

Nisqually Watershed Chinook Salmon Recovery Plan 3 year workprogram 2008-2010

Introduction

Because major pieces of the three year workprogram have not yet been implemented since the development of the last 2008-2010 workprogram this list is not significantly different than last year's. Primary changes in the plan include more precise numbers for some restoration projects, splitting the Ohop Restoration Project into 3 phases, making the weir project more specific in costs and time frames, and adding some harvest management opportunities. We also began to add more specific tiering in the table to make our priority projects more clear. The area that still needs further refinement and will be a major focus of our efforts over the next year is how our programmatic efforts tie in to the recovery efforts and completing our adaptive management plan work in a way that ties together and clarifies what information we will gather each year, how that will inform our plan, and creating a system that makes it clear how our actions are leading to recovery of Nisqually Chinook salmon.

The Nisqually Watershed is poised to make large measurable progress in Habitat, Hatchery and Harvest actions that will lead to significant improvements in the viability of the Nisqually Fall Chinook Salmon population. **This proposed three year workprogram contains habitat projects that could result in the doubling of the number of naturally produced Chinook that return to the watershed and increase the life history diversity of the population from its current 80 % of historic diversity to 93 % of its historic diversity.** In addition we have identified harvest and hatchery actions we can take to increase the number of natural origin spawners and decrease the number of hatchery origin spawners on the spawning grounds.

Implementation of the Nisqually Chinook Recovery Plan has been ongoing since the completion of the plan in 2001. Much of the last five years has been spent continuing the work to protect key salmon habitat areas and developing specific habitat projects that target the plan's high priority stream reaches. We currently already have seventy percent of the mainstem Nisqually that is used by salmon under protective ownership. The first two major habitat restoration projects were completed in the last two years: restoring 100 acres of estuary habitat and 1.5 miles of instream habitat on the Mashel River. The monitoring we are conducting of these projects are already demonstrating that salmon are making use of the new habitat available. **The additional projects proposed in this workprogram will increase protective ownership of habitat by over 3 miles, increasing the percent of mainstem protected habitat from 70 to almost 75 %, and will substantially implement the major habitat restoration work identified in 3 out of the 4 main priority restoration areas.**

Last year we secured major funding needed to move the 760 acre estuary restoration forward and to begin the first mile of restoration of Ohop Creek and the valley. There are still significant funds needed to ensure completion of these two high priority projects.

Recent work done in the Nisqually to look closely at integration of our habitat, hatchery and harvest actions has led us to conclude that we need to take aggressive actions in each of these areas if we are to be successful in making a major contribution to the recovery of Chinook salmon in the Puget Sound ESU. The current total harvest rate on Nisqually Chinook (including ocean, Puget Sound and in-river fisheries) must be reduced. However, this will make no difference unless we also reduce the proportion of hatchery origin fish that stray and spawn with natural origin fish. This workprogram contains projects and programs that will allow us take those actions.

We have done the work in Nisqually to identify the key actions we need to take to recover Nisqually Chinook and we have laid the groundwork in the last six years to allow those actions to take place. Most of the major priority actions we have identified are necessary to recover Nisqually Chinook are incorporated into this plan. All projects listed in this plan are ready to be implemented as proposed if the funding becomes available to support the work necessary. The primary limiting factor in the implementation of our plan is securing the necessary funds to implement the actions we are including in this workprogram.

LONG TERM GOALS FOR NISQUALLY RIVER FALL CHINOOK

- 1) Assure natural production of fall Chinook in perpetuity by providing high quality, functioning habitat and by promoting the development of locally adapted, functioning populations.
- 2) Assure sustainable harvest opportunities.
- 3) Provide significant contributions to the recovery of other threatened or endangered species.
- 4) Secure and enhance natural production of all salmonids.
- 5) Assure that the economic, cultural, social, and aesthetic benefits derived from the Nisqually ecosystem will be sustained in perpetuity.

SPECIFIC 10 YEAR OBJECTIVES

Stock objective:

Manage for a natural escapement of a minimum of 1200 natural origin recruits with no more than 30% contribution from hatchery origin recruits over the next 10 years and a terminal harvest of 10,000 – 15,000 if consistent with escapement objective.

Habitat objective:

Implement habitat projects over the next 10 years that will result in an increase in the productivity and capacity of the watershed from its current estimated values of 3.7 and 4960 to 5.3 and 8600 and an increase in life history diversity of the stock from 80% to 93%..

- Protection objective: No further degradation in the Nisqually watershed's and Puget Sound's ability to support the productivity, capacity, and life history diversity of natural origin Nisqually Fall Chinook.
- Restoration objective: Restore the Nisqually watershed and Puget Sound nearshore habitat's ability to support a natural origin Nisqually Fall Chinook productivity of 5.3, a capacity of 8600, and an increased life history diversity to 93%.

Community support objectives:

- Increased local community awareness of and support for high priority actions to recover Nisqually and Puget Sound salmon.
- Increased regional, state, and national community awareness of and support for high priority actions to recover Puget Sound salmon.

3 YEAR WORKPLAN IMPLEMENTATION EXPECTATIONS

Stock objective progress:

- Reduce combined pre-terminal and terminal harvest exploitation rate from current rate of 0.76 closer to current estimated MSY of 0.47 with an annual terminal harvest of 10,000 fall Chinook.
- Reduce hatchery origin recruits contribution to less than 30% of total spawning population (only **after** harvest rate has been reduced to MSY).

- Implementation of habitat objectives that result in habitat's ability to support an increased productivity, capacity and life history diversity.

Habitat objective progress:

Projects implemented that, **as they mature and as the stock has time to respond**, will increase the ability of the habitat to support a Nisqually fall Chinook productivity and capacity from its current estimated values of 3.7 and 4961 to 5.3 and 8600 and increase the life history diversity index from 80% to 93%.

Community support objective progress:

Local community support:

- Increase in percentage of Nisqually watershed residents who are aware of Nisqually salmon recovery efforts.
- At least one third of currently unwilling landowners in high priority restoration areas on the Mashel River and Nisqually mainstem will give permission for restoration projects on their property.
- An increase of at least 100 active Nisqually Stream Steward volunteers.
- Increase in local government support for high priority salmon habitat projects.

Regional, state, and national community support:

- Increase in percentage of regional, state, and national community members that are aware of Puget Sound salmon recovery efforts and are supportive of recovery priorities.

THREE YEAR WORKPROGRAM SUMMARY

In order to achieve the long-term goal of a sustainable population of locally adapted Nisqually Fall Chinook we must further reduce the total harvest exploitation rate, limit the straying of hatchery fish into natural spawner areas, and restore the ability of the Nisqually watershed to support greater productivity, capacity and life history diversity. We believe we can make significant progress in these three areas in the next three years by implementing the proposed 3 year Nisqually workprogram. The following sections summarize the proposed elements of the 3 year workprogram.

Stock objective progress:

Harvest: Continued support for co-manager harvest negotiations at the state, interstate, and international levels to work towards a reduction in the overall exploitation rate of Nisqually fall Chinook. Continued support for the capacity necessary to manage tribal and non-tribal fisheries to ensure negotiated harvest rates and escapement goals are met.

Hatchery: Support for the current hatchery programs to continue to produce fish that support the terminal harvest objectives. Support for the hatchery to manage the program consistent with their hatchery genetic management plans. Funding for the development, construction and operation of a seasonal weir on the Nisqually River that will allow the physical separation of hatchery and natural origin fish to reduce hatchery origin fish straying to the spawning grounds.

Habitat:

The following habitat actions, if implemented, will result in substantial increases to the productivity, capacity and life history diversity of Nisqually Chinook salmon, as the habitat projects mature and as the stock has time to respond. The below table outlines the currently modeled condition of the population and then the predicted eventual changes in those parameters after the habitat actions are completed:

<i>Scenario</i>	<i>Diversity Index</i>	<i>Productivity</i>	<i>Capacity</i>
Current condition	80 %	3.7	4961
After 3 yr workprogram	93 %	5.3	8604

Protection:

- Increase permanent protection through acquisition of anadromous habitat:
 - Mainstem Nisqually: 3 miles and 650 acres
 - Ohop Creek: 1 mile and 100 acres
 - Mashel River: 1 mile and 40 acres
 - Lower Nisqually mainstem and McAllister creek: 200 acres
 - South Puget Sound shoreline: 100 acres
- Support ongoing protection and stewardship of public and land trust properties
- Update and strengthen local regulatory protection:
 - Thurston County Critical Area Ordinance revision
 - Thurston County Shoreline Master Program revision
 - Pierce County Shoreline Master Program update
- Ensure Forest and Fish Agreement is implemented effectively in critical headwater forestry areas.

Restoration:

Nisqually Estuary:

Restore 760 acres of estuary west of mainstem, removal of last dike on Nisqually Tribe property, eastern side Red Salmon Slough restore transitional forest

South Puget Sound nearshore (Nisqually Estuary – Point Defiance):

Identify priority projects and implement at least one project

Mashel River Eatonville Reach:

Restore instream diversity: 1.5 miles
Restore off-channel wetlands: 5-10 acres
Restore/enhance riparian vegetation: 50 acres

Lower Ohop Creek:

Restore 6.3 miles of instream habitat
Restore 400 acres of Lower Ohop Valley floor wetlands
Revegetate 150 acres of riparian habitat and 400 acres of wetlands

Nisqually Mainstem:

- Restore access to 15 acres of off-channel wetlands at Powell Creek mouth
- Restore access to and quality of 30 acres of high priority off-channel wetlands (25 acres McKenna Reach)
- Revegetate channel migration zone: 3 river miles

Targeted watershed wide programs:

Salmon carcass nutrient enhancement:

Distribute 34000 pounds of salmon carcasses annually to key juvenile rearing areas in the Nisqually mainstem and Mashel River.

Invasive species prevention and control:

Develop a cooperative Nisqually watershed invasive species task force to develop and implement an invasive species control plan (plants and animals).

Habitat Project development:

- Lower Nisqually Reach restoration opportunities assessment
- I-5 fill removal feasibility analysis
- Mainstem off-channel habitat project development
- Riparian vegetation assessment/project development
- Large Woody Debris enhancement in mainstem Nisqually

Adaptive Management:

- Develop and implement comprehensive database to track salmon recovery plan, implementation and progress.
- Refine and further define adaptive management plan for Nisqually watershed
- Implement elements of adaptive management plan, including collection of key data to measure progress and inform decision makers.

Watershed Capacity:

In the Nisqually we have spent the last few years laying the groundwork for implementation of high priority actions in our salmon recovery plan. We are now in a position where we are ready to make significant progress. We have watershed and landowner commitments to do the projects necessary to implement significant portions of our plan. Our primary capacity issue is funding: to implement projects that are ready to go, and to have the necessary people to get all the necessary coordinating tasks completed.

Currently our capacity is organized as follows:

The Nisqually Tribe is the lead for salmon recovery planning and coordination in the watershed. Currently the Tribe has the following positions that assist in the Salmon Recovery Program:

- Program Manager - ensuring recovery plan development and implementation is staying on track and coordinating the lead entity process.
- 2 Habitat Restoration Biologists - develop and implement specific habitat restoration projects.
- 2 Research Biologist - maintains and updates our EDT databases, conducts monitoring, investigates key uncertainties, assists in development and implementation of adaptive management plan.
- GIS/Data Manager – organizes salmon recovery data and assists in providing information for implementation and monitoring
- Outreach and Education Coordinator- educates and coordinates volunteers in salmon habitat projects.
- 2 Technician - assists both in restoration projects and in research projects.

In addition the Tribe has positions that manage the harvest and hatchery programs.

The South Puget Sound Salmon Enhancement Group has three FTE project managers that are helping to manage key habitat projects in the Nisqually Plan. Two are focused on freshwater projects and the other is focused on nearshore projects.

The Pierce Conservation District has one farm planner that covers both the Nisqually and Puyallup/Clover-Chambers watersheds.

The Thurston Conservation District has one farm planner that is currently only funded to work on the most downstream portion of the Nisqually watershed.

The Nisqually Land Trust has a volunteer board president that develops and implements most of the high priority salmon habitat protection projects. There is a part –time Executive Director that assists the president in acquisition projects as well as management of the organization. There is one part-time stewardship coordinator that is working to ensure currently owned properties are protected and restored.

There is a need to maintain existing staff and to add new staff if we are to successfully implement all the identified elements in our three year workprogram. Currently funding for existing staff is not yet fully identified for this three year period.

If funding for existing staff can be secured we have also identified new positions that would significantly help to increase capacity:

Restoration:

Need new positions –

2 FTE farm planners

There are a number of high priority farm areas in both the Pierce and Thurston County parts of the watershed that do not yet have best management practice farm plans developed and implemented. Neither Conservation District currently have the funds necessary to dedicate one FTE specifically to high priority Nisqually salmon recovery area farms.

Protection:

The Nisqually Land Trust is primarily limited right now by funds to support the organization and staff time to implement projects and coordinate stewardship. If funding was available to expand the capacity of the Land Trust their pace of project implementation would accelerate. The Land Trust is also in need of support to effectively manage properties for continued protection that are already in its ownership.

Adaptive Management/Plan Implementation:

There is a need for 1 FTEs: a technical person who would assist in the development and maintenance of a database that would track the progress of salmon recovery plan implementation in Nisqually and that would roll up into a regional system to track salmon recovery actions.

In addition to these positions there are others included in the workprogram that would be key to helping us accomplish specific plan actions.

3 YEAR WORKPROGRAM PROJECT LIST:

CAPITAL PROJECTS:

Habitat:

– Restoration:

Nisqually Refuge Estuary Restoration 760 acres Objective in Nisqually Wildlife Refuge Comprehensive Conservation Plan. This is the single most important habitat project in the Nisqually salmon recovery plan. It will remove much of the outer dike and allow the natural regeneration of estuary habitat and tidal channels on 700 acres. This project combined with the restoration on the Tribe's estuary lands will result in, and is the primary opportunity for, significant increases in the productivity and capacity of Nisqually Chinook. Costs for the project have been refined and updated from previous workplans. These costs are focused on project construction. So far \$7 million has been identified for the project and an additional \$5 million is needed to ensure completion. Additional project element: Develop a riparian restoration project for the riparian area in the NWR to include planting a variety of native riparian trees and shrub species and restoring natural hydrology on 38 acres of currently diked habitat on the Refuge.

Red Salmon Slough Estuary Restoration Phase III – Removal of last remaining dike on Nisqually Tribe's estuary property, old bridge pilings in Red Salmon Slough and restore riparian habitat on the remaining non-saltmarsh areas (44 acres, 38,000 plants). The dike is a raised dike for an old road and is not fully impeding salt water access, but is a partial obstruction and causes a delay in tidal inundation. Cost estimate is preliminary.

Mashel Eatonville Reach in-stream Restoration Phase II

The SPSSEG and the Tribe completed construction of Phase I of the Mashel Eatonville Reach instream restoration project in 2007. Phase I restored in stream diversity and riparian function in approximately half of the degraded areas in this reach. An assessment of habitat needs and potential projects completed in 2004 identified other projects within the reach that could not be addressed because of unwilling landowners or lack of funds. Phase II would move forward in addressing the remaining in-stream habitat issues in this reach. Changes in landownership and new relationships with landowners may result in new opportunities to implement proposed projects. This project would conduct some additional landowner outreach, then complete project designs and permitting. The project could be ready for construction by 2010. Completion of Phase I and Phase II of this project combined with the planned riparian revegetation work could substantially address all major habitat issues within this reach that can be addressed.

Lower Ohop Valley restoration - channel reconstruction and valley floor revegetation

Evaluation of multi-species salmon habitat needs in the Nisqually watershed have ranked lower Ohop Creek one of the highest priority freshwater habitats for restoration. Funded by a previous SRFB grant, a restoration plan for lower Ohop Creek was developed which summarizes habitat conditions in the project reach and evaluates restoration alternatives. Using that assessment, the most comprehensive restoration alternative has been selected and engineering designs developed. The 17 landowners in the project reach are all supportive of this option. The total project will re-elevate the 4.4 miles of severely channelized creek back into its original floodplain recreating a 6 mile long stream with its original meander pattern and

restoring its hydrologic connection to the adjacent floodplain and wetland areas. Off-channel habitat will be created and the riparian areas will be planted with native vegetation. The project will also revegetate 400 acres of the surrounding valley floor which is dominated by wetlands. This project has been split into three phases to spread out the need for securing funding:

Phase I: Restore first mile of Lower Ohop Creek on Nisqually Land Trust property adjacent to Hwy. 7. Including channel reconstruction and valley floor revegetation.

Phase II: Restore 1.5 miles of Lower Ohop Creek below Hwy. 7 including channel reconstruction and valley floor revegetation.

Phase III: : Restore over 2 miles of Lower Ohop Creek upstream of first two phases of project including channel reconstruction and valley floor revegetation.

Nisqually vegetation management - An assessment of riparian vegetation in the Nisqually watershed was completed in 2004. There is a need to groundtruth the assessment, identify priority revegetation areas, and organize and implement projects. In addition invasive plants that threaten ecosystem processes and habitat need to be controlled. A plan needs to be developed and implemented that prioritizes risk and outlines control measures. This will pay for a 1 FTE biologist to develop and implement a watershed vegetation management plan and a 3 FTE crew to plant and maintain a minimum of 15 acres of riparian vegetation annually and manage invasive plants in the watershed. It will also pay for the plants and supplies needed to implement the projects. The crew in particular is key to our long term success with vegetation projects. Without proper maintenance many revegetation projects will fail.

Northern Powell Creek Restoration – This project will restore a recently acquired parcel by the Nisqually Land Trust on the mainstem Nisqually River, just a little downstream of the confluence with Powell Creek. It will remove riprap and other structures from the property and revegetate the banks. This project is in an active channel migration zone and will allow the river to move more freely again.

Powell Creek/Nisqually mainstem off-channel reconnection

This project would restore access for juvenile salmon to half of the largest off-channel wetland complex on the mainstem river. Currently a series of culverts along a former logging haul road are a partial barrier for juvenile passage. There is also an old bridge abutment along the mainstem of the river where the haul road used to cross the river. This project would remove the culverts and bridge abutment.

Beachcrest pocket estuary restoration – This project would restore access of the saltwater tides and fish populations of the Nisqually Reach to a small pocket estuary (less than 5 acres in size) along the Thurston County shoreline. It would also open up opportunity for some limited spawning by allowing access of adult salmon to a small stream feeding this estuary. Access will be restored by removing a vertical water control structure which impounds the water, with a bridge that allows for high tides to backwater into the pond.

Nisqually -Pt. Defiance nearshore restoration project - This project is assessing nearshore habitat between the Nisqually River and Point Defiance to identify potential restoration projects likely to benefit salmon. Both the WRIA 11 and WRIA 12 limiting factors analyses noted the poor habitat condition of this shoreline,

including estuarine habitat loss and impacts from rail line fill. Burlington Northern is a cooperating partner on this project. A final report will identify and prioritize potential restoration project sites. Preliminary engineering designs and landowner agreements will be developed for restoration at 2-3 specific project sites. The project construction proposed for 2010 would be the implementation of one of these projects. Because the assessment is still underway the cost estimate for project construction is quite rough at this point.

Nisqually River Wilcox Reach side-channel

Recreate historic connection between the Nisqually mainstem and Harts Lake Creek. This project would restore side channel habitat on the mainstem. This area currently is diked but during flooding events regularly breaches the river dike and begins to recreate a connection between the river and the creek. This project would allow this connection to happen more naturally during high flow events while controlling the flow so that the river continues to supply water to the Centralia City Light Power project through its diversion canal.

Hahn Restoration

Restoration of the riparian buffer along a small strip of the Nisqually River mainstem on the Thurston County side downstream of the Powell Creek confluence.

Hogum Bay Restoration (formerly called Scott estuary)/nearshore restoration – The Nisqually Land Trust owns a small pocket estuary just west of the Nisqually Estuary. They are seeking funds to develop a restoration plan for the property and begin implementation (\$30,000); 200 feet of saltwater lagoon frontage and 20 acres of uplands draining into the lagoon. The project would focus mainly on riparian revegetation.

Nisqually Basin Farm Planning

One FTE farm planner/habitat specialist each for Pierce and Thurston Conservation Districts with additional funds for cost share assistance. Each farm planner would conduct targeted outreach to farms in high priority salmon reaches of the Nisqually. Farm plans would be developed for willing landowners and cost-share and technical assistance would be provided for implementation.

Wilcox Flats Nisqually River mainstem and off channel restoration

Restoration of Wilcox Flats (mostly owned by Nisqually Land Trust), primarily through revegetation projects, between river mile 28 and 29.5: $\frac{3}{4}$ mile of riverfront, at least 1 to 1 $\frac{1}{2}$ miles of side channels, riparian zones and uplands totaling 170 acres; In addition the adjacent Wilcox farm is participating in restoration projects (mostly revegetation work) on their property, both along the Nisqually mainstem and along lower Horn Creek as it empties out into the mainstem.

Yelm Shoreline Nisqually Land Trust restoration project

110 acre restoration and public access project on properties now owned by the Nisqually Land Trust on the Nisqually River mainstem near Yelm on the Thurston County side. Restore along $\frac{1}{4}$ mile of river front plus a stream that accesses a large off-channel wetland. Plan and develop a day use and trail system along 1.5 miles of river.

Horn Creek Fish Passage Project

Replace partial fish barrier at Horn Creek. A man-made waterfall at rivermile 1.0 precludes most salmon from migration upstream. Greatest benefit will be to coho

and chum with some benefit also for steelhead. There is a partial barrier just upstream of this site under Harts Lake Loop Road that should also be addressed to ensure full access to the stream for salmon.

Brighton Creek Culvert Replacement Project

Replace partial fish barrier culvert on Brighton Creek under Harts Lake Loop Road with a fish-friendly culvert. This culvert is highest priority culvert for replacement of any culvert assessed in the Nisqually watershed because it is a more complete barrier and there is still some good intact habitat upstream that is currently mostly inaccessible for salmon. It is however not rated a 1 because it is on a minor tributary to the Nisqually and will not have significant direct benefit for Chinook or steelhead. It will have greatest benefit to coho and chum as well as some smaller benefit for steelhead and indirect benefit for Chinook salmon.

Japanese Knotweed eradication

Annually identify and eradicate Japanese Knotweed infestations in the Nisqually River basin. This seasonal work would take 3 technicians and one project manager up to 3 months for 3 years to stem the spread of this highly invasive weed. The focus will be the riparian and floodplain forests of salmon-bearing streams. Waterways in the non-anadromous area of the basin will also be treated if downstream infestation from those source areas is deemed probable.

Tanwax Creek Riparian restoration

The lower Tanwax Creek flows for 4.5 miles through a 98 acre riparian wetland that had been cleared and now consist of small shrubs and large amounts of reed canary grass. A 1998 wetland assessment of Nisqually basin wetlands identified this areas as a high priority for restoration due to its benefits to salmon. This project would work with local volunteers and landowners to revegetate between 3 to 5 acres annually in this high priority area.

Red Salmon Creek/Wash Creek restoration phases IV and V –

Phase IV: Weed control and fence removal along Red Salmon Creek upstream of the railroad crossing on Nisqually Land Trust properties. Phase V: planting of riparian and adjacent upland areas adjacent to salt marsh and Red Salmon Creek and tributaries upstream of the railroad crossing. Follow up maintenance.

Salmon carcass nutrient enhancement

The Nisqually Tribe has managed a project to return salmon carcasses to the watershed from the Tribe's hatchery for the last five years. Program staff that help in implementation include our Restoration Biologist, Volunteer Coordinator, and our Technician. The Restoration Biologist develops an annual plan for carcass distribution including locations, amounts and timing using our best available scientific understanding of the system. Our Technician helps collect and store the carcasses at the hatchery. The Volunteer Coordinator, with the assistance of the Biologist and the Technician, organizes and leads community volunteer events to distribute the carcasses according to the plan. This is identified as an ongoing program to continue to jumpstart the nutrient food web in key salmon streams

Invasive species management at NWR (obj. 1.4)

Develop and implement an invasive species monitoring and integrated pest management control program for the Nisqually National Wildlife Refuge using both manual and chemical treatment methods. This would require hiring a 0.5 FTE Fish and Wildlife Biologist, GS-7/9 (\$25,400 starting annual cost), to conduct the

monitoring program and guide treatment efforts as well as some time for a 0.5 FTE Biological Technician, GS-5/6/7 (\$20,500 starting annual cost), to assist in monitoring the establishment of invasive species and implementing control measures as necessary.

Nisqually Mainstem Land Trust Boundary protection and restoration

Survey and fence upland boundaries on four properties totaling 2 river miles and over 200 acres that are experiencing trespass and dumping. Remove debris and exotic plants.

Harts Lake Loop Road Horn Creek culvert replacement project

This project will replace the partial fish passage barrier at Hart's Lake Loop Rd. (RM 1.2) and replace it with a bottomless arch culvert that would open up several miles of salmon habitat upstream. This project should be considered in connection with the "Horn Creek Fish Passage Project" that is located just downstream to obtain maximum benefit.

Nisqually Pines Culvert Replacement

The goal of this project is to replace a fish passage barrier culvert that is located on a recreational trail in the Nisqually Pines housing development. Replacing this culvert with a footbridge will reestablish access from the Nisqually River mainstem to a small, spring fed tributary and provide critical over-wintering habitat for juvenile salmonids. This project is located in the Whitewater Reach of the Nisqually River.

Powell Creek Neighborhood Road Culvert Replacement

This project will replace the partial fish passage barrier under a neighborhood access road and replace it with a bottomless arch culvert that would open up several miles of salmon habitat upstream. The project at RM 0.9 is possibly a good candidate for the FFFPP grant program.

Lackamas Creek (Thurston Co.) Culvert Replacement

This project will replace the partial fish passage barrier under a private access road and replace it with a bottomless arch culvert or small bridge that would open up several miles of salmon habitat upstream. This project is located at RM 1.3 and is downstream of the recently replaced fish passage barrier at Bald Hills Rd at RM 1.6.

- Acquisition for future restoration

Lower Ohop Protection Project - Acquire 1 mile Ohop creek, 100 acres. This would acquire a key property for the Ohop Valley restoration project and ensure the long-term stewardship of the site for salmon and other wildlife habitat.

Little/Big Mashel Confluence Protection - Acquire 45 acres of riparian and floodplain acres near the confluence of the Little Mashel with the Mashel River.

Lower Nisqually mainstem, McAllister Creek acquisition (200 acres) - Objective in Nisqually National Wildlife Refuge Comprehensive Conservation Plan. Addition of these acres to the Refuge would make them available for restoration. Cost estimate is very preliminary.

Mashel Riparian Habitat Acquisition Project - Acquire one mile of the Mashel shoreline in the Eatonville area with a minimum of a 200 to 400 foot buffer and 20 to 40 acres of habitat. This property would be protected and made available for

restoration and enhancement of habitat. It would also be made available for public access with a public loop trail along the River.

– Acquisition for protection:

Acquisition of high quality habitat or areas that are priority for restoration is a primary protection strategy in the Nisqually plan. Acquisition is considered a protection strategy with greater long term certainty than regulatory protections. This is because regulations can change with new political pressures, there are very little resources for enforcement of protective regulations, and when regulation violations include the unauthorized removal of large trees in the riparian corridor no enforcement action can replace that habitat loss over a short time period. The below projects make considerable progress in implementing the habitat protection objective of no further loss of the ability of the habitat to support the productivity, capacity and life history diversity of the population.

Mainstem Protection Project -Acquire 50 acres, 0.5 mile of Nisqually Mainstem per year. Projects would focus on areas with intact riparian function, channel migration zone and seek to block with other parcels already in protected status. Some specific parcels are already targeted.

Upper Watershed small properties protection- Acquire small properties along the high priority streams in the upper watershed, ie. Ohop Creek and Mashel River. Projects would focus on areas with intact riparian function, channel migration zone and seek to block with other parcels already in protected status. Some specific parcels are already targeted.

Wilcox Area Protection Project- Acquire easement over 250 acres of channel, floodplain and riparian forest along the Nisqually mainstem and Horn Creek in the Wilcox Farm area. Acquisition of a conservation easement over a large property near the most rapidly urbanizing area along the mainstem of the river.

Upper Ohop Valley protection- protection of 180 acres of Ohop valley including large amounts of wetland and 1 mile of Ohop Creek. The protection of this functioning habitat benefits a array of fish and wildlife, including salmon of upper Ohop Creek, 25-mile creek and a third salmon-bearing but unnamed tributary.

McKenna Area Protection Project - Acquire easement over 249 acres of Nisqually mainstem, off channel creek and large wetland. Acquisition of a conservation easement over a large property near the most rapidly urbanizing area along the mainstem of the river. The wetland and stream are critical off channel habitat for juvenile salmonids.

Acquire intact South Puget Sound nearshore habitat – Protection of nearshore has been identified as a high priority but no specific sites have yet been identified. This cost estimate is more preliminary.

Hatchery:

Seasonal weir to reduce hatchery fish straying – design, installation, and operation of weir used during Chinook spawning season to reduce hatchery straying upstream of the two hatcheries. This project is essential if we are to meet our objective of reducing hatchery proportion of Chinook on the spawning grounds to less than 30 %. Sequencing note: project operation cannot begin until harvest rates are reduced to MSY.

NON-CAPITAL NEEDS

Harvest Management Reform Support

Renegotiation of pre-terminal harvest rates

The combined harvest exploitation rate on Nisqually Chinook is currently higher than the modeled MSY rate for the stock. Considerable staff time will need to be spent negotiating both within the region as well as outside the region in order to achieve a lower exploitation rate that is more consistent with the stock's MSY. It is important that this task is completed before the operation of the seasonal weir proposed in the hatchery section commences. If not we would not be able to operate the weir because there would not be enough returning natural origin fish to support the continued viability of the stock on their own.

Chinook/Chum Creel Survey

Survey the recreational sport fishery in the Nisqually River including fishermen just off the mouth of the river in the saltwater. Use survey results to get more accurate estimates of landing and encounter rates for Nisqually natural origin and hatchery Chinook salmon.

Selective Fishery Investigation

Investigate selective fishing methods and opportunities for Nisqually Tribe Net Fishery.

Future Habitat Project Development

Lower Nisqually Reach restoration assessment

The Lower Nisqually Reach of the Nisqually River is one of the highest priority reaches of the mainstem for restoration. It has had significant bank hardening, loss of access to off-channel wetlands, and loss of riparian vegetation. In addition it is used by 95 % of the salmon in the Nisqually because it is the last reach of the river before the estuary. This project proposes to assess this 3.6 mile reach and to identify potential habitat restoration projects. A restoration plan, which will include various alternatives, will be presented to the landowners and other user groups along the reach. Through this outreach process an alternative or a comprehensive selection of projects will be identified and an engineer will then draft a preliminary design (30% complete) with which additional funding for implementation can be sought.

Nisqually River mainstem off-channel restoration projects- development and feasibility

An off-channel habitat assessment completed by SPSSEG and the Tribe in 2004 evaluated the presence and condition of off-channel habitat throughout the Nisqually

mainstem. The report identified high priority sites for restoration of off-channel habitat. However, the highest priority projects have not yet been implemented due in large part to a lack of landowner willingness. There is a need to do additional landowner outreach, identify new willing landowners and then assess feasibility and design key projects.

Nisqually -Pt. Defiance nearshore restoration project - This project is assessing nearshore habitat between the Nisqually River and Point Defiance to identify potential restoration projects likely to benefit salmon. Both the WRIA 11 and WRIA 12 limiting factors analyses noted the poor habitat condition of this shoreline, including estuarine habitat loss and impacts from rail line fill. Burlington Northern is a cooperating partner on this project. A final report will identify and prioritize potential restoration project sites. Preliminary engineering designs and landowner agreements will be developed for restoration at 2-3 specific project sites. The project construction proposed for 2010 would be the implementation of one of these projects. Because the assessment is still underway the cost estimate for project construction is quite rough at this point. (also listed under capital projects)

I-5 fill removal feasibility analysis

It has been identified in the watershed habitat analysis that Interstate 5 where it crosses the Nisqually Estuary is itself a serious impediment to the formation of natural tidally influenced habitat. Replacement of the current fill under the road with a pier or bridge structure could result in significant improvements to salmon habitat in the Lower Nisqually and McAllister Creek. This assessment would begin to explore that possibility and determine if a potential project might be developed.

Mainstem Nisqually LWD assessment and project identification

In the Watershed analysis and in other assessments of the mainstem Nisqually it has been noted that certain sections of the Nisqually mainstem is lacking wood, especially in the reaches immediately downstream of the Alder/La Grande Hydro Project. This project will assess the large woody debris loading in the many of these reaches and identifies wood loading deficiencies, combines them with the data on wood recruitment and identifies wood project for the mainstem including 30% engineering designs.

Habitat Capacity Support protection support

NLT property stewardship/ongoing protection costs

By the end of 2006 the Land Trust will own approximately 1250 acres in the salmon-producing section of the Nisqually River. It is essential to have the resources to continue to manage the properties for protection of their habitat value.

Based on definitions and calculations devised by the Washington Department of Natural Resources, the Land Trust Alliance, and the Cascade Land Conservancy, NLT estimates annual stewardship and management costs for properties as follows:

1. Legal Stewardship: In general, this baseline of responsibilities includes the objectives and strategies necessary to protect properties from incursion and misuse; it includes health and safety risk-abatement. At \$25/acre, the Land Trust's annual estimated cost is \$31,250.
2. Ecological Stewardship: This is the next level of stewardship and requires managing properties to achieve optimal biodiversity for a given ecotype. At \$6.25/acre, the Land Trust's annual estimated cost is \$7,812.

3. Organizational Overhead: Also calculated at a rate of \$6.25/acre, the estimated annual cost is \$7,812.

In total, then, the annual stewardship costs will be approximately \$46,875, or about \$140,625 for the 2007-2009 period. Currently, NLT has a small endowment that will generate approximately \$3,000 per year for stewardship. In addition for general support of outreach and education associated with stewardship needs NLT estimates it needs an additional \$10,000/yr to support that work.

Protection enforcement on NLT properties (stop ATV damage, dumping & vandalism)
Build fences, gates and other deterrents on NLT properties adjacent to developed properties where there are current problems. These projects affect at least 5 miles of river front and several off channel streams and wetlands which provide spawning and juvenile salmonid habitat.

Protection enforcement on Nisqually National Wildlife Refuge
(Obj. 1.2) Protect Nisqually National Wildlife Refuge lands from unauthorized human disturbances. One 0.5 FTE Refuge Enforcement Officer (\$31,100 annual cost)

DNR Aquatic HCP planning
Washington DNR is in consultation with the USFWS for an Aquatic HCP, that at this time would cover all waters (tidal and non-tidal). The USFWS will dedicate 1 FTE to this consultation for potentially the next three years. DNR will probably cover the costs of that FTE.

Thurston County CAO revision
Thurston County staff time to do required updates to Thurston County's Critical Area Ordinance.

Thurston County Shoreline Master Program revision
Thurston County staff time to do required updates to the county's Shoreline Master Program.

Pierce County Shoreline Master Program revision

Forest and Fish/watershed analysis prescription implementation monitoring/technical assistance
This 1 FTE would support the continued monitoring of forest practices to ensure consistency with the Forest and Fish agreement and the Nisqually salmon recovery plan.

Watershed Plan Implementation and Coordination

In-stream, off-channel, and estuary habitat project Restoration Biologist
This 1 FTE works to ensure that priority habitat projects throughout the watershed are developed and implemented consistent with the Nisqually salmon recovery plan. This position is key to ensuring that high priority habitat projects in the plan stay on track. Position includes cost of 1 FTE plus Nisqually Tribe 54% indirect rate.

Salmon Recovery Project Technician
Assists in implementation of restoration projects, field work. .05 FTE plus Nisqually Tribe 54% indirect rate.

Lead entity coordination/Salmon Recovery Program Management

In order to effectively manage Nisqually salmon recovery implementation and the lead entity process there is a need for at least 1 FTE. This position currently exists and we would like to continue it.

GIS support for plan development/implementation

This supports 1 FTE that develops and tracks watershed data and salmon recovery projects in a GIS database. This position is critical to our ability to plan effectively, to coordinate our actions across the landscape, to communicate our projects and progress to others, and to track our progress. This position currently exists and we would like to continue it.

Development and Coordination of Adaptive Management Program

There is a need for an additional FTE to assist in the important tasks of plan development, tracking our implementation to ensure we are meeting our plan goals and objectives, using tools as they become available to evaluate our current action plan, and use the information from monitoring and new tool support to recommend updates to the plan on a yearly basis.

Identify and research key uncertainties to improve plan

There are key uncertainties identified in the plan that need to be investigated. There is a ongoing need for at least 1 FTE that investigates key uncertainties through research projects.

Adaptive Management plan and database

Complete the development of a system for Nisqually that clearly demonstrates what actions we are taking for salmon recovery, how we believe those actions will affect salmon stocks, and how well we are making progress as we implement those actions. This plan would outline key data gaps and monitoring needs that would be used to update our recovery plan and refine recovery actions over time.

Adaptive Management database maintenance

Support the capacity to keep the information in the Adaptive management database current and the system maintained.

Outreach and Education

Nisqually River Education Project (watershed schoolchildren ed)

This program organizes hands on watershed education opportunities for schoolchildren throughout the Nisqually River Watershed. This includes organizing students to help with hands on restoration projects such as tree plantings or carcass tossing as well as monitoring projects to evaluate the health of the watershed through water quality samples or benthic macroinvertebrate analysis. This program has operated since 1990 without base funding and is now at substantial risk as funds become scarce. Sustainability and ultimately the fate of salmon and this watershed is in the hands of our residents. It is only through a well informed community that understands and supports salmon recovery that our efforts have any chance of long term success. This program has touched the lives of 6,000 students and is critical to our long-term success in developing a more informed, concerned, and involved citizenry that is supportive of salmon recovery actions.

Nisqually Stream Stewards Program

The Nisqually Tribe's salmon recovery outreach and education program. Organizes educational and hands-on opportunities for watershed citizens to become more informed and active stewards of salmon habitat. This is a key program that

complements the Nisqually River Education Project in developing a more informed watershed citizenry. Cost of the program is 1 FTE plus the Tribe's 54 % indirect rate as well as associated program support costs for volunteer event supplies, volunteer monitoring equipment, program newsletter etc.

Nisqually National Wildlife Refuge Education Program (Goal III, Obj. 3.1)

Hire a permanent-full time environmental education specialist (GS-09) (\$62,150 annual cost) on the Refuge staff to manage the environmental education program. As changes are made to habitats on the Refuge, opportunities would be created to include teachers and students in these long-term restoration activities, both hands-on assistance in the restoration work and monitoring of changes in the habitat.

Habitat Project Monitoring

Refuge Estuary Restoration Project Monitoring:

Pre and post monitoring of the estuary restoration project area to determine the extent of estuarine habitat development and document fish and wildlife response in the estuarine restoration area.

Monitoring of estuary restoration at Red Salmon Slough

Monitoring of the physical and biological response to the 140 acres of tribal estuary restoration on the east side of the river.

Ohop monitoring plan

Monitor the effectiveness of the Ohop Creek restoration project both in physical and biological responses.

Mashel Monitoring plan

Monitoring the physical and biological response to the Mashel river restoration work.

Nisqually Chinook Recovery Habitat Monitoring

Creation and implementation of a watershed-wide habitat and restoration action monitoring plan to assess effect of recovery plan.

Stock Monitoring Support

Estuary fish monitoring

The Tribe in partnership with USFWS has conducted monitoring of juvenile salmon usage of the estuary for the last four years. Sites representative of different habitat types in the estuary are sampled once every other week during the migratory period. This information is helpful to our understanding of how restoration may affect salmon usage of the estuary and gives us a qualitative sense of the outmigrating population. In 2008 sampling is focusing on the estuary restoration sites and certain representative locations throughout the estuary and adjacent nearshore.

otolith study/life history analysis

This study uses otoliths (ear bones) of salmon to learn more about their life history. Otoliths grow daily and record growth in a way similar to tree rings. USGS scientists are refining a method of analysis of these otoliths that can clearly delineate the life history of each analyzed fish. This information will be essential to us being able to have some potentially empirical evidence of the impacts our restoration efforts may be having on life history diversity of the population, (one of the key VSP). We can also use the analysis on returning adults to see if a particular life history strategy is

more successful at surviving to return to spawn. These funds would support the analysis of otoliths already collected and additional otoliths that will be collected in subsequent years.

Research

Steelhead smolt acoustic tag study

An ongoing acoustic tracking project is placing acoustic tags in wild Nisqually steelhead smolts each spring and receivers placed in the Nisqually River and estuary, as well as in Puget Sound, the Straits of Juan de Fuca and Georgia, and beyond. Combined information from these receivers will yield a summary of movement and mortality patterns for Nisqually steelhead smolts in the marine waters, which is needed for recovery planning for the declining Nisqually steelhead run.

Other

Implementation /Effectiveness /Validation Monitoring

Coordination of monitoring of overall recovery plan. This would implement the plan laid out in the new Adaptive Management plan for data collection that will inform and monitor our progress in Nisqually salmon recovery.;

NLT administrative/facilities support

The Nisqually Land Trust incurs annual administrative costs for owning and general management of properties. Costs include: Administrative support (\$10,000/yr.), GIS/data management (10,000/yr.), office truck (\$30,000 initial cost, \$2000/yr. Maintenance) Administrative support includes staffing, office space, insurance, property fees, etc.

Nisqually River Council support

This would support the continued facilitation of the Nisqually River Council and implementation of the Council's Stewardship Plan. It would support 2 FTE's: 1 FTE which is the current staff who coordinates Council meetings and plan implementation and an additional FTE to assist in Plan implementation. This additional capacity for the Foundation would provide a dedicated staff assigned to project development, project management, and grant writing/fund raising to implement the Stewardship Plan elements consistent with Chinook recovery and expanded to a multispecies approach.

Nisqually Sustainability Initiative

This additional capacity for the Foundation would implement our local based certification strategy and provide technical support to interested parties to receive third party and Nisqually River Council endorsement of activities. This is a vital program necessary for the long term success of the Nisqually Stewardship Plan and critical to salmon recovery. Our plan describes a process of working with the various third party certification systems, like Salmon Safe and SFC to encourage and promote sustainable activities throughout the watershed. These activities will greatly reduce the impact of these activities in the watershed and support salmon and wildlife survival and recovery while also supporting a vibrant economy operating in harmony with the ecosystem in the Nisqually.

Nisqually Low Impact Development technical assistance/landowner incentive program

Provide direct support and incentives for the implementation of LID and Arch guidelines in the watershed. This includes permitting assistance, engineering and design assistance, marketing, and public education and outreach. The goal is to have three significant LID projects in progress in the watershed by 2009.

Nisqually Water Conservation

Support for Class A water purveyors in the Nisqually Watershed to write conservation plans. This project pays for a staff position that will develop the plans in cooperation with the water purveyors and provide technical assistance to them.

Multispecies Nisqually Salmon Plan

Considerable work has already been done to begin developing a multispecies Nisqually Salmon Recovery Plan that includes Chinook, Steelhead, Coho, Pink and Chum salmon. However the project has been delayed due to a lack of resources and time. These funds would support the completion of that work.

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

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

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

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

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

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

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

2008 three-year Watershed Implementation Priorities Template: Addendum

Project Name

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

Capital Projects

Habitat

Hatchery

Other

Total Capital

Need

Non-Capital Programs

Harvest
Management
Support

Future Habitat
Project
Development

Habitat Protection

Watershed Plan
Implementation &
Coordination

Outreach &
Education

Instream Flow
Protection

Habitat Project
Monitoring

Stock Monitoring
Support

Research

Other

**Total Non-Capital
Need:**

***Priority Projects
and Programs
Benefiting Non-
Listed Species***

**Total Non-Listed
Species Need: _____**