

SNOHOMISH BASIN THREE-YEAR WORK PROGRAM

Overview of the Basin's Ten-Year Conservation Plan

The *Snohomish River Basin Salmon Conservation Plan (2005)* is a multi-salmonid strategy that emphasizes two Endangered Species Act (ESA) listed species, Chinook salmon and bull trout char. The *Plan*, developed by the 39-member Snohomish Basin Salmon Recovery Forum (the Forum), hypothesizes that the quality and quantity of rearing habitat in the nearshore, estuary and mainstem rivers is the primary habitat factor limiting performance of these two species. For harvest, the *Plan* hypothesizes that use of harvest ceilings at multiple levels – including within Puget Sound, in international waters, and at the extreme terminal area – will allow for greater control and higher numbers of fish returning to spawn. The *Plan* hypothesizes that integration of the hatchery stocks with natural origin stocks will improve the genetic fitness of stocks in the basin.

Habitat

To bring the ESA-listed species back to healthy, harvestable levels (as well as to hold the line for non-listed species), the *Plan* integrates analyses on fish use, habitat conditions and watershed processes to prioritize recovery areas and actions. The *Plan* divides the Snohomish River Basin into “sub-basin strategy groups” based on basin location, current and potential fish use, and the condition of watershed processes. Within each sub-basin strategy group, the *Plan* tailors a specific recovery strategy aimed at restoring habitat conditions and improving population performance as measured by the Viable Salmonid Population (VSP) parameters – abundance, productivity, spatial structure and diversity. As described below, actions in each recovery strategy include activities aimed at protecting current intact habitat and restoration.

- **Protection Efforts** - The Summary Table on page 3 gives a high level view of the basin's current intact habitat. Under the ten-year Plan, project sponsors in the Snohomish Basin will undertake actions to maintain (and potentially increase) this level of intact habitat through the purchase of conservation easements, fee simple title and the implementation of innovative programs such as purchase of development rights programs (PDR). In addition, protection of intact habitat will be further supported through current and future regulations, including critical areas and growth management regulations.
- **Restoration Efforts** – The *Plan's* restoration actions are intended to build on protection efforts to ensure a proper level and mix of habitat to support recovery of listed species and to prevent future listings. Actions will be prioritized so as to improve habitat conditions in areas that are most appropriate to support both salmonids in each stage of their life cycle and the ecological processes that create the habitats that fish use. Across sub-basin strategy groups, the Forum decided that 80% of restoration efforts over the next ten years should focus on the nearshore, estuary and mainstems, with 15% of the effort in the lowland tributaries and 5% in the headwaters areas. The *Plan's* restoration targets are summarized in the Summary Table on page 3, demonstrating the amount of intact habitat that the Forum wants to achieve at the end of ten years.

Harvest

Harvest management will follow the *Co-managers' Puget Sound Chinook Harvest Management Plan* (2004), which sets the overall annual exploitation rate ceiling at a level that will assure harvest does not impede recovery of the Skykomish and Snoqualmie Chinook salmon populations. The co-managers (Tulalip Tribes and Department of Fish and Wildlife) are using a Rebuilding Exploitation Rate to manage harvest not to exceed 24% of the total return in any year. This exploitation rate is a ceiling that includes all harvest-related mortality (direct and incidental, landed and non-landed) in all salmon fisheries that impact Snohomish Chinook salmon from Southeast Alaska to the Snohomish River. Harvest is managed through selective fisheries and time-area management to minimize the impacts on wild fish. Local fisheries, targeting Chinook salmon in Tulalip Bay and the Snohomish River, focus on hatchery-origin fish so that the impacts to wild Snohomish Chinook salmon may be minimized.

Hatchery

Beginning in 2005, the co-managers implemented a new hatchery management strategy for the Snohomish Basin, which will integrate natural origin fish into the hatchery broodstock to improve genetic fitness of both wild and hatchery fish. The Wallace River Hatchery provides broodstock for both the Wallace River and Tulalip (Bernie Kay-Kay Gobin) hatcheries. In 2005, the hatcheries will be considered fully-integrated, with an eventual target of 70% natural influence achieved through incorporating natural broodstock collected from the Wallace River and the Sunset Falls adult trap into the hatchery broodstock. The hatchery plan also provides for mass-marking of hatchery origin fish to increase opportunities for selective harvest and to assist in implementing the broodstocking protocol. To improve the broodstock protocol, the co-managers are studying hatchery broodstock genetics. In addition, the co-managers are analyzing the ecological interactions between hatchery and wild fish in the estuary.

H-integration

The habitat, harvest and hatchery management portions of the *Plan* were developed in a coordinated fashion. The recovery exploitation rate was based on current conditions while at the same time considering how the system is expected to perform under improved habitat conditions. The hatchery broodstock protocol was developed using a model of habitat conditions so that natural broodstock used in the hatchery program will not unduly impact the ability of the system to move toward recovery goals. Habitat, harvest and hatchery management plans were analyzed together using the EDT, SHIRAZ and AHA models. The plans for each of the H's are designed to work in conjunction with one another to provide sufficient numbers of genetically diverse fish to take advantage of improved habitat conditions made available by *Plan* implementation.

Summary Table of Snohomish Basin Needed Habitat Gains

Sub-basin Strategy Group and Habitat Condition	Current Intact	Needed Habitat Gain in 10 Years	Needed Habitat Gain in 3 Years	Total Needed at Year 2015
Nearshore Beaches and Shoreline	8.4 miles	At least 1 mile	0.3 miles	At least 9.4 miles
Estuary: Tidal Marsh	1,483 acres	1,237 acres	412 acres	2,720 acres
<u>Mainstem-primary Restoration:</u>				
Restored Edge Habitat	236 miles	10.4 miles	3.5 miles	246.4 miles
Restored Riparian Habitat	5,991 acres	256 acres	85 acres	6,247 acres
Restored Off-channel Habitat	350 acres	167 acres	56 acres	517 acres
Large Woody Debris	N/A	41 new logjams	14 new logjams	N/A
<u>Other Sub-basins Restoration:</u>				
Restored Riparian Habitat	N/A	94 acres	32 acres	N/A
Restored Off-channel Habitat	N/A	57 acres	19 acres	N/A

Snohomish Basin’s Three-Year Work Program

The Snohomish River Basin Three-Year Work Program supports goals laid out in the ten-year *Plan* by protecting current intact habitat, filling habitat gaps through restoration efforts, and improving the integration of harvest and hatchery management to effectively and efficiently recover listed salmonids and prevent the listing of new species. For 2007 – the first year of the three-year work program – the projects reflect the actions being taken by project sponsors throughout the basin. All projects in the work program are consistent with the priorities laid out in the *Plan* by sub-basin strategy group. In addition to capital projects, the work program highlights protection measures and their evaluation. It also addresses non-capital, capacity and harvest/hatchery/h-integration needs in the basin. The work program is divided into six sections covering actions in the following areas: nearshore, estuary, mainstem-primary, other basins, basinwide capacity-building, and harvest/hatchery/h-integration efforts.

The Summary Table above summarizes the habitat gains needed in the Snohomish Basin over the course of the 10-year planning cycle and the proportional (3-year) goals targeted under the Basin’s 2007-2009 Work Program. These protection and restoration goals (or Habitat Gains) serve as benchmarks for what might be achieved in the next three years.

The Snohomish River Basin Three-year Work Program

While project sponsors were active participants in the planning process, some projects in this list reflect actions taken to improve salmonid habitat while the *Plan* was still in development. Consequently, certain projects may not be the highest priority actions recommended for their sub-basin strategy group. These projects will remain in the work program for the first year. However, for future years the adaptive management process – an integral component of the *Plan* – will be used to improve coordination and make necessary adjustments in the prioritization, siting and timing of what projects and programs to achieve the *Plan's* 10-year habitat priorities.

Some projects in the nearshore and estuary are linked to mitigation sites. The Forum has not yet determined how to count habitat gains on projects that involve mitigation and restoration. The Forum is seeking to consensus on how to measure the habitat gain on projects where a sponsor completes additional work to required mitigation. This discussion is part of the Forum work plan within the next couple of years.

How the Three-year Work Program is Tiered

The tiering of projects in the list first reflects the *Plan's* priorities. However, other tier criteria were incorporated to distinguish between “tier one” projects that could be done within a sponsor’s current capacity and those requiring a growth in the sponsor’s capacity – particularly in terms of staffing. The tiering criteria are further outlined below.

Tiering criteria began with the *Plan*. Each individual project was tiered according to the priority action outlined for the sub-basin strategy group where the project is located. For example, in the mainstem-primary restoration sub-basin strategy group, a tier-one priority action would be to improve edge habitat, whereas a tier-two priority action would be to address water quality impacts (as outlined in Section 11 of the *Plan*). Projects were not to be tiered higher than their priority level from the *Plan*, holding all projects subject to their biological/watershed processes need.

Projects were then tiered into the following three groups according to a sponsor’s capacity to complete the work in the next three years.

- Tier 1 Projects - Projects that sponsors could reliably complete in three years given their current staffing and other capacity.
- Tier 2 Projects - Projects that the sponsor’s would need additional capacity – such as a seasonal restoration crew or consultant contract – to complete on schedule.
- Tier 3 Projects - Projects that could only be completed in the three-year timeframe if the sponsor undertook some restructuring, re-organization or acquired a significant amount of added capacity. For example, the organization would redirect resources away from other priorities to complete the project or program.

The Snohomish River Basin Three-year Work Program

Finally, Forum staff reviewed the work program and made minor adjustments to the tiering to reflect basinwide priorities, such as the Snohomish Basin Salmon Recovery Forum's objective over the first ten years to expend 80% of their efforts in the nearshore, estuary and mainstem-primary sub-basin strategy groups, followed by 15% and 5% in the lowland tributaries and headwaters, respectively.

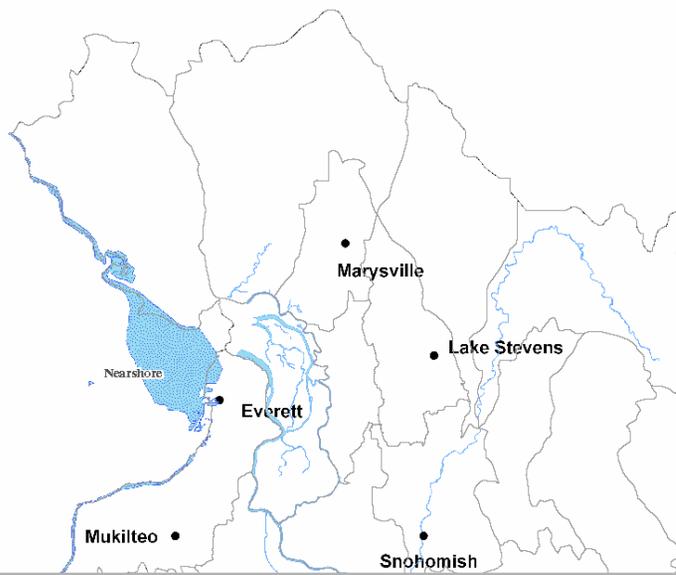
Matching Funds

Many of the project sponsors have detailed matching funds. The amounts indicated represent current committed funds only. As such, the list does not show how effective sponsors in the Snohomish Basin are at matching grant sources. Looking at Community Salmon Fund and Salmon Recovery Funding Board grant rounds, most sponsors have matched at least 50% on each project. Given the 3-year window for recovery in this work program, sponsors have little information on what grants will match, or how other match sources will come into play. This information will be added in the future as grant programs and work programs come closer to start dates.

Furthermore, Snohomish County's Capital Improvement Projects (CIP) program regularly matches staff time, money from the County budget and other grant sources and material contributions (such as large wood and plants) to leverage funding for projects. In past years, the County has matched approximately \$550,000 per year in cash to Snohomish Basin projects. The work program reflects and estimation of staff time to match to each project, but it does not reflect the \$550,000 figure, which would be spread across all projects each year, depending on what projects are likely to be funded by other sources. Although their projects show match figures, King County matching funds fall under a similar scheme, matching about \$500,000 per year.

Structure of the Sub-basin Summaries Below

The information provided below demonstrates how the work program will achieve at least the first three-year increment of the Forum's ten-year habitat milestones, as outlined in the *Plan*. The sections below summarize: funding need and results for tier 1, 2 and 3 projects, the magnitude of the resultant work, the types of projects, how efforts are sequenced, certainty of completion in the three-year timeframe and the rationale for the approach taken. The information is divided into the same sections as the work program itself: nearshore, estuary, mainstem-primary, other basins, basinwide capacity-building and harvest/hatchery/h-integration efforts.



Need: \$2,761,123 for tier 1 projects; an additional \$5,217,000 to complete tier 2 projects; and an additional \$790,000 for tier 3 projects

Results: The SHIRAZ modeling completed to inform hypothesis development for the *Plan* indicates that improvements in juvenile nearshore survival will have a significant positive impact on salmon populations. The work program highlights the need for feasibility and better coordination to better focus nearshore restoration and protection. This near-term work will prepare basin sponsors for implementing the *Plan's* nearshore priorities in subsequent years. However, close to $\frac{3}{4}$ of a mile of beach and backshore will be restored, albeit partially as mitigation for Port of Everett and WA State Ferries activities. These actions will improve nearshore habitat for juvenile salmonids, increasing abundance and productivity, which will contribute to recovery.

Magnitude: Projects and programs will take place across entire Snohomish Basin nearshore (~30 miles), with a focus on implementation in areas south of the river mouth. Considerable effort needs to be spent on building capacity for nearshore restoration and protection north of the river mouth where resources and greater opportunity for protection and restoration remain. WRIAs 5, 6 and 7 are working to coordinate WRIA and regional recovery needs, in addition to coordination of efforts between the Forum and the Snohomish County Marine Resources Committee (MRC). Nearshore habitat enhancements south of the river mouth include: 1.5 miles of edge habitat restored, 1 barrier removed in Japanese Gulch (as identified in the *Plan*), and all creosote removed from the tank farm in Mukilteo. Projects that include some level of mitigation will improve an additional 0.6 miles of edge habitat, 1.8 acres of eelgrass restoration, and 3.4 acres of creosote removed.

Nearshore

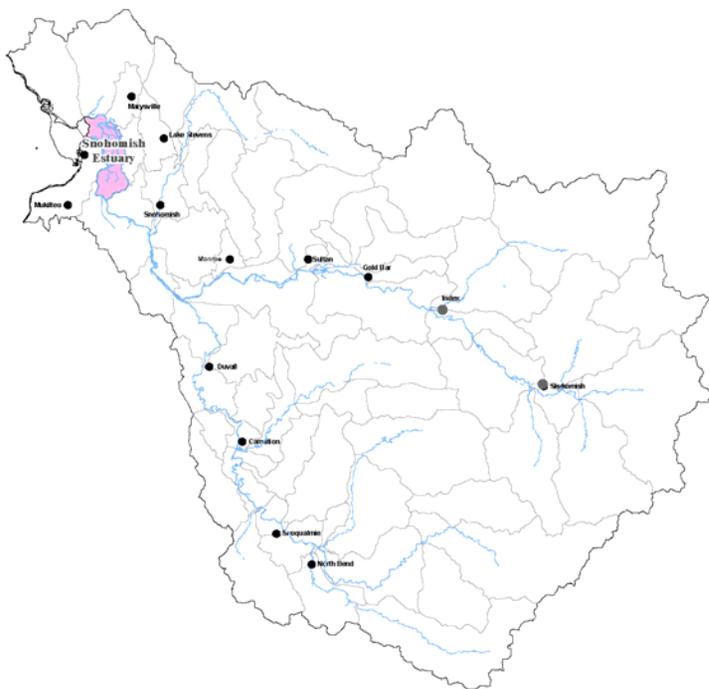
Types of projects/programs: beach nourishment, beach and backshore restoration, creosote removal, edge habitat enhancement, culvert replacement/barrier removal, tidal marsh restoration by dike breaching, feasibility of restoration and protection actions, filling data gaps for juvenile Salmonid prey, setting funding and protection/restoration strategies north of the river mouth for future nearshore actions.

Sequence: The Basin's coordination and feasibility will be complete in three years, by 2009. Early coordination among WRIAs 5, 6 and 7 along with the Puget Sound Action Team shows that more protection work should take place North of Everett. Protecting existing habitat in this area is the highest priority where nearshore processes are more intact. Additional research, feasibility and design, if funded, will move projects from concepts to completed projects and add greater focus to the nearshore strategy. Feasibility work should include identification and analysis of marine food webs including the prey needs for salmonids, data on what processes are degraded and in need of restoration, and greater detail on pocket estuaries. The necessary capacity-building and feasibility work taking place in the next three years will direct future efforts that result in on-the-ground restoration efforts. Furthermore, the Snohomish Basin Salmon Recovery Forum is working with the Snohomish County Marine Resources Committee (MRC) to align MRC/Forum goals in the nearshore, starting with a presentation by MRC staff at the April 6, 2006 Forum meeting.

Reality: Because nearshore projects are technically challenging, greater capacity is needed to identify and work with willing landowners to determine the best projects and best locations. Furthermore, the Basin needs to address the role of mitigation and restoration efforts to ensure a baseline of habitat remains in place and is improved or increased with restoration.

Rationale: The feasibility analysis, along with the monitoring for protection, will provide sponsors with the suite of priority actions, geographic areas and processes on which to focus efforts beyond the first three years of implementation. Other actions will build community support for nearshore actions, including further developing the Beach Watchers program that assists landowners in protecting nearshore areas and taking collective action to improve nearshore conditions. As part of Lead Entity coordination, basin staff will monitor and provide input into the development of shoreline protection programs that are forming in Snohomish County, the Tulalip Tribes Reservation and City of Everett. Such protection will form the core on which to improve habitat conditions in the nearshore.

Nearshore



Need: \$7,228,000 for tier 1 projects; \$5,245,000 to complete tier 2 projects; and an additional \$85,000 for tier 3 projects

Results: Action over the next three years will result in restoration of function across one of the largest estuaries in Puget Sound. EDT and SHIRAZ modeling indicate the estuary is the biggest bottleneck for Chinook production, with approximately 85% of off-channel and tidal marsh lost due to current land use actions, such as diking. Considerable coordination of effort has resulted in 1,300 acres of public land ownership in the estuary. Coordination and partnerships have also focused priorities that will lead to one of the largest wetland restoration efforts in Washington State.

Magnitude: Tier 1 restoration efforts will yield 850 acres of tidal marsh, 3.6 miles of edge habitat, 1 fish-friendly tidegate replacement, and 14.5 acres of riparian habitat in three years, which is 2/3 of the 10-year habitat goal set in the *Plan*. Additional actions that include a proportion of mitigation will increase habitat by 435 acres of tidal marsh and 1 mile of edge habitat improvements. Fully funding tier 1 projects at a minimum is necessary to maintain and encourage the considerable momentum established in the Snohomish Estuary.

Estuary

Types of Projects/programs: breaching and/or setting back dikes to protect critical infrastructure, restoration of riparian areas to improve conditions in the major sloughs and in off-channel and tidal marsh areas, restoration of edge habitat making the sloughs more functional and improving fish passage and juvenile survival rates in areas where tidegates are present.

Sequence: High priority actions in the estuary are a result of considerable work and focus of project partners and a committed public. Most of the projects identified in the work plan are ready for implementation, and most have match. Project sponsors have obtained commitments from landowners in the estuary and are ready to implement projects. A number of the landowners include government agencies and non-government organizations, increasing the certainty that project results will remain intact. A number of partnerships have arisen out of project work taking place in the estuary, including monitoring by NOAA Fisheries to determine the use of estuarine habitat by salmonids. Project sponsors in the estuary will be meeting in May to discuss how to coordinate technical and data needs to make the most efficient use of restoration dollars, take advantage of economies of scale and increase the technical certainty of projects across the estuary.

Reality: Sponsors have built a high level of public/private buy-in with projects, with many of the properties publicly owned, increasing certainty that restoration will remain intact. Project sponsors have built considerable momentum in the estuary, which would be lost if funding to follow through on promises to landowners and the public (at the time of acquisition by public agencies) were not available.

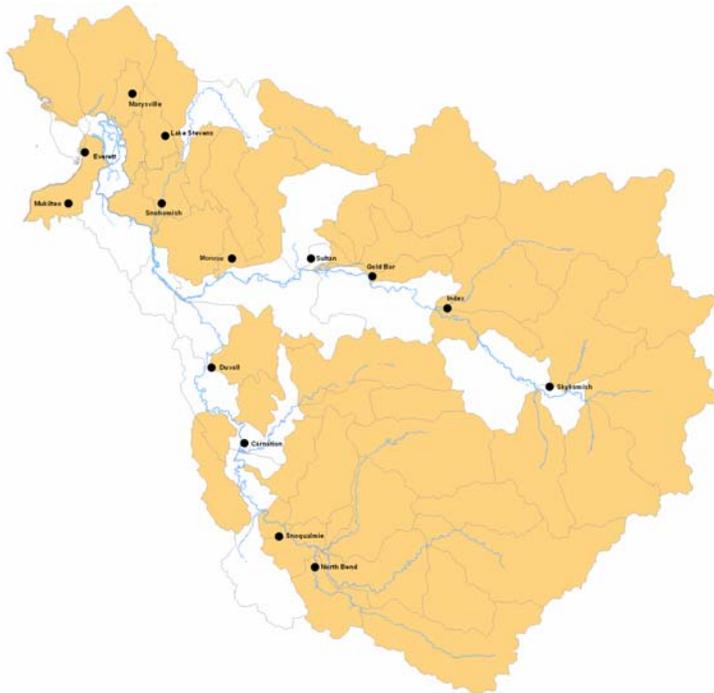
Rationale: Restoration of the Snohomish Estuary is a keystone locally and in the region. Fully funding the Snohomish Estuary part of the 3-year work program will keep the momentum gained over the past five years and complete restoration of the second largest estuary in Puget Sound. Restoring these lands will have a significant effect on abundance, productivity and diversity for Chinook salmon, bull trout char and other species. With the current list of actions, sponsors will be able to take immediate action to restore function to a significant bottleneck in the juvenile life history stage of Chinook salmon, bull trout char and other salmonids in the Basin, speeding recovery in the basin and following one of the Snohomish Basin Salmon Recovery Forum's goals to complete as much restoration as possible early in the implementation process. The projects listed for the estuary have had considerable technical review in the *Plan, Ecosystem Restoration Opportunities in the Snohomish River Valley, Washington*, and SEWIP. Projects are ready for final design and construction and represent one of the most cost effective opportunities in the Snohomish Basin, taking advantage of the restoration opportunities presented by the amount of public land owned in the estuary.

Types of projects/programs: Projects represent a mix of feasibility, design and construction to improve the habitat processes that support rearing habitat. Projects include: removing invasive species, planting riparian buffers, improving edge habitat, reconnecting off-channel habitats and installing large woody debris jams. Programmatic work will focus on outreach and education, farm certification and different methodologies for feasibility and restoration to improve the science behind restoration and salmon recovery. Monitoring protection measures and adaptive management will ensure that projects and programs will meet the *Plan's* goals and improve the quality and quantity of habitat for recovery.

Sequence: The current mix of projects in each tier will ensure that capital project construction will improve habitat in addition to funding necessary feasibility and design to ensure that future construction will keep the Forum on track to reaching its goals. The mainstem is the third focus area (in addition to the nearshore and estuary) for substantial restoration effort in the basin. Focusing a majority of recovery efforts in these priority areas will promote listed species recovery while still maintaining and improving habitat in the lowland tributaries and headwaters areas.

Reality: While planning efforts were underway, project sponsors were taking action in the mainstem area to improve habitat conditions, provide outreach to landowners on best management practices and build the capacity to take actions that will improve habitat. Non-capital actions will maintain and build the capacity necessary to support capital projects, protection of areas important for salmon recovery, adaptively manage the hypothesis and actions identified in the *Plan*, and increase the efficiency of sponsors' actions.

Rationale: Actions taken in the mainstem will both build capacity to support projects and protection of habitats, and implement restoration actions that increase the quality and quantity of salmonid rearing habitat. The projects identified will maintain and improve the habitat available for spawning and will significantly increase the rearing capacity of the basin to move toward recovery. Reach level analyses will identify habitat threats and opportunities that will ensure projects effectively improve habitat forming processes, rather than seek to install specific habitat structural elements.



Need: \$4,867,000 for tier 1 projects; \$1,703,500 to complete tier 2 projects; and an additional \$1,417,500 for tier 3 projects

Results: Other Sub-basin Strategy Groups projects will fulfill *Plan* targets (riparian planting and off-channel habitat), as well as other goals outlined in other sections of the *Plan*, such as road decommissioning and replacing blocking culverts. The *Plan* is a multi-species plan, postulating that early actions in the *Plan* should bring listed species back on track while supporting other species so they do not become listed. Actions taken in the Other Sub-basin Strategy Groups part of the work program support both listed species (Chinook salmon and bull trout char) and work to improve conditions for steelhead and coho.

Magnitude: Tier 1 actions in the work program will achieve: 3 miles of edge habitat improvements and 370.5 acres of acquisitions to support habitat forming processes. Tier 2 actions will improve: 6 acres of riparian habitat, 0.6 miles of edge habitat, remove 6 fish passage barriers and decommission one forest road. Tier 3 actions will improve: 4 acres of riparian habitat, 1,000 feet of edge habitat and remove 18 fish passage barriers.

Other Sub-basin Strategy Groups

Types of projects/programs: Projects in the Other Sub-basin Strategy Groups will restore riparian buffers, increase off-channel rearing capacity, replace blocking culverts for adult and juvenile passage and decommission roads on US Forest Service lands.

Sequence: The Snohomish Basin Salmon Recovery Forum set a goal to expend 20% of its effort outside the nearshore, estuary and mainstem, because efforts in these areas will maintain the processes that form habitat in the lower parts of the basin and because actions in these areas build capacity and support for *Plan* implementation. Projects identified in these areas account for approximately 10% of the work program. Part of the reason for the smaller economic value of projects is that projects in the nearshore and estuary are very expensive, such as building cross-dikes in the estuary. To build the capacity and support for protection and restoration in the rest of the basin, the projects and programs in the tributary watersheds is a critical part of the whole workplan.

Reality: Many of the capital projects in tributary watersheds are the result of outreach and education programs, where willing landowners become excited about working on projects that support salmon habitat. These landowners have a role to play in supporting the work and funding of salmon recovery.

Rationale: This kind of capacity and excitement will be critical in maintaining future decision-making, both in terms of funding future salmon projects and in changing how our land uses affect the landscape. Work in these areas still improves habitat for Chinook salmon and bull trout char. Actions in other basins will also bolster the watershed processes that form salmon habitat in the nearshore, estuary and mainstem. Projects in the other basins include culvert replacements and streams that are important to steelhead trout, bull trout char and coho salmon, including those areas that are at risk and will have a greater impact on the habitat forming processes that will support habitat formation downstream in the mainstem, estuary and nearshore.

Other Sub-basin Strategy Groups

Need: \$4,759,746 for tier 1 projects; \$1,496,123 to complete tier 2 projects

Results: The Basinwide Non-capital/capacity-building portion of the work plan demonstrates the projects and programs to ensure successful *Plan* implementation, as well as projects and programs necessary for sponsors to implement the tier 2 and tier 3 projects above. Projects range from lead entity (Forum) support, monitoring and adaptive management, and evaluating protection measures to technical assistance, a recovery plant nursery, and a restoration ecologist and planting crew.

Magnitude: 10 projects relate directly to further planning needs or monitoring and adaptive management; 3 projects will provide outreach and education; 8 projects build capacity for sponsors to implement the work plan; and 7 projects fulfill data needs across sub-basin strategy group boundaries.

Types of projects/programs: lead entity support, setting instream flows, monitoring and adaptive management, evaluating protection measures, outreach and education, staffing support for project sponsors

Sequence: The lead entity support will maintain support for the Forum as a body for collaboration on projects and programs that lead to salmon recovery and potentially other work taking place within Puget Sound, such as the Orca listings and water quality. In the *Plan*, the Forum recognized the importance of setting instream flows, developing a farm/fish strategy for the basin, evaluating the importance of protection, and monitoring and adaptive management. These projects/programs must be started early in the *Plan* implementation process to ensure the efficacy of efforts in the basin. Outreach and education and technical assistance will continue to build a broad base of support for salmon recovery, leading to protection and restoration of salmon habitat. Capacity-building efforts will maintain high quality staff and allow project sponsors to implement tier 2 projects and programs elsewhere in the work program.

Reality: The lead entity has the capacity to either implement or contract out the farm/fish strategy and water quantity issues. However, evaluation of protection measures and monitoring and adaptive management are at a tier 2, because the lead entity does not have the staffing capacity to either implement these projects or contract them out.

Rationale: The Basinwide non-capital/capacity-building portion of the work plan is the keystone upon which the Forum and project sponsors will work to effectively and efficiently implement the *Plan*. If these projects and programs are not funded, implementation of the *Plan* and the Forum's objectives will be hampered, losing the significant momentum built during the planning process.

Basinwide Non-capital/Capacity-building

Need: \$175,692 for tier 1 projects; \$595,000 to complete tier 2 projects

Results: Investments in capital equipment and capacity will allow the co-managers to build their capacity to implement the *Plan's* recommendations. The co-managers will work to improve data collection and analysis that will lead to better harvest and hatchery decisions and their effects on natural origin stocks. Further, this evaluation will assist the Forum in evaluating and validating the *Plan's* hypotheses. The H's work program is extended to include non-listed species to improve the co-managers knowledge of the interactions of harvest and hatchery management on natural origin stocks to prevent further listings in the basin.

Magnitude: To fully implement the *Plan*, the co-managers are seeking 3 projects that will assist in the integration efforts, six projects that will collect the data needed to make decisions, 3 projects that will evaluate and validate the *Plan's* harvest/hatchery/h-integration/stock assessment goals and 10 projects that perform similar functions for managing the interactions of harvest and hatchery actions on non-listed species.

Types of projects/programs: stock assessment, coded-wire tagging to track fish and harvest, assessment of terminal area harvest, assessment of the ecological interactions between hatchery and wild stocks and evaluation of management efforts.

Sequence: All of the projects and capacity building listed in the work plan will follow through on implementation of the co-managers actions as outlined in the *Plan*. Projects and capacity-building are necessary now to ensure that habitat protection and restoration actions are supported by changes in abundance and diversity of fish resulting from better harvest and hatchery management.

Reality: The co-managers have the capacity to fulfill most of the actions outlined in the work plan; however, to fully implement the *Plan* and the Forum's objectives, they need more staffing capacity to complete the work.

Rationale: Investments in harvest, hatchery stock assessment and H-integration are included in the 3-year work program. These projects will improve the data necessary to make decisions informed by the best available science. The projects will also build the capacity for the Tulalip Tribes as co-manager of the harvest, hatchery facilities and H-integration effort to have the staffing required to plan and adaptively manage these aspects of the *Plan*. More data on harvest will monitor for and maintain the levels of harvest needed to allow for population growth rather than just escapement, following the Rebuilding Exploitation Rate objective. Further developing the hatchery facilities, monitoring and management will better incorporate natural origin fish into hatchery fish to increase fitness and reduce impacts on natural fish. When combined with habitat improvements to increase juvenile survivability, H-integration efforts will improve the chances for recovery by increasing the abundance and diversity of natural origin and hatchery stocks.

Harvest, Hatchery & H-integration

Snohomish Basin Three-Year Work Program

Project & Project Number

● 263

Refer to Excel table for more information

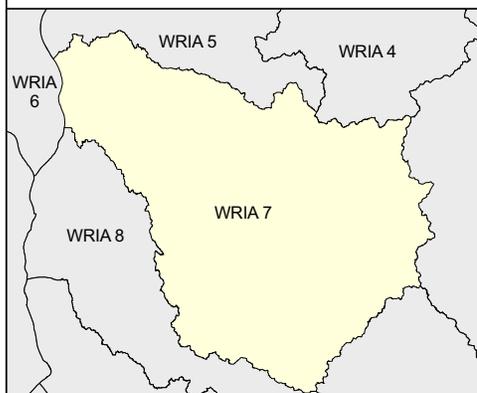
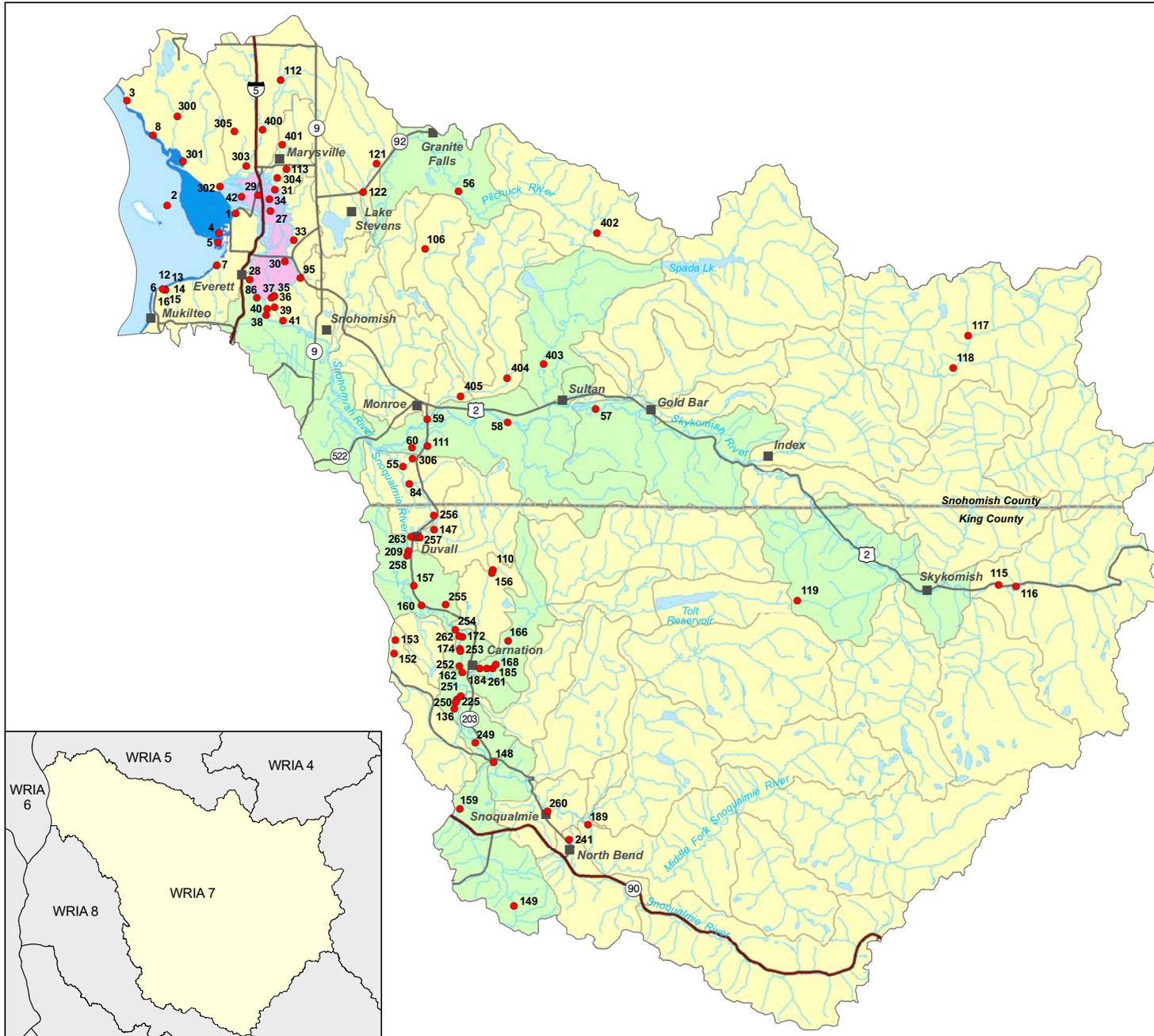
Subbasin Strategy Group

 Nearshore

 Estuary

 Mainstem

 Other Basins



Snohomish County

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Three-Year Watershed Implementation Work Program for the Snohomish River Basin

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
Nearshore Capital projects and programs																		
2	1	Nearshore - Remove derelict fishing gear	not quantified	Snohomish County Marine Resources Committee	Program	Construction	\$120,000	\$0	\$120,000	NWSC	Construction	\$40,000	Construction	\$40,000	Construction	\$40,000	ongoing	\$40,000
5	1	Nearshore - Shoreline restoration at riprapped South end of Jetty Island	3000 ft of beach and backshore, some % mitigation	Port of Everett with US Army Corps of Engineers	Project	Construction	\$1,740,000	\$200,000	\$1,540,000	Corps of Engineers; Port of Everett	Construction	\$1,460,000	Project Monitoring	\$30,000	Maintenance & monitoring	\$250,000	10-yr maintenance cycle	none in 10 years
13	1	Nearshore Restoration and Eelgrass Planting - near Japanese Gulch Creek	1.8 acres; some % mitigation	Washington State Ferries	Project	Concept design	\$620,000		\$620,000	WSF	Engineering design, permitting	\$110,000	Initial sediment placement in shallow subtidal areas (eelgrass planting in 2010 or 2011; monitoring until 2020)	\$510,000	None		2020	\$2,030,000
16	1	Nearshore - Daylighting of Japanese Gulch	1 barrier removed; some % mitigation	WSF	Project	Concept design	\$4,000,000	\$2,000,000	\$2,000,000	WSF	Property Acquisition & Engineering and design	\$2,000,000	Daylighting	\$2,000,000	monitoring replanting		2009	
3	2	Nearshore - Shoreline biogengineering demonstration project	not quantified	Snohomish County, Tulalip Tribes	Project	Concept	\$120,000	\$105,000	\$15,000	SWM staff	Feasibility	\$20,000	Design/Construction	\$100,000			2008	
4	2	Nearshore - Sand Berm at Jetty Island South	2200 ft beach nourishment; some % mitigation	Port of Everett with US Army Corps of Engineers	Project	Feasibility	\$50,000	\$25,000	\$25,000	Port of Everett					Feasibility	\$50,000	\$2,015	\$ 500,000
6	2	Nearshore - Beach Restoration Demonstration@ Mukilteo Tank Farm	1,100 ft of hardened shoreline faced with sand/gravel to create beach/backshore; some % mitigation	Port of Everett	Project	Constructed in 2005-2006	\$1,200,000	\$40,000	\$1,160,000	Port of Everett	Placed approximately 10,000 cy of clean sand in front of RR bulkhead	\$990,000	Project Monitoring	\$90,000	Renourish beach, if needed (assume add 1,000 cy)	\$120,000	Monitor for 20 years	\$150,000
8	2	Nearshore - Bulkhead alternative demonstration project	not quantified	Snohomish County, Tulalip Tribes, Port of Everett	Project	Concept	\$62,000	\$47,000	\$15,000	SWM staff	Feasibility	\$20,000	Design/Construction	\$42,000			2008	
12	2	Nearshore and Beach Nourishment - near Japanese Gulch Creek	1.8 acres; some % mitigation	Washington State Ferries	Project	Concept design	\$850,000		\$850,000	WSF	Engineering design, permitting	\$250,000	Initial sediment placement in shallow subtidal areas (intertidal placement in 2010 or 2011; maintenance until 2030)	\$600,000	None		2030	\$2,400,000
14	2	Nearshore - Partial removal of the creosote-treated and shadowing Tank Farm Pier	1.2 ac removed; some % mitigation	Washington State Ferries	Project	Concept design	\$4,640,000	\$2,000,000	\$2,640,000	WSF	Engineering design, permitting	\$360,000	Construction	\$4,280,000	None		2008 or 2009	None
15	2	Nearshore - Full removal of the creosote-treated and shadowing Tank Farm Pier	2.2 ac removed; some % mitigation	Washington State Ferries	Project	Concept design	\$8,350,000	\$3,000,000	\$5,350,000	?	Engineering design, permitting	\$650,000	Removal	\$7,700,000	None		2008 or 2009	None
1	3	Nearshore - Maulsby Swamp Mudflats/Enhanced Connection	feasibility and design complete	City of Everett	Project	Feasibility	\$210,000	\$190,000	\$20,000				Feasibility	\$110,000	Design	\$100,000	2011	\$3,000,000
7	3	Nearshore - Railroad shoreline improvements	5000 ft beach nourishment		Project	Concept	\$1,150,000						Feasibility	\$150,000	Design/Construction	\$1,000,000	2010	\$450,000
302	3	Nearshore - Priest Point Tidal Lagoon	feasibility and design complete	Snohomish County, Tulalip Tribes	Project	Concept	\$250,000	\$225,000	\$25,000	Grants/Tribal			Feasibility	\$50,000	Design	\$200,000	2011	\$2,250,000
301	3	Nearshore - Tulalip Bay nearshore restoration	feasibility and design complete	Tulalip Tribes	Project	Concept	\$200,000	\$150,000	\$50,000	Grants/Tribal			Feasibility	\$60,000	Design	\$140,000	2011	\$420,000
303	3	Nearshore - Quilceda Creek Estuary Restoration	feasibility and design complete	Tulalip Tribes	Project	Concept	\$250,000	\$225,000	\$25,000	Grants/Tribal			Feasibility	\$50,000	Design	\$200,000	2012	\$2,250,000
Total Nearshore capital need							\$23,812,000	\$8,207,000	\$14,455,000		Total year 1 need	\$5,900,000	Total year 2 need	\$15,812,000	Total year 3 need	\$2,100,000		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009	
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost			
Nearshore Non-capital projects and programs																			
	1	Nearshore - Increase coordination with MRC	Coordinated approach to nearshore restoration	Snohomish County, Forum	Program	Feasibility	\$48,000	\$0	\$48,000	NWSC, WDFW Lead Entity	coordination	\$16,000	coordination	\$16,000	coordination	\$16,000	ongoing	\$56,000	
	1	Nearshore - Review and update local spill prevention and response plans	Spill response plans in place.	Snohomish County MRC, Everett Naval Station	Program	Feasibility	\$1,700	\$0	\$1,700	NWSC	Implementation	\$1,700					2007		
	1	Capacity Building - Nearshore Protection and Restoration	Builds capacity for nearshore protection and restoration strategy	Tulalip Tribes	Program	Personnel Planning	\$96,123	\$96,123	\$0	Grants	Annual Implementation	\$32,041	Annual Implementation	\$32,041	Annual Implementation	\$32,041	ongoing	\$32,041/yr.	
	1	Nearshore - Beach Watchers Program for Snohomish County/Snohomish Basin portion	Builds capacity of landowners to protect and restore nearshore areas.	WSU Extension/Snohomish County MRC	Program	Implementation	\$60,000	\$60,000			Annual Implementation	\$20,000	Annual Implementation	\$20,000	Annual Implementation	\$20,000	ongoing	\$140,000	
	1	Nearshore - Develop a coordinated feasibility study and strategy for protection, restoration and funding the nearshore component of the Plan	Juvenile salmon use study; mitigation/restoration strategy; septic issues; beach nourishment strategy; protection strategy; funding alternatives; feasibility of restoration alternatives	Snohomish County, Tulalip Tribes, PSAT, City of Mukilteo, Port of Everett, City of Everett, Snohomish County MRC, US Navy, BNSF	Project	Concept	\$450,000	\$405,000	\$45,000	Project sponsors	Feasibility	\$75,000	Feasibility	\$250,000	Feasibility	\$125,000	2009		
Total Nearshore non-capital need							\$655,823	\$561,123	\$94,700		Total year 1 need	\$144,741	Total year 2 need	\$318,041	Total year 3 need	\$193,041			
Total Nearshore need							\$24,467,823	\$8,768,123	\$14,549,700		Total year 1 need	\$6,044,741	Total year 2 need	\$16,130,041	Total year 3 need	\$2,293,041			

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
Estuary Capital projects and programs																		
304	1	Estuary - Qwuloot Estuary Restoration	360 acres of tidal marsh; 5,300 ft edge habitat	Tulalip Tribes	Project	Design	\$4,700,000	\$3,000,000	\$1,700,000	Grants/Tribal	Construction	\$1,500,000	Construction	\$2,200,000	Construction	\$1,000,000	2009	
27	1	Estuary - Smith Island restoration	475 ac tidal marsh 10500 ft edge habitat	Snohomish county	Project	Feasibility	\$4,880,000	\$3,670,000	\$1,210,000	SRFB (acq.) SWM staff	Design, acquisition & maintenance	\$1,380,000	Design & maintenance	\$500,000	Construction	\$3,000,000	2011	\$4,000,000
28	1	Estuary - Bigelow Creek/Simpson Lee: some % mitigation	35 ac tidal marsh 5428 ft edge habitat	City of Everett	Project	Design	\$2,200,000	\$1,700,000	\$500,000		Design	\$200,000	Construction	\$1,000,000	Construction	\$1,000,000	2009	
29	1	Estuary - Smith Island/Union Slough Marine Wetland Restoration; some % mitigation	100 acres tidal marsh	City of Everett	Project	Construction	\$1,500,000	\$1,300,000	\$200,000		Construction	\$500,000	Construction	\$1,000,000			2008	
31	1	Estuary - North Ebey Island Enhancement	5.7 acres riparian	Snohomish County	Project	Construction	\$100,000	\$95,000	\$5,000	SWM staff	Construction	\$100,000					2007	
35	1	Estuary - Hydrographic survey and hydrodynamic modeling to drive engineering design of all estuary projects	modelling to feed engineering design for all projects	Snohomish County, Tulalip Tribes	Project	Design	\$200,000	\$190,000	\$10,000	SWM staff	Data collection, model building and calibration	\$100,000	Alternatives analysis	\$100,000			2008	
36	1	Estuary - Infrastructure upgrade for flood control/drainage and WQ/fish access and restoration of flow through Swan Trail Slough	Fish-friendly tidegate 15 acres tidal marsh 2.8 ac riparian	DD13/SCD	Project	Feasibility	\$215,000	\$180,000	\$45,000	DD13	Design, construction, monitoring and maintenance	\$140,000	Construction, monitoring/maintenance	\$33,000	Monitoring/maintenance	\$2,000	2009	\$2,000
37	1	Estuary - Edge habitat restoration on earthen dike on Van der Vieren and Roetiscoender estate property	3000 ft edge habitat	DD13/SCD	Project	Design	\$40,000	\$30,000	\$10,000	DD13, SWM, SCD	Permits, design, installation of LWD and revegetation	\$34,000	Maintenance	\$4,000	Monitoring/maintenance	2,000	2009	
38	1	Estuary - Swan Trail Slough riparian restoration	6 ac riparian	DD13/SCD, Snohomish County	Project	Design	\$99,000	\$53,000	\$36,000	DD13, landowner, SWM, SCD	Design/construction	\$77,000	Monitoring/maintenance	\$7,000	Monitoring/maintenance	\$5,000	2009	2000
30	2	Estuary - North Tip Ebey Island	feasibility and acquisition of 399 acres	Snohomish County	Project	Concept	\$2,000,000	\$1,990,000	\$10,000	SWM staff					Feasibility/acquisition	\$2,000,000	2012	\$850,000
	2	Estuary - Additional tidegate projects	Install at least two fish friendly tidegates with associated improvements in water quality	Diking and drainage districts, SCD, Snohomish County and others	Project	Concept	\$150,000	\$150,000					Feasibility	\$50,000	Design	\$100,000	2015	\$3,875,000
42	2	Estuary - Smith Island Delta Front	feasibility and acquisition of 132 acres	Cascade Land Conservancy, Snohomish County	Project	Concept	\$3,150,000	\$3,130,000	\$20,000	SWM staff			Feasibility	\$50,000	Acquisition	\$3,100,000	2009	
33	3	Estuary - Sunnyside Hill	Feasibility, no gain yet.	Snohomish County	Project	Concept	\$100,000	\$85,000	\$15,000	SWM staff					Feasibility	\$100,000	2012	\$3,700,000
34	3	Estuary - Biringer Farm Estuarine Restoration/ Mitigation Bank; some % mitigation	>300 acres of restored tidal mudflat, marsh, slough	Port of Everett/Wildlands of Washington, Inc.	Project	In permitting	\$19,334,000	Fully funded	\$15,573,000	Port of Everett/Wildlands of Washington, Inc.	Permitting; establish banking instrument		Construction					
Total Estuary capital need							\$19,334,000	\$15,573,000	\$3,761,000		Total year 1 need	\$4,031,000	Total year 2 need	\$4,944,000	Total year 3 need	\$10,309,000		
Estuary Non-capital projects and programs																		
	1	Monitoring - Conduct beach seining, fyke netting in estuary and nearshore marine areas and pocket estuaries	Improved understanding of salmon use and habitat preference in estuary habitats	Tulalip Tribes, NOAA Fisheries, Snohomish County	Project	Monitoring and research	\$198,000	\$0	\$198,000	Grants/Tribal/Local	Implementation	\$66,000	Implementation	\$66,000	Implementation	\$66,000	2010	\$66,000
	2	Estuary - Develop a coordinated mitigation/restoration strategy	Strategy identifies how to most effectively use different types of funding	City of Everett, Port of Everett, Snohomish County, Tulalip Tribes	Program	Feasibility	\$5,000	\$0	\$5,000	Snohomish County								
	3	Estuary - Develop vegetation and embankment management plans for dikes	Modifications to dikes to improve edge habitat	Utilities, transportation agencies	Program	Feasibility	\$100,000	\$100,000	\$203,000									
Total estuary non-capital need							\$303,000	\$100,000	\$203,000		Total year 1 need	\$66,000	Total year 2 need	\$66,000	Total year 3 need	\$66,000		
Total Estuary need							\$19,637,000	\$15,673,000	\$3,964,000		Total year 1 need	\$4,097,000	Total year 2 need	\$5,010,000	Total year 3 need	\$10,375,000		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009	
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost			
Mainstem Capital projects and programs																			
162	1	Mainstem-primary - Snoqualmie-Tolt Levee Setback	2500 ft edge habitat 12 ac off channel 6 ac riparian	Seattle/King County	Project	Design	\$4,500,000	\$500,000	\$4,000,000	KCD grant, Seattle, King County	Construction	\$4,000,000					2007		
253	1	Mainstem-primary - Camp Gilead Reconnection	400 ft edge habitat 4 ac off channel 1 barrier removed blocking 1.3 miles of habitat	King County	Project	Design	\$250,000	\$200,000	\$50,000	King County	Design	\$65,000	Construction	\$175,000	Maintenance & monitoring	\$10,000	2009		
258	1	Mainstem-primary - McCormick Park Riparian Restoration	5 ac riparian	Stilly-Sno Task Force/City of Duvall	Project	Construction	\$200,000	\$175,000	\$25,000	KCD grant	Construction	\$40,000	Construction	\$80,000	Construction	\$80,000	2009	25000	
209	1	Mainstem-primary - Coe Clemmons Creek Restoration	165 ft edge habitat 0.5 ac riparian	City of Duvall	Project	Design	\$175,000	\$135,000	\$40,000	KCD grant	Design	\$50,000	Construction	\$120,000	Maintenance & monitoring	\$5,000	2009	\$10,000	
225	1	Mainstem-primary - Stout Property Riparian Restoration	2 ac. Riparian	Stewardship Partners	Project	Design	\$100,000	\$75,000	\$25,000	KCD grant	Construction	\$50,000	Construction	\$40,000	Maintenance & monitoring	\$10,000	2009		
55	1	Mainstem-primary - Snoqualmie edge enhancement at Crescent Lake	8 ac riparian 2,400 ft edge habitat 10 log jams	Snohomish County	Project	Design	\$186,921	\$91,350	\$92,851	Snohomish CCW grant	Design/Construction	\$186,921					2007		
57	1	Mainstem-primary - Skykomish Braided Reach	4 log jams 17.5 acres riparian 2450 ft edge habitat	Snohomish County	Project	Feasibility	\$2,000,000	\$1,850,000	\$150,000	SWM staff	Design/Construction	\$200,000	Construction	\$500,000	Construction/Maintenance & monitoring	\$1,300,000	2009	\$25,000	
58	1	Mainstem primary - Middle Reach Skykomish	10 log jams 25 ac riparian 5,300 ft edge habitat 20 ac off-channel	Snohomish County	Project	Concept	\$950,000	\$850,000	\$100,000	SWM staff			Feasibility	\$200,000	Design/Construction	\$750,000	2012	\$550,000	
59	1	Mainstem-primary - Buck Island Floodplain Forest Enhancement	1 ac off-channel xx ft edge habitat yy ac riparian	Stilly-Sno Task Force	Project	Design	\$200,000				Construction	\$60,000	Construction	\$60,000	Construction/Maintenance & monitoring	\$80,000	2009		
172	1	Mainstem primary - Chinook bend levee removal	2000 ft edge habitat 1 ac off channel	King County	Project	Feasibility	\$890,000	\$690,000	\$200,000	King County, KCD grant	Design	\$40,000	Construction	\$555,000	Construction	\$295,000	2010		
174	1	Mainstem primary - McElhoe-Person Levee setback	1300 ft edge habitat 5 ac off channel 2 ac riparian	King County	Project	Feasibility	\$1,000,000	\$900,000	\$100,000	King County	Design	\$250,000	Construction	\$730,000	Maintenance & monitoring	\$20,000	2010	\$20,000	
254	1	Mainstem primary - Stillwater restoration	3000 ft edge habitat 20 ac off channel 10 ac riparian	King County	Project	Feasibility	\$1,250,000	\$1,000,000	\$250,000	King County	Design	\$50,000	Construction	\$950,000	Construction	\$250,000	2011		
148	1	Mainstem primary - Lower Raging River Floodplain Reconnection	Design	King County	Project	Feasibility	\$50,000		\$50,000	KCD grant				Design	\$50,000	2012	\$1,050,000		
249	1	Mainstem primary - Fall City Reach Restoration	Design	King County	Project	Feasibility	\$100,000	\$75,000	\$25,000	King County				Design	\$100,000	2012	\$3,950,000		
	1	Mainstem Primary - CREP plantings on Ag lands	73 ac riparian	KCD	project	Design	\$275,000	\$260,000	\$15,000	KCD	Design	\$15,000	Construction	\$130,000	Construction	\$130,000	2009		
250	1	Mainstem Primary - Gonnerson Acquisition	protection of 12 ac	King County	project	Feasibility	\$425,000	\$350,000	\$75,000	KCD grant			Acquisition	\$425,000			2008		
263	1	Mainstem Primary - Herb Co. Farm Riparian Restoration	.5 ac riparian	Stewardship Partners	project	Design	\$18,000	\$15,000	\$3,000	KCD grant	Construction	\$15,000	Maintenance	\$1,500	Maintenance & monitoring	\$1,500	2009		
136	1	Mainstem Primary - Jubilee Farm Riparian Restoration	6 ac riparian	Stewardship Partners	project	Construction	\$65,000	\$20,000	\$7,000	\$38000 NFWF	Construction	\$55,000	Maintenance	\$5,000	Maintenance & monitoring	\$5,000	2009		
	1	Mainstem Primary - Lower Snoqualmie Restoration and Maintenance Crew	18 ac riparian	Stewardship Partners	project	Maintenance	\$75,000	\$40,000	\$35,000	Stewardship Partners	Construction	\$35,000	Maintenance	\$20,000	Maintenance & monitoring	\$20,000	ongoing	\$700,000	
160	1	Mainstem Primary - Oxbow Farm Channel Enhancement	Enhance fish passage	Stewardship Partners	project	Feasibility	\$46,000	\$26,000	\$20,000	In-Kind Stewardship Partners	Design	\$20,000	Construction	\$26,000			2008		
159	1	Mainstem Primary - Raging River Preston Reach Restoration	1200 ft edge habitat 2 ac off channel 3 ac riparian	King County	project	Construction	\$35,000		\$35,000	King County	Monitoring & Maintenance	\$20,000	Maintenance	\$10,000	Maintenance & monitoring	\$5,000	2009		
251	1	Mainstem Primary - Snoqualmie River Byers Riparian Restoration	600 ft edge habitat 0.5 ac riparian	King County	project	Feasibility	\$120,000	\$90,000	\$40,000	King County	Design	\$30,000	Construction	\$80,000	Maintenance & monitoring	\$10,000	2009		
	1	Mainstem Primary - Snoqualmie Riparian Restoration on Agriculture Lands	15 ac riparian	King County	project	Construction	\$300,000	\$250,000	\$50,000	King County	Construction	\$100,000	Construction	\$100,000	Construction	\$100,000	ongoing	\$700,000	
185	1	Mainstem Primary - Tolt River Natural Area Acquisitions	protection of 54 ac	King County	project	Feasibility	\$200,000	\$150,000	\$50,000	KCD grant			Acquisition	\$300,000			2008		
261	1	Mainstem Primary - Tolt River Restoration	5 ac riparian	City of Seattle	project	Concept	\$100,000	\$75,000	\$25,000	Seattle	Construction	\$50,000	Construction	\$25,000	Construction	\$25,000	ongoing	\$100,000	

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
149	1	Mainstem Primary - Raging River Kerriston Reach Restoration	1300 ft edge habitat 6 ac riparian	King County	project	Feasibility	\$200,000	\$150,000	\$50,000	KCD grant	Design	\$50,000	Construction	\$150,000			2008	
	1	Mainstem primary - Fall City Natural Area Acquisitions	protection of 68 acres	King County	Project	Concept	\$1,500,000	\$1,000,000	\$50,000	KCD Grant			Acquisition	\$1,500,000			2008	
	1	Mainstem primary - Stosel Creek Acquisitions	protection of 346 acres	King County	Project	Concept	\$3,500,000	\$3,350,000	\$150,000	Conservation Futures					Acquisition	\$3,500,000	2009	
262	1	Mainstem Primary - Wetland Enhancement and Creation at Chinook Bend Natural Area	2 ac riparian	Ducks Unlimited	project	Design	\$125,000	\$100,000	\$25,000	KCD grant	Construction	\$125,000					2007	
166	1	Primary mainstem - Tolt San Souci Acquisitions	protection of 41 acres	City of Seattle/King County	Project	Concept	\$4,000,000	\$3,600,000	\$400,000	Conservation Futures	Acquisition	\$2,000,000	Acquisition	\$2,000,000			2008	
403	1	Mainstem Primary - Sultan River Side Channel Enhancement	Increased channel complexity, rearing and spawning habitat improvement	AASF and PUD	Project	Concept	\$105,000	\$105,000	\$0	Future Grants and PUD	Design and Construction	\$100,000	Monitoring and Maintenance	\$5,000		\$0	2008	
184	2	Mainstem-primary - Lower Tolt River Acquisition	protection of 6.7 acres	City of Carnation/Cascade Land Conservancy	Project	Feasibility	\$650,000	\$500,000	\$150,000	KCD grant					Acquisition	\$650,000	2009	
60	2	Mainstem-primary - Riley Slough enhancements	Feasibility	Snohomish Conservation District	Project	Concept	\$100,000	\$85,000	\$15,000	SCD			Feasibility	\$100,000				
252	2	Mainstem primary - Tolt Footbridge Floodplain restoration	Design	King County	Project	Feasibility	\$100,000	\$75,000	\$25,000	King County			Feasibility	\$50,000	Design	\$50,000	2011	\$550,000
250	2	Mainstem Primary - Goneson Revetment Removal	Design	King County	project	Concept	\$100,000	\$80,000	\$20,000	KCD grant					Design	\$100,000	2011	\$300,000
	2	Mainstem Primary - Snoqualmie Tribal Community Conservation Corps	15 ac riparian	Snoqualmie Tribe	project	Feasibility	\$250,000	\$225,000	\$25,000	KCD grant	Construction	\$100,000	Construction	\$75,000	Construction	\$75,000	ongoing	\$700,000
168	2	Mainstem Primary - Tolt River Natural Area Floodplain Reconnection	Design	King County	project	Feasibility	\$300,000	\$250,000	\$50,000	King County					Design	\$300,000	2011	\$1,000,000
255	2	Mainstem Primary - East Fork Weiss Creek Fish Passage Improvement	Feasibility	King County	project	Concept	\$50,000	\$40,000	\$10,000	King County					Feasibility	\$50,000	2011	\$400,000
84	2	Mainstem primary - Snoqualmie River Reach, Sno Co portion	5 log jams 10 ac riparian 3900 ft edge habitat	Snohomish County	Project	Concept	\$300,000	\$250,000	\$50,000	SWM staff					Design/Construction	\$300,000	2013	
56	2	Mainstem-primary - Middle Pilchuck reach restoration	4 log jams 20 ac riparian 2600 ft edge habitat	Snohomish County	Project	Concept	\$250,000	\$200,000	\$50,000	SWM staff					Design/Construction	\$250,000	2013	
157	2	Mainstem-primary - Deer Creek Stream Relocation and Riparian Enhancement	400 ft edge habitat	King County	Project	Feasibility	\$150,000	\$100,000	\$50,000	King County	Design	\$50,000	Construction	\$90,000	Maintenance & monitoring	\$10,000	2009	
86	2	Mainstem primary - Marshland area restoration	300 ac off-channel	City of Everett	Project	Feasibility	\$3,650,000	\$3,250,000	\$400,000		Feasibility	\$50,000	Design	\$600,000	Construction	\$3,000,000	2010	\$7,000,000
	2	Mainstem-primary - Main River Floodplain Restoration		Snohomish Fisheries Enhancement Task Force	Project	Concept	\$300,000	\$300,000			Feasibility & Design	\$60,000	Construction, Monitoring & Maintenance	\$120,000	Construction, Monitoring & Maintenance	\$120,000	2011	
306	3	Snoqualmie - Honor Farm Stream and River Restoration	Design	Tulalip Tribes	Project	Concept	\$160,000	\$140,000	\$20,000	Grants/Tribal			Feasibility	\$60,000	Design	\$100,000	2012	\$750,000
Total Mainstem capital need							\$29,300,921	\$21,617,350	\$7,002,851		Total year 1 need	\$7,866,921	Total year 2 need	\$9,282,500	Total year 3 need	\$11,751,500		
Mainstem Non-capital projects and programs																		
	1	Mainstem primary - Salmon Safe	Continue the Salmon Safe certification program that benefits both farms and fish	Stewardship Partners	Program	Implementation	\$90,000				Program Implementation	\$30,000	Program Implementation	\$30,000	Program Implementation	\$30,000	ongoing	\$30,000
	1	Monitoring - Operate smolt traps on Skykomish and Snoqualmie Rivers	Establish baseline of river productivity to evaluate recovery	Tulalip Tribes, NOAA Fisheries	Project	Monitoring and research	\$750,000	\$450,000	\$300,000	Grants/Tribal/Local	Implementation	\$250,000	Implementation	\$250,000	Implementation	\$250,000	2010	\$250,000
	2	Mainstem-primary - Shared Goats for Snoqualmie Pilot Project	3 ac riparian noxious weeds removed	Washington Trout	Project	Feasibility	\$664,488		\$664,488	KCD, USDA	Construction, Maintenance & Monitoring	\$221,496	Construction, Maintenance & Monitoring	\$221,496	Construction, Maintenance & Monitoring	\$221,496	2009	
Total Mainstem non-capital need							\$1,504,488	\$450,000	\$664,488		Total year 1 need	\$501,496	Total year 2 need	\$501,496	Total year 3 need	\$501,496		
Total Mainstem need							\$30,805,409	\$22,067,350	\$7,967,339		Total year 1 need	\$8,368,417	Total year 2 need	\$9,783,996	Total year 3 need	\$12,252,996		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009	
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost			
Other Sub-basin Strategy Groups Capital projects and programs																			
	1	Headwaters - Middle Fork Snoqualmie River Valley Invasive Removal Project	Invasive control	Cascade Land Conservancy	project	Construction	\$70,000	\$43,000	\$27,000	various SWM staff, other fees, grants	Construction	\$27,000	Construction	\$43,000			2008		
	1	Snohomish Basin Steward - 2 projects per year	not quantified	Snohomish County	Program	implementation	\$300,000	\$200,000	\$100,000		Feasibility/Design/Construction	\$100,000	Feasibility/Design/Construction	\$100,000	Feasibility/Design/Construction	\$100,000	ongoing	\$100,000 per year	
111	1	Rural Streams Secondary - Foye Ck/Riley Slough	2,000 ft + slough	Snohomish County	Project	Design	\$250,000	\$227,500	\$22,500	SWM staff	Design	\$50,000	Construction	\$200,000			2008		
305	1	Rural Streams Secondary - Coho Creek Stream and Wetland Restoration	2.5 miles of stream and wetland	Tulalip Tribes	Project	Design	\$1,605,000	\$1,400,000	\$205,000	Grants/Tribal	Construction	\$535,000	Construction	\$535,000	Construction	\$535,000	2009		
	1	Headwaters Protection - land purchases	acquisition	Cascade Land Conservancy	Project	Concept	\$2,000,000												
	1	Rural Streams Secondary - Patterson Creek Stevilngson Acquisition	protection of 10 acres	King County	Project	Concept	\$425,000	\$375,000	\$50,000	King County			Acquisition	\$425,000			2008		
	1	Rural Streams Secondary - Patterson Creek State DNR Land Acquisition	protection of 160 acres	King County	Project	Concept	\$2,500,000	\$2,450,000	\$50,000	King County					Acquisition	\$2,500,000	2009		
260	1	Headwaters - City of Snoqualmie Natural Area Acquisitions	protection of 0.5 acres	City of Snoqualmie	Project	Concept	\$120,000	\$60,000	\$60,000	Conservation Futures	Acquisition	\$120,000					2007		
402	1	Headwaters Secondary Restoration - Pilchuck River Riparian Restoration and Fish Enhancement	Restoring Forests, reducing fine sediment input, increasing channel complexity	AASF and Stilly-SnoTask Force (SSTF)	Project	Construction	\$15,000	\$0	\$0	Property Owner, & Sno Co	Construction	\$15,000		\$0		\$0	2007		
403	1	Mainstem Primary - Sultan River Side Channel Enhancement	Increased channel complexity, rearing and spawning habitat improvement	AASF and PUD	Project	Concept	\$105,000	\$105,000	\$0	Future Grants and PUD	Design and Construction	\$100,000	Monitoring and Maintenance	\$5,000		\$0	2008		
95	2	Urban streams - Mosher Wetland	2 ac off-channel 650 ft edge habitat	Snohomish County	Project	Feasibility	\$104,000	\$64,000	\$40,000	SWM staff, other grants	Design/Construction	\$104,000							
147	2	Rural Streams Primary - Cherry Creek Floodplain Restoration	2400 feet edge 1.5 ac riparian	Washington Trout	Project	Feasibility	\$600,000	\$490,000	\$160,000	NFWF, King County, KCD	Design	\$80,000	Construction	\$200,000	Construction	\$320,000	2011	\$50,000	
256	2	Rural Streams Primary - Cherry Creek Mouth Restoration	Design	King County	project	concept	\$280,000	\$200,000	\$80,000	KCD grant					Design	\$280,000	2011	\$500,000	
189	2	Headwaters - Three Forks Natural Area Restoration	2 ac riparian	King County	project	Construction	\$50,000	\$40,000	\$10,000	KCD grant	Construction	\$25,000	Construction	\$25,000			2008		
241	2	Headwaters - Ribary Creek Restoration	1.5 ac riparian	North Bend	project	Design	\$60,000	\$40,000	\$20,000	KCD grant	Construction	\$50,000	Maintenance	\$10,000			2009		
257	2	Rural Streams Primary - Cherry Valley Dairy Stream Enhancement	1 ac riparian 1 barrier removed	Stewardship Partners	project	Design	\$45,000	\$35,000	\$10,000	Stewardship Partners	Design	\$10,000	Construction	\$35,000			2009		
115	2	Mainstem secondary - Stream restoration, slope stabilization, and road obliteration of portions of USFS Roads 6066 and 6067.	road decommissioning	Tulalip Tribes	Project	Design	\$190,000	\$153,000	\$37,000	USFS	Design	\$37,000	Construction	\$153,000		Project likely completed before year 3 if funding in year 2 occurs.	\$0	Sep-03	\$0
116	2	Mainstem secondary - Stream restoration and streambank stabilization at key locations in the Tye and South Fork Skykomish Rivers.	restore hydrologic and sediment processes	Tulalip Tribes	Project	Concept	\$120,000	\$70,000	\$50,000	USFS and BPA, and possibly WSDOT and/or BNSF railroad.	Design	\$15,000	Design	\$25,000	Construction	\$80,000	2012	\$200,000	

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
117	2	Mainstem secondary - Replacement of under-sized and impassable culvert with a bridge on a tributary to the North Fork Skykomish River.	fish passage barrier removed	Tulalip Tribes	Project	Concept	\$64,000	\$52,000	\$12,000	USFS	Design	\$4,000	Design	\$8,000	Construction	54,000	2009	0
118	2	Mainstem secondary - Replacement of twin under-sized impassable culverts (one buried by sediment) on a tributary to the North Fork Skykomish River.	fish passage barrier removed	Tulalip Tribes	Project	Design	\$31,000	\$25,500	\$5,500	USFS	Design	\$5,500	Construction	\$25,500	Project likely completed before year 3 if funding in year 2 occurs.	0	2008	0
119	2	Mainstem Secondary - Replacement of impassable culvert on Money Creek (a tributary to the South Fork Skykomish River) at the mouth of Lake Elizabeth.	fish passage barrier removed	Snohomish County	Project	Design	\$23,000	\$19,000	\$4,000	USFS	Design	\$4,000	Construction	\$19,000	Project likely completed before year 3 if funding in year 2 occurs.	\$0	Sep-03	\$0
404	2	Rural Streams Primary - Woods Creek Fish Barrier Removals	Removing human-made barrier allows for access to spawning and rearing habitat	AASF, SSTF and Snohomish Conservation District (SCD)	Project	Concept	\$230,000	\$250,000	\$0	Future Grants and Property owners	Design	30000	Construction	\$100,000	Construction	\$100,000	2009	
405	2	Rural Streams Primary - Woods Creek Riparian Restoration and In-stream Enhancement	Habitat Restoration Improvement	AASF, SSTF and SCD	Project	Feasibility	\$90,000	\$90,000	\$0	Future Grants and Project Sponsors	Design and Construction	30000	Design and Construction	\$30,000	Design and Construction	\$30,000	2009	\$150,000
152	3	Rural Streams Secondary - NE 52nd Place Fish Passage Improvement	1 barrier removed	King County	project	Feasibility	\$450,000	\$400,000	\$50,000	KCD grant			Design	\$50,000	Construction	\$400,000	2009	
153	3	Rural Streams Secondary - NE 67th Place Fish Passage Improvement	Design	King County	project	Feasibility	\$50,000		\$50,000	King County					Design	\$50,000	2010	\$100,000
156	3	Rural Streams Secondary - Harris Creek Tributary Fish Passage Improvement	1 barrier removed	King County	project	Feasibility	\$200,000	\$150,000	\$50,000	King County			Design	\$50,000	Construction	\$150,000	2009	
106	3	Rural secondary - Creswell Creek fish ladder improvements	Improves fish passage over the fish ladder, allowing juvenile migration	Snohomish County	Project	Design	\$140,000	\$90,000	\$50,000	NFWF - Community Salmon Fund	Construction	\$60,000	Maintenance & monitoring	\$30,000				
	3	Snohomish Basin Fish Passage Program - 1 per year minimum	3 fish passage barriers replaced	Snohomish County	Program	Implementation	\$450,000	\$90,000	\$360,000	SWM staff	Feasibility/Design/Construction	\$90,000	Feasibility/Design/Construction	\$90,000	Feasibility/Design/Construction	\$90,000	ongoing	\$90,000 per year
	3	Everett Pipeline Culvert Replacement Program - 7 over 10yrs	7 fish passage barriers replaced	City of Everett	Program	Implementation	\$250,000				Design/Construction	\$50,000	Design/Construction	\$100,000	Design/Construction	\$100,000	ongoing	\$510,000
110	3	Rural Streams Secondary - Harris Creek Tributary/Booth	Upstream fish passage 1.5 miles	Task Force	Project	Feasibility	\$100,000			FFFP - pending	Design/Construction	\$60,000	Construction	\$37,500	Maintenance & monitoring	\$2,500	2008	
112	3	Urban Streams - Middle Fork Quilceda (aka Quilceda NGPA)	4 acres + LWD	Snohomish County	Project	Construction	\$90,000	\$50,000	\$40,000	SWM Fees	Construction	\$50,000					2007	
400	3	Urban Streams - 3 Quilceda Creek Fish Barrier Culvert Removals	Remove human-made barriers and enhance riparian conditions	Adopt-A-Stream Foundation (AASF)	Project	Concept	\$150,000	\$150,000	\$0	Future Grants, Property owners	Design and Construction	\$50,000	Design and Construction	\$50,000	Design and Construction	\$50,000	2009	
401	3	Urban Streams - 1 Allen Creek Fish Barrier Culvert Removal	Remove human-made barrier and enhance riparian conditions	AASF	Project	Concept	\$50,000	\$50,000	\$0	Future Grants	Design and Construction	\$50,000		\$0		0	2008	
113	3	Urban Streams - Jones Ck Reach on Marysville School Distr.		Task Force	Project	Feasibility	\$150,000				Construction	\$100,000	Construction/Monitoring & maintenance	\$50,000			2008	
121	3	Rural Streams secondary - Little Pilchuck Ck Lochsloy Homeowners		Task Force	Project	Concept	\$75,000				Design	\$25,000	Construction	\$50,000				
122	3	Rural streams secondary - Little Pilchuck Ck Matheson		Task Force	Project	Concept	\$60,000				Design	\$20,000	Construction	\$40,000				
Total Other Sub-basins (non-listed species) need							\$11,492,000	\$7,369,000	\$1,543,000		Total year 1 need	\$1,896,500	Total year 2 need	\$2,486,000	Total year 3 need	\$4,841,500		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009	
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost			
Other Sub-basin Strategy Groups Non-capital projects and programs																			
	1	Mainstem secondary - Identification of scour flow and base flow events that limit the potential capacity and recovery of salmonid stocks across the Skykomish Basin	Tulalip Tribes	Project	Design phase ongoing	\$30,500	\$30,000	\$6,500	USFS	Complete design with input from USGS, DOE, King Co. DNR, and Snohomish Co. SWM.	wood flows in stream systems with only abandoned or no gage station records, either by correlations to existing gages, record extension, and/or use of regional curves (w/ field verification).	\$5,250	10,500	Set priorities for where to establish additional short-term gages to make correlations to long-term existing gages and begin to install gages.	14,750	2012	\$21,000		
	2	Mainstem Secondary - Pilchuck River barrier survey	Barriers identified and added to state list	Snohomish County, WA	Project	Concept	\$20,000	\$10,000	\$10,000	SWM staff	Assessment/Feasibility study	\$20,000							
	2	Mainstem secondary - Stream Stewardship and Adaptive Management of Recreation Impacts in the North and South Fork Skykomish Sub-Basins	Tulalip Tribes	Program and Project	Ongoing Program and monitoring	\$33,000	\$18,000	\$15,000	USFS and RAC	Expand current Stewardship, monitoring, and impacts management program.	Continue expanded program.	\$11,000	\$11,000	Continue expanded program.	\$11,000	2012	\$36,000		
	2	Rural Streams primary - Tokul Creek Fish Passage Feasibility study	Feasibility complete	Washington Trout	Project	Feasibility	\$180,000	\$150,000	\$30,000	WA Trout	Feasibility	\$80,000	Feasibility	\$40,000	Feasibility	\$60,000	2009		
Total Other Sub-basins (non-capital) needs							\$248,000	\$181,500	\$40,000		Total year 1 need	\$100,000	Total year 2 need	\$40,000	Total year 3 need	\$64,024			
Total Other Sub-basins need							\$11,740,000	\$181,500	\$40,000		Total year 1 need	\$120,000	Total year 2 need	\$80,000	Total year 3 need	\$64,024			
Basinwide Non-capital/capacity-building																			
	1	Basinwide - Water quantity scoping and setting	Set instream flows	Snohomish County, Forum	Project	Concept	\$200,000	\$162,500	\$37,500	SWM staff/LE staff	Design	\$50,000	Implementation	\$100,000	Implementation	\$50,000	2010		
	1	Basinwide - Coordinate a basin large wood program to take advantage of economies of scale	Wood available for projects stored. Sponsors only pay for transport costs to project.	Snohomish and King Counties, all project sponsors, WADNR, WSDOT	Program	Concept	\$600,000	\$450,000	\$150,000	King and Snohomish Counties	Implementation	\$200,000	Implementation	\$200,000	Implementation	\$200,000	ongoing	\$1,400,000	
	1	Basinwide - Lead Entity coordination (2 full time planning staff, plus professional services at Snohomish County)	A well-coordinated, functional lead entity	Snohomish County	Program	Implementation	\$450,000	\$375,000	\$25,000	Snohomish County	Implementation	\$150,000	Implementation	\$150,000	Implementation	\$150,000	ongoing	\$1,050,000	
	1	Basinwide - Develop a farm/fish strategy that identifies solutions that benefit farming and fish	Completed strategy that integrates farm and salmon needs	Snohomish County with others	Program	Feasibility	\$100,000	\$0	\$100,000	King and Snohomish Counties	Feasibility	\$75,000	feasibility	\$25,000		2009			
	1	Capacity - Snohomish County riparian restoration and maintenance crew, plus restoration ecologist	Expand the County's capacity to design and implement riparian restoration, which is currently at max capacity	Snohomish County	Program	Feasibility	\$1,140,000	\$969,000	\$171,000	Snohomish County	Design, construction, maintenance and monitoring	\$380,000	Design, construction, maintenance and monitoring	\$380,000	Design, construction, maintenance and monitoring	\$380,000	ongoing	\$2,660,000	
	1	Basinwide - REYS education program to Snohomish Basin schools	4 schools, reaching approx. 450 community members	Task Force	Program	Implementation	\$30,000	\$30,000			Implementation	\$10,000	Implementation	\$10,000	Implementation	\$10,000	ongoing		
	1	Capacity - WA Trout capacity building, GIS and other training	Maintain a highly qualified staff for implementation	Washington Trout	Program	Implementation	\$98,000	\$85,000	\$13,000	WA Trout	Implementation	\$71,000	Implementation	\$13,500	Implementation	\$13,500	2009		
	1	Snoqualmie watershed - Maintain Snoqualmie Watershed Alliance	Maintain a well-coordinated restoration effort in the Snoqualmie	Snoqualmie Stewardship Partners	Program	Ongoing	\$720,000	\$0	\$720,000	King County & Snoqualmie Forum ILA	Ongoing work planning, grant solicitation, prioritization, implementation and grant writing	\$240,000	Same	\$240,000	Same	\$240,000	ongoing		
	1	Snoqualmie watershed - Technical Assistance	Provide technical outreach and assistance to landowners in the Snoqualmie	King County	Program	Ongoing	\$1,332,000	\$372,000	\$960,000	King County & Snoqualmie Forum ILA	Technical assistance by basin stewards, agricultural stewards, forestry stewards.	\$444,000	Same	\$444,000	Same	\$444,000	ongoing		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
	1	Snoqualmie watershed - Education & Outreach	Provide education and outreach opportunities to the Snoqualmie	Snoqualmie Stewardship Partners	Program	Ongoing	\$240,000	\$60,000	\$180,000	King County & Snoqualmie Forum ILA	Educational and visual materials, workshops, articles, events	\$80,000	Same	\$80,000	Same	\$80,000	ongoing	
	1	Snoqualmie watershed - Incentives Program	Increase incentives in the Snoqualmie for Plan implementation	King County	Program	Ongoing	\$264,000	\$144,000	\$120,000	King County	Program to be defined	\$88,000		\$88,000		\$88,000	ongoing	
	1	Snoqualmie watershed - Monitoring		King County	Program	Ongoing	\$540,000	\$460,000	\$80,000	King County		\$180,000		\$180,000		\$180,000	ongoing	
	1	Capacity Building - Stream Protection and Restoration	Builds capacity for stream protection and restoration strategy	Tulalip Tribes	Personnel planning	Personnel Planning	\$96,123	\$96,123	\$0	Grants	Annual Implementation	\$32,041	Annual Implementation	\$32,041	Annual Implementation	\$32,041	ongoing	\$32,041/yr.
	1	Data collection and modeling - Estimate groundwater contribution to surface water flows and incorporate into instream flow models.	Establish groundwater contribution to instream flows	Tulalip Tribes, Washington State	Monitoring and research	Monitoring and research	\$1,200,000	\$1,050,000	\$150,000	Grants/Local	Implementation	\$465,000	Implementation	\$425,000	Implementation	\$310,000	2010	\$120,000
	1	Capacity Building - Restoration Plan Implementation	Maintains capacity for implementing restoration plan	Tulalip Tribes	Program	Personnel Planning	\$96,123	\$96,123	\$0	Grants	Annual Implementation	\$32,041	Annual Implementation	\$32,041	Annual Implementation	\$32,041	ongoing	\$32,041/yr.
	1	Capacity building - project manager	Project development and oversight	Stilly-Snohomish Fisheries Enhancement Task Force	Program	Personnel Planning	\$120,000	\$90,000	\$30,000	SSFETF	Support Volunteers: education & outreach	\$40,000	Support Volunteers: education & outreach	\$40,000	Support Volunteers: education & outreach	\$40,000	on-going	\$120,000
	1	Capacity building - volunteer coordinator	Volunteer recruitment, support and coordination	Stilly-Snohomish Fisheries Enhancement Task Force	Program	Personnel Planning	\$150,000	\$120,000	\$30,000	SSFETF	Project design & implementation	\$50,000	Project design & implementation	\$50,000	Project design & implementation	\$50,000	on-going	\$150,000
	1	Capacity building - basinwide recovery plant nursery	Build and maintain a recovery plant nursery for the Snohomish Basin	Stilly-Snohomish Fisheries Enhancement Task Force	Program	Personnel Planning and capital investment	\$200,000	\$200,000			Feasibility & Design	\$25,000	Construction	\$100,000	Construction	\$75,000	2009	
	2	Basinwide - evaluate protection of salmonid habitat from preservation, regulations and monitoring/adaptive management	Results for basin protection mechanisms and a strategy to improve if necessary	Snohomish County	Program	Concept	\$150,000	\$150,000			Feasibility	\$100,000	Implementation	\$25,000	Implementation	\$25,000	ongoing	\$175,000
	2	Basinwide - Monitoring for adaptive management	Monitoring plan/program in place, including restoration and protection	Snohomish County, King County, others	Program	Feasibility	\$480,000	\$455,000	\$25,000	Snohomish County	Maintenance & monitoring	\$160,000	Maintenance & monitoring	\$160,000	Maintenance & monitoring	\$160,000	ongoing	\$1,120,000
	2	Capacity Building - Instream Flow Planning	Builds capacity for basinwide instream flow planning	Tulalip Tribes	Program	Personnel Planning	\$96,123	\$96,123	\$0	Grants	Annual Implementation	\$32,041	Annual Implementation	\$32,041	Annual Implementation	\$32,041	ongoing	\$32,041/yr.
	2	Data collection - Establish a precipitation gauge network in the Snohomish Basin for modeling instream flows	Build capacity for estimating streamflows in ungauged critical habitat sub-basins.	Tulalip Tribes	Program	Monitoring and research	\$220,000	\$100,000	\$120,000	Grants	Annual Implementation	\$140,000	Annual Implementation	\$40,000	Annual Implementation	\$40,000	ongoing	\$40,000/yr.
	2	Data collection - Compile stand age coverages in priority basins and complete data gaps	Create clearinghouse for stand age coverages.	Tulalip Tribes	Project	Monitoring and research	\$80,000	\$80,000	\$0	Grants	Implementation	\$80,000					2008	
	2	Capacity Building - habitat monitoring	Builds capacity for basinwide habitat monitoring	Tulalip Tribes	Program	Monitoring	\$225,000	\$165,000	\$60,000	Grants/Tribal	Annual Implementation	\$75,000	Annual Implementation	\$75,000	Annual Implementation	\$75,000	ongoing	\$75,000/yr.
	2	Basinwide - strategic fish passage inventory and prioritization	Strategic plan for culvert/fish barrier replacement in other basins (not Pilchuck River or Woods Creek)	Stilly-Snohomish Fisheries Enhancement Task Force	Project	Feasibility	\$250,000	\$250,000			Design & Implement	\$100,000	Design & Implement	\$75,000	Design & Implement	\$75,000	2009	
	2	Basinwide - Watertyping assessment	Watertypes with greater accuracy for planning/restoration purposes, incl. water quantity	Washington Trout	Project	Concept	\$250,000	\$200,000	\$50,000	WA Trout	Feasibility	\$80,000	Feasibility	\$80,000	Feasibility	\$90,000	2009	
Total Basinwide non-capital/capacity-building need							\$9,327,369	\$6,255,869	\$3,021,500		Total year 1 need	\$3,379,123	Total year 2 need	\$3,076,623	Total year 3 need	\$2,871,623		

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/pro gram status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
Harvest, hatchery, h-integration, stock assessment Capital projects																		
300	1	Hatchery_Harvest_ Stock Assessment - Acquire electronic fish counter tunnels to enum. Chin. releases.	Builds basinwide capacity for stock assessment monitoring	Tulalip Tribes	Project	Capital Equipment	\$8,300	\$8,300	\$0			Purchase	\$8,300				2008	
300	1	Hatchery_Harvest_ Stock Assessment - Acquire and replace equipment upgrades to increase ability to detect coded-wire tags.	Builds basinwide capacity for stock assessment monitoring	Tulalip Tribes	Program	Capital Equipment	\$20,000	\$0	\$20,000	Mass marking implementati on funds	Purchase	\$10,000	Purchase	\$5,000	Purchase	\$5,000	2009	
300	2	Hatchery_Harvest_ Stock Assessment - Build stock assessment laboratory, acquire equipment, supplies, reagents.	Builds basinwide capacity for stock assessment monitoring	Tulalip Tribes	Program	Capital Equipment/ Supplies	\$150,000	\$150,000	\$0		Construction	\$75,000	Construction and Purchase	\$50,000	Construction and Purchase	\$25,000	2009	
Total capital h's need							\$178,300	\$158,300	\$20,000		Total year 1 need	\$85,000	Total year 2 need	\$63,300	Total year 3 need	\$30,000		\$0
Harvest, hatchery, h-integration, stock assessment Non-capital																		
	1	Hatchery_Harvest_ Stock Assessment - Implement 100% Chin. mass marking req't.	Improved ability to harvest hatchery-origin fish and protect wild stocks; ability to implement hatchery broodstock integration protocol	Tulalip Tribes	Program	Annual requirement	\$45,000	\$45,000	\$0		Annual requirement	\$15,000	Annual requirement	\$15,000	Annual requirement	\$15,000	ongoing	\$15,000/yr.
	1	Hatchery_Harvest_ Stock Assessment - Implement 100% Chin. thermal otolith marking req't.	Assessment of hatchery contribution to natural spawning escapement	Tulalip Tribes	Program	Annual requirement	\$22,500	\$22,500	\$0		Annual monitoring requirement	\$7,500	Annual monitoring requirement	\$7,500	Annual monitoring requirement	\$7,500	ongoing	\$7,500/yr.
	1	Hatchery_Harvest_ Stock Assessment - Acquire & apply 100,000 CWT's for Tulalip Chin.	Assessment of cost-wide exploitation rates on hatchery and wild Chinook	Tulalip Tribes	Program	Annual monitoring requirement	\$29,092	\$29,092	\$0		Annual monitoring requirement	\$9,697	Annual monitoring requirement	\$9,697	Annual monitoring requirement	\$9,697	ongoing	\$9,697/yr.
	1	Hatchery_Harvest_ Stock Assessment - Monitor Hat. Chin. contrib. rates to fisheries, hatcheries, escapements (otol, CWT's, fin clips).	Improved assessment of terminal area harvest rates by time and area	Tulalip Tribes, WDFW, Snohomish County	Program	Annual monitoring requirement	\$108,382	\$0	\$108,382	tribal hatchery reform, PST implementati on funds, mass marking implementati on funds	Annual monitoring requirement	\$36,127	Annual monitoring requirement	\$36,127	Annual monitoring requirement	\$36,127	ongoing	\$36,127/yr.
	1	Hatchery - Continue implementing Sky. Chin. nat.-origin broodstock integration program.	Integration of hatchery broodstock with natural population	Tulalip Tribes, WDFW	Program	Implementati on/ Adaptive Management	\$60,000	\$0	\$60,000	WDFW / Tribal hatchery management funds	Implementation	\$20,000	Implementation	\$20,000	Implementation	\$20,000	ongoing	\$20,000/yr.
	1	Harvest - Recompute recovery exploitation rates and critical escapement guidelines for Snohomish Chinook populations and other modifications to harvest plan	Improved management of harvest appropriate for moving populations towards recovery goals	Tulalip Tribes, WDFW	Program	Implementati on/ Adaptive Management	\$10,000	\$0	\$10,000	Grant					Implementation	\$10,000	ongoing	\$10,000/5- yrs
	1	Harvest - Implement weekly test fishery in Area 8A to assess catch rates, Chinook by catch rates, and other parameters	Assessment of terminal area incidental harvest of natural origin Chinook leading to improved management of fisheries	Tulalip Tribes	Program	Implementati on/ Adaptive Management	\$60,000	\$0	\$60,000	Grant/Tribal	Implementation	\$20,000	Implementation	\$20,000	Implementation	\$20,000	ongoing	\$20,000/yr.
	1	Hatchery_Harvest_ Stock Assessment - Monitor Snoh. Chin. Genet. Comp.: (DNA baseline).	Assessment of the contribution of Snohomish-origin Chinook to coast-wide fisheries leading to improved estimates of exploitation rates	Tulalip Tribes, WDFW, Sno. Cty.	Project	Monitoring and research	\$64,620	\$0	\$64,620	Grant	Monitoring	\$36,780	Monitoring	\$27,840			2008	

ID	Project Tier	Action	Result (see Plan habitat gains)	Likely sponsor	Project or program ?	Project/program status	Total cost of first three years	Funding need	Matching funds	Source of matching funds	2007		2008		2009		Likely end date	Additional funds needed after 2009
											Year 1 Scope	Year 1 Cost	Year 2 Scope	Year 2 Cost	Year 3 Scope	Year 3 Cost		
	1	Hatchery - Monitor Snoh. Chin. Genet. Comp.: (hat. broodstock integration).	Test of assumptions of broodstock integration protocol leading to improved protocol	Tulalip Tribes, WDFW	Project	Implementation/ Adaptive management	\$40,000	\$40,000	\$0		Implementation	\$40,000					2008	
	2	Habitat Assessment - Monitor Snoh. Chin. genet. comp: (NOR adults and juveniles in estuary).	Improved knowledge of which fish use which habitats	Tulalip Tribes, NOAA Fisheries	Program	Implementation/ Adaptive Management	\$60,000	\$60,000	\$0		Monitoring	\$20,000	Monitoring	\$20,000	Monitoring	\$20,000	ongoing	\$20,000
	2	Hatchery - Monitor ecol. Int's: juvenile hat/nat. Chin. In estuary.	Assessment of ecological interactions of hatchery and wild fish	Tulalip Tribes, NOAA Fisheries	Program	Annual monitoring requirement/ Adaptive management	\$60,000	\$60,000	\$0		Monitoring	\$20,000	Monitoring	\$20,000	Monitoring	\$20,000	ongoing	\$20,000
	2	Hatchery Harvest Stock Assessment - Operate stock assessment laboratory.	Local capacity for rapid determination and dissemination of stock assessment information	Tulalip Tribes	Program	Annual monitoring requirement	\$75,000	\$75,000	\$0		Annual monitoring requirement	\$25,000	Annual monitoring requirement	\$25,000	Annual monitoring requirement	\$25,000	ongoing	\$25,000/yr.
Total non-capital h's need							\$634,594	\$331,592	\$303,002		Total year 1 need	\$250,105	Total year 2 need	\$201,164	Total year 3 need	\$183,324		\$40,000
Harvest, hatchery, h-integration, stock assessment benefitting non-listed species																		
300	1	Hatchery Harvest Stock Assessment - Acquire electronic fish counter tunnels to enumerate Tulalip chum releases	Builds basinwide capacity for stock assessment monitoring	Tulalip Tribes	Project	Capital Equipment	\$8,300	\$8,300	\$0				Purchase	\$8,300			2008	
300	1	Hatchery Harvest Stock Assessment - Implement 100% Coho mass marking requirement.	Improved ability to harvest hatchery-origin fish and protect wild stocks; ability to implement hatchery broodstock integration protocol	Tulalip Tribes	Program	Annual requirement	\$45,000	\$0	\$45,000	Fed. Funding expected	Annual requirement	\$15,000	Annual requirement	\$15,000	Annual requirement	\$15,000	ongoing	\$15,000/Yr
300	1	Hatchery Harvest Stock Assessment - Implement 100% Coho thermal otolith marking requirement.	Assessment of hatchery contribution to natural spawning escapement	Tulalip Tribes	Program	Annual monitoring requirement	\$22,500	\$22,500	\$0		Annual monitoring requirement	\$7,500	Annual monitoring requirement	\$7,500	Annual monitoring requirement	\$7,500	ongoing	\$7,500/Yr
300	1	Hatchery Harvest Stock Assessment - Acquire & apply 50,000 CWT's for Tulalip Coho	Assessment of cost-wide exploitation rates on hatchery and wild Chinook	Tulalip Tribes	Program	Annual monitoring requirement	\$29,092	\$0	\$29,092	PST implementation on funds	Annual monitoring requirement	\$9,697	Annual monitoring requirement	\$9,697	Annual monitoring requirement	\$9,697	ongoing	\$9,697/Yr
300	1	Hatchery - Continue implementing Sky. Coho nat. -origin broodstock integration program	Integration of hatchery broodstock with natural population	Tulalip Tribes, WDFW	Program	Implementation/ Adaptive Management	\$60,000	\$0	\$60,000	WDFW / Tulalip hatchery reform funds	Implementation/Adaptive Mgmt	\$20,000	Implementation/Adaptive Mgmt	\$20,000	Implementation/Adaptive Mgmt	\$20,000	ongoing	\$20,000/Yr
300	1	Hatchery Harvest Stock Assessment - Monitor Hat. Coho contrib. rates to fisheries, hatcheries, escapements (otol, CWT's, fin clips).	Improved assessment of terminal area harvest rates by time and area; Assessment of contribution of hatchery fish to natural escapement	Tulalip Tribes, WDFW	Program	Annual monitoring requirement	\$60,657	\$0	\$60,657	PST implementation on funds; Mass marking implementation on funds	Annual monitoring requirement	\$20,219	Annual monitoring requirement	\$36,127	Annual monitoring requirement	\$36,127	ongoing	\$36,127/Yr
300	1	Hatchery Harvest Stock Assessment - Annually monitor contrib. rates of Tulalip Hat. chum to fisheries, hatcheries, escapements (100% unique genetic mark).	Improved assessment of terminal area harvest rates by time and area; Assessment of contribution of hatchery fish to natural escapement	Tulalip Tribes	Program	Annual monitoring requirement	\$66,000	\$0	\$66,000	PST implementation on funds	Annual monitoring requirement	\$22,000	Annual monitoring requirement	\$22,000	Annual monitoring requirement	\$22,000	ongoing	\$22,000/Yr
300	2	Hatchery Harvest Stock Assessment - Recalibrating Coho Escapement	Improved assessment of coast-wide Coho exploitation rates	Tulalip Tribes	Project	Monitoring and research/ Adaptive management	\$300,000	\$280,000	\$20,000	Year 1: Mass marking implementation	Planning	\$20,000	Implementation	\$145,000	Implementation	\$145,000	2009	\$0
300	2	Hatchery - Monitor ecol. Int's: juvenile hat/nat. Coho in estuary.	Assessment of ecological interactions of hatchery and wild fish	Tulalip Tribes, NOAA Fisheries	Program	Annual monitoring requirement	\$60,000	\$60,000	\$0		Monitoring	\$20,000	Monitoring	\$20,000	Monitoring	\$20,000	ongoing	\$20,000/Yr
300	2	Hatchery - Monitor ecol. Int's: juvenile hat/nat. chum in estuary.	Assessment of ecological interactions of hatchery and wild fish	Tulalip Tribes, NOAA Fisheries	Program	Annual monitoring requirement	\$60,000	\$60,000	\$0		Monitoring	\$20,000	Monitoring	\$20,000	Monitoring	\$20,000	ongoing	\$20,000/Yr
Total non-listed species h's need							\$711,549	\$430,800	\$280,749		Total year 1 need	\$154,416	Total year 2 need	\$303,624	Total year 3 need	\$295,324		\$0
Total H's Need							\$1,524,442	\$920,692	\$603,751		Total year 1 need	\$489,521	Total year 2 need	\$568,089	Total year 3 need	\$508,649		\$40,000
Total Basin Need							\$97,502,043	\$53,866,534	\$30,146,290		Total year 1 need	\$22,498,802	Total year 2 need	\$34,648,749	Total year 3 need	\$28,365,333		