



*Snoqualmie River · Snohomish River · Skykomish River*

# *The Snohomish River Basin*

*Building a Healthy Watershed*



**SNOHOMISH BASIN  
SALMON RECOVERY FORUM**



# Snohomish Basin 3-year Work Plan 2009 Update

---

The Snohomish River Basin 3-year Work Plan update is a combination of documents that provides direction and a technical foundation for recovery of fish in the Basin. This work is outlined for the next 3 years and derives from the 10-year *Snohomish River Basin Salmon Conservation Plan* (2005). Included in the 2009 3-year Work Plan update are: a narrative (this document), a spreadsheet containing all of the capital, programmatic, harvest and hatchery actions that outline our strategy for the next three years of the recovery process, and a map showing the locations of habitat restoration projects in the Basin.

## 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, as well as non-listed coho, all of which are used as proxies for all salmonids in the Basin. The *Plan*, developed by the 39-member Snohomish Basin Salmon Recovery Forum (the Forum), incorporates actions across habitat, harvest and hatchery management to bring the listed wild stocks back to healthy, harvestable levels. For habitat, the *Plan* 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. While habitat protection actions are supposed to maintain current levels of habitat across the Basin, restoration actions should build habitat to make further improvements across the Viable Salmonid Population parameters – abundance, productivity, spatial structure and diversity. For harvest, the *Plan* hypothesizes that use of harvest ceilings at multiple levels – 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. To limit the side effects of hatcheries such as straying, 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* uses an ecosystem approach that relies on protection and restoration actions that both maintain current intact habitat and build more habitat (Table 1). Under this approach, the *Plan* integrates analyses on geographic location in the basin, current and potential fish use, and condition of watershed processes to prioritize recovery areas and actions into “Subbasin Strategy Groups (Appendix A).” Within each Subbasin Strategy Group (SBSG), specific restoration and protection measures were identified and prioritized (Appendix B). Through the SBSG foundation, 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. In this way, the *Plan* focuses levels and types of efforts where they will have the greatest benefits to salmonids in the near- and long-term.

The *Plan's* resulting ten-year targets are prioritized to improve habitat conditions in areas most appropriate to each of the salmonid proxies' life history strategies and ecological processes that create the habitats that fish use. To further sequence 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, 15% in lowland tributaries and 5% in headwaters areas. The *Plan's* ten-year habitat protection and restoration targets are summarized in Table 1 below.

**Table 1. Ten-year habitat benchmarks identified by the Snohomish River Basin Salmon Conservation Plan (2005).**

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
<b>Mainstem-primary Restoration:</b>				
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
<b>Other Sub-basins Restoration:</b>				
Restored Riparian Habitat	N/A	94 acres	32 acres	N/A
Restored Off-channel Habitat	N/A	57 acres	19 acres	N/A

## Harvest

With rearing habitat hypothesized as the primary factor limiting productivity of the basin, the co-managers (Tulalip Tribes and Department of Fish and Wildlife) developed a harvest management plan designed to allow sufficient natural origin fish to spawn so that newly restored rearing habitat will be utilized. The *Co-managers' Puget Sound Chinook Harvest Management Plan (2005)* provides management actions to assure that harvest does not impede recovery of the Skykomish and Snoqualmie Chinook salmon populations.

## Hatchery

Since 2005, the co-managers have implemented a new hatchery management strategy for Chinook salmon in the Snohomish Basin, which includes four parts: 1) conversion to local broodstock, 2) fish marking, 3) integration of wild fish into the hatchery broodstock, and 4) allocation of eggs between the Wallace River and Tulalip hatcheries. The co-managers have been implementing a number of other changes in hatchery management, many of which were suggested by the program review done by the Hatchery Scientific Review Group (HSRG). These will be documented in a Snohomish Regional Hatchery Operations Plan, which is currently being drafted.

In addition to the above, all hatchery fish in the Snohomish basin are managed as “secondary” management units, meaning that goals for natural-origin fish always have priority in harvest management.

### **An Integrated Plan for Recovery**

The habitat, harvest and hatchery management portions of the *Plan* were developed in a coordinated fashion. The rebuilding exploitation rate (RER) for harvest was based on current habitat conditions and consideration of 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 (Draft Snohomish River Basin H-Integration Documentation, 2008).

### **Adaptive Management**

The *Plan* was developed so that its implementation would be adaptive, meaning that the *Plan* itself would be a living document. Actions are monitored for results locally and cumulatively, and are evaluated against the hypotheses in the *Plan*. The Forum is currently revising the adaptive management section in the *Plan*; however, monitoring items will be spread across:

- Implementation effectiveness – are jurisdictions and partners implementing actions that they committed to and at the rate needed to reach the 10-year targets?
- Direct (project) effectiveness – how effective is a specific project, type of project or program at achieving its goals? Can projects or programs be implemented differently to achieve more effective results?
- Cumulative effectiveness (Status and trends) – are projects in general, or a group of projects or programs, achieving the anticipated results? Is the sum total of harvest, hatchery and habitat actions resulting in improved population performance?
- Validation – are the basin and sub-basin strategy group hypotheses valid and are we achieving recovery across Puget Sound?

Basin staff worked with Shared Strategy on the regional adaptive management effort, through individual interviews, discussion at the Puget Sound Salmon Recovery Council and at the adaptive management workshop. With the multitude of monitoring consortia and work at the regional and state scales, adaptive management at the basin level is threatened by the amount of time put into shaping regional and state efforts, in addition to the likelihood that funding for locally driven results that apply directly to our *Plan* will go unfunded given the lack of financial and other support for monitoring in general. The opportunity in these areas is that these larger-scale systems may be established and provide useful information on areas such as status and trends monitoring that the Basin can then use for reporting and managing implementation.

## Three-year Work Plan Specifics

The Puget Sound Partnership Salmon Program, Puget Sound Salmon Recovery Council's Policy Work Group, and NOAA's Recovery Implementation Technical Team (RITT) have outlined a series of key questions that watersheds need to address in their narrative discussion portion of the 3-year Work Plan updates. The Snohomish Basin is fulfilling this narrative requirement through the integration of material prepared basin staff and minutes from a 3-hour meeting held between Basin staff, and representatives from PSP, the RITT, and the Policy Work Group and the meeting minutes. Basin staff provided summary information from the 3-year Work Plan spreadsheet of projects and past accomplishments advancing recovery. Meeting objectives were to: hold a conversation between members of the Recovery Implementation Technical Team, the Puget Sound Partnership, and the Puget Sound Salmon Recovery Council Policy working group to further flush out details related to the Snohomish Watersheds 3-year work plan; and further refine Snohomish Basin's answers to the three year work plan questions. The following people attended this meeting:

- Perry Falcone, Snoqualmie Watershed Forum, Snohomish Basin Project Working Group Co-chair
- Andy Haas, Snohomish Basin Salmonid Recovery Technical Committee Co-Chair
- Annette Hoffman, Region 4 manager, WDFW
- Kirk Lakey, WDFW watershed steward, RITT member
- Kit Rawson, RITT member, liaison to Snohomish Basin
- Mike Rustay, Snohomish Basin Salmon Recovery Technical Committee
- Morgan Schneider, Puget Sound Partnership, Watershed Coordinator
- David St. John, Puget Sound Salmon Recovery Council policy work group
- Arden Thomas, Snohomish Watershed Capital Program Manager, Project Working Group Co-chair
- Tim Walls, Snohomish Basin Lead Staff

## Consistency Questions

*Question 1.1 - What are the actions and/or suites of actions needed for the next three years to implement your salmon recovery chapter as part of the regional recovery effort?*

The Snohomish Basin 3-Year Work Program identifies actions needed across all project types, but comparisons between project types are difficult to make at this time.

Progress is needed across all project types (Habitat Restoration, Harvest Management, Hatchery, and Non-capital) as part of our Basin's recovery effort. A preliminary project count and cost breakdown is given for project and programs identified through the 3-year work program planning process (Table 2). However, this table is given for illustrative purposes and should not be interpreted as representing a concrete allocation of resources across the project types. This table illustrates that a diverse group of Habitat Capital project sponsors are engaged in our planning process and we have the tools (the Habitat Work Schedule) to solicit project specific data. Harvest management is implemented at a larger scale than the basin scale and a cost break down specific to the Snohomish Basin is not currently available.

**Table 2. Three-year cost breakdown across project types.**

<b>Project Type</b>	<b>Project Count</b>	<b>3-Year Cost</b>	<b>3-Year Cost (% Total)</b>
Habitat Capital	94	\$75,857,734	82%
Harvest Management	6	Not avail. at this time	0%
Hatchery	10	\$906,000*	1%
Non-Capital	22	\$15,962,650	17%
<b>Grand Total</b>	<b>132</b>	<b>\$92,726,384</b>	<b>100%</b>

\* This is not the complete cost for hatchery projects in the three-year plan.

**Habitat Restoration**

- Habitat restoration projects include all project phases (assessment/feasibility, design/permitting, construction/implementation, and maintenance and monitoring) associated with habitat restoration and acquisition.
- Ninety-four habitat restoration projects were submitted by approximately 25 project sponsors. These project sponsors include non-profits, local jurisdictions, state entities, federal agencies, and tribal governments.
- The Snohomish River Basin Salmon Conservation Plan (2005) provides a strong implementation framework through the identification of Subbasin Strategy Groups (see Appendix A, B). The framework is used to identify priorities, present sequencing considerations, and summarize efforts.
- The Snohomish Basin 3-year Work Plan illustrates that project sponsors understand the strategy outlined in the Plan and are working to implement these projects. Projects identified follow the strategy in the Plan and are not a simple “wish list” of random projects. Instead, project sponsors identify priorities and work with the community to develop projects that follow those priorities. Further, basin staff regularly engage project sponsors in working on these priorities throughout the year (since 2003), not just in the 3-year Work Planning effort.

**Harvest Management**

The following goals were identified for the 2009 3-year work plan update:

1. Assess the cumulative effect of fishery-related mortality on the overall productivity of Snohomish basin salmon populations and stocks
2. Develop harvest management guidelines such that the reduction in productivity due to harvest will not significantly impede the achievement of stock conservation objectives (e.g., sustainability for healthy populations, recovery for depressed populations)
3. Develop annual harvest management regulation packages consistent with the harvest management guidelines
4. Successfully implement these annual harvest management regulation packages

## Hatchery

The following goals were identified for the 2009 3-year work plan update:

1. Provide fish for harvest consistent with conservation or restoration of natural stocks as appropriate,
2. Implement HSRG recommendations

## Non-Capital

The following goals were identified for the 2009 3-year work plan update:

1. Support project sponsors in existing, well-coordinated programs
2. Chart a realistic path for non-capital actions. Demonstrate the need, but use prioritization to show what we hope to achieve
3. Develop a monitoring plan and an adaptive management plan in the next 3 years. Also, provide input into NOAA's 5-year status review
4. Develop and implement outreach in key areas: Forum facilitation, Snohomish County social marketing programs, assisting basin change agents, and advocating for awareness/understanding to come from PSP
5. Ensure basin capacity for basin staff and project sponsors to implement the Plan.
6. Further habitat protection
7. Advance instream flow protection
8. Provide for basin stewardship

*Question 1.2 - Are the suites of actions and top priorities identified in the watershed's three year work plan/program consistent with the hypotheses and strategies identified in the Recovery Plan (Volume I and II of the Recovery Plan, NOAA supplement)?*

The suites of actions identified in this 3-Year Work Plan are consistent with the Recovery Plan

- As part of its habitat hypothesis, the Snohomish River Basin Salmon Conservation Plan (2005) identifies that 80% of resources available for habitat restoration should be expended in the Nearshore, Estuary and Mainstem areas, with 15% in the lowland tributaries and 5% in the headwaters.
- Our list is representative of the resource allocation identified in the plan. The allocation in the project list submitted is: 84% nearshore/estuary/mainstem; 11% in the lowland tributaries; and 3% in the headwaters (Table 3).
- While our 3-year work program lists have generally followed the 80-15-5 split, we do expect some natural variation around these numbers. Efforts for recovery will vary year-to-year and cannot be expected to match the Plan exactly in any given single year spotlight. The split is representative of the level of effort to be spread across the basin over the 10-year period. Part of the adaptive

management plan will be to identify where effort is place and how that effort is affecting recovery.

**Table 3. Project Costs, Percent Total Expenditure, and Counts by Sub-basin Strategy Group**

Subbasin Strategy Groups	Project Count	3-Year Cost	3-Year Cost (% Total)
<b>Habitat Capital</b>	<b>94</b>	<b>\$75,857,734</b>	<b>100%</b>
Nearshore Restoration	8	\$9,606,097	13%
Estuary Restoration	10	\$32,181,761	42%
Mainstem Primary Restoration	45	\$21,449,426	28%
Mainstem Secondary Restoration	4	\$916,130	1%
Rural Primary Restoration	4	\$1,050,000	1%
Rural Secondary Restoration	10	\$6,422,620	8%
Urban Streams Restoration	6	\$1,875,000	2%
Headwaters Restoration Above Falls and Dam	3	\$1,309,500	2%
Headwaters Secondary Restoration	3	\$747,200	1%
Basin-wide	1	\$300,000	0%
<b>Grand Total</b>	<b>94</b>	<b>\$75,857,734</b>	<b>100%</b>

- As stated in previous 3-year Work Plan updates, much of the Snohomish Basin’s effort has focused on the Estuary and mainstem rivers to the exclusion of the third priority area, the nearshore marine ecosystem. As such, nearshore projects have been delayed. This year, basin staff are advancing a nearshore assessment focusing on sediment processes. This project will advance activities in along the nearshore from Everett to Mukilteo (and beyond). Further, the Tulalip Tribes have identified restoration projects north of the Snohomish River Mouth, as well as developing a protection strategy that will tie into their Shoreline Master Plan update and acquisition strategy.
- While an emphasis is placed on restoration of juvenile Chinook rearing habitat, the plan specifies that restoration throughout the basin is an important component of the over-all restoration strategy.
- The tiering of projects in the list first reflects the *Plan’s* priorities for each Sub-basin Strategy Group (Appendix B). Eighty-five percent of the projects submitted were preliminarily identified as Tier 1 projects.
- An additional tier component was incorporated to distinguish between 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. Project sponsors stated that they currently have the capacity to implement 76% (by project count) of the projects submitted.
- One area where implementation tracking is weak derives from the technical analysis during planning (specifically translating the *Ecological Analysis for Salmonid Conservation* to the *Plan*). The target tables for habitat in the *Plan* are numbers that are more specifically targeted to focus reaches, as identified in the *EASC* (see page 8-7 in the *Plan*). This targeting does not affect the nearshore, estuary or mainstems, but it does apply to the lowland tributaries. To truly track



implementation effectiveness of the Plan and specific restoration projects, we will need to identify and track progress on these focus reaches. This work is expected to advance significantly this year, as part of development of our monitoring plan (a major portion of our 2009 basin work plan).

**Table 4. Project Costs, Percent Total Expenditure, and Counts by Tier**

Tier	Project Count	3-Year Cost	3-Year Cost (% Total)
<b>Habitat Capital</b>	<b>94</b>	<b>\$75,857,734</b>	<b>100%</b>
1a	44	\$54,256,314	72%
1b	18	\$10,118,100	13%
2a	11	\$2,155,000	3%
2b	2	\$590,000	1%
3a	13	\$7,719,120	10%
3b	4	\$752,200	1%
4a	1	\$67,000	0%
4b	1	\$200,000	0%
<b>Grand Total</b>	<b>94</b>	<b>\$75,857,734</b>	<b>100%</b>

### Pace/Status Question

*Question 2.1 - What is the status of actions underway per your recovery plan chapter?*

#### Habitat Restoration

Restoration implementation has been delayed due to rising costs and limited funds, but the Basin is also pioneering process-based restoration techniques that enable us to maximizing habitat gains while managing costs.

In 2004, in preparation for the Snohomish River Basin Salmon Conservation Plan, basin staff developed a funding matrix. This matrix was used to identify the current level of activity, the cost of representative activities that would be identified in the Plan, and what it might take to ramp up the level of effort to the scale called for in the Plan. This information was used to develop a 10-year budget for the Plan (\$134M). In this way, the dollar figures spent on recovery are used as a proxy for level of effort.

Despite having highly capable staff, a very dedicated and functional watershed group (the Forum), committees that regularly produce some of the best technical and policy work in Puget Sound, and project sponsors that follow the Plan and operate at the cutting edge of restoration techniques, the Basin is far behind where it needs to be for recovery. Because of escalating labor costs, fuel costs (more than tripled in the last four years), and other factors, habitat restoration is more expensive than what was identified in the Plan. For example, estuary restoration in the Plan’s budget was estimated to be \$25M. Current figures, based on project sponsor information included in this year’s 3-year Work Plan, put that figure closer to \$36M.

In addition, we estimate that we have been implementing the habitat part of the Plan at a rate of 34% per year, a figure that highlights the effectiveness (and tenacity) of our project sponsors in seeking and

obtaining funds for restoration, as compared with other watersheds in Puget Sound. At such a rate, and with the goal of the 3-year Work Plan to demonstrate the need for putting the basin on a trajectory to reach our 10-year targets, we need to increase the rate of implementation significantly. Taking the Forum's \$15M/year goal for funding, the current backlog of project work stands at ~\$40M.

Despite these challenges, the Basin's approach to capital restoration projects has been groundbreaking. We have worked on innovative strategies that are maximizing habitat gains, while managing costs. For example, Snohomish County's reach-scale restoration projects work on a much larger, process-based, scale (e.g., the Braided Reach of the Skykomish River is 12 miles long) and are implementing approximately half the projects identified in the Plan for approximately 1/3 the cost. King County is looking to implement a reach-scale assessment and restoration methodology for the Raging River, Snoqualmie River confluence. This same concept may be carried over to our landscape-scale approach to estuary restoration, where our partners have worked together on a hydrodynamic modeling project that looks at the effects of no restoration, restoration projects singly, and the cumulative effects of all restoration projects on the hydraulic system. We are currently working on a sediment-based assessment of the nearshore from Mukilteo to the Snohomish County/King County border to address process issues at a larger landscape scale, as recommended by the Puget Sound Nearshore Partnership, Department of Ecology, and People for Puget Sound (among other partners).

### **Habitat Protection**

Habitat protection has lagged since the Forum's adoption of the Plan, a fact that was also recognized by NOAA as a crucial link in advancing recovery.

In 2008, the Snohomish Basin embarked on a habitat protection evaluation, based on the work done by the Shared Strategy for Puget Sound and the Puget Sound Partnership, called the San Juan Initiative. Through a similar type of analysis, basin staff focused on riparian forest cover along the mainstem rivers, as a pilot project to identify how to transfer the methodology from the San Juan Initiative to a large basin. Key findings are:

- Measuring habitat change must align closely with how the original targets were set.
- Measuring habitat change may be done through various methods, which do not always provide the same results. For example, measuring intact riparian habitat through remote sensing in 2003 used 30 meter pixel resolution, while the same analysis today would be done using 3 meter pixel resolution, resulting in very different (and more accurate) habitat figures.
- Analysis of the reasons for changes in habitat is time consuming and requires a high level of understanding of the Plan, as well as natural ecosystem function and regulatory frameworks. This detailed level of analysis must be balanced with the need to move quickly to protect habitat (finding a 0.1% change in habitat may not be as useful as quickly evaluating the root causes of change).
- Some information from the San Juan Initiative may be used to short-cut future work. For example, a key finding in the San Juans was a lack of monitoring for existing conditions on building sites, with follow up monitoring after overwater structures were built, resulting in habitat loss. We may be able to use this information to quickly implement a better monitoring

structure with local jurisdictions in the Snohomish Basin, rather than the detailed analysis required in the San Juan Initiative to arrive at that conclusion.

- The Puget Sound Partnership and basin must evaluate and decide on who should do the habitat change monitoring and analysis. With Snohomish County taking the lead, some jurisdictions or non-profit organizations may question the County's objectivity in doing such an analysis, when the County itself has a vested interest in the outcome (high potential for conflict of interest).
- Habitat protection cannot be viewed as just regulations or just acquisition. The most effective protection strategy will utilize a suite all available tools for protection that targets the root causes of habitat degradation: acquisition, regulations, incentives, and outreach/education/stewardship.

Additional considerations include:

- Snohomish salmon recovery plan did not set out acquisition targets, nor did it identify what parcels should be acquired versus protected through regulation.
- There are few players in the watershed who focus on habitat protection through acquisition. Staff turnover in organizations with ability to do acquisitions (i.e. Cascade Land Conservancy) has made it difficult to capture the full suite of acquisition for protection that groups are able to do in this 3-year work plan.

Habitat protection is being advanced through multiple tools, all of which will require significant investment from the Puget Sound Partnership.

### **Acquisition**

- Acquisitions are targeted at protecting and restoring key reaches and protecting areas where intact watershed processes are crucial. Acquisition actions include conservation easements, transfer of development rights (TDR) and fee simple title.
- Such actions are further prioritized for key land uses – such as supporting viable agriculture.
- Tracking status and trends in land use is an important tool in tracking habitat protection. Current intact habitat can be divided into what is vulnerable vs. not vulnerable.
- In 2008, the Wild Sky Wilderness bill was signed into law, placing 106,577-acres in protected status. Similar efforts are underway in the Snoqualmie, where legislation was recently introduced to protect forest adjacent to the existing Alpine Lakes Wilderness area and designate the Middle Fork Snoqualmie and Pratt Rivers as Wild and Scenic. This bill would protect more than 22,000 acres of rare low elevation forest land.
- The current 3-year work plan places an emphasis on advancing habitat protection in the nearshore, especially in those areas to the north which can maintain sediment processes. These protection measures will also be important in dealing with climate change.

### **Education and outreach**

- Outreach and education efforts will have the broadest impact on the Forum's ability to maintain public interest in recovery and in changing behaviors that negatively impact habitat.

- Outreach is targeted in two ways: broad outreach aimed at raising general awareness of the problem; and a “social marketing” approach that targets influencing specific behaviors in a specific demographic.
- Such programs are typically the most effective and efficient use of resources to gain a positive behavior change.

### **Regulatory framework**

- Regulations, permitting, land use restrictions and comprehensive planning minimize the development impacts. For example, regulations such as critical areas under the Growth Management Act and Shoreline Master Plans mandate buffers around wetlands; the Hydraulic Permit Approval Program by the WA Department of Fish and Wildlife restricts activities in or near streams; and comprehensive plans set the direction for increasing density.

### **Incentives**

- King and Snohomish Counties provide considerable assistance to the agricultural community to support viable agriculture, such as technical assistance, financial assistance and farm planning.
- Non-government organizations (NGOs), such as Salmon Safe, have developed labeling that identifies and rewards farmers who maintain and/or improve habitat.

### Tracking habitat loss is an important part of assessing habitat protection and restoration and changing/refining goals

- The ability to address habitat loss is greatly reduced due to a lack of capacity to focus on this topic. However, the watershed recognizes the importance of this work and tracking habitat loss is part of the watershed’s overall vision. Due to a lack of capacity the Snohomish watershed cannot address this while their work is focused on Adaptive Management and Monitoring.
- Work is being done to track habitat loss in the watershed through various methodologies such as remote sensing. Determining what habitat is currently intact is a fairly strait forward process. Determining why habitat was lost takes considerably more sophisticated analysis and expertise.

### **Harvest Management**

- The *Co-managers’ Puget Sound Chinook Harvest Management Plan (2005)* sets an overall annual exploitation rate ceiling with a goal of assuring that harvest does not impede recovery of the Skykomish and Snoqualmie Chinook salmon populations. This Rebuilding Exploitation Rate is currently 24% of the total return in any year (adjusted to 21% when assessed with the Fishery Regulation Assessment Model). The exploitation rate is a ceiling that includes all harvest-related mortality (directed and incidental, landed and non-landed) in all salmon fisheries that impact Snohomish Chinook salmon from Southeast Alaska to the Washington Coast and the Snohomish River. Until recently, the lack of a local coded-wire tag indicator stock for Snohomish fish increased the uncertainty estimate for the total exploitation rate. However, since brood year 2000 Wallace River hatchery fingerling Chinook have comprised an indicator stock, and there are now several complete brood years of returns available for a new analysis. In addition, the co-

managers have collected data for a new genetic baseline that will provide an additional means of detecting and differentiating Skykomish and Snoqualmie Chinook in mixed-stock fisheries.

- In 2008 the parties to the Pacific Salmon Treaty negotiated a new Chinook annex that includes a 30% reduction in west coast Vancouver Island Chinook fisheries and a 15% reduction in southeast Alaskan Chinook fisheries. The goal is to reduce northern harvest rates beginning in 2009, and pass the savings through to escapement.
- Harvest management strategies include selective fisheries and time-area management to minimize the impacts on wild fish while providing opportunity on more abundant hatchery-origin fish. In order to reduce impacts to wild Snohomish Chinook salmon, local fisheries, targeting Chinook salmon in Tulalip Bay (Area 8D) and the Snohomish River, focus on hatchery-origin fish. Mark-selective recreational fisheries in the Skykomish River and terminal marine waters accomplish the same goal. Both the net and recreational fisheries are included within the exploitation rate ceiling.
- Ultimately, the co-managers are working to ensure that fishery-related mortality will not impede rebuilding of natural Puget Sound Chinook salmon populations to levels that will sustain fisheries, enable ecological functions, and be consistent with treaty-reserved fishing rights. Since implementation of changes in harvest management around the time of the listing of Chinook in 1999 exploitation rates have declined significantly (Fig. 1). Concurrently, natural spawning escapement has increased (Fig. 2). A comparison of the distribution of fishing mortality and escapement under the 2007 and 2009 preseason fishing plans shows the expected gain from implementing the new Chinook annex in the Pacific Salmon treaty (Fig.3).

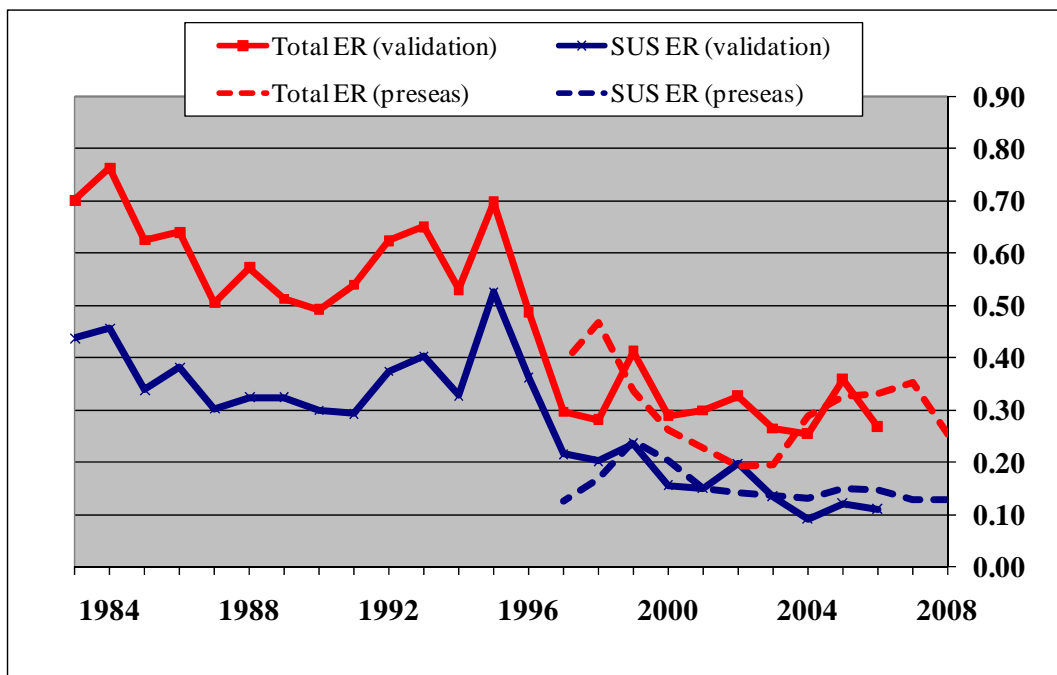


Figure 1. Annual exploitation rate on Snohomish Chinook 1983 - 2008. Solid red line is total rate in all fisheries as measured by the Fishery Regulation Assessment Model (FRAM) run after the season with actual catches and escapements entered. The dashed red line is the preseason prediction for the year from the FRAM. The solid

and dashed blue lines are postseason and preseason exploitation rates respectively for United States waters south of Canada only.

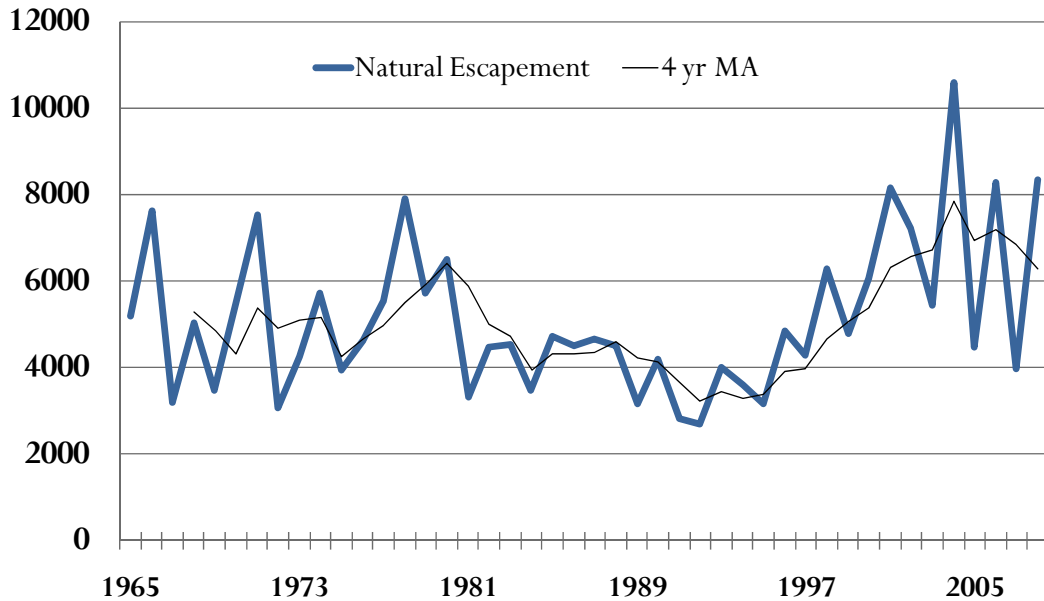


Figure 2. Natural spawning escapement of Snohomish basin Chinook salmon, 1965-2008.

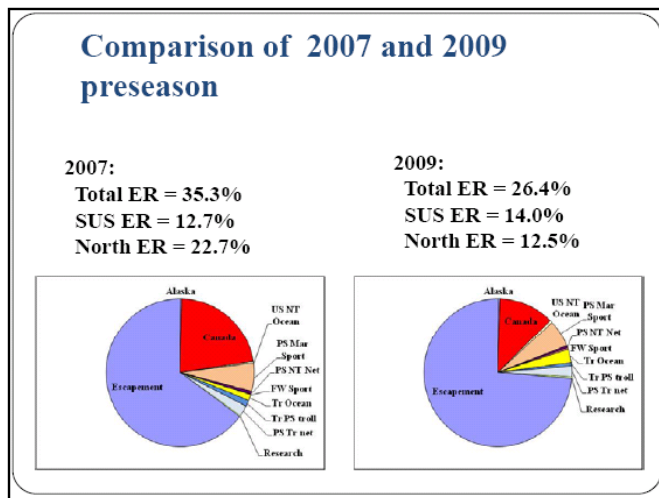
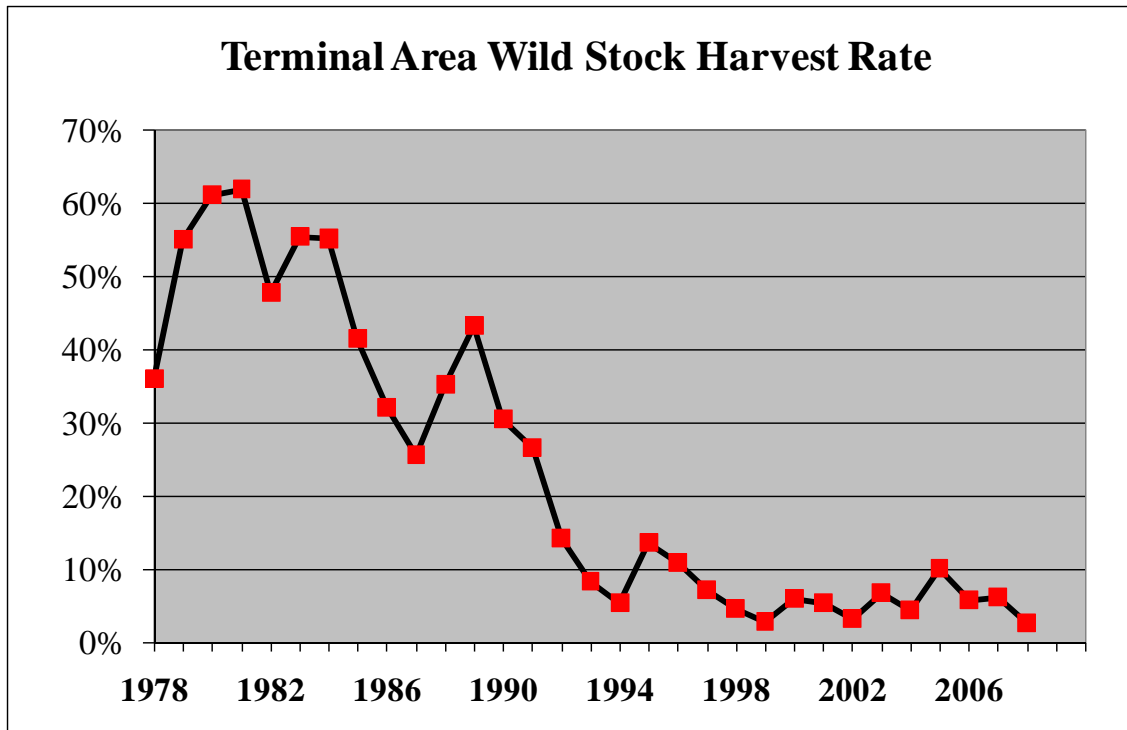


Figure 3. Distribution of fishing mortality among fishing sectors, and comparison with the escapement fraction for Snohomish Chinook based on preseason expectations for 2007 and 2009. The Canadian and Alaskan impacts are significantly reduced between 2007 and 2009, and most of the savings accrue top escapement.

### Hatchery Management

Since 2005, the co-managers have implemented a new hatchery management strategy for Chinook salmon in the Snohomish Basin, which includes four parts:

1. Broodstock – Green River broodstock has been eliminated from the hatchery broodstock. All hatchery Chinook released in the basin are now derived from in-system broodstock.
  2. Fish marking – All hatchery origin fish are marked by at least one of the following methods: 1) removing the adipose fin to allow for visual identification of hatchery fish, 2) insertion of a coded-wire tag (CWT) that is electronically detectible, and 3) inducement of visible bands on otoliths through variation of water temperatures during incubation. CWT programs now include double-index tagging to help evaluate the effects of fisheries on both marked and unmarked fish. All Tulalip Hatchery fish have thermally-marked otoliths to identify them separately from other hatchery fish.
  3. Integration of wild fish into the hatchery broodstock – Hatchery eggtakes now come from a combination of hatchery and natural origin broodstock, with a goal of achieving 70% proportionate natural influence. Natural origin broodstock for the hatchery comes only from adult natural origin fish collected from the Wallace River and Sunset Falls adult traps. The number of natural-origin adults used for this purpose is limited 300 to 700 fish. These limits on both the source and the number of natural origin fish taken into the hatchery have been put in place to ensure that the practice does not jeopardize natural stock recovery.
  4. Allocation of eggs - The Wallace hatchery provides the broodstock for the Tulalip hatchery. In case there are insufficient eggs for both programs, the first 1,000,000 eggs are allocated to the Wallace. The next 750,000 go to Tulalip. After that eggs are allocated at a 50:50 split until the goals for both programs are achieved. Because the Wallace River program provides eggs to the Tulalip Hatchery, integration of the Tulalip program is considered “one generation out.” Although only hatchery origin fish returning to the Wallace Hatchery will be used to provide eggs to Tulalip, the Tulalip broodstock will be considered integrated because its brood source will be from an integrated hatchery program in the previous generation.
- In addition to the above, all hatchery fish in the Snohomish basin are managed as “secondary” management units, meaning that goals for natural-origin fish always have priority in harvest management.
  - The elimination of Green River broodstock from the Chinook program means that all local hatchery Chinook in the basin exhibit a summer run timing, while the wild stocks in the Snoqualmie are fall run fish. This change should reduce the potential overlap between the hatchery and wild fish in the Snoqualmie population. This strategy, combined with the concentration of terminal area harvest on hatchery-origin fish, is designed to reduce both the contribution of hatchery spawners to wild stocks as well as the terminal harvest rate on natural origin fish (Fig. 3).
  - The co-managers have been implementing a number of other changes in hatchery management, many of which were suggested by the program review done by the Hatchery Scientific Review Group (HSRG). These will be documented in a Snohomish Regional Hatchery Operations Plan, which is currently being drafted.



**Figure 4. Terminal area harvest rate (i.e. fraction of the fish entering Port Gardner that are harvested) for Snohomish Chinook salmon, 1978 - 2008. The reduction since the late 1980s is largely due to the elimination of Chinook-directed fisheries and implementation of management strategies to selectively harvest hatchery-origin Chinook.**

### H-integration

- In 2006, as part of the overall Puget Sound effort at implementing adaptive management, the Snohomish Basin embarked on a process to refine its integration of harvest, hatchery and habitat management. This process follows the six steps outlined by the region in a workshop: identifying participants; gaining a common understanding of how the system works; agreeing on common goals and community values; examining, evaluating and selecting a suite of complementary actions; documenting all steps; and monitoring and reporting.
- In 2007, fisheries north of the Canada-US border were sufficiently high that Southern – US – fisheries could not reach the RER; thus the total exploitation rate was closer to 35% than 21% (Fig. 3). In 2009, preseason planning we expect a lower northern fishery interception rate due to the new Pacific Salmon Treaty Annex. However, the combination of northern fisheries plus the expected incidental impacts in fisheries south of the southern United States – Canada border, still is expected to exceed the RER (Fig. 3).
- The watershed is getting close to the point when we need to bring together harvest and habitat and really say something. The Technical Committee has laid a solid foundation in this work through their H-Integration Document (2008). This document identifies key policy-level questions to help direct further work and on-the-ground implications. The Tulalip Tribes has received a grant that will enable them to more fully participate in the 3-Year Work Plan in the upcoming year, so that H-integration can be more fully realized in our work plan.



*Question 2.2 - Is implementation of the salmon recovery plan on-track for achieving the 10-year goal(s)?*

## **Habitat Restoration**

We are not receiving sufficient funding to achieve our 10-year goals

Based solely on funding (Funding Strategy development in 2004 and 2007 and some smaller level of updating in 2008 and 9), the Snohomish Basin is implementing overall at 44% of the desired levels of the Forum and Co-managers. Speaking specifically to habitat, we are implementing at 34% of the Forum's goal of \$15-17M per year. These numbers are meant only as a guide, because numerous large-scale projects, particularly in the Estuary, do not follow a linear funding path, where construction for single projects can be between \$5-10M. Furthermore, the \$15-17M per year trajectory does not follow a linear funding strategy (\$134M total 10-year Plan cost divided by 10 for a per year cost of \$13M). The Forum's goal translates back to the Plan, where the Forum strategized spending more for recovery now, to see how our mostly longer-term actions translate as we get closer to the 10-year mark.

While we know we have implementation shortfalls, there are challenges to identifying specific actions to achieve 10 year goals.

Identifying which specific actions are needed to achieve a recovery goal is generally easier when there are fewer larger projects rather than many smaller projects and is demonstrated by looking at different sub-basins. For example, in the estuary there are fewer large projects, thus making it simpler to identify specific actions. In urban and rural sub groups, restoration typically is occurring by using an accumulation of many smaller projects (i.e. riparian restoration projects), making it more challenging to track progress and identify specific actions that must be taken to achieve 10-year goals. Through our work in the Habitat Work Schedule and developing the monitoring plan for the basin, we hope to have more specific information available for next year's 3-year Work Plan update.

**Table 5. Snohomish Basin Progress\***

Sub-basin Strategy Group and Habitat	Needed Habitat Gain in 10 years	2005 & 2006 Restoration Quantitative Outputs (% 10 Year Goal)	2007 Restoration Quantitative Outputs (% 10 Year Goal)	2008 Restoration Quantitative Outputs (% 10 Year Goal) – preliminary numbers
Nearshore Beaches and Shoreline	At least 1 mile	not determined	40%	
Estuary: Tidal Marsh	1,237 acres	not determined	9%	
<b>Mainstem-primary:</b>				
Restored Edge Habitat	10.4 miles	not determined	10%	7%
Restored Riparian Habitat	256 acres	not determined	25%	5% - 16%
Restored Off-channel Habitat	167 acres	not determined	3%	2%
Large Woody Debris	41 logjams	not determined	5%	44%
<b>Other Sub-basins:</b>				
Restored Riparian Habitat	94 acres	not determined	100%	
Restored Off-channel Habitat	57 acres	not determined	100%	

\* Progress only reports gains from restoration efforts that are on a trajectory to be restored, though ecological function is not yet realized. Net habitat change factoring in both gains and losses are not represented in this table.

It is challenging to quantify gains toward goals when the salmon recovery plan is based on restoring processes.

- Because the plan is based on restoration of natural processes it doesn't allow, or is challenging, to come up with very specific habitat gains (i.e., river to create log jams, side channels, etc.). A monitoring and adaptive management framework will allow for better capturing/documenting habitat gains as natural processes are restored.
- How do we ensure that we are achieving the intent of the goal?
- Tracking log jams allows us to determine what is happening, but not if it is affecting the appropriate processes. Also, in the same example, small LWD projects are much easier to permit and gain permission to implement than large LWD projects. Large LWD projects may restore the natural processes more readily than small LWD projects so tracking must document not only the type of project but also the scale of the project and its effectiveness at restoring natural processes. *Monitoring progress must look at implementation and also have a way to measure to assess effectiveness of those projects being implemented.*

The non-linear nature of restoration makes it challenging to track progress toward 10 year goals

- Restoration is often non-linear in terms of effort and the work that gets done on the ground. There is often a lot of prep work and then a sudden jump in the amount restored. Demonstration of being on track does not always track with 10 year benchmark divided annually. The messaging around these goals (and the non-linear nature of achieving them) is challenging.

**Follow-up Question:** What is the threshold/trigger that scares people into admitting they are behind on a 10 year target?

**Response:** Part of the problem is that we don't have a clear reference for people to use. Saying that we are implementing the Snohomish Plan at a rate of 44% per year does not mean much without more context. A 44% level of effort is poor. Staff recognize the intent and scope of the question, but do not have a solid answer. We will work through these issues in the coming year and as NOAA develops the 5-year status review.

### **Harvest Management**

- Overall exploitation rates have declined since the implementation of the harvest management plan, and there has been a positive response in escapement. However, the overall rate still exceeds the RER. The reduction in northern fishery impacts from the new Pacific Salmon Treaty annex and conversion of southern fisheries to concentrate more on hatchery fish has helped, but more needs to be done to get to the RER level identified in our Plan.
- Budget reductions have resulted in reduced sampling effort in some fisheries.
- Increased reliance on mark-selective fisheries increases the uncertainty in estimating impacts to Snohomish natural-origin Chinook both in preseason planning and post-season assessment of impacts.

### **Hatchery Management**

- The need to implement HSRG recommendations and other reforms increases workloads even though there is little in the way of increased resources to do the work. One way the co-managers are addressing this is to increase efficiency through coordination through efforts like the Regional Hatchery Operations Plan.

*Question 2.3a - If implementation is not on-track, why?*

Capacity issues have constrained the watersheds ability to implement projects at a pace that will achieve 10 year targets set out in the salmon recovery plan.

- Basin staff capacity is greatly underfunded. The basin has lost 5 staff since 2003. Snohomish County puts in \$2 for every \$1 received. However, counties (including King and Snohomish Counties) can no longer subsidize salmon recovery the way it has been done to date.
- Capacity restrictions are felt more heavily in some areas of the watershed than others. For example, the headwaters area of the watershed might not move off a 3-year list as quickly as other sub basins. There are few project implementers advancing projects in the headwaters, and especially projects at a sufficient scale to impact watershed processes.
- Funding has not followed the Plans' adoption. Promised funding does not exist and has shifted from a salmon recovery focus to stormwater or other ecosystem priorities. The Puget Sound Partnership needs to a) identify priorities across salmon recovery, stormwater, water quality, etc., and b) fund

these elements differently (one source of funding aligning grant opportunities – *see also the Next Big Challenge section*).

- The impetus for H-integration at the state level has been lost. Some parties among co-managers do not understand or desire to integrate harvest or hatchery management with habitat.
- See other elements in the *Next Big Challenge* section of this narrative and the *Adaptive Management* section of the overview.

**Follow-up Question:** What has been the change in funding? Can this be presented on a regional scale?

*No response.*

Restoration implementation on a landscape scale allows for a more comprehensive approach to restoration but it may take longer to implement.

Example: Estuary - There are multiple project sponsors in the Snohomish estuary. The watershed is working to coordinating the funding strategy and work with all project sponsors to fund the entire estuary restoration needs. In addition, a monitoring plan that spans across the entire estuary rather than being focused only on one project is being developed. These factors contribute to an extended timeline for completion.

*Question 2.3b - If implementation is not on-track what are the key priorities to move forward?*

Assess habitat restoration priorities quantitatively (to this point, they have only been assessed qualitatively) by Subbasin Strategy Group.

Basin staff are currently working to address this issue. Developing the basin monitoring plan will work to measure progress in habitat, both on specific projects (e.g., assessing work on focus reaches in lowland tributaries) and with respect to habitat protection (clear targets and measures are necessary to assess conditions and analyze protection issues). Furthermore, another major work plan element for the Snohomish Basin is continuing to refine the Habitat Work Schedule system, wherein projects are recorded and reported.

Qualitative SBSG priorities include:

- *Nearshore* – our plan recognizes this Subbasin strategy group as a high priority. Due to both sequencing considerations (given public-land holding in the estuary and the immediate impact restoration of these areas would have on fish productivity) and nearshore related challenges (railroad, high property cost, limited understanding of nearshore processes) restoration and protection has not been as actively pursued in this area as in other SBSGs. This 3-year work plan reflects an allocation of effort towards assessment to line up projects.

- *Estuary* – Build off past investments to bring large projects to construction phase (the most expensive phase). In this area we are experiencing significant hurdles with respect to agriculture and salmon issues.
- *Mainstem* – Continuing advocating reach-scale approach. Also, smaller project sponsors still working on collections of smaller scale, land-owner focused projects. Habitat loss best documented in this area – 65 acres lost between 1990 and 2007 in Snohomish County portion of the basin. In these areas we are experiencing significant hurdles with respect to agriculture and salmon issues.
- *Rural* – Prioritize coordinated strategies that are emerging and restoration that also serves an outreach function.
- *Urban* – Engage landowners and small jurisdictions. Recognize that Phase II NPDES jurisdictions are stretched between water quality and salmon habitat efforts and work to integrate these efforts. Coordinate with efforts like Shoreline Master Planning.
- *Headwaters* – Very few projects are identified, advance those projects that are listed, especially Tier 1 actions.

Sequencing the 3-year Work Plan – As requested by the Forum, we need to better sequence (narrow and specify) the 3-year Work Plan to identify what elements are on track, what are behind and outlining clear strategy to address issues based on current funding levels, etc. At the same time, the 3-year Work Plan must clearly indicate whether progress is on track or behind, and what it would take to put the basin on a trajectory to reach our 10-year targets.

Habitat Protection – we need to complete the 2008 analysis of mainstem riparian forest cover in the King County portion of the basin and begin to advance changes in our suite of protection mechanisms, as well as advance the analysis to the next habitat element.

Monitoring Plan – Basin staff are currently working on developing the basin monitoring plan that will guide monitoring efforts and lead to our adaptive management plan. This work will be coordinated with the RITT guidance and lead into discussions that will take place between the RITT and Snohomish Basin in January 2010.

Outreach – The basin’s outreach strategy is outlined in other parts of this narrative.

**Follow-up Question:** Are we going to be able to implement the goals?

**Response:** The Plan outlines a clear strategy for implementation and recovery. Until we have an adaptive management (and monitoring) plan in place, we will be unable to say how close we can get to recovery under current conditions (44% implementation rate in our Plan). However, projects are being delayed but not being dropped. Projects are still going forward but it’s at a much slower pace. This does pose the risk that project sponsors and others involved in salmon recovery activities can walk away from the process if there are too many issues and delays.

## Sequence/Timing

*Question 3.1 - What are the top implementation priorities in your recovery plan in terms of specific actions or theme/suites of actions?*

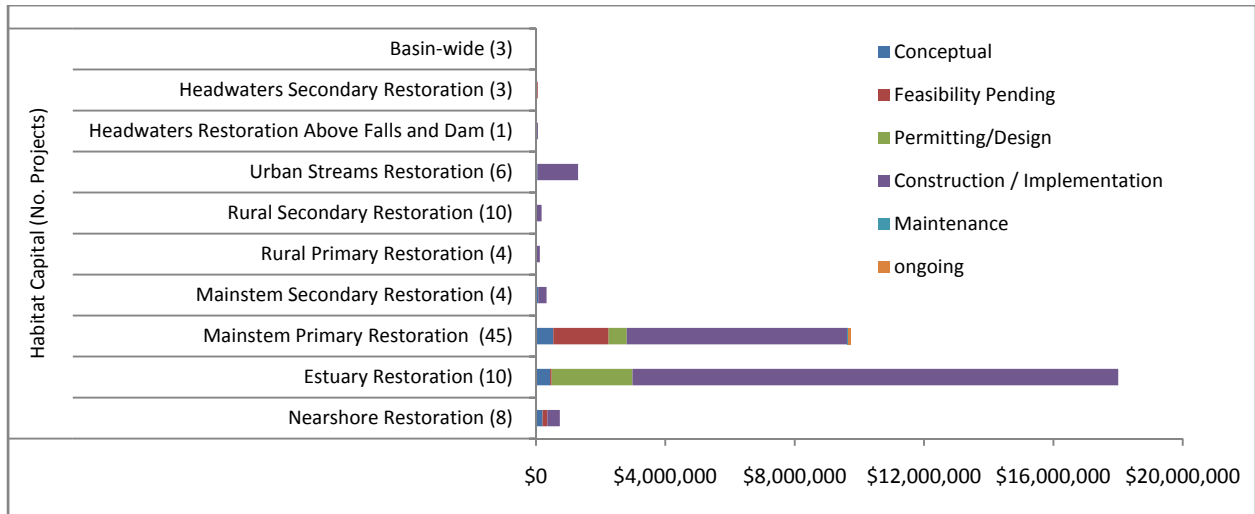
The Plan outlines that for recovery of all species in the basin, work needs to take place across the basin, including tributaries and headwaters Sub-basin Strategy Groups, where priority tiers do not start at a “tier 1” level (sometimes at a “tier 3” level). To move more quickly on recovering listed species (that use similar habitats), the Plan outlines that 80% of the effort be focused on priorities in the nearshore, estuary and mainstem rivers, with 15% in the lowland tributaries and 5% in the headwaters. In general, the 3-year Work Plan also reflects this approach. The following statements highlight that staff are working to address the highest priorities in the basin, given current levels of funding.

- In general, top priorities are identified as “1a” in the 3-year Work Plan list. Priorities for non-capital projects are generally identified as a “1.”
- In addition, we have worked with project sponsors to identify projects that are their number top priorities, so we can match priorities of the basin, with project sponsor priorities, with the priorities of funding sources (e.g., ESRP, National Coastal Wetlands grants, and PSAR).

*Question 3.2 - How are these top priorities being sequenced in the next three years?*

Our priorities are qualitatively sequenced across SBSG (see the *priorities* section). A rough look at identified funding needs for 2009 by project phasing reflects the general sequencing identified by Subbasin Strategy Group. In the nearshore, funding is equally split between project development and project implementation. Funding requests are still modest in these areas, and we anticipate that as feasibility assessments identify landscape-level restoration, funding needs will increase in these areas. The high funding needs in the estuary reflect that our large estuary projects (Qwuloolt, Smith Island, Blue Heron Slough, and Drainage District 6) are ready for construction. These projects will move us close to achieving our 10-year habitat targets. Additional feasibility and assessment work is needed to identify the best course of action for other lands currently in public ownership.

The Mainstem allocation reflects the need to keep projects moving down the pipeline: feasibility, design/permitting, construction, maintenance. Given the process-level work required along Mainstem rivers, the feasibility project phase is critical.



**Figure 5: Identified funding needs for 2009.**

*Question 3.3 - Is the sequencing and timing of actions appropriate for the current stage of implementation?*

With a clear strategy outlined in the Plan and existing funding (mostly capital, not programmatic!), we are advancing the right priorities (nearshore, estuary and mainstem work, along with key programmatic and harvest and hatchery). We need to evaluate whether these priorities are leading to recovery (monitoring and adaptive management, one of our key 2009 Work Plan elements).

Tie back graph to qualitative priorities for each Subbasin strategy group (priorities identified above).

*Question 3.4 - What do you need to be successful in implementing these priorities? What type of support is needed to help support this watershed in achieving its recovery chapter goals? Are there any changes needed in the suites of actions to achieve the watershed's recovery chapter goals?*

Clear merging of local watershed and regional work plans

We need the region to provide clear work plans that allow watersheds to engage at the regional level at the same time we advance our own local work plans. In 2006, Snohomish Basin staff were working on developing our adaptive management plan, when the region requested that we focus on H-integration. This work shift focused basin efforts for two years at the expense of a clear monitoring and adaptive management strategy (not implying H-integration is not important!). Merging local and regional work plans will provide staff at both levels with a clear direction for each year where we must work collaboratively to reach recovery. In difficult economic times, clearer communication of priorities and assistance that watersheds and the region can provide one another are the way to move forward. To this point, the region has been reluctant to develop or share work planning with the Puget Sound Salmon Recovery Council or watersheds, so we can prioritize work together.

### *Adaptive Management and H-Integration*

Given the capacity of the watershed we have to choose either Adaptive management and monitoring or H-integration. The regional push for H-integration in 2006 pushed the monitoring and adaptive management out of a priority for the watershed where it has remained unfinished for a number of years. The watershed is now refocusing it's work on adaptive management and monitoring and thus have had to put further H-integration work on the back burner.

In 2006, all watersheds in Puget Sound were requested to develop detailed H-integration plans. The Snohomish Basin spent considerable time over the course of 2 years to develop these plans. Current funding is not allowing us to follow through on these plans to the extent we hoped. For example, one of the key questions raised during the H-integration process was the effect of hatchery strays on the viability of the Snoqualmie population. Despite effort expended to secure funding for such work, we have been unable to advance this important research.

### *Outreach*

Our outreach strategy is critically underfunded. We are requesting – consistent with many requests from local jurisdictions and partners, such as Snohomish County – that the Puget Sound Partnership work on awareness and understanding of Puget Sound issues. From there, PSP and others should work with local jurisdictions and project sponsors to advance behavior change that results in BMP implementation or habitat protection. Such behavior change efforts must be locally implemented, because of community variability.

The public outreach and education strategy for the Snohomish Basin Salmon Plan is a multi-tiered approach targeting forum members and their constituents, legislators, implementers of the plan and the general public. Because the scope of the plan is so large, the Snohomish Forum believes that effective outreach should support and build on current efforts, address existing gaps, catalyze new partnerships and target specific audiences within the Plan's sub-basin strategy groups. Outreach and education should not only engage the public in a broader understanding of watershed health and salmon recovery, but also should inspire audiences to take action. A targeted social marketing campaign is recommended to help motivate action and change behavior (Appendix C).

### *Habitat protection*

Evaluation of the gains/losses of habitat is not currently in place. We need to develop the basin monitoring plan to ensure that the methods for measuring habitat change, the goals and targets behind those measures are clearly defined. From there, we need consistent funding to conduct the evaluation and the follow up analysis regarding the reason(s) for habitat change.

We have discussed with PSP and the San Juan Initiative staff the issue of objectivity in Snohomish County, or other basin partners, in evaluating habitat protection effectiveness. Such analysis was recommended as part of the PSP's implementation task force to be done by a "regional Council of Governments" or other such group.



Beyond the evaluation and analysis, we need a decision-making framework (the major part of adaptive management) that will guide basin staff to how to change our suite of habitat protection tools in reaction to incoming data on habitat change. These actions will direct the basin, project sponsors and local jurisdictions on how to most effectively protect habitat, which is a foundational element of our plan.

Adaptive management and monitoring is essential for developing further guidance on priorities.

Three-year Work Plan – As the region has continued to request more and more adaptive management information (particularly as funding sources become more critical of earmarks, requesting a more science-based foundational approach), the Snohomish Basin is unable to respond in the level of depth required. Without funding to develop the monitoring and adaptive management plans (funded solely by in-basin sources!), monitoring, analysis, data reporting and decision-making, we cannot answer some of the questions in the Three-year Work Plan – and this narrative – to the extent requested.

The appropriate response to funding shortfalls is not to implement less work, but to look for ways to “grow the funding pie” and make funding and accountability more effective.

Project costs have increased significantly since the Forum’s adoption of the Plan. Estuary projects were estimated at \$25M at the adoption of the Plan, while actual costs are coming closer to \$36M. Other projects in the Basin, such as the Lower Tolt Floodplain Restoration Project has seen cost increases (for a variety of reasons) from \$900k to \$6M.

Develop a new funding mechanism for Puget Sound. WRIA 8 has mentioned repeatedly that funding in Chesapeake Bay was changed to a system where the Chesapeake region was funded for work through multiple sources. They, in turn, funded individual areas and projects, removing multiple layers of overhead and driving funding of full projects (through all status levels), rather than pieces. At present, the Qwuloolt Restoration Project has 12 sources of funding, with 8 different sources of match, creating an administrative nightmare. We need a system now, before we lose the knowledge base that has brought our restoration efforts to a strategic, focused and capable system.

Continued support for project phasing. Communities and funding agencies expect well coordinated, technically sound projects. ESRP provides a good model for how to support project phasing, with the alternate, streamline application process that is available for projects that received ESRP funding for an earlier example.

We need to stop funding inequity at random. Existing funding among Puget Sound watersheds funds some watersheds to a higher proportion of their plan targets than others, with some watersheds receiving funding despite ignoring regional guidance. Furthermore, the higher proportional funding in some watersheds sets a regional strategy by default, not strategically. That strategy is funding smaller watersheds first at the expense of those who have worked to bring forward strong strategies and good technical work. It also leaves those areas that have very high importance, e.g., the Snohomish Estuary, without the funding to complete the considerable effort we have put forward. Even if we maintain the

strategy of funding and completing smaller watershed plans first, we should still have a consistent and conscious strategy.

In the face of funding short-falls, the effectiveness of our actions is challenged. Action is needed at both the local and regional level to ensure we are working on the right priorities and that those key priorities are funded to the extent possible.

The Project Working Group has been established in the Basin to facilitate communication between project sponsors, identify common barriers, and work collaboratively to address these common barriers. Permitting – The Snohomish Basin with the Puget Sound Partnership, Office of Regulatory Assistance, and the Governor’s Salmon Recovery Office have worked over the course of the last year to outline a vision for an “area-wide coordinated permitting process.” For example, such a process would allow project sponsors to apply for permits in January and receive all federal, state and local permits by the end of June.

### Next Big Challenge

*Question 4.1: Do these top priorities reflect a change in any way from the previous three-year work program? Have there been any significant changes in the strategy or approach for salmon recovery in your watershed? If so, how & why?*

There have not been any significant changes in the strategy or approach to salmon recovery in the watershed. The strategy appears to be moving in the right direction, but not fast enough. The watershed strategy is on the right trajectory.

The present three-year work plan is largely consistent with those from previous years. The basin has concentrated energy and resources on estuary restoration, where we have the opportunity to restore one of the larger estuarine ecosystems on the West Coast. This approach has delayed restoration in the nearshore environment. In this three-year work plan update, Snohomish County is applying for funding to complete a sediment-process based nearshore assessment that will guide restoration opportunities from Everett past Mukilteo (into our neighboring WRIA 8 watershed). The Tulalip Tribes have proposed several projects that would support protection and restoration of nearshore processes from the Mouth of the Snohomish River, north to the watershed border.

Where the three-year work plan update differs from previous years is in the non-capital part of the project list. This year, the list is more focused on accomplishing several tasks, with eight goals outlined at the start, with individual projects that are either next steps or examples where our project sponsors are leading the way forward (such as Beach Watchers, Stilly-Sno Task Force’s REYS program).

Climate Change was identified as a *next big* challenge in the 2008 update. The results for the climate change pilot study performed by NOAA and the University of Washington Climate Impacts Group (CIG) remain applicable. This study found that in the **absence** of restoration actions identified in the Plan Chinook populations in the Snohomish Basin would decline 15-39% by 2050. With **full implementation** of the Plan (again all upstream of the estuary), populations would fall 5-23% by 2050. Basin staff are

using this information to monitor the impacts of climate change to the basin and develop a suite of research needs and capital and non-capital actions to address concerns outlined in the study. Initial work suggests more monitoring in areas such as the South Fork Skykomish River, as well as identifying actions that ensure instream flows from the upper part of the basin, will be critical to the implementation success. This work needs to be advanced, but is challenged by capacity issues.

*Question 4.2 - What is the status or trends of habitat and salmon populations in your watershed?*

- Preliminary steps are being taken to address this question, namely the watershed's focus on adaptive management and monitoring. Once AMM and funding are in place the watershed will be able to answer this question directly.

**Feedback:** No watershed will be able to answer these questions well but it is important to tell people where you are in the process. Kit is working to extend this question to address brood year for Snohomish. Escapement trends aren't good enough but small steps are necessary. The question still remains, how much information will be put into a 3-year work plan and how much will be put into a monitoring report.

*Salmon Populations*

Currently escapement data provides some indication of population performance. Since implementation of changes in harvest management around the time of the listing of Chinook in 1999 exploitation rates have declined significantly (Fig. 1). Concurrently, natural spawning escapement has increased (Fig. 2). A comparison of the distribution of fishing mortality and escapement under the 2007 and 2009 preseason fishing plans shows the expected gain from implementing the new Chinook annex in the Pacific Salmon treaty (Fig.3). However, escapement only provides us with one view of population performance. Work is underway to extend this question to brood year for the Snohomish. A better understanding of juvenile survival will also be critical for answering this question.

*Habitat Protection*

Proposed EPA funding would help us further assess this question through status and trend monitoring (baseline wadeable stream data is available in the basin). We need to be conscious of how the needed habitat gains were developed and how we measure our progress to see if these benchmarks are being met.

*Adaptive management and monitoring*

Given the capacity of the watershed we have to choose either Adaptive management and monitoring or H-integration. The regional push for H-integration in 2006 pushed the monitoring and adaptive management out of a priority for the watershed where it has remained unfinished for a number of

years. The watershed is now refocusing its work on adaptive management and monitoring and therefore had to put H-integration work on the back burner.

*Question 4.3 Are there new challenges associated with implementing salmon recovery actions that need additional support? If so, what are they?*

#### Public Support for Salmon Restoration

- Outreach at the regional scale should focus on awareness and understanding of ecosystem and salmon issues, while providing direction, funding and guidance for change facilitators (e.g., watersheds), and change agents (e.g., fisheries enhancement groups) to focus on programs that change behaviors to either implement best management practices or habitat protection.
- In addition to outreach for behavioral change, outreach needs to capture large scale project public outreach and what the basin is doing and why (i.e. trying to get out of a reactive mode and into a proactive approach). The basin is trying to support how to create a positive media story before the a negative story comes out.
- We need to focus effort on how to engage the volunteer community in a meaningful way. Existing programs assume that we can perpetuate the restoration economy based on volunteers forever.

#### Further clarification on integration

- Continue and expand support for integrating ecosystem protection and restoration, by defining what needs integration and steps forward over the next five years in each watershed (tailored to the watershed). Furthermore, the NOAA Northwest Fisheries Science Center's ecosystem risk analysis is critical to watershed understanding, support and integration among the numerous problems in our ecosystems. Although the Snohomish Plan is ecosystem-based, we need support and direction for how to better integrate – and explain – how to invest scarce resources across stormwater, water quality, salmon, flooding and other species. This risk analysis must be brought for discussion to and with watersheds; it cannot be left solely to our interpretation and explanation.
- We have discussed with PSP and the San Juan Initiative staff the issue of objectivity in Snohomish County, or other basin partners, in evaluating habitat protection effectiveness. Such analysis was recommended as part of the PSP's implementation task force to be done by a "regional Council of Governments" or other such group.

#### The restoration arena must understand and adapt to the changing scope of project implementation

- Grant period: 18 months is not sufficient for projects that are as large and complex as we need to implement. Grant periods need to be scaled to the size and complexity of the project.

- Project sponsors are beginning to take on larger projects to advance priority actions identified in the Plan:
  - Technical support is increasingly available for earlier stages of project development, but support in understanding the analytical process needed to engage in process-level work, the skills needed
  - Project manager skill and abilities
  - Ability of non-profit to match grants
- We need assistance in dealing with institutional knowledge. In numerous areas around Puget Sound, staff are nearing retirement age, with no one to back them up. We are about to lose considerable knowledge and capability that will set us back a decade in our ecosystem recovery efforts. We must find ways to address this critical gap. One suggestion during the Action Agenda process was the funding of an innovative “Centers of Excellence” program, which would bring key, innovative knowledge to partners around the Sound.

We need to make ecosystem restoration fun. Too many times, watersheds and others have complained about how overworked we are. We need support to help focus efforts and work collaboratively.

**Follow-up Question:** If all these items aren’t going right, why do you think your strategy will still work? Do you need to change your strategies to address some of these items?

**Response:** Without a lot of top down direction, project implementers are following the strategy of the plan.

**Follow-up Question:** Where are good things happening as well as where things are not happening? Can you show a balance?

**Response:** Our project implementers have been doggedly persistent in implementing our high priority projects, despite hurdles that increase time horizons and project costs (e.g., Qwuloolt Marsh, Braided Reach, Chinook Bend). Project sponsors are also engaged in the basin planning progress and increasingly working together to coordinate their actions (e.g., active participation in the Project Working Group).

**Follow-up Question:** Given funding at 34% are the assumptions about your strategy still going to hold up?

**Response:** The general strategy of focusing efforts at the salmon population bottleneck, juvenile rearing habitat continues to make sense, even given our funding situation. However, at this time we are not able to fully answer whether the assumptions of our strategy hold up or what could be done to improve our strategy, given both limited resources for recovery and continued habitat losses throughout the basin.

**Follow-up Question:** Where do all these shortfalls leave us?

**Response:** At this point, these shortfalls mean that projects take longer to complete. High priority projects are still moving forward, though slowly. The risk is that frustration could cause us

(landowners, staff or organizations) to abandon some of this important work, though we have not seen this yet.

**Follow-up Question:** Does your shortfall list really answer the question? Are you being specific enough to say what you need? What type of support is needed in the watershed? How are you going to change the suite of actions to achieve the goal?

**Response:** Yes, our 3-year work program specifically identifies programs to address identified shortfalls. Further, specific parties and supportive actions are identified in this narrative.

## Appendix A: Subbasin Strategy Group Definitions

The 62 sub-basins in the Snohomish River basin plus the nearshore were organized into 12 strategy groups based on three characteristics:

**1. Basin location.** The five major classifications are nearshore, estuary, mainstem rivers, lowland tributaries, and headwaters. This classification system is useful in developing a restoration strategy because sub-basins within these groups play similar roles in supporting salmon life histories and have similar geomorphic characteristics and land use issues.

**2. Condition of watershed processes.** Watershed processes drive habitat conditions and, in turn, population performance. The root causes of habitat loss occur on a sub-basin scale. Addressing the root causes of habitat degradation is critical for a successful recovery strategy. Watershed process conditions analyzed and modeled include the current conditions of hydrology, sediment, and riparian processes.

**3. Salmonid use.** Sub-basins were grouped based on their current Chinook and bull trout use and potential use. Salmonid populations are not distributed uniformly across the landscape. Identifying areas of high and potential use helps to direct scarce resources to where they will have the greatest effect. Sub-basins that have high and moderate coho use are identified in each strategy group. Many sub-basins include focus reaches where recommended actions may be targeted.

Basin Location	Sub-Basin Strategy Group	Salmonid Use/Watershed Condition
Nearshore	Nearshore	High use/Moderately degraded
Estuary	Estuary	High use/Degraded
Mainstem	Mainstem Primary Restoration	High use/Moderately degraded or degraded
	Mainstem Secondary Restoration	Moderate use/Moderately degraded
Lowland Tributaries	Rural Streams - Primary Restoration	Moderate use/Moderately degraded
	Rural Streams - Secondary Restoration	Low use/Moderately degraded
	Urban Streams - Restoration	Low use/Degraded
Headwaters	Headwaters - Primary Protection	High use/Intact
	Headwaters - Secondary Restoration	Moderate use/Moderately degraded
	Headwaters - Secondary Protection	Low use/Intact
	Headwaters - Protection Above Natural Barriers	Resident population only/Intact
	Headwaters - Restoration Above Falls and Dams	Resident population only/Moderately degraded

## Appendix B: Tiering Criteria

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 (reflected as Tier 1, 2, 3 or 4, see table). The groupings, “a” and “b,” reflect a project sponsor’s capacity to successfully complete a specific project. For example, a project tiered as “1a” would be a tier-one priority in the *Plan*, and the sponsor could implement the project given current capacity. A project tiered as “1b” would still be a tier-one priority action in the *Plan*, but the sponsor would not be able to implement the project, given their current capacity. In some cases, these projects are kept in the Three-year Work Program, because other projects may drop from the list, changing a sponsor’s capacity to implement a lower tiered project, such as landowner willingness or changes in political priorities. In other cases, these projects were dropped from the list and tracked elsewhere until conditions change to put the project back on the list.

Subbasin Strategy Group	Tier	Action
Nearshore	1	Preservation
Nearshore	1	Restore shoreline condition
Nearshore	1	Restore sediment processes
Nearshore	1	Riparian enhancement
Nearshore	2	Protect and/or restore water quality
Nearshore	2	Control invasives
Estuary	1	Preservation
Estuary	1	Reconnect off-channel habitats
Estuary	1	Improve fish passage and tidal exchange on tide-gated streams
Estuary	1	Restore shoreline conditions
Estuary	1	Riparian enhancement
Estuary	2	Addressing water quality impacts
Estuary	2	Enhancing instream structures
Mainstem Primary	1	Preservation along focus reaches
Mainstem Primary	1	Preservation to support hydrologic and sediment processes
Mainstem Primary	1	Removal of human-made instream barriers along or adjacent to priority reaches
Mainstem Primary	1	Reconnection of off-channel habitats
Mainstem Primary	1	Restoration of shoreline conditions
Mainstem Primary	1	Restoration of hydrologic and sediment processes (for peak flow and base flow)
Mainstem Primary	1	Riparian enhancement
Mainstem Primary	2	Addressing water quality impacts
Mainstem Primary	2	Enhancing instream structures
Mainstem Primary	other	Fish passage on Coho streams



Mainstem Secondary	1	Preservation to support hydrologic and sediment processes
Mainstem Secondary	1	Restoration of hydrologic and sediment processes (for peak flow and base flow)
Mainstem Secondary	2	Preservation along focus reaches
Mainstem Secondary	2	Removing human-made instream barriers along or adjacent to priority reaches
Mainstem Secondary	2	Restoring shoreline conditions
Mainstem Secondary	2	Enhancing riparian areas
Mainstem Secondary	3	Addressing water quality impacts
Mainstem Secondary	3	Enhancing instream structures
Rural Streams Primary	1	Preservation to support hydrologic and sediment processes
Rural Streams Primary	1	Restoration of hydrologic and sediment processes (for peak flow and base flow)
Rural Streams Primary	2	Preservation along focus reaches
Rural Streams Primary	2	Removing human-made instream barriers along or adjacent to priority reaches
Rural Streams Primary	2	Restoring shoreline conditions
Rural Streams Primary	2	Riparian enhancement
Rural Streams Primary	3	Addressing water quality impacts
Rural Streams Primary	3	Enhancing instream structures
Rural Streams Primary	other	Replacing culverts on small streams
Rural Streams Secondary	1	Preservation to support hydrologic and sediment processes
Rural Streams Secondary	1	Restoration of hydrologic and sediment processes (for peak flow and base flow)
Rural Streams Secondary	3	Preservation (along focus reaches)
Rural Streams Secondary	3	Removing human-made instream barriers along or adjacent to priority reaches
Rural Streams Secondary	3	Restoring shoreline conditions
Rural Streams Secondary	3	Riparian enhancement
Rural Streams Secondary	3	Addressing water quality impacts
Urban Streams	3	Preservation (along focus reaches)
Urban Streams	3	Removing human-made instream barriers along or adjacent to priority reaches
Urban Streams	3	Restore shoreline conditions
Urban Streams	3	Riparian enhancement
Urban Streams	3	Addressing water quality impacts
Urban Streams	4	Instream structural enhancement
Headwaters Primary Protection	1	Preserving habitat along focus reaches

Headwaters Primary Protection	1	Preserving habitat to support hydrologic and sediment processes
Headwaters Primary Protection	1	Restore shoreline conditions
Headwaters Primary Protection	2	Enhance marine-derived nutrients (North Fork Skykomish only)
Headwaters Secondary Restoration	1	Preserve hydrologic and sediment processes
Headwaters Secondary Restoration	1	Restore hydrologic and sediment processes (for peak flow and base flow).
Headwaters Secondary Restoration	2	Preservation (along focus reaches)
Headwaters Secondary Restoration	2	Remove human-made instream barriers along or adjacent to priority reaches
Headwaters Secondary Restoration	2	Reconnect off-channel habitats
Headwaters Secondary Restoration	2	Restore shoreline conditions
Headwaters Secondary Restoration	2	Enhance riparian habitat
Headwaters Secondary Restoration	3	Address water quality impacts
Headwaters Secondary Restoration	3	Enhance marine-derived nutrients
Headwaters Secondary Restoration	3	Enhance instream structure
Headwaters Secondary Restoration	other	replace culverts on small streams
Headwaters Secondary Protection	1	preserve hydrologic and sediment processes
Headwaters Secondary Protection	3	Preservation along focus reaches
Headwaters Secondary Protection	3	Remove human-made instream barriers along or adjacent to priority reaches
Headwaters Secondary Protection	3	Reconnect off-channel habitats
Headwaters Secondary Protection	3	Restore shoreline conditions
Headwaters Secondary Protection	3	Address water quality impacts
Headwaters Secondary Protection	other	replace culverts on small streams
Headwaters Protection Above Natural Barriers		protect watershed processes that support habitat on federal forest lands
Headwaters - Restoration Above Falls and Dams	1	Preservation to support hydrologic and sediment processes
Headwaters - Restoration Above Falls and Dams	1	Restore hydrologic and sediment processes (for peak flow and base flow).
Headwaters - Restoration Above Falls and Dams	3	Riparian enhancement
Headwaters - Restoration Above Falls and Dams	3	Protect water quality
Headwaters - Restoration Above Falls and Dams	4	Remove human-made instream barriers
Headwaters - Restoration Above Falls and Dams	4	Restore shoreline conditions



## Appendix C: Targeted Social Marketing Campaign

Guiding principles include:

- Build on, support and publicize existing efforts and improve coordination amongst watershed groups
- Identify gaps in salmon recovery implementation and target these gaps and corresponding audiences in outreach activities (gap analysis)
- Integrate messages about salmon recovery and BMP implementation into existing programs where there is a natural fit so as not to overwhelm audiences with competing messages (e.g. stormwater and natural yard care programs are natural vehicles for educating the public about water quality issues)
- Refine messages for each audience, ensuring that the message is relevant to people's lives and their sense of place
- Use social marketing techniques to influence behavior change and achieve specific actions identified in the Snohomish River Basin Salmon Conservation Plan

The overall goal of the outreach strategy is to increase community involvement in salmon recovery through awareness, education and action. Better communication with the forum, legislators, and the public will lead to increased implementation of the plan and lead the region towards salmonid recovery. The Snohomish Forum has identified three specific objectives for community outreach and engagement:

### **1. Inform and engage forum members and their constituents**

*Audience:* Forum members and their constituents

*Desired action:* Forum members maintain their commitment and engaged action in implementing the salmon recovery plan. Forum members inform and engage their constituents in salmon recovery

### **2. Inform and engage legislators**

*Audience:* Legislators

*Desired action:* Legislators continue to support salmon recovery through policies, legislation and funding.

### **3. Facilitate salmon recovery implementation in the sub-basin strategy groups, with a pilot project targeting BMP implementation and residential landowners**

*Audience:* Implementers

*Desired action:* A variety of people, agencies, groups and the public implement salmon recovery actions:

- a. Project sponsors are able to successfully address some of the impediments to salmon recovery projects and move their projects forward.
- b. Landowners implement a variety of salmon recovery actions on their properties including BMPs that protect existing habitat and encourage restoration by Plan goals.
- c. Public interest, ownership and support of salmon recovery continues. Increased public support helps guide policy and funding in support of habitat protection, conservation and restoration.

## Appendix D: Additional Meeting Notes

Action items and additional analysis **suggested** by the group that could help clarify some of the points in the narrative:

- Add column to table on Snohomish basin progress (page 7)?: What is the projected percentage of 10 year goal achieved based on what has happened to date? What's been done to date and what is the eminent trajectory (i.e. heading in the right direction but slowly, etc)? What can be projected about the end point? A qualitative analysis would be great!
  - Ties back into how the watershed has focused in on Estuary at the "expense" of the nearshore and then set up the nearshore later for the next tier. (This was a conscious decision to do this and was appropriate as there is more learning that has to be done in the nearshore. The tidal marsh area has more certainty around how the habitat benefits to salmon. Putting nearshore off for a few years allows for more confidence to achieve results as new information about the nearshore is gained).
- Elaboration on how nearshore has been represented/done in previous years to demonstrate how it's moving forward, changing and being addressed in the current 3 year work plan.
- What has been the change in funding? Can this be presented on a regional scale?
- Can a synthesis of project to look at phasing be done? Can a synthesis be done to compare across watersheds (regional question)?

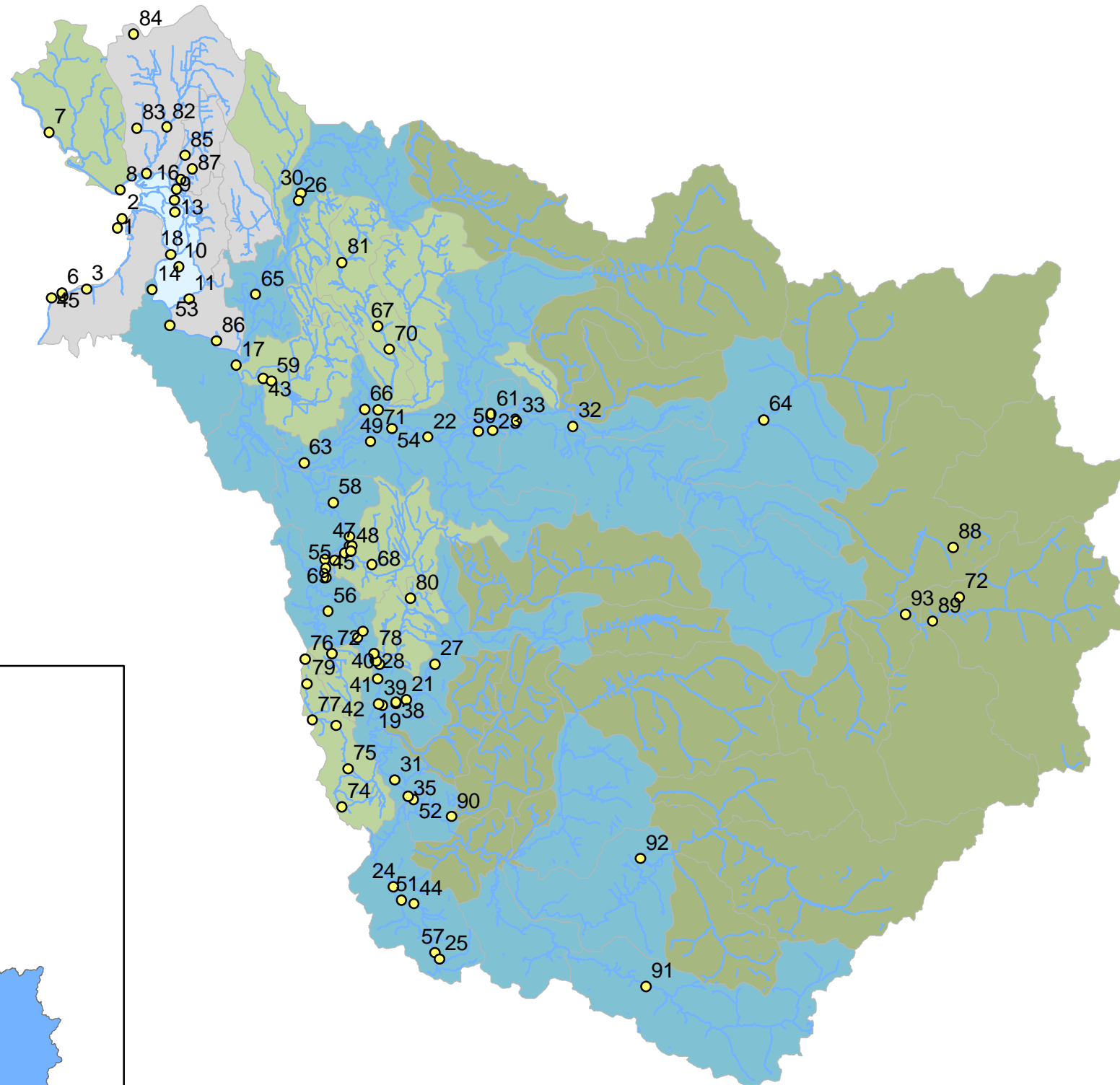
Response: We will evaluate these suggestions among our other work priorities.

- *Habitat protection*: There are tradeoffs between gains and losses in habitat and there are some basic assumptions in the habitat protection part of the plan. As a watershed we don't have the ability to gauge loss. There needs to be a beefing up of protection through regulations.

### General Comments from the group

- The non-capital list is great the way it is! Project sponsors can look at this and propose projects based on the goals. The only downside may be that similar projects can be developed simultaneously. Good communication with project sponsors, such as that being done in the project work group, will help with these overlaps in effort.
- Harvest and Hatcheries: Kit is interested in finding more time later in the year to help to further the integration of these items into the 3 year work plan. This 3 year work plan provides more room to think about how items fit together and how regional projects fit into this watershed.

# Snohomish Basin 3-Year Work Plan

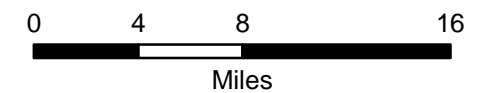
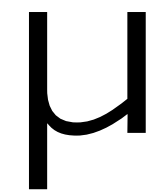


## Legend

● Project Locations

### SBSG

- Estuary
- Headwaters
- Mainstem
- Rural
- Urban

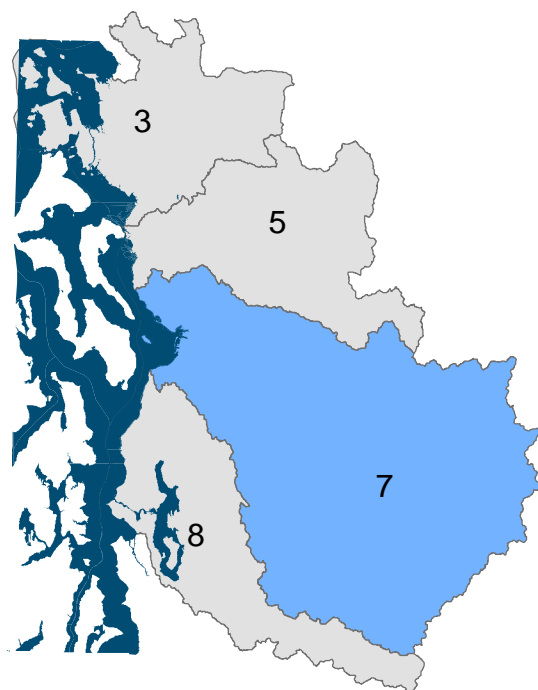


**Snohomish County**

**PUBLIC WORKS**  
SURFACE WATER MANAGEMENT  
(425) 388-3464

Snohomish County disclaims any warranty of merchantability or warranty of fitness of this map for any particular purpose, either express or implied. No representation or warranty is made concerning the accuracy, currency, completeness or quality of data depicted on this map. Any user of this map assumes all responsibility for use thereof, and further agrees to hold Snohomish County harmless from and against any damage, loss, or liability arising from any use of this map.

## Area Overview



List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-003	1	Jetty Island South Extension Phase II	Use clean dredged material to extend Jetty Island 2,000 ft to the south along the west side of the existing rock jetty. This project is a continuation of the February 2007, 1000-foot extension of the island.	1a	Riparian Areas & LWD Recruitment, Predation/Competition/Disease, Reduced Habitat Capacity, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Nearshore (Beaches)	Construct a more natural gradually sloping sand beach face and vegetated backshore along 2,000 linear feet of what is now a rock jetty across a low mudflat. Project expected to enhance nearshore migration corridor for juvenile salmonids and perhaps to provide habitat where sand lance may spawn.	Chum, Chinook, Coho, Bull Trout, Steelhead, Cutthroat, Pink	Surf Smelt, Sand Lance, Bald Eagle, Peregrine Falcon
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-005	2	Renourish Existing Jetty Island Berm	The Jetty Island berm, originally constructed in 1990, requires periodic renourishment with to maintain its integrity. Renourishment most recently occurred in January/February 2007 and in February 2009. Next renourishment is not likely to be required before 2011.	1a	Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Nearshore (Beaches), Nearshore (Embayments)	Prolong life of berm which protects a productive, 15-acre, depositional mudflat with surrounding salt marsh fringe.	Chum, Chinook, Coho, Bull Trout, Steelhead, Pink	Surf Smelt, Sand Lance, Bald Eagle, Peregrine Falcon
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-008	3	Nearshore Sediment Nourishment Feasibility Study along Railroad	Through a feasibility study and stakeholder process, identify high priority actions necessary to re-introduce sediment along the railroad impounded areas along the nearshore from Everett to the Snohomish County border.	1a	Loss of Habitat, Reduced Habitat Capacity, Regulatory Mechanisms, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Nearshore (Beaches)	Activity Type - Estuary or Nearshore: Beach Nourishment - Area Treated ( Acres)	Chum, Coho, Pink, Bull Trout, Steelhead, Surf Smelt, Sand Lance	
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-009	4	Light House Park Phase 2 Beach Restoration	Provide an additional waterfront access and restore 340 lineal feet of riparian shoreline vegetation, and install low impact development (LID) storm drainage swales for water quality along the western edge of the Mukilteo Lighthouse on a site that is predominantly a parking lot.	1a	Loss of Habitat, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Nearshore (Beaches)	340 lineal feet of riparian shoreline vegetation	Chinook, Bull Trout	Cutthroat, Chinook, Chum, Coho, Bull Trout, Bald Eagle, Marbled Murrelet
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-010	5	Japanese Gulch Habitat Improvements	This entry covers multiple projects within Japanese Gulch, including: 1) fish passage at 2 locations (north of Mukilteo Ln with engineered step-pool structures and between 5th St. and Mukilteo Ln with culvert improvements, 2) daylight and relocate the stream across the Federal farm tank property, and 3) project identification and the development of a coordinated strategy for the drainage.	1a	Channel Structure and Complexity, Altered Stream Morphology/Stream Flow Patterns	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Estuary or Nearshore: Culvert Improvements/Upgrades - Estuary/Nearshore ( Each), Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet)	Coho	Chum, Rainbow, Cutthroat
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-013	9	Blue Heron Slough Habitat Conservation Bank	320 acres of off-channel habitat reconnection/enhance, 13,500 ft of edge habitat restoration to restore hydrologic and sediment processes, and enhance riparian habitat. Mitigation bank, amount of habitat not in mitigation not determined.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Predation/Competition/Disease, Reduced Habitat Capacity, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary	Activity Type - Estuary or Nearshore: Culvert Improvements/Upgrades - Estuary/Nearshore ( Each), Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Large Wood Placement Amount Placed ( Each), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected (350 Acres), Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal (1 Each), Activity Type - Estuary or Nearshore: Species Reintroduction (non-plant) - Species Introduced ( Each)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead, Surf Smelt, Bald Eagle, Peregrine Falcon
Habitat Capital	Acquisition/Restoration (Combination)	Estuary Restoration	07-ER-033	10	Ebey Island Feasibility Study	Study how ecological functions can best be restored on Ebey Island on the 1237-acres south of State Route 2 presently owned by WDFW.	1a	Loss of Habitat, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary River Delta	Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres) Enhance 8.5 acres of floodplain. At least 1000 linear feet of tidal channel with assoc. wetlands. 75 pieces/acre LWD (wetland). Existing shrub-scrub and Phased planting of deciduous and coniferous trees. Bigelow creek will be restored to historic. Diverting flow away from existing ditches within RR right of way and send to Bigelow Creek. 3.4 acres of intertidal habitat	Chinook	Cutthroat, Chum, Coho, Bull Trout, Bald Eagle
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-035	11	DD6 Cross Dike & Habitat Restoration	Construct setback dike and breach current dike to restore tidal influence to at least 230 acres of wetland, with additional non-tidal wetland enhancement behind the setback dike.	1a	Loss of Habitat, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Hydrological Manipulation - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal( Each)	Chinook	Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-036	12	Qwuloolt Restoration - Phase III Construction	Broad-based interagency and community effort to restore 350 acres of critical estuary and stream habitats.	1a	Loss of Habitat, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary River Delta	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Hydrological Manipulation - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal( Each)	Chinook	Cutthroat, Chum, Coho, Sockeye, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-037	13	Smith Island Estuary Restoration - Construction	Restore over 300 acres of tidal marsh on Smith Island through setback dike construction, two breaches of existing dike, filling/blocking of existing drainage ditch network, enhancement/extension of existing tidal channels and connection to Union Slough, large woody debris and log-jam complexes, edge habitat complexity features, and native revegetation plan.	1a	Loss of Habitat, Reduced Habitat Capacity, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary River Delta	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Large Wood Placement - Amount Placed ( Each)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-NR-003	1	Jetty Island South Extension Phase II	Feasibility Pending	Feasibility Pending	Sediment Testing; Permitting; BE for ESA consult.; Disposal design	\$150,000	Dredging, Sediment placement (200,000 cy), Monitoring	\$2,500,000	Monitoring	\$25,000	2/28/2010	Port of Everett, US Army Corps of Engineers	\$2,675,000	\$2,675,000	Not Quantified	Port of Everett; Corps of Engineers
07-NR-005	2	Renourish Existing Jetty Island Berm	Design Completed	Construction / Implementation	Placed 25,000 cy of sand to nourish berm and suppress Scotch broom	\$350,000	Monitoring	\$10,000	Disposal design to place approximately 20,000 cy	\$250,000	12/31/2020	Port of Everett, US Army Corps of Engineers	\$610,000	\$610,000	Not Quantified	Port of Everett; Corps of Engineers
07-NR-008	3	Nearshore Sediment Nourishment Feasibility Study along Railroad	Feasibility Pending	Conceptual	Assessment and stakeholder process	\$177,497	Assessment, continued	\$0	Design	TBD	1/1/2012	Snohomish County of, Snohomish County Marine Resources Committee (MRC)	\$177,497	\$177,497	\$37,000	NWSC, SRFB
07-NR-009	4	Light House Park Phase 2 Beach Restoration	Design Completed, Permitting Completed	Construction / Implementation	Seeking funding	\$33,600	Construction	\$0	Maintenance	Non-identified	5/31/2010	Mukilteo City of	\$33,600	\$33,600	Not Quantified	TBD
07-NR-010	5	Japanese Gulch Habitat Improvements	Feasibility Pending, Feasibility Completed	Conceptual	Project identification and coordination, Construction for fish passage	\$25,000	Project identification and coordination	\$10,000	Engineering design, permitting	TBD	3/16/2015	Mukilteo City of (lead for fish passage), other partners to be formally identified	\$35,000	\$2,500,000	\$20,000	Not determined. Both mitigation and restoration funds
07-ER-013	9	Blue Heron Slough Habitat Conservation Bank	Design Completed, Permitting Completed	Construction / Implementation	Construct cross dike; complete internal channel network, grading; breach dikes; begin planting and monitoring	\$2,700,000	Continue planting; invasives control; monitoring	\$0	Continue planting; invasives control; monitoring	\$0	12/31/2009	Port of Everett	\$2,700,000	\$3,600,000	\$900,000	Stimulus Funds
07-ER-033	10	Ebey Island Feasibility Study	Feasibility Pending	Conceptual	\$150K requested from SRFB; \$217.82K from ESRP	\$367,820	None; on hold awaiting results of feasibility study	\$0	More acquisition and 100% Design	\$1,000,000	12/31/2012	WA Dept. of Fish and Wildlife	\$1,367,820	\$367,820	Not Quantified	ESRP, SRFB, and/or PSAR, National Coastal Wetlands
07-ER-035	11	DD6 Cross Dike & Habitat Restoration	Feasibility Pending	Permitting/Design	Construct setback dike and fill ditches	\$2,500,000	Construct setback dike / fill ditches	\$2,500,000	Breach dike	\$0	12/31/2007	City of Everett	\$5,000,000	\$10,000,000	Not Quantified	ACOE, National Coastal Wetlands
07-ER-036	12	Qwuloolt Restoration - Phase III Construction	Feasibility Completed, Design Completed	Construction / Implementation	Construction	\$7,073,941	Construction	\$0	Construction	\$0	12/31/2012	Tulalip Tribes	\$7,073,941	\$7,073,941	Not Quantified	Various local, state, and federal funds
07-ER-037	13	Smith Island Estuary Restoration - Construction	Feasibility Completed	Construction / Implementation	Development of design and mitigation program, permitting, finalizing project footprint and public/stakeholder outreach.	\$5,100,000	Design and mitigation program finalized and permitting completed.	\$2,000,000	First year construction (setback dike and interior restoration elements)	\$2,300,000	1/1/2013	Snohomish County of	\$9,400,000	\$9,400,000	Not Quantified	PSAR, SRFB



List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-038	14	Bigelow Creek Rechannelization and Enhancement	Retain and/or use of berm materials to form upland hummock along the river bank and across the wetland floodplain to create microhabitat niches and enhance biodiversity. Rechannelization and restoration of Bigelow Creek for Salmonid habitat. Creation of intertidal habitat including creation of dendritic channels.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Water Quality, High Water Temperatures, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet) Activity Type - Estuary or Nearshore: Armor Modification/Removal - Area Regained ( Sq. Ft.), Activity Type - Estuary or Nearshore: Revegetation (Intertidal/Subtidal) - Area Created/Restored ( Sq. Ft.), Activity Type - Estuary or Nearshore: Invasives/Weed Control - Estuary/Nearshore ( Acres), Activity Type - Estuary or Nearshore: Restore Elevation - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Berm/Dike Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Large Wood Placement - Amount Placed ( Each)	Chinook	Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-039	15	Quilceda Estuary Restoration (Hibulb Natural History Preserve)	Restoration of historic estuary to approximately 5-10 acres of tidal marsh within the 60 acre Hibulb Natural History Preserve.	1a	Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Large Wood Placement - Amount Placed ( Each)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead, Surf Smelt, Bald Eagle, Peregrine Falcon
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-040	16	North Ebey and Mid-Spencer Islands Breach Enhancements	Enhance existing breaches in the levees on North Ebey and Mid-Spencer Islands to enhance tidal inundation in the sites and enhance connectivity between other restoration sites. Project will remove approximately 20,00 cubic yards of material and enhance 348 acres of tidal marsh.	1a	Loss of Habitat, Reduced Habitat Capacity, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Estuary River Delta	Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal ( Each)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Acquisition/Restoration (Combination)	Estuary Restoration	07-ER-041	17	Tidegate replacement at Batt Slough	Infrastructure upgrade for flood control/drainage and WQ/fish access and restoration of flow through Batt Slough	1a	Estuarine and Nearshore Habitat, Water Quality	Snohomish Basin Salmon Conservation Plan (2005)	Estuary River Delta	Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal ( Each)	Chinook	Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-108	19	Tolt River Focus Area 5 Protection and Restoration	Protect and restore floodplain processes along the Lower Tolt River by purchasing floodplain habitat and removing or setting back levees/revetments. There are several sites in the Lower Tolt River where the setback or removal of a levee or revetment will allow the river to access the floodplain and historic side channels thereby providing critical rearing habitat in close proximity to high-use spawning areas.	1a	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/Shoreline	Activity Type - Land Protected, Acquired, or Leased: Wetland Areas Protected (30 Acres)	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-182	20	Stillwater Floodplain Restoration - Riparian	Stillwater Floodplain Restoration to restore 25 acres riparian habitat	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat	Chinook	Coho, Chum, Pink, Bull Trout
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-190	21	Tolt River Restoration	Remove nonnative species of butterfly bush, Himalayan blackberries, Scotch broom and purple loosestrife from the riparian area. These areas will then be replanted with native conifers, hardwoods, and shrubs that are currently represented on portions of the property.	1a	Riparian Areas & LWD Recruitment, High Water Temperatures	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Riparian Areas & LWD Recruitment, High Water Temperatures	Chinook	Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-192	22	Lower Skykomish Reach	Identify and implement projects that will restore and protect habitat (e.g.: riparian, edge, off-channel habitat) in the Lower Reach Skykomish.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Rivers/Streams/Shoreline	Activity Type - Instream: Channel Connectivity - Instream ( Feet), Activity Type - Instream: Wood Structure/Log Jam ( Feet), Activity Type - Riparian: Revegetation Planting ( Acres), Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration ( Linear Feet)	Chinook	Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-213	23	Tychman Slough Assessment and Design	Enhance edge habitat complexity and riparian forests along 2 miles of side-channel mainstem habitat to provide increased juvenile flow refuge and edge habitat.	1a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Enhance 2 miles side channel	Chinook	Chum, Coho, Pink, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-216	24	Raging River Knotweed Control and Revegetation	Treat approx. 30 acres knotweed infested sites and replant appropriate areas.	1a	Riparian Areas & LWD Recruitment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Invasives/Weed Control - Riparian (30 Acres)	Cutthroat	Cutthroat, Coho, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-ER-038	14	Bigelow Creek Rechannelization and Enhancement	Feasibility Pending	Feasibility Pending	Permitting	\$0	construction	\$5,000,000	maintenance	\$0	12/31/2010	City of Everett	\$5,000,000	\$5,000,000	Not Quantified	TBD
07-ER-039	15	Quilceda Estuary Restoration (Hibulb Natural History Preserve)	Feasibility pending	Conceptual	Feasibility and Design	\$70,000	Construction	\$750,000		\$0		Tulalip Tribes	\$820,000	\$820,000	Not Quantified	Tulalip Tribes, USFWS
07-ER-040	16	North Ebey and Mid-Spencer Islands Breach Enhancements	Feasibility	Feasibility Pending	Design and permitting	\$45,000	Construction	\$475,000		\$0	12/31/2011	Snohomish County of	\$520,000	\$520,000	20000	Snohomish County
07-ER-041	17	Tidegate replacement at Batt Slough	Design Completed, Construction Begins Summer 2009	Construction / Implementation	Construction	\$150,000	Not identified	\$0	Not identified	\$0	10/31/2009	Snohomish Conservation District	\$150,000	\$150,000	Not Quantified	Snohomish Conservation District, Marshland Flood Control District
07-MPR-108	19	Tolt River Focus Area 5 Protection and Restoration	Feasibility Pending	Conceptual	Acquisition	\$250,000	Acquisition	\$325,000	feasibility/design elements for future levee setback phases	\$250,000	12/31/2010	King County DNRP	\$825,000	\$825,000	\$100,000	CFT & KC Flood District
07-MPR-182	20	Stillwater Floodplain Restoration - Riparian	Construction	Construction / Implementation	Plant 10 ac riparian; maintain 20 ac. Riparian	\$20,000	Plant 5 ac riparian; maintain 25 ac. Riparian	\$15,000	Maintain 25 ac. Riparian	\$8,000	12/31/2010	Stilly Snohomish Fisheries Enhancement Task Force	\$43,000	\$43,000	Not Quantified	KCD, WDFW, SCL
07-MPR-190	21	Tolt River Restoration	Design Completed	Construction / Implementation	invasives removal and replanting	\$45,000	Invasive treatment and/or removal and additional planting	\$16,521	Ongoing monitoring	\$1,000	9/30/2010	Seattle City Light	\$62,521	\$61,521	\$31,521 + long term monitoring	NFWF
07-MPR-192	22	Lower Skykomish Reach	Conceptual	Feasibility Pending	Feasibility completed	\$40,000	Design and permitting for 3 projects	\$150,000	Construction	\$1,310,000	12/31/2015	Snohomish County of	\$1,500,000	\$1,500,000	Not Quantified	TBD
07-MPR-213	23	Tychman Slough Assessment and Design	Design/Permitting	Permitting/Design	Assess riparian and aquatic habitat along 2 miles of stream, develop flow model. Conduct fish assemblage study	\$60,000	Produce 30% design on one restoration project, complete assessment report, prioritize future project locations	\$39,000		\$0	9/30/2010	Stilly Snohomish Fisheries Enhancement Task Force	\$99,000	\$99,000	Not Quantified	SRFB, Snohomish Cty SWM
07-MPR-216	24	Raging River Knotweed Control and Revegetation	Feasibility Pending	Construction / Implementation	Control	\$40,000	Control	\$40,000	Monitoring and Maintenance	\$20,000	12/31/2012	Mountains to Sound Greenway Trust	\$100,000	\$100,000	\$50,000	KCD

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Acquisition/Restoration (Combination)	Mainstem Primary Restoration	07-MPR-217	25	Upper Raging River Protection and Restoration	Protect and restore 7000 acres of instream, riparian, and upland habitat.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Flow, Water Quality, Excessive Sediment, Loss of Tributary Habitat Diversity, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Land Protected, Acquired, or Leased: Wetland Areas Protected (7000 Acres)	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-300	26	Pilchuck River Assessment and Project Design	Implement a geomorphic assessment of the Pilchuck Rive to identify processes at the reach level and prioritize in-stream construction projects that have the highest potential for successful rehabilitation of salmonid habitat.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Altered Stream Morphology/Stream Flow Patterns, Excessive Sediment, High Water Temperatures, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream, Rivers/Streams/Shoreline	Activity Type - Instream: Wood Structure/Log Jam ( Feet), Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration ( Linear Feet)	Chinook	Cutthroat , Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-301	27	Tolt River Riparian Area Native Restoration and Invasive Species Removal	Control nonnative species including Himalayan blackberries in the riparian area and replanted with native conifers, hardwoods, and shrubs.	1a	Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Riparian planting ( 3 )	Chinook	Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-302	28	Stillwater Floodplain Restoration - Construction	Restoration between 1500-2500 feet of shoreline in the Stillwater reach of the Snoqualmie River. Project actions include the removal of bank armament, the reconstruction of shoreline edge habitat with LWD installations and plantings, and potentially the construction of 1 engineered log jam.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Water Quality, Altered Stream Morphology/Stream Flow Patterns, High Water Temperatures, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Armored Bank Removal - 1000 ft.	Chinook	Cutthroat , Chum, Coho, Sockeye, Pink, Bull Trout , Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-303	29	Cherry Creek Mouth Reach and Snoqualmie River Bank	Feasibility study of how ecological functions can best be restored in the unit west of SR 203, and for development of 30% design plans for restoration.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Excessive Sediment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Rivers/Streams/Shoreline	Activity Type - Instream: Large Woody Debris ( Feet), Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) ( Miles), Activity Type - Sediment Reduction: Sediment Control ( Each), Activity Type - Floodplain Restoration: Site Maintenance - Floodplain Restoration ( Miles)	Chinook	Cutthroat, Chum, Coho, Bull Trout, Steelhead, Bald Eagle
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-304	30	Pilchuck River Riparian Restoration and Fish Habitat Enhancement (Multiple Projects)	Cooperate with private, agricultural landowners, to construct large wood structures in the river in areas of accelerated bank erosion, plant native trees to establish buffers, and exclude livestock from buffers.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Water Quality, Predation/Competition/Disease	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Water Quality, Predation/Competition/Disease	Chinook	Coho, Bull Trout, Chum, Steelhead, Cutthroat, Pink
Habitat Capital	Acquisition/Restoration (Combination)	Mainstem Primary Restoration	07-MPR-305	31	Snoqualmie Fall City Reach Reconnection	Restore 5280 ft. edge, 5 acres off-channel habitat and 12 acres riparian.	1a	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/Shoreline	Connectivity/Rehabilitation/Creation - Floodplain Restoration (5280 Linear Feet), Activity Type - Floodplain Restoration: Hydrological Manipulation Area Affected (5 Acres), Activity Type - Riparian: Revegetation Planting (12 Acres), Snohomish River Basin Mainstem: Restored Edge: Removal of armoring/levee within 5 meters of the ordinary high water mark (5280 ), Snohomish River Basin Mainstem: Restored Off-channel Habitat: Winter/Spring off-channel habitat restoration (5 ), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting (12 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-306	32	Skykomish Braided Reach Restoration Phase I	Implement a suite of projects (flood fencing, apex jam augmentation, and riparian plantings) to improve salmonid refuge and side channel habitat along the Skykomish River, from Gold Bar to three miles downstream, through the restoration of dysfunctional reach processes, (gravel aggradation and scour, woody debris recruitment, and side channel abandonment)	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Instream: Channel Connectivity - Instream ( Feet), Activity Type - Instream: Wood Structure/Log Jam ( Feet), Activity Type - Riparian: Revegetation Planting ( Acres), Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration ( Linear Feet)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-MPR-217	25	Upper Raging River Protection and Restoration	Feasibility Pending	Feasibility Pending	Acquisition	\$1,500,000	Design	\$50,000	Construction	\$350,000	12/31/2011	Cascade Land Conservancy, WA Dept. of Natural Resources, Mountains to Sound Greenway Trust, King County DNRP	\$1,900,000	\$1,900,000	\$1,500,000	State DNR
07-MPR-300	26	Pilchuck River Assessment and Project Design	Conceptual	Conceptual	Writing and submitting grant	\$120,000	Assessment	\$100,000	Assessment and design	TBD	12/31/2012	Snohomish County of	\$220,000	\$220,000	Not Quantified	TBD
07-MPR-301	27	Tolt River Riparian Area Native Restoration and Invasive Species Removal	Design Completed	Construction / Implementation	invasives removal and replanting	\$35,000	Invasive treatment and/or removal and additional planting	\$25,000	invasive treatment and/or removal and additional planting as needed	\$12,185	12/31/2012	Seattle City Light	\$72,185	\$72,185	\$32,185	applied for PSAR
07-MPR-302	28	Stillwater Floodplain Restoration - Construction		Construction / Implementation	Construction	\$650,000	N/A	\$0	N/A	\$400,000	12/29/2011	Wild Fish Conservancy	\$1,050,000	\$650,000	Not Quantified	TBD
07-MPR-303	29	Cherry Creek Mouth Reach and Snoqualmie River Bank	Feasibility Pending	Conceptual	River bank and creek mouth reach (western parcel) feasibility study	\$51,000	Construction on river bank and mouth reach; plus feasibility study for eastern parcel	\$500,000	Construction on eastern parcel including Cherry Creek dike setback	\$1,000,000	5/31/2010	WA Dept. of Fish and Wildlife	\$1,551,000	\$60,000	Not Quantified	SRFB and PSAR, North American Wetlands Conservation Act
07-MPR-304	30	Pilchuck River Riparian Restoration and Fish Habitat Enhancement (Multiple Projects)	Construction	Construction / Implementation	Design, maintenance, construction	\$83,000	Construction, Monitoring	\$110,500	Construction, monitoring, maintenance	\$55,500	12/31/2013	Stilly Snohomish Fisheries Enhancement Task Force	\$249,000	\$249,000	Not Quantified	Snohomish County SWM
07-MPR-305	31	Snoqualmie Fall City Reach Reconnection	Feasibility Pending	Conceptual	N/A	\$0	Feasibility	\$150,000	Design	\$100,000	12/31/2012	King County DNRP	\$250,000	\$4,000,000	\$1,000,000	CFT, KCD, & King County SWM
07-MPR-306	32	Skykomish Braided Reach Restoration Phase I	Feasibility Completed, Design Completed, Construction Completed	Construction / Implementation	Multi faceted project completed and design and permitting completed for next project	\$250,000	Complete construction	\$300,000	Complete construction	\$300,000	12/30/2011	Snohomish County of	\$850,000	\$850,000	Not Quantified	TBD

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-307	33	Skykomish Braided Reach Restoration Phase II	Design and implement a suite of projects, (e.g., wood complexes and flood fences) to increase edge habitat on the mainstem, reconnect side channels, improve riparian conditions and create pools. The selection and design of these projects will be guided by the SRFB funded Braided Reach Restoration Assessment, which identified strategic points in the reach that would serve to reduce intervention impacts while maximizing results.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Instream: Off-Channel Habitat (1000 Feet), Activity Type - Instream: Wood Structure/Log Jam (7 Feet)	Chinook	Chum, Coho, Bull Trout, Steelhead, Peregrine Falcon
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-308	34	Snoqualmie Riparian Restoration with Salmon-Safe Farms	Conduct riparian restoration with agricultural landowners along 2.8 miles of the Snoqualmie River to assist farmers in achieving and maintaining "Salmon-Safe" certification.	1a	Riparian Areas & LWD Recruitment, Stream Substrate, Water Quality, Predation/Competition/Disease, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Riparian Areas & LWD Recruitment, Stream Substrate, Water Quality, Predation/Competition/Disease, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Chinook	Chum, Chinook, Coho, Steelhead, Cutthroat, Pink
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-309	35	Fall City Park Planting	Remove invasives (non-native blackberry and invasive knotweed) and plant 2 acres with trees, (cottonwood, red alder and conifers).	1a	Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Invasives/Weed Control - Riparian (2 Acres), Activity Type - Riparian: Revegetation Planting (2 Acres), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting (2 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-310	36	Weiss Creek (Lower) Restoration Project Maintenance	Maintain an existing habitat restoration project, installed in 1999, by controlling non-native vegetation, reapplying rodent guards, and repairing a livestock exclusion fence along lower Weiss Creek.	1a	Water Temperatures, Loss of Habitat, LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Invasive Plant Removal; Riparian Restoration (Plantings).	Coho	Cutthroat, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-311	37	Lower Tolt River Floodplain Reconnection	Restore connectivity between the Tolt River and 48 acres of floodplain habitat on County-owned land and construct a set back levee approximately 800 feet behind the existing levee.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Predation/Competition/Disease, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Connectivity/Rehabilitation/Creation - Floodplain Restoration (2500 Linear Feet), Activity Type - Floodplain Restoration: Hydrological Manipulation Area Affected (12 Acres), Activity Type - Riparian: Revegetation Planting (6 Acres), Snohomish River Basin Mainstem: Restored Edge: Removal of armoring/levee within 5 meters of the ordinary high water mark (2500 ), Snohomish River Basin Mainstem: Restored Off-channel Habitat: Summer off-channel habitat restoration (12 ), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting(6 )	Chinook	Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Acquisition Projects	Mainstem Primary Restoration	07-MPR-312	38	Tolt River Habitat Acquisitions (City of Carnation)	Acquire and protect from future development riparian areas on the Lower Tolt River mainstem containing significant in-stream habitat value for Chinook salmon.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat, Loss of Tributary Habitat Diversity, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Upland, Riparian, Wetland, Rivers/Streams/Shoreline	Snohomish River Basin Mainstem: Restored Edge: Acquisition in the Mainstem Sub-basin Strategy Groups (5 )	Chinook	Coho, Steelhead
Habitat Capital	Acquisition/Restoration (Combination)	Mainstem Primary Restoration	07-MPR-319	39	Snoqualmie-Tolt Levee Setback	Enhance 2640 ft. edge habitat, restore 12 acres of off-channel and 24 acres riparian vegetation	1a	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Mainstem restoration: edge habitat, riparian, off-channel	Chinook	Chum, Coho, Bull Trout , Steelhead, Peregrine Falcon
Habitat Capital	Acquisition/Restoration (Combination)	Mainstem Primary Restoration	07-MPR-320	40	Chinook Bend Levee Removal	Levee setback to create 5 acres off-channel habitat, and 2,000 ft. edge enhancements. Project includes a 2 acres acquisition at Camp Corey to allow for work downstream of the revetment removal.	1a	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream, Rivers/Streams/Shoreline	Restored Edge: Removal of armoring/levee within 5 meters of the ordinary high water mark (2000 ), Snohomish River Basin Mainstem: Restored Off-channel Habitat: Winter/Spring off-channel habitat restoration (5 )	Chinook	Cutthroat, Coho, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-MPR-307	33	Skykomish Braided Reach Restoration Phase II	Feasibility Completed	Permitting/Design	Design/Permitting	\$350,000	Construction	\$0	Construction	\$0	12/31/2012	Snohomish County of	\$350,000	\$350,000	Not Quantified	TBD
07-MPR-308	34	Snoqualmie Riparian Restoration with Salmon-Safe Farms		Construction / Implementation	Outreach, Construction, and Maintenance	\$208,633	Outreach, Construction, and Maintenance	\$208,633	Outreach, construction and maintenance	\$208,633	12/31/2013	Stewardship Partners	\$625,900	\$625,900	Not Quantified	CSF, Private Foundations, DOE, KCD, SFRB
07-MPR-309	35	Fall City Park Planting	Design Completed	Construction / Implementation	N/A	\$0	Construction	\$75,000	Monitoring and Maintenance	\$15,000	12/31/2011	Snoqualmie Tribe	\$90,000	\$90,000	\$30,000	KCD
07-MPR-310	36	Weiss Creek (Lower) Restoration Project Maintenance	Maintenance	ongoing	Labor and supplies.	\$12,200	Labor and supplies.	\$10,000	Labor and supplies.	\$10,000	12/31/2009	Wild Fish Conservancy	\$32,200	\$12,200	\$3,000	KCD -2008/2009 2010-2011 - Unk.
07-MPR-311	37	Lower Tolt River Floodplain Reconnection	Permitting Completed	Construction / Implementation	Construction	\$3,800,000	Monitoring and Maintenance	\$100,000	Monitoring and Maintenance	\$100,000	12/31/2013	Seattle City of, King County DNRP	\$4,000,000	\$4,094,601	\$4,000,000	KC SWM, City of Seattle, KCD, SRFB, PSAR
07-MPR-312	38	Tolt River Habitat Acquisitions (City of Carnation)		Ongoing	acquisition	\$50,000	Acquisition	\$100,000	acquisition	\$200,000	12/31/2012	Seattle City Light	\$350,000	\$400,000	\$400,000	
07-MPR-319	39	Snoqualmie-Tolt Levee Setback		Construction / Implementation	Construction Phase II	\$1,000,000	Riparian Plantings, Monitoring, Maintenance	\$0	Monitoring, Maintenance	\$0	12/31/2007	King County of, Seattle City of	\$1,000,000	\$6,500,000	\$4,000,000	SRFB, Stimulus
07-MPR-320	40	Chinook Bend Levee Removal	Permitting Completed	Construction / Implementation	Construction	\$200,000	Construction	\$600,000	Maintenance & Monitoring	\$90,000	12/31/2010	King County DNRP	\$890,000	\$890,000	\$890,000	KCD, KC SWM, SRFB

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-321	41	McElhoe-Person Levee Setback	Levee setback to restore 2500 ft. of edge habitat, 2.5 acres off-channel habitat, and 2 acres riparian vegetation.	1a	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/Shoreline	Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration (2500 Linear Feet), Activity Type - Floodplain Restoration: Hydrological Manipulation Area Affected (2.50 Acres), Activity Type - Riparian: Revegetation Planting (2 Acres), Snohomish River Basin Mainstem: Restored Edge: Removal of armoring/levee within 5 meters of the ordinary high water mark (2500 ), Snohomish River Basin Mainstem: Restored Off-channel Habitat: Summer off-channel habitat restoration (2.50 ), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting ( 2 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-322	42	Snoqualmie Riparian Restoration	Snoqualmie Riparian Restoration on Agriculture Lands to restore 10 acres riparian habitat.	1a	Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Revegetation Planting (10 Acres), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting ( 10 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-323	43	French Creek Basin Passage/Restoration	Feasibility study to identify fish passage option for the French Creek pumphouse.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Stream Flow, Water Quality, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005) and French Creek Watershed Management Plan	Instream, Wetland	Feasibility completed.	Chinook	Coho
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-324	44	Raging River Tributary Fish Barrier Removal and Stream Habitat Restoration	Remove a fish passage barrier (6-inch culvert) and replace with a passable culvert, and restore 150 feet of natural stream channel	1a	Fish Passage Barrier, Channel Structure and Complexity, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert replacement (1), Activity Type - Instream: Channel Reconfiguration (150 feet), Activity Type - Riparian: Revegetation Planting (0.25 Acres)	Coho	Steelhead, Cutthroat
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-325	45	Coe Clemmons Creek Restoration Phase 2	Install control structures for bank stabilization on Coe Clemmons Creek, a west-flowing tributary to the Snoqualmie River.	1a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Excessive Sediment	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Sediment Reduction: Erosion Control Structures (0.20 Miles)	Coho	Cutthroat
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-326	46	CC Phase II. Cherry Creek Floodplain Restoration	Implement prioritized actions in Cherry Valley identified through a SRFB-funded feasibility study Valley, including reconnecting Cherry Creek's intact historic channel and consolidating three floodplain ditches into a single naturalized stream channel. This project complements Cherry Valley acquisition/restoration efforts being undertaken by WDFW and DD#7, including levee/pump removal.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Water Quality, Predation/Competition/Disease, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Channel Reconnection - 1300 ft.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-327	47	Fish Passage and Water Quality Monitoring at Cherry Creek Hidrostral Pump Facility	Complete and enhance the 2006 Cherry Creek pump station fish passage monitoring study and disseminate definitive recommendations about the value of Hidrostral pumps for both farmers and fish.	1a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage	Coho	Cutthroat, Chum, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Mainstem Secondary Restoration	07-MPR-328	48	Investigation of Low Dissolved Oxygen in the Cherry Creek Floodplain	Monitor groundwater stage and DO concentration in existing monitoring wells in the floodplain and characterize the hyporheic exchange dynamics using piezometers installed in the floodplain drainage channels. Thoroughly characterize the DO, BOD, and SOD in three Cherry Valley ditches both before and after they undergo extensive excavation (a funded restoration project).	1a	Floodplain Connectivity & Function, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Monitoring Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) (0.08 Miles), Activity Type - Riparian: Revegetation Planting (1 Acres), Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Riparian planting ( 1 )	Coho	Steelhead, Chinook, bull trout, chum, pink, cutthroat
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-079	56	Stream Enhancement at Lower Deer Creek	Relocate a small tributary to the Snoqualmie River away from a road and structure improving habitat complexity of channel. The project will restore 1 acre of riparian habitat and 400 ft edge habitat restoration.	2a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Excessive Sediment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Riparian: Revegetation Planting (15 Acres), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting ( 15 )	Coho	Cutthroat
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-119	57	Raging River Kerriston Reach Restoration	Placing large woody debris in the channel and floodplain as well as 15 acres of riparian enhancement.	2a	Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Revegetation Planting (15 Acres), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting ( 15 )	Steelhead	Coho
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-183	58	People's Creek Riparian	Dike setback, LWD placement and riparian enhancement	2a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Flow, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Fish Passage: Culvert Removal - Fish Passage ( Each), Activity Type - Fish Passage: Road Crossings (Bridges or Culverts) ( Each). 2 culvert removals, 2 bridge placements, 1100 ft of channel re-meander, 1.1 acre of riparian restoration	Coho	Cutthroat , Chinook, Chum, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-MPR-321	41	McElhoe-Person Levee Setback	Feasibility Pending	Feasibility Pending	Design	\$100,000	Construction	\$768,000	Maintenance & Monitoring	\$50,000	12/31/2011	King County DNRP	\$918,000	\$918,000	\$100,000	KCD
07-MPR-322	42	Snoqualmie Riparian Restoration	Design Completed	Construction / Implementation	Construction	\$50,000	Construction	\$50,000	N/A	\$0	12/31/2011	King County DNRP	\$100,000	\$100,000	\$20,000	KCD
07-MPR-323	43	French Creek Basin Feasibility Study, Fish Passage/Restoration	Feasibility Pending	Conceptual	Partner Development, Feasibility Analysis	\$43,720	Partner Development, Feasibility Analysis	\$100,000	Partner Development, Feasibility Analysis	\$100,000	12/30/2011	Ducks Unlimited - Vancouver, Ducks Unlimited Inc	\$243,720	\$243,720	Private Landowners - Not Quantified	NAWCA, Ducks Unlimited
07-MPR-324	44	Raging River Tributary Fish Barrier Removal and Stream Habitat Restoration	Design pending	Construction / Implementation	Construction	\$37,400		\$0		\$0	12/31/2010	Tulalip Tribes	\$37,400	\$37,400	\$7,400	Tulalip Tribes, Institute for Community Leadership
07-MPR-325	45	Coe Clemmons Creek Restoration Phase 2	Feasibility Pending	Feasibility Pending	Design	\$10,000	Construction	\$12,000	N/A	\$0	10/31/2010	City of Duvall	\$22,000	\$62,000	\$10,000	City of Duvall
07-MPR-326	46	CC Phase II. Cherry Creek Floodplain Restoration	Funded	Construction / Implementation	NA	\$0	Construction	\$50,000	Construction	\$50,000	12/31/2013	Wild Fish Conservancy	\$100,000	\$550,000	Not Quantified	75,000 NFWF, 50,000, 30,000 KCDES
07-MPR-327	47	Fish Passage and Water Quality Monitoring at Cherry Creek Hidrostal Pump Facility		Ongoing	Data entry & Labor	\$10,000	Data entry & Labor	\$10,000	Data entry & Labor	\$10,000	12/31/2010	Wild Fish Conservancy	\$30,000	\$101,268	Not Quantified	TBD
07-MPR-328	48	Investigation of Low Dissolved Oxygen in the Cherry Creek Floodplain	Proposed	Conceptual	Monitoring/Implementation	\$63,710	Monitoring/Implementation	\$63,710	Monitoring/Implementation	\$63,710	12/31/2011	Wild Fish Conservancy	\$191,130	\$63,710	Unk	Unk
07-MPR-079	56	Stream Enhancement at Lower Deer Creek	Feasibility Pending	Construction / Implementation	Construction	\$135,000	Maintenance & Monitoring	\$10,000	Maintenance & Monitoring	\$5,000	12/31/2010	King County DNRP	\$150,000	\$150,000	\$50,000	King County SWM
07-MPR-119	57	Raging River Kerriston Reach Restoration	Feasibility Pending	Construction / Implementation	Construction	\$100,000	Construction	\$100,000	N/A	\$0	12/31/2011	King County DNRP	\$200,000	\$200,000	\$50,000	King County SWM & KCD
07-MPR-183	58	People's Creek Riparian	Design Completed	Permitting/Design	Design and permitting	\$50,000	Construction	\$20,000		\$0	12/31/2007	Snohomish Conservation District, Stewardship Partners	\$70,000	\$215,000	Not Quantified	TBD



List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-314	59	French Creek Basin Riparian Enhancement	Plant 88 acres of riparian habitat along a recently restored main channel and associated floodplain wetland habitat on three distinct, but contiguous parcels.	2a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Flow, Water Quality, Altered Stream Morphology/Stream Flow Patterns, Excessive Sediment, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005) and French Creek Riparian Function Assessment	Riparian	Activity Type - Riparian: Revegetation Planting (88 Acres), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting ( 88 )	Coho	Chinook
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-315	60	Cherry Valley Stream Restoration	Remeander Cherry creek through WDFW property, enhancing wetland off-channel habitat and connecting with WFC project. Substantial riparian planting.	2a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Water Quality, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration. Activity Type - Floodplain Restoration, Activity Type - Riparian: Revegetation Planting, Snohomish River Basin Mainstem: Restored Off-channel Habitat, Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting	Coho	Chinook
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-317	62	East Fork Weiss Creek Fish Passage Improvement	Replace the perched culvert that is a barrier to fish passage on the East Fork of Weiss Creek.	3a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage (1 Each)	Coho	Cutthroat
Habitat Capital	Restoration Projects	Mainstem Secondary Restoration	07-MSR-016	65	Kuhlman Creek Culvert Replacement	Replacing two culverts, native plantings and installation of LWD as necessary between along Kuhlman Creek between the Pilchuck River and Old Machias Road.	2a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage ( Each), Activity Type - Fish Passage: Culvert Improvements/Upgrades - Fish Passage ( Each)	Coho, Kokanee	Cutthroat
Habitat Capital	Restoration Projects	Mainstem Secondary Restoration	07-MSR-017	66	Richardson Creek Barrier Removal (Mouth)	Remove one bridge and raise a second near the mouth of Richardson Creek to improve fish passage to 3.9 miles of salmon spawning and rearing habitat. Install large woody material and riparian vegetation along 830 feet of the channel.	2a	Floodplain Connectivity & Function, Channel Structure and Complexity, Altered Stream Morphology/Stream Flow Patterns, Excessive Sediment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Fish Passage: Culvert Removal - Fish Passage (2 Each), Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Riparian planting (0.50 )	Coho	Chum, Chinook, Bull Trout, Steelhead, Cutthroat, Pink
Habitat Capital	Restoration Projects	Rural Primary Restoration	07-RPR-025	67	West Fork and Lower Woods Creek Habitat and Geomorphic Assessment	Conduct a habitat and geomorphic assessment of the West Fork and Lower Woods Creek basin to appropriately site and design restoration projects that address the needs of the creek and have the greatest chance of success.	1a	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Stream Substrate, Stream Flow, Altered Stream Morphology/Stream Flow Patterns, Excessive Sediment, Loss of Habitat, Reduced Habitat Capacity, Biological	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Instream: Off-Channel Habitat ( Feet), Activity Type - Instream: Channel Connectivity - Instream ( Feet), Activity Type - Riparian: Revegetation Planting ( Acres), Activity Type - Riparian: Livestock Exclusion ( Acres), Activity Type - Riparian: Fencing ( Feet)	Coho	Chum, Chinook, Bull Trout, Steelhead, Cutthroat, Pink
Habitat Capital	Restoration Projects	Rural Primary Restoration	07-RPR-016	68	NF Cherry Creek Restoration	Protect and enhance 1,300 ft of the NF Cherry Creek by installing livestock exclusion fencing and planting approx. 4 acres of native riparian corridor along NF Cherry Creek.	2a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Loss of Tributary Habitat Diversity, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Fencing (3000 Feet), Activity Type - Riparian: Revegetation Planting (4 Acres)	Coho	Cutthroat, Chum, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Rural Primary Restoration	07-RPR-018	69	Cherry Valley Dairy Stream Enhancement	Rural Streams Primary- Cherry Valley Dairy Stream Enhancement to improve 1 acre riparian habitat and remove 1 barrier	2a	Riparian Areas & LWD Recruitment, Water Quality, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Fish Passage: Culvert Removal - Fish Passage ( Each)	Coho	Chinook, Cutthroat, Steelhead
Habitat Capital	Restoration Projects	Rural Primary Restoration	07-RPR-024	70	West Fork Woods Creek Harrington Restoration	Restore 500' of WF Woods Creek riparian and in-stream habitat by stabilizing streambank, fencing horses from stream, and planting native plants in riparian area.	2a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Riparian: Fencing (1000 Feet), Activity Type - Riparian: Revegetation Planting (1 Acres), Activity Type - Upland Agriculture: Agriculture - Fencing (0.20 Miles)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Rural Streams Primary	07-RPR-026	71	Woods Creek Restoration	Woods Creek Riparian Restoration and In-stream Enhancement	2a	Riparian Areas & LWD Recruitment, Water Quality, Excessive Sediment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Instream: Large Woody Debris ( Feet), Activity Type - Instream: Streambank Stabilization ( Miles), Activity Type - Riparian: Revegetation Planting ( Acres)	Coho	Cutthroat, Chum, Pink, Bull Trout, Steelhead
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-036	72	Alpine Baldy Road Decommissioning	Decommission the following Forest Service road segments: the upper 1.4 miles of FS Rd 6066; the entire 4.6 miles of FS Rd 6067; an additional 1.0 mile of spur roads on FS Rd 6067; the last 2.0 miles of FS Rd 6570 (aka the San Juan Hill road), and the last 1.2 miles of FS Rd 6530 (aka the Rapid River road - which now lies within the newly established Wild Sky Wilderness).	1a	Stream Substrate, Excessive Sediment, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Sediment Reduction: Road Obliteration ( Miles), Activity Type - Sediment Reduction: Road Drainage System Improvements ( Miles)	multi-species benefit	multi-species benefit
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-045	73	Riparian Restoration on farmland in Ames Creek Basin	Livestock exclusion fencing, riparian planting, invasive species removal. Cooperative partnerships with multiple landowners.	3a	Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Fencing ( Feet), Activity Type - Riparian: Livestock Exclusion ( Acres), Activity Type - Riparian: Revegetation Planting ( Acres)	Coho	Chinook, Cutthroat, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-MPR-314	59	French Creek Basin Riparian Enhancement	Feasibility Pending, Design Completed	Construction / Implementation	Planting, materials and labor	\$180,000	Monitoring, maintenance and replacement	\$200,000	Monitoring and Maintenance	\$20,000	3/31/2010	Ducks Unlimited - Vancouver, Ducks Unlimited Inc	\$400,000	\$220,000	Private Landowners - Not Quantified	Ducks Unlimited, Others TBD
07-MPR-315	60	Cherry Valley Stream Restoration	Design/Permitting	Feasibility Pending	Final Design, Permitting	\$0	Construction	\$530,000	Reporting, Monitoring	\$35,000	12/31/2010	Ducks Unlimited - Vancouver	\$565,000	\$615,000	\$50,000	TBD
07-MPR-317	62	East Fork Weiss Creek Fish Passage Improvement	Feasibility Pending	Permitting/Design	Design	\$50,000	Construction	\$400,000	n/a	\$0	12/31/2010	King County DNRP	\$450,000	\$450,000	\$50,000	KCD
07-MSR-016	65	Kuhlman Creek Culvert Replacement		Construction / Implementation	Design and Permitting	\$250,000	Construction	\$0		\$0	12/31/2009	Snohomish Conservation District, Snohomish County of	\$250,000	\$250,000	Not Quantified	TBD
07-MSR-017	66	Richardson Creek Barrier Removal (Mouth)	Feasibility Pending	Construction / Implementation	Funding acquisition and design	\$10,000	Design and construction	\$65,000	Project monitoring	\$5,000	12/30/2011	Snohomish County of	\$80,000	\$80,000	Not Quantified	TBD
07-RPR-025	67	West Fork and Lower Woods Creek Habitat and Geomorphic Assessment		Feasibility Pending		\$0		\$0	Construction	\$850,000	2/28/2010	Snohomish County of	\$850,000	\$850,000	Not Quantified	TBD
07-RPR-016	68	NF Cherry Creek Restoration	Funding pending	Construction / Implementation	Supplies; Fencing; labor	\$30,000		\$0		\$0	12/31/2012	Wild Fish Conservancy	\$30,000	\$70,000	\$30,500	KCD
07-RPR-018	69	Cherry Valley Dairy Stream Enhancement	Feasibility Pending	Construction / Implementation	Construction	\$90,000	Maintenance	\$15,000	Maintenance	\$15,000	12/31/2007	Stewardship Partners	\$120,000	\$120,000	-Private Landowner	TBD
07-RPR-024	70	West Fork Woods Creek Harrington Restoration	Feasibility Completed	Permitting / Design		\$0	Plan, design & permit	\$5,000	Implement	\$45,000	7/1/2010	Adopt A Stream Foundation	\$50,000	\$50,000	Not Quantified	NFWF, LIP, CREP
07-RPR-026	71	Woods Creek Restoration	Feasibility Pending	Feasibility Pending	Educate, survey, & project design	\$60,000	Project Development, Implementation	\$90,000	Complete project installations	\$90,000	12/31/2012	Foundation, Snohomish Conservation District, Stilly Snohomish Fisheries Enhancement Task Force	\$240,000	\$240,000	Private Landowners - Not Quantified	NFWF, LIP, CREP
07-RSR-036	72	Alpine Baldy Road Decommissioning	Feasibility Pending	Conceptual	n/a	\$0	Surveys for design	\$10,000	Planning, permits, design and contract prep	\$150,000	10/14/2011	US Forest Service, Sustainable Fisheries Foundation	\$160,000	\$160,000	Not Quantified -Private Landowner	TBD
07-RSR-045	73	Riparian Restoration on farmland in Ames Creek Basin	Construction	Construction / Implementation	Outreach, Construction,	\$40,000	Outreach, Construction,	\$50,000		\$60,000	3/23/2012	Stewardship Partners	\$150,000	\$150,000	Not Quantified -Private Landowner	TBD

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Acquisition Projects	Rural Secondary Restoration	07-RSR-046	74	Grand Ridge Acquisition	Acquire 75 acres on Canyon Creek in the Patterson Creek sub basin	3a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/Shoreline	Activity Type - Land Protected, Acquired, or Leased: Wetland Areas Protected (75 Acres), Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Acquisition (75 )	Steelhead	Cutthroat, Coho
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-048	75	Storybook Creek Stream Enhancement	Partner with the landowner to relocate a channelized trib restoring 950 feet of this tributary to Patterson Creek and restoring 1.4 acres of riparian habitat.	3a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) (0.20 Miles), Activity Type - Riparian: Revegetation Planting (1.40 Acres), Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Riparian planting (1.40 )	Coho	Cutthroat
Habitat Capital	Acquisition Projects	Rural Secondary Restoration	07-RSR-049	76	Patterson Creek Protection on Stevlingson Property	Work with landowner to protect 10 acres property on the alluvial fan of Patterson. Would include significant floodplain/riparian restoration & structure removal.	3a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Excessive Sediment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Acquisition (10 )	Steelhead	Coho
Habitat Capital	Acquisition Projects	Rural Secondary Restoration	07-RSR-050	77	Patterson Creek State DNR Land Acquisition	Work with State DNR to protect 160 acres	3a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Acquisition (160 )	Steelhead	Cutthroat, Coho
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-051	78	Harris Creek Barrier Removal and Off-channel Habitat Restoration	Remove fish passage barrier (360 ft road prism), restoring fish access to 0.6mi spawning and rearing habitat upstream.	3a	Fish Passage Barrier, Channel Structure and Complexity, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage ( Each)	Coho	Steelhead, Cutthroat
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-052	81	Carpenter Creek Tributary Fish Passage Improvement	Replace/upgrade existing as many as three culverts on private small forest land, that are barriers to Coho and steelhead migration.	4a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage ( Each)	Coho	Steelhead, Cutthroat
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-037	82	Quilceda Creek Culvert Removals (3)	Remove 3 Quilceda Creek Fish Barrier Culverts	3a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage ( Each)	Coho	Chinook, Chum
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-039	83	Coho Creek Restoration	Restore and enhance 6,000 feet of stream channel, 8 acres of riparian forest and improve hydrologic connectivity and function to adjacent forest and wetland communities.	3a	Channel Structure and Complexity, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) ( Miles) Activity Type - Instream: Large Woody Debris (1000 Feet), Activity Type - Instream: Streambank Stabilization (0.15 Miles), Activity Type - Riparian: Revegetation Planting (1 Acres), Activity Type - Riparian: Invasives/Weed Control - Riparian (1 Acres)	Coho	Cutthroat, Chum
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-040	84	Quilceda Creek Streamkeepers	Landowner education on best management practices. LWD installation (100 logs) and riparian enhancement (1 square mile)	3a	Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Water Quality, High Water Temperatures, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Riparian: Revegetation Planting (1 Acres), Activity Type - Riparian: Invasives/Weed Control - Riparian (1 Acres)	Coho	Chinook, Chum
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-044	85	Allen Creek Fish Barrier Removal	Remove fish barrier culvert at Allen Creek	3a	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Removal - Fish Passage ( Each)	Coho	Cutthroat, Chum
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-046	86	Cemetery Creek Restoration Project	Control invasive blackberry along 3 acres of Cemetery Creek near Snohomish and re-plant with native trees and shrubs.	3a	Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Invasives/Weed Control - Riparian ( Acres), Activity Type - Riparian: Revegetation Planting ( Acres)	Coho	Cutthroat
Habitat Capital	Restoration Projects	Headwaters Above Falls and Dam Restoration	07-HRA-011	93	Anthracite Creek Enhancement and Awareness	Partner with the Timberlane Village Homeowner's Association (Timberlane) to replace 1 culvert, place 5 pieces large wood, and complete 0.10 acres riparian planting along Anthracite Creek.	3a	Channel Structure and Complexity, Excessive Sediment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Instream	Activity Type - Instream: Wood Structure/Log Jam (10 Feet), Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) (0.02 Miles), Activity Type - Riparian: Revegetation Planting (0 Acres)	Coho	Bull trout, Steelhead
Harvest Management	Annual Planning		n/a	N/A	Preseason fishery planning	Develop annual abundance predictions. Use these, plus models of mixed-stock fishery effect to develop fishery regulation package consistent with conservation objectives for multiple stocks.	1	Productivity reduction due to harvest	Chinook Plan: harvest management Component; Comprehensive coho management plan; Puget Sound Salmon Management	Across habitat types.	Develop preseason forecasts, develop inputs to fishery assessment model for all fishery related mortality, develop any needed modeling changes, meet with constituents and co managers to develop trial fishery plans, model plans to see if they meet all objectives, revise and repeat until all objectives are met, develop actual regulations based on final model runs	Chinook	Chum, Coho, Pink, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-RSR-046	74	Grand Ridge Acquisition	Conceptual	Conceptual	n/a	\$0	Acquisition	\$2,400,000	N/A	\$0	12/31/2010	King County DNRP	\$2,400,000	\$2,400,000	\$2,000,000	CFT, WWRP
07-RSR-048	75	Storybook Creek Stream Enhancement	Feasibility Pending	Construction / Implementation	Construction	\$25,000	N/A	\$0	N/A	\$0	12/31/2010	King County DNRP	\$25,000	\$25,000	\$10,000	King County SWM
07-RSR-049	76	Patterson Creek Protection on Stevingson Property	Feasibility Pending	Construction / Implementation	N/A	\$0	Acquisition	\$425,000	N/A	\$0	12/31/2010	King County DNRP	\$425,000	\$425,000	\$200,000	CFT
07-RSR-050	77	Patterson Creek State DNR Land Acquisition	Conceptual	Conceptual	N/A	\$0	Acquisition	\$2,500,000	N/A	\$0	12/31/2011	King County DNRP	\$2,500,000	\$2,500,000	\$1,250,000	CFT
07-RSR-051	78	Harris Creek Barrier Removal and Off-channel Habitat Restoration	Design pending	Construction / Implementation	Construction	\$45,620	n/a	n/a	n/a	n/a	12/31/2010	Tulalip Tribes	\$45,620	\$45,620	\$5,000	Tulalip Tribes
07-RSR-052	81	Carpenter Creek Tributary Fish Passage Improvement	Construction	Construction / Implementation	Install 1-3 culverts to improve fish passage	\$65,000	Maintenance & Monitoring	\$1,000	Maintenance & Monitoring	\$1,000	12/31/2009	Stilly Snohomish Fisheries Enhancement Task Force	\$67,000	\$67,000	Not Quantified	FFFPP, NFWF, CSF
07-USR-037	82	Quilceda Creek Culvert Removals (3)	Feasibility Pending	Construction / Implementation	n/a	n/a	Design & Permit	\$20,000	Implement	\$130,000	12/31/2010	Adopt A Stream Foundation	\$150,000	\$150,000	Not Quantified	SRFB, NFWF, LIP
07-USR-039	83	Coho Creek Restoration	Feasibility Completed, Design Completed, Permitting Completed	Construction / Implementation	Construction	\$1,175,000	n/a	n/a	n/a	n/a	12/31/2011	Tulalip Tribes	\$1,175,000	\$1,175,000	Not Quantified	Tulalip Tribes, NRCS, EPA
07-USR-040	84	Quilceda Creek Streamkeepers	Permitting Completed	Construction / Implementation	Educate, survey, & project design	\$60,000	Project Development, Implementation	\$90,000	Complete project installations	\$90,000	10/1/2010	Adopt A Stream Foundation	\$240,000	\$240,000	Not Quantified	DOE (EPA 319), NFWF
07-USR-044	85	Allen Creek Fish Barrier Removal		Construction / Implementation	n/a	n/a	Design & Permit	\$5,000	Implement	\$45,000	10/31/2010	Adopt A Stream Foundation	\$50,000	\$50,000	Not Quantified	DOE (EPA 319), NFWF, SRFB
07-USR-046	86	Cemetery Creek Restoration Project	Construction	Construction / Implementation	Clear one acre invasives	\$15,000	Plant 1 acre riparian	\$25,000	Maintain 2 acres of invasives and plant 1 acre riparian	\$20,000	12/31/2010	Stilly Snohomish Fisheries Enhancement Task Force	\$60,000	\$60,000	KCD, DOE	Sustainable Fisheries Foundation
07-HRA-011	93	Anthracite Creek Enhancement and Awareness	Construction	Construction / Implementation	Install one culvert, plant 0.1 acres riparian, place LWD along bank	\$46,500	Maintenance & Monitoring	\$1,000	Maintenance & Monitoring	\$1,000	12/15/2011	Stilly Snohomish Fisheries Enhancement Task Force	\$48,500	\$48,500	Timberlane Village Home Owners Association	KCD
n/a	N/A	Preseason fishery planning	Implementation has been underway for decades. Need to reassess and revise to coordinate with recovery plan.	Implementation	See activity type description	Needs further analysis	n/a	Needs further analysis	n/a	Needs further analysis	ongoing	WDFW, Tulalip	n/a	[Needs further analysis]	[Needs further analysis]	WDFW, Tulalip

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Harvest Management	Assessment		n/a	N/A	Estimate exploitation rates, reconstruct run sizes	Analyze information from coast-wide fishery sampling to compute exploitation rates after the fact.	1	Productivity reduction due to harvest	[Mainly reports Pacific Salmon Commission]	Across habitat types.	Assemble CWT data into coast-wide database. Use these, plus information on the amount of fish harvested and escapement to estimate exploitation rates. Where there are mark-selective fisheries also need to use methods developed for double-index CWT analysis.	Chinook	Coho
Harvest Management	Monitoring		n/a	N/A	Net Fishery Monitoring	Scale, coded-wire tag, otolith, and genetic samples and data on length of fish harvested stratified by catch area and week.	1	Productivity reduction due to harvest	[Probably none. This is a significant gap]	Across habitat types.	Carry out sampling, data recording, sample processing, and data analysis per established procedures. Need to document procedures.	Chinook	Chum, Coho, Pink, Steelhead
Harvest Management	Monitoring		n/a	N/A	Recreational Fishery Monitoring	Baseline sampling for species composition, coded-wire tag, stratified by catch area and month.	1	Productivity reduction due to harvest	[Need to find and list.] Smith and Castle (1994) for Chinook; Flint (1985) for coho; unknown for other	Across habitat types.	Carry out sampling, data recording, sample processing, and data analysis per established procedures. Need to document procedures.	Chinook	Chum, Coho, Pink, Steelhead
Harvest Management	Monitoring		N/A	N/A	Escapement Monitoring	Annual estimates of the number of Chinook, coho, pink, chum, and steelhead spawning naturally. Some information on spatial distribution, age composition, NOR/HOR breakout of natural spawners. Numbers are in co-manager databases.	1	Across all limiting factors.		Across habitat types.	Estimate escapement numbers and other factors using standard methods	Chinook	Chum, Coho, Pink, Steelhead
Harvest Management	Regulation / Enforcement		N/A	N/A	Develop, communicate, and enforce fishing regulations	Convert the results of the annual fishery planning process into regulations and platforms for communicating those (e.g. recreational fishing pamphlet) and disseminate the same. Enforce regulations through on-the-water presence of uniformed officers, sanctions for violations, etc..	1	Productivity reduction due to harvest		Across habitat types.	Convert the results of the annual fishery planning process into regulations and platforms for communicating those (e.g. recreational fishing pamphlet) and disseminate the same, provide telephone hotlines and web access to regulations. Enforce regulations through on-the-water presence of uniformed officers, sanctions for violations, etc..	Chinook	Chum, Coho, Pink, Steelhead
Hatchery	Broodstock management			N/A	Broodstock integration	Incorporate gametes from natural origin fish into hatchery broodstock at Wallace River hatchery to move towards co-managers' goals for PNI.	1	Genetic degradation of natural origin broodstock due to interbreeding with hatchery-bred fish.	Snohomish RHOP (under development)		Fish marking, data collection, sample processing, data storage, data analysis	Chinook	Coho, Steelhead
Hatchery	Monitoring			N/A	Assess contribution of hatchery fish to local fisheries and escapement	Thermally mark otoliths of incubating hatchery fish, apply coded-wire tags to Chinook and coho, sample fisheries and natural and hatchery spawning populations for fin clips, thermally marked otoliths, tissue for genetic analysis, scales, and other information. Analyze samples in the Tulalip Stock assessment laboratory and WDFW labs, store results in databases, analyze data to determine hatchery contributions.	1	Genetic degradation of natural origin broodstock due to interbreeding with hatchery-bred fish. Also provides a key component of basic stock assessment information for both hatchery and natural-origin fish	Snohomish RHOP (under development)		Fish marking	Chinook	Coho

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
n/a	N/A	Estimate exploitation rates, reconstruct run sizes	Implementation	Implementation	Assemble CWT data into coast-wide database. Use these, plus information on the amount of fish harvested and escapement to estimate exploitation rates. Where there are mark-selective fisheries also need to use methods developed for double-index CWT	Needs further analysis	ditto	ditto	ditto	ditto	ongoing	Pacific Salmon Commission Technical Committees, WDFW, Tulalip	[Needs further analysis]	[Needs further analysis]		PSC Implementation
n/a	N/A	Net Fishery Monitoring	Implementation	Implementation	Sample 20% of each area/week stratum for CWT (Chinook/coho). Sample 10% of each area/week stratum for scales (Chinook, chum). Take 100 otoliths per week for hatchery contribution estimates .	Needs further analysis	ditto	ditto	ditto	ditto	ongoing	WDFW, Tulalip	[Needs further analysis]	[Needs further analysis]		WDFW and Tulalip fishery management base program, Pacific Salmon Treaty Implementation Funds, Mass Marking Implementation Funds (ultimately Washington State and federal for all of these)
n/a	N/A	Recreational Fishery Monitoring	Implementation	Implementation	[Need to elaborate the following] baseline sampling of all marine areas. Special plans for mark-selective fisheries per preseason co-managers' agreement.	Needs further analysis	ditto	ditto	ditto	ditto	ongoing	WDFW	[Needs further analysis]	[Needs further analysis]		WDFW [They may also have outside sources to cite here]
N/A	N/A	Escapement Monitoring	Implementation	Implementation	Estimate escapement numbers using standard methods.	Needs further analysis	ditto	ditto	ditto	ditto	ongoing	WDFW, Tulalip	[Needs further analysis]	[Needs further analysis]		WDFW
N/A	N/A	Develop, communicate, and enforce fishing regulations	Implementation	Implementation	See activity type description	Needs further analysis	ditto	ditto	ditto	ditto	ongoing	WDFW, Tulalip	[Needs further analysis]	[Needs further analysis]		WDFW, Tulalip
N/A	N/A	Broodstock integration	Implementation	Implementation	All	Not provided yet					Ongoing	WDFW				WDFW
N/A	N/A	Assess contribution of hatchery fish to local fisheries and escapement	Implementation	Implementation	All	\$60,000	n/a	\$0		\$0	Ongoing	Tulalip Tribes.	\$60,000			Tulalip

List 1 - Capacity

Project Type	Plan Category	Subbasin			Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
		Strategy Group	HWS Project ID	Map ID										
Hatchery	Monitoring				N/A	Assess contribution of hatchery fish to local fisheries and escapement	1	Genetic degradation of natural origin broodstock due to interbreeding with hatchery-bred fish. Also provides a key component of basic stock assessment information for both hatchery and natural-origin fish	Snohomish RHOP (under development)		Fish marking	Chinook	Coho, Steelhead	
Hatchery	Capital				N/A	Various Tulalip Hatchery Capital projects	1	Projects necessary to upgrade facility to meet HSRG recommendations, replace aging parts of facility to meet HSRG recommendations. Projects are described in more detail in the RHOP (document under development).						
Hatchery	Capital				N/A	Various WDFW capital projects		Projects necessary to upgrade facilities to meet HSRG recommendations, replace aging parts of facility to meet HSRG recommendations. Projects are described in more detail in the RHOP (document under development).						
Hatchery					N/A	Mass marking by adipose fin removal	1	Mass mark Chinook, coho, and steelhead at Sno basin hatchery facilities by removal of the adipose fin so that fish can be identified for purposes of selective fisheries and monitoring	Snohomish RHOP (under development)	Nearshore, estuary	Sampling, data analysis	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead (	
Hatchery					N/A	Monitor effects of mass-marking on exacerbating BKD incidence in Tulalip Chinook	1	Determine whether BKD is selective affecting ass-marked Chinook at Tulalip by holding marked and unmarked fish in saltwater pens according to experimental design.	Snohomish RHOP (under development)		Sample collection, laboratory processing, data analysis		Chum	
Hatchery	Monitoring				N/A	Monitor ecological interactions between hatchery and natural-origin fish in the Snohomish estuary	1	Assess presence, relative abundance, growth, and timing of hatchery and natural-origin fish in the Snohomish estuary through a combination of beach seining and fyke net trapping of blind channel sloughs.		Nearshore and estuarine restoration, monitoring.	Facility maintenance/construction	Chinook	Chum, Coho	
Hatchery	Monitoring				N/A	Determine if chum genetic mark developed using allozyme techniques is detectable with DNA techniques	1	Collect tissue samples from fisheries, spawning grounds and juvenile rearing populations, analyze using both techniques, compare results			Facility maintenance/construction	Chinook	Coho, Steelhead (	
Non-Capital	Protection	Basin-wide	07-BW-004		N/A	Water type Assessment Project	1	With this project we will be water typing lead entity basins prioritized with assistance from the lead entity Technical Advisory Group, as well as addressing citizen and local government request for field identification / verification of water type per WAC 222-16-030.	Snohomish Basin Salmon Conservation Plan (2005)	Instream		Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead	
Non-Capital	Restoration Projects	Basin-wide	07-BW-002		N/A	Fish Passage Barrier Prioritization - (Field Surveys)	2a	Prioritize barrier removal by surveying and assessing anthropogenic/natural barriers and disseminating information.	Snohomish Basin Salmon Conservation Plan (2005)	Ongoing		Steelhead	Cutthroat, Chum, Coho, Sockeye, Pink, Bull Trout, Steelhead	

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
	N/A	Assess contribution of hatchery fish to local fisheries and escapement	Implementation	All	Not provided yet	n/a		\$0		\$0	Ongoing	WDFW				WDFW
	N/A	Various Tulalip Hatchery Capital projects														
	N/A	Various WDFW capital projects														
	N/A	Mass marking by adipose fin removal	Implementation	Implementation		\$20,000					Ongoing	NMFS, Tulalip	\$20,000			Unk
	N/A	Monitor effects of mass-marking on exacerbating BKD incidence in Tulalip Chinook	Implementation	Implementation		\$10,000	Implementation	\$16,000			2010	Tulalip Tribes	\$26,000	\$26,000		Hatchery Reform Funds
	N/A	Monitor ecological interactions between hatchery and natural-origin fish in the Snohomish estuary	Implementation	Implement.		\$260,000	Implementation	\$297,000	Implement.	\$228,000	Projects are typically one year in duration. Capital improvement program is ongoing.	Tulalip Tribes	\$785,000	\$785,000		Hatchery reform funds; Cyclical maintenance (BIA)
	N/A	Determine if chum genetic mark developed using allozyme techniques is detectable with DNA techniques	Implementation	Implement.		Information not yet provided	Implement.	Information not yet provided	Implement.	Information not yet provided	Projects are typically one year in duration. Capital improvement program is ongoing.	WDFW				WDFW; Hatchery reform funds
07-BW-004	N/A	Water type Assessment Project	Feasibility/Assessment	Conceptual	n/a	n/a		\$150,000		\$150,000		Wild Fish Conservancy		\$410,000	\$45,000	Local Governments/NFWF
07-BW-002	N/A	Fish Passage Barrier Prioritization - (Field Surveys)	Feasibility/Assessment	Feasibility Pending			Supplies; Labor; Data-entry; GIS Support	\$150,000	Supplies; Labor; Data-entry; GIS support	\$150,000	12/3/2013	Wild Fish Conservancy	\$300,000	\$300,000	Not Quantified	TBD



List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Non-Capital	Monitoring	Basin-wide	Monitoring	N/A	Monitoring Plan	Develop a coordinated, prioritized monitoring plan for the Snohomish Basin. The plan will include benchmarks and measures and will provide budget information for years past 2009 (this 3WP includes placeholders). The monitoring plan will be across the H's and include: implementation effectiveness, project effectiveness, status and trends, and research priorities (validation).	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Monitoring - develop monitoring plan.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Adaptive Management	Basin-wide	N/A	N/A	Adaptive management plan	Develop a coordinated adaptive management plan for the Snohomish Basin. The plan will develop how data will be analyzed and reported, at what level adaptive management decisions will be made, and a decision-making framework.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Adaptive management - develop and implement an adaptive management plan.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Adaptive Management	Basin-wide	N/A	N/A	Provide input into the NOAA 5-year status review for Chinook.	Provide local basin input into the 5-year status review for Chinook. Monitoring information on status and trends, habitat protection, and H's will be integrated. Also, basin staff are working with NOAA NWFSC and Tulalip Tribes on the potential for re-running the EDT and SHIRAZ models for the review. Provide staffing capacity for the Snohomish Basin salmon recovery effort, including: 1) basin staff in the Snohomish and Snoqualmie. 2) Project sponsor staffing for capital project development and implementation.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Adaptive management - develop the status review with NOAA.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Basin Capacity	Basin-wide	N/A	N/A	Provide staff for recovery.	3) Ramping up in specific project areas, including instream flow	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Planning.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Basin Capacity	Basin-wide	N/A	N/A	Build basin skills and knowledge.	Build skills and knowledge of basin staff and project sponsors. This 3WP element includes: basin workshops, facilitated discussions, tours and a "grant" fund for sponsors to use for specific training.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Education	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Education	Basin-wide	N/A	N/A	REYs education program	Provide REYs education program to Snohomish Basin schools, working with 4 schools and approximately 450 community members.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Education	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Habitat Protection	Basin-wide	N/A	N/A	Continue and expand habitat protection across the basin.	Build on the riparian habitat analysis from 2008 and expand it to basin-wide. Expand the habitat protection program across the basin to other areas, including 1) nearshore feeder bluff connectivity and bulkheading; 2) forest cover 3) hydrology	1	nearshore connectivity, forest cover, hydrology, sediment.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Habitat protection.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Habitat Protection	Basin-wide	N/A	N/A	Instream flow protection.	Provide for monitoring, estimation (ground and surface), analysis, planning, capacity, and decision-making with respect to instream flows. Project would result in a system that protects instream flows that would likely be outside the existing WAC and PEP programs. Tulalip is working with DOE and others for a	1	Instream flow	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Protect instream flows. Develop a collaborative protection strategy and implement the strategy.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Monitoring	Basin-wide	N/A	N/A	Monitoring Fish (Smolt Traps)	Continue coordinated monitoring of fish in the basin, particularly monitoring juvenile fish using the smolt traps on the Skykomish and Snoqualmie Rivers.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Monitoring - develop monitoring plan.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Monitoring	Nearshore Restoration	N/A	N/A	Baseline monitoring of Juvenile Fish Use of Nearshore and Coastal Streams	Continue coordinated monitoring of juvenile fish use of nearshore and coastal streams.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Monitoring - develop monitoring plan.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
Monitoring	N/A	Monitoring Plan	Monitoring planning	Planning	(assumes 1,300 hours for SC, KC and Tulalip staff + contracted services from NOAA NWFSC + 120 hours for the rest of the Technical Committee for review	\$132,500	Monitoring implementation (assumes field crew of 4 in two counties, plus double that for analysis)	\$151,200	Monitoring implementation	\$151,200	ongoing for monitoring implement.	Snohomish County, King County, Tulalip	\$434,900	\$434,900	\$173,100	SC, KC, Tulalip
N/A	N/A	Adaptive management plan	Adaptive management planning	Planning	n/a	\$0	Develop plan (assumes cost is 1.5 times monitoring plan, amount required for more work with Policy Committee and Forum). Develop status review outline, fill with monitoring and other information. Complete the modeling runs. Develop and approve the status review report.	\$146,250	Implement adaptive management plan (assumes 1,000 hours at \$45/hr)	\$45,000	ongoing for adaptive management plan implementation	Snohomish County, King County, Tulalip	\$191,250	\$191,250	\$45,000	SC, KC, Tulalip
N/A	N/A	Provide input into the NOAA 5-year status review for Chinook.	Not started.	Not started	n/a	\$0	Develop status review outline, fill with monitoring and other information. Complete the modeling runs. Develop and approve the status review report.	\$146,250	n/a	\$0	2010	NOAA with Tulalip Tribes, WDFW, SC, KC	\$146,250	\$146,250	\$25,000	Tulalip, WDFW, SC, KC
N/A	N/A	Provide staff for recovery.	Implementation	Implementation	Implement.	\$2,250,000	Implementation	\$2,250,000	Implementation	\$2,250,000	Ongoing	SC, KC, other basin project sponsors.	\$6,750,000	\$6,750,000	\$1,335,000	SC, KC, Snoqualmie jurisdictions, Tulalip Tribes, basin project sponsors.
N/A	N/A	Build basin skills and knowledge.	Implementation	Implementation	Implement.	\$75,000	Implement.	\$75,000	Implement.	\$75,000	Ongoing	SC	\$225,000	\$225,000	\$15,000	SC, KC, Tulalip
N/A	N/A	REYs education program	Implementation	Implementation	Implement.	\$30,000	Implementation	\$30,000	Implementation	\$30,000	Ongoing	Stilly-Snohomish Fisheries Enhancement Task Force	\$90,000	\$90,000	\$9,000	Unk.
N/A	N/A	Continue and expand habitat protection across the basin.	Implementation	Implementation	Implement (avg cost \$200k per year across habitats, with \$600k every 5 years for status review).	\$200,000	Implement.	\$600,000	Implement.	\$200,000	Ongoing.	SC	\$1,000,000	\$1,000,000	\$200,000	SC
N/A	N/A	Instream flow protection.	Feasibility	Feasibility	Capacity-building, monitoring, analysis, planning.	\$900,000	Monitoring, analysis, planning.	\$450,000	Monitoring, analysis, implementation of a strategy.	\$750,000	Strategy outcome dependent. ongoing	Tulalip Tribes	\$2,100,000	\$2,100,000	\$100,000	Tulalip, SC, KC
N/A	N/A	Monitoring Fish (Smolt Traps)	Implementation	Implementation	Implementation	\$250,000	Implementation	\$250,000	Implementation	\$250,000	ongoing monitoring for implementation and evaluation of the Plan	Tulalip Tribes	\$750,000	\$750,000	\$250,000	KCD, Tulalip Tribes, BIA
N/A	N/A	Baseline monitoring of Juvenile Fish Use of Nearshore and Coastal Streams		Implementation	Implementation	\$60,000	Implementation	\$60,000	Implementation	\$60,000	annual monitoring until 12/31/2012	Tulalip Tribes	\$180,000	\$180,000	\$60,000	Tulalip Tribes, EPA/PSP

List 1 - Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Non-Capital	Outreach and education	Basin-wide	N/A	N/A	Significantly advance 3 scales of outreach, based on the basin's 2008 outreach strategy.	3 scales of advancement: 1) PSP - awareness and understanding of Puget Sound ecosystem issues. 2) Forum - facilitate change agents in the basin to change practices and behaviors. 3) Change practices and behaviors based on the strategy. Some good outreach and education programs are mentioned below by project sponsor.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Outreach and education.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Outreach and education	Basin-wide	N/A	N/A	WSU Extension Beach Watchers Program	Increase capacity for research, restoration and education relating especially to the nearshore, estuarine and marine environments. Provide workshops and engage the Beach Watchers in 1,000 hours of community service.	1	Nearshore and estuarine restoration, monitoring.	River Basin Salmon Conservation Plan (2005)	Nearshore, estuary	Outreach and education.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Planning	Basin-wide	N/A	N/A	Develop Steelhead Recovery Plan with NOAA.	Work with NOAA to develop the local input, local site and project selection and prioritization for the Steelhead Recovery Plan.	1	Across all limiting factors.	Register ESA Listing of Steelhead, 2008	Across habitat types.	Recovery planning.	Steelhead	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Stewardship	Basin-wide	N/A	N/A	Provide basin steward staff.	Stewards provide technical assistance, project development, behavior change across the basin. Staffing would be for SC, KC.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Restoration, outreach, education, technical assistance.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Stewardship	Basin-wide	N/A	N/A	Long-term stewardship of restored areas.	Provide long-term stewardship (monitoring, maintenance) of restored project sites in the basin.	2	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Monitoring, analysis, reporting, maintenance	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Stewardship	Basin-wide	N/A	N/A	Land-use specific stewardship areas (LID), forestry and agriculture.	Provide specific stewardship for key land uses, such as urban areas (LID), forestry and agriculture.	1	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Restoration, outreach, education, technical assistance.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 1 - Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
N/A	N/A	Significantly advance 3 scales of outreach, based on the basin's 2008 outreach strategy.	Programs under development, except as listed by project sponsor below.	Under development	Tactical approach to outreach, PSP implementing its strategy (funding not incl. in this 3WP), Forum seeking funding.	\$61,500	Continue refinement of approach; perform formative research; implement strategy.	\$450,000	Implement strategy.	\$250,000	Ongoing	SC, KC, PSP, other basin project sponsors.	\$761,500	\$761,500	\$61,500	SC
N/A	N/A	WSU Extension Beach Watchers Program	Implementation	Implementation	Implement.	\$210,000	Implementation	\$70,000	Implementation	\$70,000	Ongoing	WSU Extension	\$350,000	\$350,000	\$110,000	?
N/A	N/A	Develop Steelhead Recovery Plan with NOAA.	Steelhead TRT is developing populations and targets.	Under development	Recovery plan development.	\$48,750	N/a	\$0	N/a	\$0	2010	NOAA with Tulalip Tribes, WDFW, SC, KC	\$48,750	\$48,750	\$48,750	SC, KC, Tulalip
N/A	N/A	Provide basin steward staff.	Implementation	Implementation	Restoration, outreach, education, technical assistance	\$210,000	Restoration, outreach, education, technical assistance	\$210,000	Restoration, outreach, education, technical assistance	\$210,000	Ongoing	SC, KC	\$630,000	\$630,000	\$630,000	SC, KC
N/A	N/A	Long-term stewardship of restored areas.	Capacity-building, implementation	Capacity-building, implementation	Implementation (includes 6-person crew, crew lead, lead staff)	\$290,000	Implementation (includes 6-person crew, crew lead, lead staff)	\$290,000	Implementation (includes 6-person crew, crew lead, lead staff)	\$290,000	Ongoing	SC, KC, Tulalip Tribes	\$870,000	\$870,000	\$87,000	SC, KC, Tulalip
N/A	N/A	Land-use specific stewardship	Implementation	Implementation	Restoration, outreach, education, technical assistance	\$210,000	Restoration, outreach, education, technical assistance	\$210,000	Restoration, outreach, education, technical assistance	\$210,000	Ongoing	SC, KC, Tulalip Tribes, local jurisdictions, SCD, KCD	\$630,000	\$630,000	\$630,000	SC, KC, Tulalip Tribes, local jurisdictions, SCD, KCD

List 2 - No Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-011	6	Tank Farm Creosote Removal	Full removal of the creosote-treated and shadowing Tank Farm Pier; removing 143,000 sq ft sq ft of tank farm pier. Combination of mitigation and restoration.	1b	Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian, Nearshore (Beaches)	143,000 sq ft sq ft of creosote	Chinook, Bull Trout	Cutthroat, Chinook, Chum, Coho, Bull Trout, Bald Eagle, Marbled Murrelet
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-012	7	Tulalip Nearshore Acquisition and Restoration	Protect and restore critical areas along the Tulalip shoreline and nearshore.	1b	Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Nearshore (feeder bluffs, pocket estuary)	Assessment to identify key areas for protection	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead, Surf Smelt, Bald Eagle, Peregrine Falcon
Habitat Capital	Restoration Projects	Nearshore Restoration	07-NR-014	8	Priest Point Pocket Estuary Restoration	Restore 30-acre pocket estuary area at Priest Point.	1b	Loss of Habitat, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Nearshore (pocket estuary)	Activity Type - Estuary or Nearshore: Armor Modification/Removal - Area Regained ( Sq. Ft.), Activity Type - Estuary or Nearshore: Revegetation (Intertidal/Subtidal) - Area Created/Restored ( Sq. Ft.), Activity Type - Estuary or Nearshore: Debris Removal - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres), Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal ( Each)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead, Surf Smelt, Bald Eagle, Peregrine Falcon
Habitat Capital	Restoration Projects	Estuary Restoration	07-ER-042	18	Assess and improve mainstem channel habitat connectivity	Assess and improve connectivity to tidal marsh habitats located along mainstem and distributary sloughs.	1b	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Water Quality, Predation/Competition/Disease, Altered Stream Morphology/Stream Flow Patterns, Loss of Habitat, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Estuary or Nearshore: Channel Connectivity/Rehabilitation/Creation - Length ( Linear Feet)	Chinook	Chum, Coho, Sockeye, Bull Trout, Steelhead, Pink
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-049	49	Buck Island Floodplain Forest Project	Address a lack of canopy diversity, erosion at the downstream toe of the island, and suppression of invasive species, namely blackberry & knotweed.	1b	Riparian Areas & LWD Recruitment, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Riparian Areas & LWD Recruitment, Loss of Habitat, Reduced Habitat Capacity, Biological Processes	Chinook	Chum, Coho, Pink, Bull trout, Cutthroat, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-065	50	Tychman Slough Pilot Riparian Enhancement	Completion of a pilot community based riparian restoration on private rural/agricultural land along an active side channel known as Tychman Slough, located within a salmon recovery focus area known as the braided reach on the Skykomish River.	1b	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Excessive Sediment, Loss of Habitat, Loss of Tributary Habitat Diversity, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Riparian: Revegetation Planting ( Acres)	Chinook	Chum, Coho, Pink, Bull trout, Cutthroat, Steelhead
Habitat Capital	Acquisition Projects	Mainstem Primary Restoration	07-MPR-072	51	Raging River Upper Preston Reach Acquisitions	Work with willing landowners to protect 24 acres of stream corridors	1b	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/ Shoreline	Snohomish River Basin Mainstem: Restored Edge: Acquisition in the Mainstem Sub-basin Strategy Groups (24 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-112	52	Raging River Mouth Floodplain Reconnection	Identify opportunities to restore habitat conditions to the lower Raging without compromising the health and safety of the Fall City community. The project will likely restore 1 acre off-channel habitat, 800 ft edge habitat, and 2 acres of riparian habitat.	1b	Floodplain Connectivity & Function, Channel Structure and Complexity, Riparian Areas & LWD Recruitment, Loss of Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration (800 Linear Feet), Activity Type - Floodplain Restoration: Hydrological Manipulation Area Affected (1 Acres), Activity Type - Riparian: Revegetation Planting (2 Acres), Snohomish River Basin Mainstem: Restored Edge: Removal of armoring/levee within 5 meters of the ordinary high water mark (800 ), Snohomish River Basin Mainstem: Restored Off-channel Habitat: Summer off-channel habitat restoration (1 ), Snohomish River Basin Mainstem: Restored Riparian Habitat: Riparian planting (2 )	Chinook	Cutthroat, Coho, Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-176	53	Snohomish Estuary Edge Enhancement Phase II	Restore 1 acre tidal marsh and install another 20 log jams.	1b	Channel Structure and Complexity, Loss of Habitat, Reduced Habitat Capacity, Biological Processes, Estuarine and Nearshore Habitat	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Instream: Wood Structure/Log Jam ( Feet), Activity Type - Estuary or Nearshore: Berm/Dike Modification/Removal - Area Affected ( Acres)	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 2 - No Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-NR-011	6	Tank Farm Creosote Removal		Conceptual					Engineering design, permitting	\$4,200,000	2015	Washington State Ferries, Wa-DNR	\$4,200,000	\$19,980,000	Not Quantified	Both mitigation and restoration funds
07-NR-012	7	Tulalip Nearshore Acquisition and Restoration	Conceptual	Conceptual			Feasibility/ acquisition	\$600,000	Feasibility acquisition	\$1,200,000		Tulalip Tribes	\$1,800,000	\$1,800,000	Not Quantified	Tulalip Tribes
07-NR-014	8	Priest Point Pocket Estuary Restoration	Conceptual	Conceptual	n/a	\$0	n/a	\$0	Feasibility	\$75,000		Tulalip Tribes	\$75,000	\$1,500,000	Not Quantified	Tulalip Tribes
07-ER-042	18	Assess and improve mainstem channel habitat connectivity	Feasibility/Assessment	Conceptual	n/a	\$0	n/a	\$0	Assessment and design	\$150,000	12/31/2010	Snohomish County of	\$150,000	\$150,000	N/A	
07-MPR-049	49	Buck Island Floodplain Forest Project	Construction	Construction / Implementation	Control 1.0 acres invasives	\$2,500	Control 1.0 acres invasives	\$2,500	Control 1.0 acres	\$2,500	12/31/2009	Stilly Snohomish Fisheries Enhancement Task Force	\$7,500	\$7,500	TBD	TBD
07-MPR-065	50	Tychman Slough Pilot Riparian Enhancement	Construction	Construction / Implementation	Maintenance of 1 ac. Riparian & Monitoring	\$1,000	Complete	\$0	Complete	\$0	12/31/2005	Stilly Snohomish Fisheries Enhancement Task Force	\$1,000	\$76,000	Not Quantified	TBD
07-MPR-072	51	Raging River Upper Preston Reach Acquisitions	Conceptual	Conceptual	N/A	\$0	Acquisition	\$500,000	N/A	\$0	12/31/2011	King County DNRP	\$500,000	\$500,000	\$250,000	CFT & KC Flood District
07-MPR-112	52	Raging River Mouth Floodplain Reconnection	Feasibility Pending	Conceptual	N/A	\$0	N/A	\$0	Design	\$100,000	12/31/2012	King County DNRP	\$100,000	\$100,000	\$20,000	King County SWM
07-MPR-176	53	Snohomish Estuary Edge Enhancement Phase II	Feasibility Pending	Conceptual	Monitoring (Phase 1)	\$0	Permitting	\$250,000	Construction	\$0	12/31/2012	Snohomish County of	\$250,000	TBD	Not Quantified	TBD

List 2 - No Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-214	54	Fern Bluff Levee Enhancement.	Acquisition; to increase flow in off-channel slough behind levee and enhance tributary	1b	Floodplain Connectivity & Function, Channel Structure and Complexity, Altered Stream Morphology/Stream Flow Patterns	Snohomish Basin Salmon Conservation Plan (2005)	Instream, Wetland, Rivers/Streams/Shoreline	Activity Type - Floodplain Restoration: Channel Connectivity/Rehabilitation/Creation - Floodplain Restoration ( Linear Feet)	Chinook	Cutthroat, Coho
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-313	55	Lower Snoqualmie Restoration - Duvall Reach Riparian Awareness	Enhance degraded floodplain riparian habitat conditions along a one-mile section of the lower Snoqualmie River on public land owned by the City of Duvall.	1b	Riparian Areas & LWD Recruitment, Excessive Sediment	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Maintenance activities	Chinook	Chum, Coho, Steelhead, Pink, Cutthroat
Habitat Capital	Non-Capital Projects	Mainstem Primary Restoration	07-MPR-316	61	City of Sultan Culvert Assessment and Outreach	Form a creative partnership with the City of Sultan to identify fish habitat barriers located largely within in their jurisdiction.	2b	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Culvert Assessments - will assess up to 42 culverts and conduct education outreach with local high school students.	Coho	Cutthroat, Chum, Pink, Bull Trout , Steelhead
Habitat Capital	Restoration Projects	Mainstem Primary Restoration	07-MPR-318	63	Riley Slough Culvert Replacement Project	Replace one crushed and buried culvert on Riley Slough with a bridge to allow access to horse pasture across Slough. This will limit the ability of the horses to enter the slough. This project will also include a revegetate on the south side of the slough and use exclusion.	3b	Riparian Areas & LWD Recruitment, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Riparian	Activity Type - Fish Passage: Culvert Removal - Fish Passage ( Each), Activity Type - Fish Passage: Road Crossings (Bridges or Culverts) ( Each). 2 culvert replacements, 10 LWD installations between two road crossing culverts	Coho	Chinook, Chum, Steelhead
Habitat Capital	Restoration Projects	Mainstem Secondary Restoration	07-MSR-019	64	Trout Creek Road Erosion Control	Decommission 2.2 miles of Trout Creek Road (Forest Road 6320) and 3.6 miles of associated spurs in the Trout Creek subwatershed.	1b	Stream Substrate, Excessive Sediment and Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Sediment Reduction: Road Obliteration ( Miles), Activity Type - Sediment Reduction: Road Drainage System Improvements ( Miles)	Bull Trout, Steelhead	Coho, Rainbow
Habitat Capital	Restoration Projects	Secondary Restoration	07-RSR-027	79	NE 52nd Place Culvert removal	Replace a perched culvert that is a barrier to fish passage on upper Patterson Creek.	3b	Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage (1 Each)	Coho	Cutthroat
Habitat Capital	Restoration Projects	Rural Secondary Restoration	07-RSR-047	80	Harris Creek Tributary Fish Passage Improvement	Replace a perched culvert that is a barrier to fish passage on a tributary to Harris Creek.	4b	Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Fish Passage: Culvert Replacement -Fish Passage (1 Each)	Steelhead	Cutthroat, Coho
Habitat Capital	Restoration Projects	Urban Streams Restoration	07-USR-047	87	Jones Creek Reach on Marysville School District Property	Assess feasibility of approx. 1000 feet of channel realignment, and approx. 1 acre riparian planting.	3b	Loss of habitat, reduced habitat complexity	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Instream: Channel Reconfiguration (Includes Channel Roughening) ( Miles), Activity Type - Riparian: Revegetation Planting ( Acres)	Coho	Cutthroat
Habitat Capital	Restoration Projects	Headwaters Secondary Restoration	07-HSR-020	88	Harlan Creek Road Obliteration	Obliteration of up to 16 miles of logging roads on steep, unstable slopes adjacent to Harlan Creek, a major salmon-bearing tributary to the Beckler River.	1b	Stream Substrate, Excessive Sediment, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Sediment Reduction: Road Obliteration ( Miles)	multi-species benefit	multi-species benefit
Habitat Capital	Acquisition Projects	Headwaters Secondary Restoration	07-HSR-019	89	South Fork Skykomish Acquisitions	Miller, Beckler, Foss andTye Reach acquisitions	2b	Floodplain Connectivity & Function, Riparian Areas & LWD Recruitment, Loss of Habitat, Biological Processes	Snohomish Basin Salmon Conservation Plan (2005)	Rivers/Streams/Shoreline	Snohomish River Basin Mainstem: Restored Edge: Acquisition in the Mainstem Sub-basin Strategy Groups (35 ), Snohomish River Basin Other Sub-basins Restoration: Restored Riparian Habitat: Acquisition (35 )	multi-species benefit	multi-species benefit
Habitat Capital	Restoration Projects	Headwaters Secondary Restoration	07-HSR-007	90	Tokul Creek Fish Passage	Currently, the WDFW fish hatchery blocks fish access to over one mile of mainstem habitat. We will perform a feasibility study to develop, evaluate fish passage restoration alternatives.	3b	Loss of Habitat, Reduced Access to Spawning Habitat - Fish Passage/Anthropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Feasibility Study	multi-species benefit	multi-species benefit
Habitat Capital	Restoration Projects	Headwaters Restoration Above Falls and Dam	07-HRA-008	91	South Fork Snoqualmie Road Decommissioning	Reduce erosion potential and road density in South Fork Snoqualmie by decommissioning 30 miles of Forest Service roads and converting another 30 miles to trail, removing a total of 60 miles of roads from the Forest Service system.	1b	Stream Substrate, Excessive Sediment, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Sediment Reduction: Road Obliteration ( Miles)	multi-species benefit	multi-species benefit
Habitat Capital	Restoration Projects	Headwaters Restoration Above Falls and Dam	07-HRA-009	92	Bessemer Mtn Road Decommissioning	Decommission 11 miles on Bessemer Mtn (North Fork Snoqualmie)	1b	Stream Substrate, Excessive Sediment, Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Upland	Activity Type - Sediment Reduction: Road Obliteration ( Miles)	multi-species benefit	multi-species benefit

List 2 - No Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-MPR-214	54	Fern Bluff Levee Enhancement.	Feasibility Pending	Conceptual	Concept development	\$0	Acquisition	\$300,000	Design and construction	\$500,000	12/31/2012	WA Dept. of Fish and Wildlife	\$800,000	\$500,000	Partnerships to be developed	SRFB and PSAR
07-MPR-313	55	Lower Snoqualmie Restoration - Duvall Reach Riparian Awareness	Maintenance	Maintenance	Maintenance & Monitoring	\$5,000	Maintenance & Monitoring	\$5,000	Maintenance & Monitoring	\$5,000	1/1/2009	Stilly Snohomish Fisheries Enhancement Task Force	\$15,000	\$15,000	Not Quantified	KCD, USFWS, WDFW
07-MPR-316	61	City of Sultan Culvert Assessment and Outreach		Conceptual	Labor and supplies	\$70,000	Labor and supplies	\$20,000	n/a	\$0	12/31/2012	Wild Fish Conservancy	\$90,000	\$90,000	Unk	City of Sultan
07-MPR-318	63	Riley Slough Culvert Replacement Project	Feasibility Pending	Permitting/Design	Design and Construction	\$50,000	n/a	n/a	n/a	n/a	9/30/2009	Snohomish Conservation District	\$50,000	\$50,000	Not Quantified	TBD
07-MSR-019	64	Trout Creek Road Erosion Control	Conceptual	Conceptual	Surveys for design	\$5,000	Planning, permits, design and contract	\$90,000	Construction	\$300,000	40481	US Forest Service	\$395,000	\$395,000	Not Quantified	TBD
07-RSR-027	79	NE 52nd Place Culvert removal	Feasibility Pending	Construction / Implementation	N/A	\$0	Design	\$50,000	Construction	\$400,000	12/31/2011	King County DNRP	\$450,000	\$450,000	\$100,000	King County & KCD
07-RSR-047	80	Harris Creek Tributary Fish Passage Improvement	Conceptual	Conceptual	N/A	\$0	Design	\$50,000	Construction	\$150,000	12/31/2010	King County DNRP	\$200,000	\$200,000	\$25,000	KCD
07-USR-047	87	Jones Creek Reach on Marysville School District Property	Feasibility/Assessment	Conceptual	Feasibility of 1000 feet channel reconfiguration and 1 ac riparian planting	\$50,000	Design	\$50,000	Construction	\$100,000	12/31/2011	Stilly Snohomish Fisheries Enhancement Task Force	\$200,000	\$200,000	TBD	TBD
07-HSR-020	88	Harlan Creek Road Obliteration	Feasibility Pending	Conceptual	n/a	\$0	Survey and design	\$40,000	Planning, permits and contract prep	\$155,000	10/15/2011	US Forest Service, Sustainable Fisheries Foundation	\$195,000	\$195,000	Not Quantified	TBD
07-HSR-019	89	South Fork Skykomish Acquisitions	Conceptual	Conceptual	n/a	\$0	Acquisition	\$250,000	Acquisition	\$250,000	12/31/2011	Cascade Land Conservancy, Snoqualmie Watershed Forum	\$500,000	\$500,000	\$200,000	CFT
07-HSR-007	90	Tokol Creek Fish Passage	Feasibility/Assessment	Feasibility Pending	Supplies; Labor	\$52,200	N/A	\$0	N/A	\$0	11/1/2001	Wild Fish Conservancy	\$52,200	\$52,200	Not Quantified	TBD
07-HRA-008	91	South Fork Snoqualmie Road Decommissioning	Feasibility Pending	Conceptual	Planning/Environmental Documentation	\$11,000	Design Phase I	\$100,000	Design Phase II, Begin Construction Phase I	\$550,000	10/19/2012	Mountains to Sound Greenway Trust, US Forest Service	\$661,000	\$1,025,000	Not Quantified	TBD
07-HRA-009	92	Bessemer Mtn Road Decommissioning	Conceptual	Conceptual	On hold	\$0	Design	\$100,000	Construction	\$500,000	9/30/2010	WA Dept. of Natural Resources, Mountains to Sound Greenway Trust, US Forest Service	\$600,000	\$600,000	Not Quantified	TBD



List 2 - No Capacity

Project Type	Plan Category	Subbasin Strategy Group	HWS Project ID	Map ID	Project Name	Project Description	Priority tier	Limiting Factors	Reference Document for limiting factor	Habitat Type	Activity Type and Project Performance	Primary Species Benefiting	Secondary Species Benefiting
Habitat Capital	Restoration Projects	Basin-wide	07-BW-001	N/A	Fish passage improvements within drainage and flood control districts	Improve drainage or replace tide gates at 2 drainage districts.	1b	Reduced Habitat Capacity	Snohomish Basin Salmon Conservation Plan (2005)	Instream	Activity Type - Estuary or Nearshore: Tidegate Alteration/Removal ( Each)	Chinook	Coho, Chum, Pink, Steelhead
Non-Capital	Restoration Projects	Basin-wide	07-BW-003	N/A	Fish Passage Barrier Prioritization - (GIS- Phase II)	Expand the number of basins represented on the WRIA-07 BPMS web based mapping system (a web system designed to make prioritizing anthropogenic barriers in WRIA 7 easier and faster for federal, state, and tribal agencies and for local biologist, municipalities, citizen groups and private land owners). Information which may be missing, unclear, or outdated on known culverts crossing waters supporting anadromous fish species in WRIA 7 will be updated as needed.	2b	Reduced Access to Spawning Habitat - Fish Passage/Antropogenic/Natural Barriers	Snohomish Basin Salmon Conservation Plan (2005) Snohomish River Basin Salmon Conservation Plan (2005);	Instream		Steelhead	Cutthroat, Chum, Coho, Sockeye, Pink, Bull Trout, Steelhead
Non-Capital	Adaptive Management	Basin-wide	N/A	N/A	Climate change adaptation	Further develop a climate change adaptation strategy for listed fish species, providing for changes in hydrology and sediment, as well as vegetation changes.	1b	Across all limiting factors. Tied most specifically to hydrologic, sediment and forest succession processes and changes over time.	Batten, et al 2005.	Across habitat types.	Adaptive management - develop a climate change adaptation strategy	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead
Non-Capital	Outreach and education	Basin-wide	N/A	N/A	Snohomish Salmon Incentive Program	Develop a Snohomish Basin salmon incentive program with local jurisdictions. The program could provide assistance for the development of incentives for salmon recovery, such as public benefits rating system, tax incentives, etc.	1b	Across all limiting factors.	Snohomish River Basin Salmon Conservation Plan (2005)	Across habitat types.	Outreach and education.	Chinook	Cutthroat, Chum, Coho, Pink, Bull Trout, Steelhead

List 2 - No Capacity

HWS Project ID	Map ID	Project Name	Current Project Status (original)	Current Project Status (simple)	2009 Activity to be funded	2009 Estimated Budget	2010 Activity to be funded	2010 Estimated Budget	2011 Activity to be funded	2011 Estimated Budget	Likely End Date	Likely Sponsor	2009-2011 Cost	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
07-BW-001	N/A	Fish passage improvements within drainage and flood control districts	Feasibility Pending	Feasibility Pending	n/a	\$0	Construction	\$150,000	Construction	\$150,000	12/31/2012	Drainage Districts, Snohomish Conservation District	\$300,000	\$300,000	Not Quantified	TBD
07-BW-003	N/A	Fish Passage Barrier Prioritization - (GIS- Phase II)		Conceptual	n/a	n/a	GIS support and data entry	\$40,000	GIS support and data entry	\$40,000	12/31/2013	Wild Fish Conservancy	\$196,060	\$12,000		Local Governments/NFWF
N/A	N/A	Climate change adaptation	Adaptive management planning	Planning	n/a	\$0	Develop the climate change strategy.	\$55,000					\$55,000	\$15,000		SC, KC, Tulalip
N/A	N/A	Snohomish Salmon Incentive Program														