Pink
Creation and implementation of a watershed-wide habitat and restoration action monitoring plan to assess effect of recovery plan		1,3,4,5,6,7	Nisqually Chinook Recovery Habitat Monitoring	Tribe	468,240	413,240	55,000	BIA	Completion of monitoring plan / partial implementation	\$150,000	Implementation of monitoring plan	\$156,000	Implementation of monitoring plan	162,240	on-going	instream, riparian, wetland	Project Maintenance	Chinook, Coho, Steelhead	Pink, cutthroat
Stock Monitoring Support																			
Monitor the juvenile salmon usage of the Nisqually River Estuary and nearshore of the Nisqually Reach	1	1, 2, 3, 7	Estuary Fish Monitoring	Tribe/USFWS/SPSSEG	\$300,000	\$270,000	\$30,000	PCSRF	minimal estuary seining plus nearshore seining (for otoliths), need 1 FTE for 3 people during sampling period	\$100,000	minimal estuary seining plus fyke netting	\$100,000	minimal estuary seining plus fyke netting	\$100,000		Estuary river delta	NA	Chinook, Chum, Bull trout	Pink, Steelhead, Cutthroat
Life History assessment of the Chinook salmon of the Nisqually Basin, Estuary and Reach through Otolith analysis	1		Otolith study- Chinook life history analysis	Tribe/USGS/USFWS	\$271,000	\$211,000	\$60,000		collect otoliths, analysis of collected otoliths, microstructure and water chemistry	\$70,000	collect otoliths, analysis of collected otoliths, microstructure and water chemistry	\$106,000	collect otoliths, analysis of collected otoliths, microstructure and water chemistry	\$95,000	on-going (at least 2012)	Instream, Estuary River delta, Nearshore	NA	Chinook	

2008 three-year Watershed Implementation Priorities Template																				
Project Description	Priority tier of project	Limiting Factors	Project Name	Likely Sponsor	Total Cost of first three years	Funding needed	Funding secured	Source of funds	2008	2009	2010	Likely End Date	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting				
									Year 1 Scope	Year 1 Cost	Year 2 Scope						Year 2 Cost	Year 3 Scope	Year 3 Cost	
			Research																	
Tag 50 steelhead smolts annually and track their early saltwater migration through Puget Sound and the strait of Juan De Fuca utilizing acoustic tags and set receivers	1	2	Steelhead smolt acoustic tag study	Tribe	\$177,000	\$147,000	\$30,000	Nisqually Tribe	tag 50 steelhead smolts	\$57,000	tag 50 steelhead smolts	\$59,000	tag 50 steelhead smolts	\$61,000	2010	estuary river delta, nearshore beaches, rocky coast, and embayments	Research	Steelhead		
			Other																	
Coordination of monitoring of overall recovery plan	1	1,3,4,5,6,7	Implementation/Effectiveness/Validation Monitoring	Tribe	\$143,263	\$143,263		Nisqually Tribe	Monitoring of projects / plan	\$46,350	Monitoring of projects / plan	\$47,741	Monitoring of projects / plan	\$49,173	on-going		Project Maintenance	all salmonids		
Nisqually Land Trust program support is critical for the continued operation of the land trust and the fulfillment of its mission. The Nisqually Land Trust is the major organization working on salmon habitat protection in the Nisqually basin.	1	NA	Nisqually Land Trust administrative/facilities support	Nisqually Land Trust	\$150,000	\$127,500	\$22,500			\$50,000		\$50,000		\$50,000	ongoing	instream, riparian, upland, wetland, estuary river delta, nearshore beaches, nearshore embayments	fish passage, instream flow, instream wetland, riparian, sediment reduction, nutrient enrichment, project maintenance	all salmonids		
Staffing of Nisqually River Council, Watershed Festival, newsletters, and subcommittees	1		Nisqually River Council Support	Nisqually River Foundation	\$300,000	\$0	\$300,000	WA Dept of Ecology		\$100,000		\$100,000		\$100,000						
Marketing of sustainable local businesses	1		Nisqually Sustainable Initiative	Nisqually River Foundation	\$1,100,000	\$217,000	\$883,000	EPA	Development	\$100,000	Implement	\$500,000	Implement	\$500,000						
Implementation of Low Impact Development projects in the Nisqually watershed	1		Nisqually Low Impact Development	Nisqually River Foundation	\$225,000	\$125,000	\$100,000	WA Dept of Ecology	FTE Implement	\$75,000	FTE Implement	\$75,000	FTE Implement	\$75,000						
Write conservation plans for Class A water purveyors in the Nisqually Watershed.	1		Nisqually Water Conservation	Nisqually River Foundation	\$150,000	\$0	\$150,000	WA Dept of Ecology	Staff write plans	\$100,000	Implement plans	\$50,000								
Utilize EDT and other models to publish a multi-species Nisqually salmon recovery plan that addresses all four 4 H's. This includes formulation of goals, objectives and an action plan to restore salmon runs to PFC.	1	NA	Multispecies Nisqually Salmon Plan	Tribe	\$150,000	\$150,000			coordinate plan development, work with contractor to model conditions, scenarios, develop options	\$75,000	coordinate plan development, work with contractor to model conditions, scenarios,	\$75,000			2009	NA	NA	steelhead, coho, chum, pink		
Total Non-Capital Need:					\$11,884,277	\$8,533,694	\$3,400,583													
			Priority Projects and Programs Benefiting Non-Listed Species																	
Total Non-Listed Species Need:																				

2008 three-year Watershed Implementation Priorities Template: Addendum

Project Name	Human Well-		Partnership Goals		Water Quality	Water Flow
	Human Health	Being	Species/Food Web	Habitat		

Capital Projects

Habitat

Hatchery

Other

**Total Capital
Need**

***Non-Capital
Programs***

Harvest
Management
Support

Future Habitat
Project
Development

Habitat Protection

Watershed Plan
Implementation &
Coordination

Outreach &
Education

Instream Flow
Protection

Habitat Project
Monitoring

Stock Monitoring
Support

Research

Other

**Total Non-Capital
Need:**

*Priority Projects
and Programs
Benefiting Non-
Listed Species*

**Total Non-Listed
Species Need:**
