



2012

Three-Year Work Plan

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WHAT THIS IS: This document is our 2012 Three-Year Workplan. Our workplan is a roadmap which guides our salmon recovery efforts across the North Olympic Peninsula in Washington State. This plan is a way of managing the implementation of both capital and non-capital projects, activities and programs needed to implement the recovery of both listed and non-listed salmon species in our numerous watersheds from Blyn on Clallam County's east side, across the Strait of Juan de Fuca to Cape Flattery, our consortium's most northwest boundary in Neah Bay.

This report is required by the Puget Sound Partnership, which is our regional salmon recovery organization. Recovery of listed Chinook is one of the Partnership's significant mandates, so it tends to report more heavily on efforts to restore Puget Sound Chinook, including both Elwha and Dungeness Chinook which are found in our area. Efforts to delist Eastern Strait of Juan de Fuca Summer Chum, which also inhabit our area; is under the purview of the Hood Canal Coordinating Council; which is the Regional Recovery Organization for summer chum.

Our organization members met in October of 2010 to review and offer possible additions, deletions and revisions to our workplan process. Only minor revisions were made to our overall salmon recovery strategy, while there were changes and a few new project criteria added to the overall scoring process. Those changes are noted herein.

Our policy is to do a major workplan revision every three years, so this existing workplan process, would be used in 2011, 2012 and 2013, with another major review needed prior to 2014. In those years in which a major review is not needed, we will still issue a call for major updates to existing workplan projects, as well as adding new projects to be considered and those projects will be scored or rescored. There will be scoring of all projects on the workplan only once every three years.

WHO WE ARE: We are a consortium of area governments and tribes, as well as non-profit organizations and citizens involved in salmon recovery efforts. Member governments include: the Makah, Lower Elwha Klallam and Jamestown S'Klallam Tribes, Clallam County including unincorporated areas such as Neah Bay, Clallam-Bay Sekiu and Joyce, as well as the cities of Port Angeles and Sequim.

2012 Lead Entity Group Membership (Citizen & Policy Team)

Andy Brastad, Clallam County, Environmental Health Director

Scott Chitwood, Jamestown S'Klallam Tribe, Natural Resources Director

Larry Ward, Lower Elwha S'Klallam Tribe, Hatchery Manager

Scott Johns, City of Port Angeles, Associate Planner

Steve Rankin, Citizen & Sequim Area Resident

Kimberly Clark, Makah Tribe, Watershed Scientist

Tom Riepe, Citizen & WRIA 18 West Area Resident

Philip DeCillis, Citizen & WRIA 19 Area Resident

Sequim City Government Seat, currently vacant

2012 Technical Review Group Membership

Rebecca Benjamin, North Olympic Salmon Coalition, Executive Director

Michael Blanton, WDFW Watershed Steward

Coleman Byrnes, Citizen Salmon Advocate

Chris Byrnes, WDFW Watershed Steward

John Cambalik, Straits Ecosystem Recovery Network, Consultant

Kimberly Clark, Makah Tribe, Watershed Scientist

Patrick Crain, Olympic National Park, Biologist

Michele d'Hemecourt, North Olympic Land Trust

Joe Holtrop, Clallam Conservation District, District Manager

Randy Johnson, Jamestown S'Klallam Tribe, Member at Large

Cathy Lear, Clallam County Dept. of Community Development, Senior Biologist

Raymond Moses, Lower Elwha Klallam Tribe; Project Biologist

Tracey Martin, Citizen Salmon Advocate & Streamkeepers of Clallam County

Mike McHenry, Lower Elwha Klallam Tribe; Habitat Restoration Manager (Alt)

Byron Rot, Jamestown S'Klallam Tribe, Restoration Manager

Anne Shaffer, Coastal Watershed Institute, Executive Director

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Walter Pearson, Ph.D, Peapod Research

This report is a result of the collaborative work of the North Olympic Lead Entity for Salmon, its members, stakeholders, consultant and staff. It builds on work created by Walter Pearson, Ph.d of Peapod Research and Sam Gibboney of ISE Consultants.

For more information on this document or salmon recovery involving the North Olympic Lead Entity for Salmon, please contact Coordinator Cheryl Baumann at cbaumann@co.clallam.wa.us or by calling 360/417-2326.

For additional information on local salmon recovery efforts go to the Habitat Work Schedule online at <http://hws.ekosystem.us/>; click on Lead Entity, and then North Olympic

For restoration projects you can visit on North Olympic and elsewhere in Puget Sound go to: <http://salmontrails.org/watershed/north-olympic/>

North Olympic Lead Entity for Salmon
2012 Three-Year Workplan
Narrative Report

This is the May 2012 Report of Recovery Plan Implementation, Major Work Funded, Begun & Completed within the past year since the 2011 Report.

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?

See the attached list of prioritized projects across the North Olympic Peninsula which is part of our 2012 Work Book for Ranking Work Plan Narratives. The North Olympic Lead Entity for Salmon does an annual call for new projects or updates to existing projects on its Three-Year Workplan. Once project proposals or updates are received, they are then scored using criteria previously established by the Technical Team of the North Olympic Peninsula Lead Entity for Salmon. Those scores provide the prioritized workplan project ranking.

2. What is the status of actions underway per your recovery plan chapter?

Dungeness:

Efforts continue on numerous actions needed to implement recovery. The largest active habitat restoration effort is the setback of the east side dike which currently constrains the lower Dungeness River. This project is known as the Dungeness River Floodplain Restoration Project. It is also sometimes referred to as the Lower Dungeness Dike Setback Project. This large-scale restoration effort is a multi-phase project with numerous partners including Clallam County, the Jamestown S'Klallam Tribe, the Army Corps of Engineers and others. It remains the second top-ranked project in our 2012 Workplan project ranking for the North Olympic area.

The project involves restoration efforts divided into three areas of emphasis. Current efforts are occurring in the Middle Corps Dike area. Work underway there now and expected through 2012 includes:

- Purchase of remaining properties located there, which WDOT is seeking to buy for mitigation of a Highway 101 project
- Environmental and economic analyses by the Army Corps of Engineers (ACOE) of various dike setback options. This is an ACOE process with input from the local restoration team.
- Design of river channel and needed floodplain features (engineered log jams, side channels, etc.) This restoration work will need to be built concurrent with dike setback.
- Planning for removal of the remaining house and barn located there.

Future work needed in the Middle Corps Dike area includes:

- Pursue funding for Middle Corps Dike setback design and construction
- Develop and complete final project design
- Construction planning
- Possible additional reforestation work on the public properties located there
- Start Construction

Possible work needed in the two remaining emphasis areas includes:

- Explore conceptual alternative planning options
- Seek property acquisition funds
- Purchase of properties

Habitat Work Elsewhere in the Dungeness Watershed:

Washington Harbor: Construction work just began this month on the nearshore project to replace culverts on a large fill road that bisects Washington Harbor in the salmon migration corridor not far from previously completed, nearshore restorations at Pitship Pocket Estuary near Sequim Bay and Jimmycomelately Creek estuary. This effort will remove two 6-foot culverts and 600 feet of road which will open 37 acres of pocket estuary habitat east of Sequim in Washington Harbor, primarily benefiting summer chum and Chinook salmon.

This project was one of eight recognized as noteworthy by the Salmon Recovery Funding Board's Review Panel during the 2011 grant round. It also marked another evolution in the working relationship between our organization and the Hood Canal Lead Entity. The 2011 SRFB funding request for this project was covered with 50% funds coming from North Olympic and the other 50% from Hood Canal LE. The project also has significant funding from ESRP and other funding sources.

Meadowbrook Creek & Dungeness River Reconnection: The Clallam Conservation District will work to improve the connection between Meadowbrook Creek and the Dungeness River. Meadowbrook Creek is the last fresh-water tributary to out-migrating salmon species in the Dungeness River before they enter Dungeness Bay in the Sequim area.

McDonald Creek Barrier Rehabilitation: The Jamestown S'Klallam Tribe will convene meetings with irrigators in the Sequim area to explore the possibility of removing irrigation infrastructure from McDonald Creek and stopping the practice of putting water from the Dungeness into McDonald Creek and then withdrawing it for irrigation. Restoration work is also needed in this reach of McDonald Creek. This project illustrates the value of both the lead entity and SRFB review panel vetting process. This project began as somewhat of an opportunistic effort to combine needed restoration in this area at the same time highway widening is occurring nearby, resulting in a cost savings. Comments from the technical reviews saw that as a band-aid measure and suggested the more holistic restoration approach being exploring the possibility of removing the irrigation infrastructure and discontinuing the practice of adding river water in,

then pulling it out. This work follows two earlier additions of large wood to nearby reaches of McDonald Creek.

Keeping Water in the Dungeness: Efforts continue on a number of fronts in regards to dealing with low flows in the Dungeness. Irrigators from the Sequim agricultural community continue working with the Clallam Conservation District to help plan and seek funding for further piping of open irrigation ditches to stem water losses. In addition,

The Sequim-Dungeness Valley Agricultural Water Uses Association, an umbrella organization for the seven irrigation companies, are preparing to voluntarily reduce their water rights, preparing later this year to sign superseding certificates which will reduce the amount of water they can withdraw from the Dungeness River. Irrigators say usage has declined in recent years due to conservation measures.

Despite a moratorium on rule making, local leaders from governments, tribes and irrigators continued meeting this past year to advance work regarding instream flows. The instream flow rule was released for comment this month.

Also, newly proposed projects to improve instream flows and capture excess water to be used during low flows was proposed and ranked highly as the 12th ranked priority on our 2012 workplan.

Elwha:

Removal of 2 Aged Dams: It was an incredibly historic year with demolition finally getting underway in the fall of 2011 to remove the two major dams on the Elwha River which have blocked access to almost 70 miles of pristine spawning habitat since they were constructed in violation of state law requiring fish passage almost 100 years ago. Congress passed the Elwha Act in 1992 which approved the dismantling of both dams. Removal of these fish-blocking dams is a major element in the Elwha Chapter of the Puget Sound Chinook Recovery Plan.

Ahead of schedule, the lower 108-foot dam, known as Elwha; is no more. Demolition of the 99-year-old Elwha dam was completed in March of this year. Little remains as well of Lake Aldwell, the reservoir of water created by the lower dam located 5 miles upstream from the river mouth.

The movement of up to 24 million cubic yards of sediment behind the two dams is proceeding according to models devised for the project according to the Bureau of Land Management and within three to five years it is expected that the reservoirs will no longer contribute sediment in significant quantities.

The 85-year-old Glines Canyon Dam, the upper dam on the Elwha River; is currently expected be completely removed between spring and summer 2013, federal officials said in April of 2012. That would also be well in advance of the previously expected schedule. The National Park

Service's \$26.9 million dam removal contract with Barnard Construction has a September 2014 deadline.

Elwha Restoration: The Lower Elwha Klallam Tribe, longtime advocate for dam removal and key leader of on-the-ground restoration efforts in the Elwha successfully applied for \$635,919 in additional funds to continue construction of 11 new engineered log jams in the lower river in order to maximize recovery efforts following dam removal. An earlier phase was the top-ranked project forwarded by the North Olympic Lead Entity for the SRFB for funding in 2010. These two phases follow an ongoing and large scale creation of 30 massive log jams in the lower river which are outside of park boundaries. Construction on both of the recently-funded phases begins in 2012. At least two more phases are expected to follow. This is the 4th ranked priority on our 2012 three-year workplan.

Also, in the 2011 North Olympic Grant round, the Elwha Weir Project, sponsored by the Washington Department of Fish and Wildlife, successfully competed and was selected to receive PSAR funding which it will use to continue operation of a weir on the Elwha which is providing critical information about fish populations using the river that will be important for adaptive management decisions as the Elwha River Restoration project continues.

Other high-ranking Elwha projects in need of funding on our workplan include the 13th ranked Elwha Watershed Adaptive Management Plan and Monitoring, the 16th ranked Elwha River Estuary Restoration Engineering Feasibility Analysis, which was newly proposed this year, followed by the 19th ranked Elwha Nearshore Conservation Planning, the Elwha River Salmon Enumeration Weir ranked 22nd and the Elwha River Estuary Restoration ranked 26th.

Elwha Revegetation: The Tribe, spent time in 2011 using its restoration crew to attempt to eradicate and control the spread of invasive weeds in the Elwha River Valley. Managing invasives so they do not get a foothold in the expansive area behind the dams which made up Lake Mills and Lake Aldwell, is a key concern. Dewatering of those reservoirs due to dam removal will result in exposing nearly 800 acres of land which will require revegetation.

The Tribe also applied and was selected by the North Olympic Peninsula Lead Entity for Salmon to receive \$361,901 for revegetation efforts in the Elwha, including removal of non-native, invasive weeds through 2016, moving of large logs and tree root wads from the shoreline to denuded areas and double planting efforts following dam removal. This funding complements existing revegetation funds.

The revegetation effort is a partnership between the Tribe and the National Park Service, with the Tribe taking the lead on revegetation efforts in the area where the lower dam was located and the Park serving as lead revegetating the area where the upper dam was located within Olympic National Park.

Some revegetation planting efforts began in November of 2011 and continued into March of 2012. The revegetation effort will be monitored for results and to make any necessary changes.

The revegetation needed following dam removal remains underfunded by more than \$4 million dollars. This revegetation effort remains the top ranked, priority project on the North Olympic Peninsula's Lead Entity for Salmon 2012 Workplan for the second year in a row. The revegetation plan was developed by specialists with Olympic National Park and the Lower Elwha Klallam Tribe.

Straits-WRIA 19:

Ongoing protection and restoration work continues in this area which includes all waters which empty into the Strait of Juan de Fuca from west of the Elwha River, all the way to Cape Flattery.

Restoration efforts most recently have occurred in the Pysht and Salt Creek Watersheds. Acquisitions funded in two earlier rounds on the Pysht have been completed, including the purchase and restoration of a significant piece of Pysht River floodplain, known as the Pysht Conservation Area now open to the public thanks to efforts by the North Olympic Land Trust. The Makah Tribe, the Elwha Klallam Tribe and the Clallam Conservation District assisted and supported monitoring and restoration efforts on these parcels. The Land Trust is also working on a SRFB-funded conservation easement to further protect additional portions along the Pysht.

In the 2011 grant round, the North Olympic Salmon Coalition was approved for SRFB funding for an estuary restoration there that will breach a dike and replace failing culverts, helping restore an estuary and opening up 15 acres of key salt marsh to salmon. This builds on efforts to advance this work which have occurred recently, and as far back as a decade ago.

A planning grant requested by the Coastal Watershed Institute, working in partnership with the North Olympic Land Trust; towards future restoration and possible acquisition of the Twin Rivers Nearshore and nearby riparian area was also approved in the 2011 grant round.

Another planning effort completed in 2011 was the Western Straits Conservation Plan which prioritizes parcels in WRIA 19 with the highest quality salmon habitat for conservation.

It is good that the above non-profit organizations and tribes have the capacity and are at a point where they are regularly participating in restoration and acquisition efforts within WRIA 19 which has significant salmon habitat. The Elwha Klallam Tribe continues with restoration efforts and planning regularly in this area as well.

Cross Watersheds Efforts:

Our Lead Entity, using PSAR funding and existing staff and engaging partners; has begun work to conduct an in-depth, countywide culvert survey which will result in a prioritized list of fish blocking, failing or undersized culverts. This work is expected to lead to sponsors seeking funding for fish passage projects and will ensure that the efforts are centered on fixing the

culverts most deleterious to fish populations first. The work will begin in WRIA 19 and proceed eastward. This project is ranked 21st in our 2012 workplan.

3. Is this on pace with the goals of your recovery plan?

As noted previously, our salmon recovery plans did not always lay out specific time frames. However, from the standpoint of increasing and restoring our native salmon runs, we are on a slow trajectory.

Salmon recovery efforts are trying to undue a century or more of land management decisions and other practices which have been harmful to our watersheds and ecosystems and species such as salmon.

And, while recovery efforts are underway, land management and other practices which lead to habitat destruction and are detrimental to fish populations still continue to occur on a large scale across our landscapes, which slows overall recovery. There is reluctance to make needed changes on the individual, local, state and national levels and lack of political will to enact and enforce regulatory efforts which would go a long way in stopping practices which are deleterious to salmon and healthy ecosystems.

The reality is we are neither funded nor staffed anywhere near the level needed to significantly progress recovery efforts on numerous fronts. This is not to say that we do not have success or improvements to report in many areas, because we do. But it is just to lay out the overall, big-picture scenario that we are dealing with.

In addition, some habitat restoration work, such as the construction of log jams or removal of fish passage barriers, appears to show increased fish usage quite quickly. We have also seen quick fish usage of newly recovered floodplain.

Fairly dramatic changes can also be seen following changes in harvest and hatchery practices as well. But much of the other habitat improvement work which is done takes longer to recover and show results. We are still waiting for the results of the habitat corrections to catch up with the changes in harvest and hatchery.

4. What is the general status of the following below? Note: Progress can be tracked in terms of Not Started, Little Progress, Some Progress, Complete, or in more detail if you choose.

- **HABITAT RESTORATION IMPLEMENTATION** - Progress Continued on All Fronts As Reported Above.
- **HABITAT PROTECTION** – Progress Continues.

Dungeness: Work is progressing on an acquisition/easement project along the Dungeness River by the Jamestown S'Klallam Tribe which was approved by the SRFB for Funding in 2010. There may be additional acquisitions desired in the future for further phases of the Dungeness River Floodplain Restoration Project. (see pages 1 & 2 above).

We will know later this year whether an agreement can be reached to protect a key parcel in the Blyn area on the county's east side near the large, Jimmycomelately Estuary Restoration which was completed approximately 7 years ago. This project is sponsored by the North Olympic Land Trust and was funded by the Hood Canal Lead Entity since this is shared summer chum habitat.

Elwha: It will require a significant work effort and large-scale financial investments if acquisition or easements for private properties along the lower river are to be obtained for protection and floodplain expansion. There is a proposal to develop a protection plan for Elwha River nearshore which is ranked 19th on our 2012 workplan.

Straits-WRIA 19: A second acquisition phase involving Pysht River Floodplain by the North Olympic Land Trust was also funded in 2010. This work builds upon a similar and nearby acquisition also by the Land Trust in 2009. An additional phase was initially proposed in the 2012 grant round but additional work is needed to advance that effort.

Both projects were done in partnership with the Makah and Lower Elwha Klallam Tribes. Work was completed in 2011 on the creation of a prioritized conservation plan in the WRIA 19 watersheds lead by the North Olympic Land Trust. A project from that plan involving protection of a property with Clallam River Tributary and one of the largest wetland complexes in WRIA 19 is proposed in the 2012 grant round.

As part of our Lead Entity's commitment to protection and in support of Shoreline Master Plan update, we used our National Estuary Program funding to contract with the Bureau of Reclamation to do a Channel Migration Zone (CMZ) study on the Hoko River. It is only the second formal CMZ done on a North Olympic Peninsula river. The Jamestown S'Klallam Tribe previously did a CMZ on the Dungeness River.

Conducting CMZ studies on additional area rivers, particularly within WRIA 19; is part of our prioritized work plan, but we lack the funding needed to do so.

- **HARVEST MANAGEMENT** - Recreational fishing regulations governing the Strait of Juan de Fuca make the management area a no wild fish retention zone when it comes to native Chinook populations and it has been that way since the ESA listing. However, indirect impacts to the remaining wild Dungeness, Elwha and Hoko Chinook populations continue to occur both within the Strait and in waters north of the U.S.-Canadian border. An attempt to address part of this issue came a few years back when the Pacific Salmon Commission renewed Chinook Annex included a reduction of targeted, commercial trolling by 15% in the

South East Alaska catch and 30% in the Canadian catch. This was done to reduce the wild Chinook harvest rates in commercial fisheries occurring north of the Strait of Juan de Fuca.

While this change has been welcomed as a significant step in regards to protection of wild Chinook, local fisheries managers report it is too early to see any results due to a several year lag in tag recoveries.

There are also still concerns about the indirect impacts to wild fish resulting from hook and release practices which occur during selective harvest fishing opportunities. The co-managers are working to better learn what the resulting impacts are.

Another remaining issue is that Canada does not use electronic fish sampling tools for all fisheries, so they are unable to recover all coded wire tags and gather data from tagged fish which are taken from all fisheries in their waters. This results in a lack of stock specific Chinook harvest data. In the U.S. harvest managers electronically sample all Chinook whether fin-clipped or not.

There remains frustration in both the all citizen and tribal fisheries over stern actions that result in decreased harvest, but not a similar crackdown in the habitat arena. Enforcement of land use practices and protection of available habitat side is a critical need in the overall effort to help stem declining salmon populations.

Dungeness: There is an annual return of only 100-200 wild origin Dungeness Chinook adults along with 300-400 hatchery origin Dungeness Chinook adults.

Elwha: The wild fish stocks are barely hanging on. In a good year, they may see a return of 2500-3000 combined wild and hatchery fish, but a poor year yields less than 1,000 fish. A five-year moratorium on freshwater tribal and sport fishing in the Elwha River began in March of 2012, following the fall coho run and the winter steelhead run. This was agreed to as part of the Elwha Ecosystem Restoration Act passed by Congress to remove dams from both the upper and lower reaches of the Elwha River.

The Washington Department of Fish and Wildlife, with support from the Lower Elwha Klallam Tribe and Olympic National Park, requested a five-year closure of fishing on Lake Sutherland, which receives water from the Elwha River through Indian Creek. That five-year closure would have coincided with the five-year Elwha River fishing moratorium. The proposed Lake Sutherland closure was requested in late 2010 to give salmon another refuge from sediment transfer resulting from dam removal. The proposal was met with a barrage of protests from recreational fishermen. The state then agreed in early 2011 to a shorter fishing season and discontinued stocking the lake with rainbow trout. There was a call for more enforcement in that area, which the state has indicated it lacks resources to do. The sports fishermen had indicated they were recruiting volunteers in an attempt to provide some enforcement there.

Straits-WRIA 19: This is not part of the Puget Sound Chinook ESA listing. That ends at the Elwha River. The WRIA 19 area begins just west of the Elwha River. There have been ESA-listed juvenile Chinook from our area, as well as the Columbia and Klammath populations found using the WRIA 19 nearshore. The Sekiu, Hoko and Pysht Rivers are where Chinook populations were found historically. The Sekiu population status is critical, but with a stable trend. The Hoko population is depressed, while the trend is increasing. In the Pysht, the population status is critical, while the trend is considered stable.

- **HATCHERY MANAGEMENT –**

Dungeness: A captive brood program was in place for 7 years, or one generation. The last release of fish produced from this program occurred in 2005. Since then, the program was switched to conventional broodstock collection from returning adults. Fish culture techniques are employed to raise progeny in the WDFW's Dungeness & Hurd Creek Hatcheries.

Chinook smolts are released with the goal of boosting adult returns to the river. In this way, both wild stocks and hatchery-produced fish are viewed as important to supplement the dwindling native fish population. Hatchery production boosts the total adult fish returns by several hundred fish per year for an estimated total adult Chinook run size of 400-600 fish.

The returns have been on an upward trend the past few years, but indications are the freshwater juvenile production numbers do not currently look very promising. The hatchery-produced Chinook are all coded wire tagged for stock origin purposes but they are not fin clipped which would "flag" them for harvest purposes.

Elwha: Elwha Chinook which are produced in the WDFW's Elwha hatchery do not have their adipose fin clipped, in an attempt to decrease harvest of those stocks and provide the broodstock needed to maintain the species.

There are WDFW fish raceways east of Port Angeles near the mouth of Morse Creek where Elwha Chinook are being reared and released. This outplanting is being done to protect the Elwha Chinook species from the transfer of sediment which is expected in the Elwha River during dam removal.

Hatchery operations began at the new Lower Elwha Klallam Fish hatchery constructed in connection with the dam removal project. Efforts are underway to produce and rear salmon smolts that will be imprinted in the new release channel. For at least two years, hatchery staff will need to utilize both facilities as some of the older fish will still be returning to the original hatchery from which they were released.

By November of 2011, following the start of dam removal, the Lower Elwha Klallam Tribe began transplanting hatchery-reared coho above the Elwha Dam, which marked the first time that salmon had been in that part of the river between the dams since 1913. As of

November 1st, 170 salmon had been released, with 600 total coho expected to be transplanted. Tribal biologists have since reported on numerous salmon redds located in that section of the river.

The Elwha Klallam Tribe continues operating a captive broodstock program for steelhead with funding from the Northwest Indian Fish Commission. However, funding for program operations must be gained each year.

In late 2011, four environmental groups-The Wild Fish Conservancy, The Conservation Angler, the Federation of Fly Fishers Steelhead Committee, and the Wild Steelhead Coalition, filed a lawsuit in federal court against Olympic National Park, NOAA Fisheries Service, the U.S. Fish and Wildlife Service, and representatives of the Lower Elwha Klallam Tribe seeking to block stocking the Elwha River with non-native, hatchery-raised salmon as part of the Elwha dam-removal project.

The Tribe agreed to not release any non-native steelhead into the Elwha River in 2012.

There was a proposal brought by WDFW in our 2011 SRFB grant round to use local hatcheries to raise pink salmon for return to the Elwha following dam removal. PSAR monies can be used to fund such projects. There was some additional work and coordination needed following project site visits, but the sponsor withdrew the project. NOAA Fisheries, working together with the Elwha Klallam Tribe, is now raising hatchery pink salmon to help recolonize the Elwha.

The Elwha Klallam Tribe continues operating a captive broodstock program for steelhead with funding from the Northwest Indian Fish Commission. However, funding for program operations must be gained each year.

Straits-WRIA 19: According to the WRIA 19 draft recovery plan, WRIA 19 watersheds have generally not been extensively outplanted with hatchery Chinook salmon since the early 1980s. As was reported last year, budget cuts and other recommendations resulted in the suspension of Chambers Creek Steelhead smolt releases in the Lyre River and potentially elsewhere. This is expected to allow for increased restoration opportunities in this area.

SEQUENCE & TIMING:

5. What are the top implementation priorities in your Recovery Plans in terms of specific actions or themes and suites of actions?

Dungeness- Habitat: Restoration of the lower river floodplain and delta is the first major Restoration Priority of the Dungeness Chapter of the Puget Sound Chinook Recovery Plan. The second goal is Floodplain Restoration/Constriction Abatement to alleviate channel constrictions.

The third goal is protection of existing functional habitat within the watershed. The fourth goal involves water conservation, instream flows and water quality improvement/protection to improve summer low flows and alleviate water quality concerns.

Elwha- Habitat: The first goal is to Restore Access to Upper Watershed, which is being implemented by the ongoing removal of the Elwha and Glines dams. This is the largest dam removal project ever within the United States and it is the second largest ecosystem recovery effort within the United States, with the first being recovery and restoration of the Everglades. The second Elwha habitat recovery goal is to protect existing, functional habitat. The third goal is to restore the floodplain, of which the ongoing construction of engineered log jams is a part and removal of dams and the resulting reservoirs will also help in this area.

The fourth goal is to Protect & Restore Estuary and Nearshore Environments. Much of that work is expected to follow dam removal, once the sediment has settled and biological processes and function can resume unimpacted.

Straits-WRIA 19: The Draft Salmon Recovery Plan details goals in the following areas for its numerous watersheds: Estuary & Nearshore, Habitat Connectivity, Biological Processes, Hydrologic Processes, Sediment Processes, Riparian & Floodplain, Habitat & LWD, and Water Quality Conditions.

The Western Straits Conservation Plan prioritizes parcels in WRIA 19 which have the highest quality salmon habitat for conservation. Conservation of these parcels will further WRIA 19 Salmon Recovery goals.

6. How are these top priorities being sequenced in the next three years?

Please refer to our prioritized project list and also detailed information above in the habitat restoration section.

In 2010, in order to encourage funding proposals for high priority projects and work strategically, the Lead Entity drew a line on its prioritized work plan, and all projects that were below that line were ineligible to apply for Salmon Recovery Funding Board or Puget Sound Restoration & Acquisition funding in that year's grant round. It was another step towards being more strategic. However, the line was drawn quite low, something like project 68 out of 80 some projects.

With the 2011 workplan, we took another step forward in that the Lead Entity decided that the cut-off line would be drawn blind, meaning, it would be decided upon based on data clustering, without anyone knowing what projects fell where on the prioritized workplan. This is a more objective way of making this decision. In addition, the Lead Entity also agreed to draw the line much higher on the list, thereby emphasizing the importance of proposing high priority projects. In the 2011 grant round, four of the projects proposed for SRFB and PSAR grant funding are in the top 10 projects, another two are in the top 20 projects, with the two remaining in the top 25-30 projects, out of 64 overall.

We have utilized the same practice with the 2012 workplan. Of the 82 projects on our workplan, the five remaining projects applying for funding in the 2012 SRFB Grant Round, all are ranked 34 and above, with ranks of 34, 30, 17, 12 and 8. Work is underway in one phase or another in many of the top 10 ranked projects. However, the lead entity will be looking to continue working with sponsors to drive their efforts towards high ranking projects.

Dungeness: Work continues on planning, acquisition and exploration of possible design alternatives and management issues related to the Dungeness Dike Setback. Officially known as the Dungeness River Floodplain Restoration, this is the first goal of the Dungeness Chapter of the Chinook Recovery Plan which includes restoration of the lower river floodplain and delta to increase the quantity of essential rearing and salt to freshwater transition habitat.

The second Dungeness Recovery Goal is to alleviate channel constrictions, thereby increasing corresponding channel meanders and reducing gradient, velocities, scour and bank erosion. Design of this channel remeander in the lower river is currently underway.

The third goal relates to protection of existing, functional habitat is being implemented via the protection actions described earlier in the Habitat Protection Section.

Work continues on a fourth goal relating to water conservation, instream flows and water quality concerns in spite of a one year suspension of rulemaking in regards to instream flows. After meeting for years after the watershed plan was approved in 2005 and being unable to reach an agreement, local leaders in the eastern part of Watershed Resource Inventory Area 18 (Sequim-Dungeness) have committed to try and come up with a local solution to several key instream flow issues holding up completion of the east WRIA 18 instream flow rule. They managed to do that and the proposed instream flow rule for the east end of the county was released for comment earlier this month.

Elwha: In preparation for dam removal, another two phases of log jam construction are anticipated. This project was the top-ranked project for funding in the 2010 grant round. The Lower Elwha Klallam Tribe has a request in for another phase for funding in the 2011 grant round. These projects are ranked fourth overall in the North Olympic Peninsula Lead Entity for Salmon's 2011 Workplan

Phased removal of two large dams on the Elwha River will begin starting in the fall of 2011 and continue for the next few years. Because of the large expanse of land which is being uncovered where the reservoirs previously existed behind the dams, there are hundreds of acres which will require replanting. This work is underway now and will continue for the next few years. However, there is only about half the funding available which is needed for this large-scale effort. A grant for additional funding to further support revegetation efforts is currently proposed in the N.Olympic Lead Entity's 2011 grant round. This work is the top-ranked priority project in the 2011 Workplan. However, additional phases and funding will be needed beyond this grant round.

Straits-WRIA 19: Proposed for funding in the 2012 grant round is the Pysht River Salt Marsh Estuary Restoration which is a high priority in WRIA 19 and comes in 8th overall on the Lead Entity's 2012

three-year workplan. An engineering feasibility study which outlined possible restoration scenarios has been completed. This is one of the largest salt marsh complexes on the Strait of Juan de Fuca and the largest in the Western Strait. Pysht River Floodbank Acquisition and Restoration is ranked 23, with the Nearshore Restoration of the Twin Rivers ranked 30 and proposed in 2012. Hoko 9000 Road Abandonment at 31 is a project for which funding is anticipated in the near future.

7. What do you need to be more successful in implementing these Priorities?

We need to quicken the pace of quality habitat improvement and restoration work if freshwater Chinook production is to increase and we need increased funding for restoration efforts to do that. The Puget Sound Acquisition and Restoration state funding more than doubled available project monies and has enabled us to make significant strides in habitat restoration and protection. However, that funding was cut 50% in the 2011 budget due to the recession.

We need to see increased use of protection measures, and we need to get serious about enforcement of land use regulations to prevent further degradation.

Current funding levels need to be raised in order to help make this happen. As it is, we are still attempting to do large-scale, public works types of restoration actions with project and staffing funding which is miniscule in comparison. Our just under one million dollars for salmon restoration habitat improvements this year across the North Olympic Peninsula pales in comparison with the anticipated \$97 million cost to replace the McDonald Creek bridge and increase the size of Highway 101.

In addition, there are still VERY significant issues resulting from the lack of communication and integration among those working on the various fish factors: habitat, harvest, hatchery and hydro. Many of these problems could be curtailed with strong leadership and directives from state and federal leaders and funders resulting in true collaboration, communication and coordination. Most of these fixes would also not require additional funding. For example, as a condition of receiving lead entity funding, it would be required to have habitat, harvest and hatchery representatives participating in the process. WDFW and other involved agencies would have to require that staff of those various areas participate in lead entity processes. This should result in more partnering, information sharing, and collective problem solving which would further restoration and recovery efforts.

We also need to get serious about increasing monitoring and adaptive management to know the results of restoration and recovery efforts, and to be able to make changes as a result of that knowledge. There is a lack of funding for monitoring and data collection which is needed to do that.

Next Big Challenges:

8. Have there been any Significant changes in the strategy or approach for salmon recovery in your watershed? If so, how and why?

There were just a few very minor updates to our strategy during our fall 2010 retreat when we conducted our three-year review of the Lead Entity's goals and objectives, as well as reviewing the criteria and weighting used to prioritize projects. During the criteria review, some of the wording was refined and two new criteria were added for capital projects while three new criteria were added for non-capital projects. Then the Technical Team re-weighted all the criteria. The criteria indicate what elements of a project are considered when ranking a project, while the weights indicate the criteria's relative importance.

As a result of this work, there was a change in weight given to the watershed priority for capital projects. Prior to this retreat, the weight given to watershed priority was 3.40. After the North Olympic Lead Entity's Technical Team rescoring weights for all existing and new criteria, the watershed weight was 2.88, a drop of 15%. But the values for the weights on all the other criteria changed too, some even more so. The biggest increase came in the criteria weighting for ecosystem restoration, which increased 36%.

A Sensitivity Analysis of the potential influence of the changes in weight given to the watershed priority showed that the normalized scores for hypothetical projects showed little difference in outcomes when comparing the 2008 weighting criteria with the 2011 weighting criteria. Just as a previous sensitivity analysis showed, a poor project in a high priority watershed will not outscore strong projects in any watershed. For more information, see the Sensitivity Analysis which is included as an attachment with this 2011 Work Plan.

In terms of implementing salmon recovery, it is important to emphasize we have really just begun to start work on the high priorities outlined in existing recovery plans as a result of the 2007 Puget Sound Acquisition and Restoration dollars, followed by stimulus funds in 2009 which jump started progress on dam removal. We are trying to make slow yet steady and strategic progress on this work with the limited funds available. And dam removal is occurring because it was authorized by a Congressional Act in 1992, with federal funding then set-aside each year via the National Park Service budget, with the stimulus funding provided the additional funding needed to begin dam removal. Those federal dollars have spurred this large scale ecosystem restoration which is second in size only to efforts to restore the Everglades. Again, the implementation of these large-scale ecosystem restoration strategies has only just begun.

9. What is the status or trends of habitat and salmon populations in your watershed?

Stock status and trends were updated in 2008 and we still need to convene a group to again review this information and provide updates where needed.

10. Are there any New Challenges associated with Implementing Salmon Recovery Actions that need additional support? If so, what are they?

Support is needed around the need for the in-stream flow rule and also proposed shoreline master plan updates. Certainly the current economic climate raises concern about our ability to keep progressing local, on-the-ground salmon recovery efforts.

There is also concern about possible “salmon fatigue” and the level of public support and knowledge about what the issues are and about the time it will take to heal damaged ecosystems, the complexities of multi-year salmon lifecycles, the many miles and issues facing salmon as they journey out to sea, undertake significant migrations in waterways of different states and countries and knowledge that improvements in one area might still require changes in another, etc.

2012 Three-Year Work Plan Matrix for the North Olympic Peninsula Lead Entity for Salmon

Project Planning												Project Cost and Sponsor											
No.	Project Type	Plan Category	Project Name	Project Description (brief description)	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary river delta, Nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2012 Activity to be funded	2012 Estimated Cost	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
Capital Projects																							
Habitat																							
12096	Acquisition for Protection	Capital	Acquisition of Priorities identified in the "Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan"	Conserve the highest priority parcels identified in The Western Strait of Juan de Fuca (WSJF) Habitat Conservation Plan (Draft)	Floodplain development and alterations; Loss of large woody debris; Estuary and nearshore alterations; Degraded water quality and high stream temperatures	Puget Sound Recovery Plan – Habitat: Protect Existing Physical Habitat & Habitat Forming Processes; Puget Sound Partnership – Protect Habitat; Salmonid and Steelhead Habitat Limiting Factors in the Western Strait of Juan De Fuca – protect channel migration zone and conifer riparian areas; NOPL Recovery Strategy 2008 - implement salmon recovery plans to protect fish habitat & maintain ecosystem function; WRIA 19 Salmonid Restoration Plan- Draft - Protect habitat	Riparian Habitat	Acquisition	Protect the highest priority parcels in WRIA 19	Chinook	coho, and chum salmon, and steelhead and coastal cutthroat trout	design completed	Acquisition									donated land value	PSAR or SRFB
09005	Restoration	Capital	Sekiu Mainstem (RM 2-5) LWD Restoration	The placement of LWD in the Sekiu River	Channel Structure and Complexity, High Water Temperatures, Riparian Areas & LWD Recruitment	Water Resource Inventory Area 19 (Lyre-Hoko) Salmonid Restoration Plan (draft dated April 20, 2008)	Instream Riparian	Instream work	12 LWD jams in a 3 mile reach	Chinook	Chum, Coho, Steelhead & Cutthroat	Conceptual		Permitting & design	\$25,000	Construction	\$375,000	2012	Makah	\$400,000	\$50,000	SRFB	

No.	Project Type	Plan Category	Project Name	Project Description (brief description)	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary river delta, Nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2012 Activity to be funded	2012 Estimated Cost	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
09006	Restoration	Capital	Sekiu, Clallam, Pysht Riparian Revegetation	Restore the riparian zone along the rivers to improve water quality and restore CMZ habitat and function.	Channel structure and complexity, Excessive Sediment, and Water Quality	WRIA 19 LFA (chapter on the Pysht and the Clallam reference the lack of LWD), and the Water Resource Inventory Area 19 (Lyre-Hoko) Salmonid Restoration Plan (draft dated April 20, 2008)	Riparian revegetation	Stream bank work & sediment reduction	Replant trees	Chinook	Chum, Coho, Steelhead & Cutthroat	Conceptual			Design & planting	\$130,000	Design & planting	\$125,000	2012	Makah, LEKT, & NOSC	\$255,000	\$10,000	SRFB
11082	Restoration	capital	Hoko 9000 Road Barrier Culvert	Replace existing culvert with 130' bridge	restore historic access to ~3 miles of habitat	Hoko Watershed Analysis Appendices E & F	in stream/floodplain	fish passage	restore access to ~3 miles of habitat	coho	chinook, chum, steelhead	Preliminary design	350,000-450,000					2014	LEKT/ Rayonier	350,000-450,000	50%		
11083	Restoration	capital	Hoko 9000 Road Abandonment	Remove sidecast, stream crossings and restore drainage patterns	Reduce landslide rate and sedimentation. Improve riparian and in channel habitats	Hoko Watershed Analysis Appendices E & F	in stream/floodplain	sediment reduction/riparian/in channel	remove sidecast and stream crossings at 36 locations	coho	chinook, chum, steelhead	Preliminary design			225,000-350,000			2014	LEKT/ Rayonier	225,000-350,000	50%		
09001.1	Restoration	capital	Little Hoko LWD Project	Add 200 key pieces of LWD using heavy lift helicopter	improve floodplain processes/spawning and rearing habitat	Hoko Watershed Analysis Appendices E & F	floodplain	in channel habitat conditions	200 key pieces (100/mile)	coho	chinook, chum, steelhead	Conceptual				250,000-350,000		2014	LEKT	250,000-350,000	15%		
09002	Restoration	Capital	Hoko River-Emerson Flats LWD Supplement ation	This project will restore spawning and rearing habitat in the Hoko Mainstem	Severe Lack of Large Woody Debris (LWD)	Hoko River Fit To Strategy on www.Noplegroup.org, and Hoko Watershed Analysis Riparian Function from WDNR	Riparian	Riparian/Instream Habitat Project / Habitat Complexity	Add LWD to the Hoko Mainstem	Chinook	Coho, chum, steelhead and cutthroat	Conceptual	LWD Purchase and ELU Installation	\$400,000	LWD Purchase and ELU Installation	\$300,000		2011	Makah	\$700,000	\$105,000	unknown	
09003	Restoration	Capital	Lower Hoko River - Riparian Revegetation	This project will restore the riparian zone along the Hoko Mainstem, RM 1-7, known Fall Chinook habitat.	Degraded water quality and high stream temperature, and Degraded riparian conditions	WRIA 19 (Lyre-Hoko) Salmonid Restoration Plan, draft dated April 20, 2008, Chapter 5	Riparian revegetation	Riparian Habitat / Riparian Revegetation	Revegetate the Hoko Mainstem (RM 1-7)	Hoko Fall Chinook	Coho, chum, steelhead and cutthroat	Conceptual	order trees; identify areas	\$5,000	plant trees	\$250,000			2011	NOSC & Makah	\$255,000	\$38,250	unknown

No.	Project Type	Plan Category	Project Name	Project Description (brief description)	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary river delta, Nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2012 Activity to be funded	2012 Estimated Cost	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated Cost	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
09004	Restoration	Capital	Hoko River/ Hermans Creek - Instream LWD Supplement ation	The placement of LWD to Herman Ck along with LWD placement within the month as it enters Hoko.	Loss of Tributary Habitat Diversity Riparian Areas & LWD Recruitment Stream Substrate	WRIA 19 LFA (chapter on the Hoko references the lack of LWD), and the Water Resource Inventory Area 19 (Lyre-Hoko) Salmonid Restoration Plan (draft dated April 20, 2008)	Instream Riparian	Instream work	9 LWD jams placed within 2,500 meter of stream	Chinook	Coho, Steelhead & Cutthroat	Conceptual		Permitting & design	\$25,000	Construction	\$225,000	2012	Makah	\$250,000	\$60,000	SRFB	
11084	Restoration	capital	Bear and Cub Creek LWD project	Add 150 key pieces of LWD using heavy lift helicopter	improve floodplain processes/spawning and rearing habitat	Hoko Watershed Analysis Appendices E & F	floodplain	in channel habitat conditions	150 key pieces (75/mile)	coho	chinook, chum, steelhead	Conceptual				100,000-155,000		2014	LEKT/ Rayonier	100,000-155,000	15%		
12097	Restoration	Capital	Clallam River Barrier Removal	Removal of two 24" perched culverts and replacement with a bridge on a tributary to the Clallam River. The project will allow fish access to a nearly 16 acre wetland and restore hydrologic connectivity between the wetland, the tributary and the Clallam River.	Barriers to fish passage" and "Poor off-stream rearing and overwintering habitat"	2008 NOPL Strategy	Instream	fish passage	restore access to 16 acre forested wetland	coho	steelhead	Feasibility complete	Project survey, data collection, design, permitting	5000	Bridge construction	\$35,000	\$125,000		2015	NOSC	\$130,000	Volunteers, RFEG program, foundation	SRFB
11085 (09007.1)	Restoration	capital	Pysht River LWD Project	Add LWD to 12.5 miles of SF Pysht and Pysht River	improve floodplain processes/spawning and rearing habitat	WRIA 19 Limiting Factors Analysis; WRTIA 19 recovery Plan	in stream/floodplain	in channel habitat conditions	Restore habitat in 12.5 miles of mainstem Pysht River and SF Pysht River	coho	chinook, chum, steelhead	Conceptual								LEKT/Merrill and Ring	~350,000/project reach	15%	

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09086 (Project #s 8 & 81 combined)	Acquisition for Restoration	Capital	Pysht Floodplain Acquisition & Restoration	Acquisition and Removal of infrastructure within 21.59 acres of active floodplain and channel migration zone of the Pysht river.	Habitat complexity, floodplain connectivity, LWD, riparian vegetation; alteration of subsurface pathways	WRIA 19 LFA Section E page 43.	Riparian	Sediment reduction, floodplain connectivity, riparian revegetation	Protect and rehabilitate 21.59 acres of floodplain.	Chinook	Fall chum, Cutthroat, Winter steelhead, & Coho		Acquisition	\$125,000	Infrastructure removal	\$55,000			2010	Makah, LEKT, NOLT	\$180,000	\$27,000	SRFB
09009.1	Restoration	Capital	Pysht River Salt Marsh Estuary Restoration	Remove dredge deposits from 20.5 acres of historic saltmarsh habitat	Restore salt marsh and associated tidal channels which provide critical habitat for rearing	Pysht Floodplain Assessment (Haggerty et al 2006); SJF Historical Nearshore Assessment (Todd et al 2006); Pysht Estuary Engineering Feasibility Assessment (McCullough et al. 2010)	estuary	salt marsh restoration	remove suction dredge deposits on historic salt marsh habitats and reestablish tidal channel network	chum	chinook, coho	30% Design						2014	LEKT/Merrill and Ring/Cascade Conservancy	\$4,000,000	15%		
09010	Restoration	Capital	IMW Restoration Treatments	Complete LWD Restoration in portions of IMW Watersheds (Sadie Creek, East Twin)	LWD, Side Channel, riparian	IMW Study Plan, WRIA 19 Recovery Plan, WRIA LFA	Riparian/Floodplain	Instream Habitats, Riparian	Add LWD in form of large key pieces to previously untreated/under treated reaches	Coho	steelhead, chum	Conceptual	Permits and Engineering	\$50,000	Construction	\$250,000	Construction	\$250,000	2012	LEKT	\$550,000	\$50,000	SRFB
09011	Restoration	Capital	Nearshore Restoration Strategy for Twin Rivers	The proposal consists of removing rock & sheet pile surrounding a 3 acre pier (also called a 'mole') located entirely on state owned Department of Natural Resources (WDNR) leased tidelands, and cutting a channel along the base of the pier.	WRIA 19 LFA, Smith 1999	Recovery plan, Hood Canal/Eastern Strait of Juan de Fuca Summer Chum	Nearshore	Nearshore Action Plan	Removal of 2.4 acre pier (62,600 cy of fill), steel & creosote treated piles along with about 13,000 cy of rip rap.	Chinook	Coho, bulltrout, chum, cutthroat, steelhead	Conceptual	Permits & Engineering	\$50,000	Construction	\$480,000		2011	CWJ, WDFW, WDNR & LEKT	\$520,000	\$78,000	SRFB	

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10080	Acquisition for Protection	Capital	Lyre River Protection	Protect habitat connectivity from old growth forest to the marine shoreline within the Lyre River corridor RM 0.0 to RM 2.0 through conservation easement and fee simple acquisition.	Channel Structure and Complexity; and Riparian Areas & LWD Recruitment	WRIA 19 (Hoko-Lyre) Watershed Plan Draft (throughout the plan), and Draft WRIA 19 Salmonid Restoration Plan (Section 8.3.1)	Riparian, estuary, and nearshore	Land Protection	Conservation easement and fee simple acquisition on X acres	Coho	Chum, Cutthroat, and Steelhead	Feasibility Pending	Outreach and Appraisals		Acquisition		Acquisition	\$2,500,000	2013	NOLT and WDFW	\$5,000,000	\$750,000	Donated conservation easement value: WWRP, SRFB, PSAR, PSNERP
09012	Restoration	Capital	Nelson Creek Fish Passage Barrier Removal Project	Restore 1 stream-mile of Nelson Creek to fish passage by replacing 2 fish passage barrier culverts with fish friendly culverts	Barriers to fish passage	WRIA 19 Salmonid Restoration Plan, Habitat Protection Goal 5; WRIA 19 LFA	Riparian	Fish Passage	Restore 1 stream mile of Nelson Creek on two separate stream stems to fish passage	Coho	Steelhead, Chum, Cutthroat	Conceptual design		Permitting and design	\$30,000	Construction	\$320,000	2012	CC & WDNR	\$350,000	\$30,000	SRFB	
09013	Acquisition for Protection	Capital	Salt Creek Habitat Protection	Protect the best existing habitat on Salt Creek's freshwater and marine shorelines and estuary through conservation easement and fee simple acquisition.	High Development Potential / Conversion, Lack of in-river large woody debris, Barriers to fish passage, Riparian area degradation, Impaired instream flows.	Salt Creek Watershed: An Assessment of Habitat Conditions, Fish Populations and Opportunities for Restoration, by Mike McHenry, Randall McCoy and Mike Haggerty	Riparian, Estuary, Nearshore	Instream Habitats, Riparian	200+acres protected	Salt Creek Coho	Salt Creek Winter Steelhead, Mid-Strait Cutthroat Trout, Chinook, & Chum	Conceptual	Outreach and Appraisals	\$30,000	Acquisition	\$4,000,000	Acquisition	\$2,000,000	2012	NOLT	\$6,030,000	\$500,000	unknown

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09014	Restoration	Capital	Salt Creek Salt Marsh Re-connection	Restore hydrologic connectivity to area behind dike road	Barrier to fish passage, estuarine loss	Salt Creek Watershed: An Assessment of Habitat Conditions, Fish Populations and Opportunities for Restoration, by Mike McHenry, Randall McCoy and Mike Haggerty	Nearshore	Fish Passage	Open up over 20 acres of estuarine habitat	Salt Creek Coho	winter steelhead, Mid-Strait cutthroat trout, chinook, chum	Initial feasibility complete			350,000	Construction	1,500,000	2015	NOSC	\$1,850,000	as needed	SRFB, PSAR and other	
96	Restoration	Capital	Salt Creek LWD		improve floodplain processes/spawning and rearing habitat		instream/floodplain	in channel habitat conditions		Salt Creek Coho	winter steelhead, Mid-Strait cutthroat trout, chinook, chum								LEKT	\$400,000		SRFB	
09015	Restoration	Capital	Salt Creek Final Fish Passage Corrections Project	Removal of about 13 barrier pipes in Salt Creek	Barriers to fish passage, WRIA 19 LFA	Salt Creek Watershed: An Assessment of Habitat Conditions, Fish Populations and Opportunities for Restoration, by Mike McHenry, Randall McCoy and Mike Haggerty	Instream	Fish Passage	Remove 13 barriers	Salt Creek Coho	Salt Creek Winter Steelhead, Mid-Strait Cutthroat Trout, Chinook, & Chum	Conceptual			\$200,000	Construction	\$3,000,000	2012	LEKT, CCD & CC	\$3,200,000	\$480,000	SRFB	
09016.1	Restoration	capital	Elwha ELJ Project	Install 10 new ELJ's	improve floodplain processes/spawning and rearing habitat	Elwha Fisheries Restoration Plan (Ward et al. 2008)	in stream/floodplain	in channel habitat conditions	Install 10 new ELJ's	all species	all species	Preliminary design				850,000			LEKT	\$850,000	15%		

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11087	Restoration	capital	Elwha Re-vegetation Project	Control Exotic Plants and conduct revegetation	Improve/accelerate recovery of riparian/floodplain forest in drained reservoir areas	Elwha Revegetation Plan/Elwha Fisheries Restoration Plan (Ward et al. 2008)	floodplain/riparian/uplands	floodplain revegetation	Control exotic plants and conduct revegetation at Elwha project area	all species	all species	Implementation						2014	LEKT/ONP	150,000-250,000	50%		
12100	Future Habitat Project Development	Restoration Assessment	Elwha Estuary Restoration Engineering Assessment	Complete engineering design on restoration concepts (90%)	Degraded estuary and nearshore conditions	Elwha Fish Recovery Plan	Estuary/Nearshore	Restoration Assessment	Restore Habitat Forming Processes in ~80 acres	chinook	chum, pink	Conceptual Study Completed, propose 90% design	90% Design	\$250,000				2014	LEKT	\$250,000			
09018	Restoration	Capital	Elwha River Estuary Restoration							Chinook	Chum, Pink												
09019	Restoration	Capital	Elwha Culvert Replacement	Project will restore Bull trout and anadromous salmonid refugia in the Elwha Watershed	Barriers to fish passage, WRIA 19 LFA	Elwha Fish Recovery Plan, chapter 8	Instream	Fish Passage	Open up 3/4 miles of habitat	Bull Trout	Cutthroat, Puget Sound Steelhead	30% Design & Permitting	Bidding	\$100,000	Construction	\$400,000		2010	ONP & LEKT	\$500,000	\$75,000	SRFB	

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11088	Restoration	capital	Ennis Creek Barrier Culvert	Replace existing culvert with 130' bridge	Improve fish passage conditions for 5+ miles of upstream habitat	Ennis Creek Conceptual Plan (Shreffler et al. 2010)	in stream/floodplain	fish passage	improve access to ~5 miles of habitat	coho	steelhead	Conceptual/Preliminary Design				250,000-400,000		2014	LEKT/City of Port Angeles	250,000-400,000	15%		
09020	Restoration	Capital	Ennis Creek Habitat Restoration & Protection	Continuation of prior restoration including addition of LWD and boulder placement; and augment existing wetland and riparian tree planting.	Loss of Habitat, Riparian Areas & LWD Recruitment, and Water Quality	WRIA 18 Watershed Plan and LFA	Riparian, Upland, Wetland	Riparian, Upland, and Wetland Habitat project	Restore and protect Ennis Creek's relatively pristine salmonid habitat	Bull Trout	Coho, Cutthroat, and Winter Steelhead	Conceptual		LWD and boulder purchase and placement	\$75,000	order trees, identify areas, and plant trees in the existing wetland and riparian area	\$75,000	2012	WFC, LEKT & NOLT	\$150,000	\$20,000	PA Mitigation and other	
09021	Restoration	Capital	Valley Creek Restoration	Remove 500 feet of existing culvert between 5th Street and 6th Street, remainder 1900 feet of new stream channel and floodplain between 5th Street and 9th Street, remove 4 sections of 84" pipe and replace with 4 concrete fishways. The design part of this project has been funded.	Culverts, confined/incised channel, lack of LWD, plane-bed structure, narrow riparian zone, non-native invasive weeds, urban stormwater impacts.	Recovery Plan, Chapter 3; 1999 Habitat Limiting Factors WRIA 18	Riparian	Instream, Riparian	Restore Valley Creek and remove fish passage barriers by constructing 1900 feet of new stream channel and floodplain, remove 500 feet of culvert, and removing 4 sections of 84" pipe and replacing those with 4 concrete fishways.	Coho	Winter Steelhead, cutthroat	30% design completed; Land acquisition completed	Permitting & design completion	\$100,000	Construction: Construct 1900 feet of new stream channel and floodplain, remove 500 feet of culvert	\$976,900	Construction: Remove 4 sections of 84" pipe and replace with 4 concrete fishways	\$477,200	2012	VCRC, COPA	\$1,554,100	\$135,000	unknown

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09023	Restoration	Capital	Ediz Hook Beach Nourishment	This project will restore & maintain the inner spit on Ediz Hook	Degraded Nearshore and estuarine conditions and loss of associated habitat	Executive Summary: Nearshore function of the central Strait of Juan de Fuca for juvenile fish, including Puget Sound Chinook salmon, Chapter 1; and SALMON AND STEELHEAD HABITAT LIMITING FACTORS WATER RESOURCE INVENTORY AREA 18, the Chapter on MARINE HABITAT LIMITING FACTORS.	Nearshore	Marine Shoreline Project	Restore shoreline morphology and estuarine conditions	Forage fish	pink, chum,	Conceptual		design and permitting	\$100,000	Construction	\$375,000	2012	City of PA, Port of PA, WDNR & LEKT	\$475,000	\$71,250	SRFB, PSAR	
09024	Acquisition for Restoration	Capital	Port Angeles Waterfront Property Acquisition	Acquire a 2 acre waterfront property at Oak Street for public beach/estuary restoration	Habitat Loss degraded Nearshore and estuarine conditions.	Port Angeles Shoreline Rehabilitation Plan p.2 , From Salmon and Steelhead Limiting Factors, WRIA 18 p. 147	Nearshore/ Marine Shoreline	Nearshore Restoration & fish passage	2 acres urban waterfront and estuary protected for restoration	Chinook	Coho and winter steelhead	Conceptual		Purchase	\$2,500,000			2012	NOLT, COPA, LEKT & VCRC	\$2,500,000	\$500,000	unknown	
09025	Restoration	Capital	Morse Creek Remeander	Reconnect Morse Creek with its historic floodplain to restore habitat complexity and stability.	Riparian, floodplain, spawning and rearing habitat	WRIA 18 LFA p 5&6	Instream, Riparian	Habitat complexity, flow reduction, floodplain re-connection	Restore 9 acres of floodplain and 1,700' of creek channel, underplanting 9 acres with conifers	Steelhead	Sea-run cutthroat trout, Pink, chum, Bull Trout	Design approaching 100% late 2009, permitting docs under development, majority construction funds secured	Construction	Revegetation (underplanting deciduous forest with conifer)	\$1,275,000	\$15,000		2011	NOSC	\$1,300,000	\$200,000	SRFB	

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09026	Acquisition for Restoration	Capital	Morse Creek Property Acquisition	Acquire 2 lots in Morse Creek floodplain.	Riparian, floodplain, spawning and rearing habitat	WRIA 18 LFA p 5&6	Instream, Riparian	Habitat complexity, flow reduction, floodplain re-connection	Acquisition of two parcels on Cottonwood Lane along Morse Creek	Steelhead	Sea-run cutthroat trout, Pink chum, Bull Trout	One landowner contacted and consent given to do an appraisal. No further action until funds acquired. Second landowner not contacted yet			Landowner contact, property appraisals, legal fees, property purchase	\$950,000	property purchase if not completed in 2011		2012	WDFW	\$950,000	\$142,500	SRFB
10079.1	Restoration	Capital	Lower Morse Creek Feasibility Study	Enhance habitat in lower Morse Creek	Instream habitat, LWD, pools, riparian, floodplain	WRIA 18 LFA,	Instream & Estuary	Instream Habitat, riparian habitat, nearshore	Improve habitat conditions in 1 mile of lower Morse Creek	steelhead, coho	pink, chum, bull trout, chinook, cutthroat trout	New project		Studies needed for design & permitting, alternatives analysis, design selection and development	200,000	Construction/Planting	300,000		NOSC	500,000	as needed	SRFB, PSAR and other	
09027.1	Acquisition for Protection	Capital	Siebert Creek Ecosystem Protection	The goal of Phase III and IV is to conserve additional land along Siebert Creek by: (1) Conserving 200-acre property that contains the longest continuous reach of targeted riparian buffer. (2) Protection of another 1/3rd of a mile of the Creek, south of the existing protection accomplishments.	Degraded channel condition in some reaches	Siebert Creek Watershed Assessment, p. 6	Riparian, Marine bluff	Protection of intact ecosystem functions	40 acres of marine bluff protected, 245 acres of riparian buffer protected.	Coho	fall chum, winter steelhead, cutthroat	Feasibility completed	Purchase of 200 acre property	2M	Riparian conservation easements	\$765,000	marine bluff conservation easements	\$580,000	2012	North Olympic Land Trust	3445000	1000000	Clallam County

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09028.1	Restoration	Capital	Siebert Creek Hwy 101 Fish Passage Restoration	The Hwy 101 box culvert at river mile 2.4 is a serious, partial barrier to 1) upstream fish passage and 2) the downstream transport of large wood. Fish passage and large wood transport will be restored by removing the culvert and replacing it with full-spanning bridge.	Siebert Creek's anadromous length is approximately 10 miles, but fish passage is severely impaired at river mile 2.4 by the Hwy 101 box culvert. The culvert is equipped with a sub-standard fishway that provides, at best, partial fish passage. The culvert is too small to accommodate an efficient fishway, and the large amount of bedload transported by Siebert Creek makes fishway maintenance very problematic. The project will remove the box culvert and replace it with a bridge to restore unimpeded fish passage to prime spawning and rearing habitat upstream for Puget Sound steelhead, coho, and coastal cutthroat. Due to its small size, the culvert also hinders the downstream transport of large wood, thereby depriving the lower 2.4 miles of Siebert Creek of this important habitat-forming material.	The Siebert Watershed Analysis calls for replacement of the culvert with a bridge (2004, Siebert Technical Advisory Group). WRIA 18 Watershed Report: Correct fish passage problems at Highway 101 by replacing the existing culvert crossing with a bridge, as recommended by WDFW.	Riparian	Fish passage	Opens approximately 75% (7.6 miles) of the stream's anadromous habitat to unimpaired accessibility for steelhead, coho, and cutthroat. The project will also produce habitat benefits to the lower 2.4 miles of Siebert Creek by restoring the downstream transport of large wood.	Puget Sound steelhead, coho	Cutthroat								JS:KT - design project: conceptual bridge and site design to 10% engineering. WSDOT - final design, culvert removal, bridge construction.	\$12 to \$15 million		10% design - SRF, PSAR, full design & construction - WSDOT	

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11090	Restoration	Capital	Siebert Creek Large Wood Restoration	Build design and build logjams (DBL) from RM 0 to 2.4	Develop and implement short-term LWD strategy in lower Siebert Creek to restore LWD and pools from the mouth to HWY 101	WRIA 18 LFA pg 3.12-7	instream and riparian	Large wood recovery	Build roughly 30 logjams per mile to recover salmonid habitat	ESA winter steelhead, coho	Sea-run cutthroat trout and resident trout	Conceptual	Phase I logjam construction	\$50-100K	Phase II logjam construction	\$50-100K	Phase II logjam construction	\$50-100K	2015	JSKT/LEKT	\$300,000	DNR wood donations/match	SRFB, CSF
10078.1	Restoration	Capital	McDonald Creek Large Wood Restoration	Build design and build logjams (DBL) from RM 0 to 4.9, the entire anadromous reach of the creek.	LWD, monitor upper watershed forest condition and landslide hazard on USFS land, reduce Dungeness R water influence.	WRIA 18 LFA pg 124.	Instream and riparian	large wood recovery	Build roughly 30 logjams per mile to recovery salmonid habitat	ESA winter steelhead, coho	Sea-run cutthroat, resident trout, potential fall chum reintroduction?	Phase I completed, Phase II funded and in design/permitting with construction in 2011. Phase III in project conceptualization.	Phase II logjam construction	funded	Phase III logjam construction	\$50-100K	Phase IV logjam construction	\$50-100K	2020	JKT	\$750k-\$1 million		SRFB, PSAR, CSF
09039.1	Restoration	Capital	McDonald Creek channel rehabilitation, diversion dam removal, and ditch relocation (replaces project 39)	Phase I construct a rock ramp fishway to provide fish passage above the diversion dam. Phase II is to remove the potential for straying by piping Agnew ditch and discontinuing using McDonald Creek as part of the Agnew ditch system	fish passage, homing	NOPLE 2011 draft Strategy Table D., restore habitat. WRIA 18 LFA eliminate influence of Dungeness river water on McDonald Creek	fish passage migration	channel construction dam removal	restore fish passage, remove obstructions, recover floodplain	Puget sound steelhead	coho sea-run cutthroat	design and permitting		Construct project when Hwy 101 bridge is constructed	\$150,000				2013	Jamestown S'Klallam Tribe, WDFW, WSDOT, Agnew Ditch Co.	\$2 million		SRFB, PSAR, WSDOT

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09029.1	Restoration	Capital	Dungeness River Large Wood Restoration (formerly project 29, Dung R EL)	Build ELJ's and DBLJ's in Dungeness River from river mile (RM) 2.7 to 18.8 and in the Gray Wolf River from RM 0.0 to 2.0.	Channel structure and complexity	WRIA 18 LFA page 105, Puget Sound Recovery Plan pg 324	Instream	Large wood recovery	Build roughly 50 log jams in 18 miles of mainstem river.	Puget Sound Chinook, Puget Sound steelhead, summer chum, fall chum, pink, bull trout	coho	At least two more logjams will be constructed at RM 5.2 to 6.0 ELJ's pending property acquisition. This will add to the 7 ELJ and 2 DBLJ in this reach.	\$120,000	Dungeness R. RM 12-18, and Gray Wolf RM 0-2 design and Forest Service approval and permitting process.	Dungeness R. RM 12-18, and Gray Wolf RM 0 to 2 ELJ construction.	\$800,000		2019	Jamestown S'Klallam Tribe/Ciallam County	\$5 million		SRFB	
09030.1	Acquisition for Protection		Dungeness Riparian Habitat Protection	The project will protect many previously identified Dungeness River riparian properties downstream of DNR ownership (approximately river mile 12.0) through the purchase of property and conservation easements. High quality riverine forest habitat, particularly those areas with side channels, is a priority for protection. Also included for acquisition are properties needed for flood plain restoration projects, an especially high priority on the Dungeness River. The project's goal is to purchase fee simple titles and conservation easements on approximately 160 acres and about 4 miles of river channel in 8 years. The project will be undertaken as a series of annual phases.	Protecting functional side channels, preventing floodplain modifications, protecting water quality by maintaining off-channel habitat and functional floodplains, and protecting riparian forests	Puget Sound Recovery Plan, pages 324, 325	Riparian, river delta		160 acres, 4 river miles	Puget Sound Chinook, Puget Sound steelhead, Coastal-Puget Sound bull trout, Hood Canal/Eastern Strait of Juan de Fuca summer chum, pinks, fall chum.	Coho, cutthroat.	Numerous acquisitions have been completed and new purchases are in the planning stage.		Purchase of 30 acres and 1,550 feet of river channel, both sides.	\$500,000		2014	JS'KT, WDFW, North Olympic Land Trust	\$9,000,000		SRFB, National Coastal Wetlands Conservation		

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09031.1		Capital	Dungeness River Riparian Restoration (replaces project 31)	Riparian restoration through noxious weed control, replanting native trees, and plant maintenance from the mouth to RM 11.	Long-term wood recruitment, cover for fish and wildlife, food production	NOPL 2011 Draft Strategy Table C, WRIA 18 LFA p. 105, Puget Sound Recovery Plan-Dungeness p. 325.	floodplain	noxious weeds, riparian restoration, plant maintenance	Roughly 3 miles of understocked forest and 11 miles of noxious weeds to control and replant with native trees.	Puget Sound Chinook, Puget Sound steelhead, summer chum, fall chum, pink, bull trout	coho	We have treated roughly 25% of the river corridor for Buddleia. We have plantings at Rivers End and behind the Corps dike. Much remains to be done.	Buddleia control and replanting with cottonwood and western red cedar. Outreach to landowners for riparian restoration. Replanting understocked riparian areas.	\$30,000, with \$20k in hand	Buddleia control and replanting with cottonwood and western red cedar. Outreach to landowners for riparian restoration. Replanting understocked riparian areas.	\$50,000	Buddleia control and replanting with cottonwood and western red cedar. Outreach to landowners for riparian restoration. Replanting understocked riparian areas.	\$50,000	2019	S	\$350-\$500k		SRFB PSAR BIA FWS

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09032.1	Acquisition for Protection	Dungeness Drift Cell Conservation	Permanently conserve drift cell processes throughout 8.8 miles of coastal feeder bluffs in the Dungeness Drift Cell	Ecosystem links between upland and nearshore habitats. 2. Reduced sediment input from feeder bluffs to nearshore area, leading to A) transformation of the character of the beach, affecting the kinds of life the beach can support, and B) the degradation of the beach, resulting in loss of the shallow, nearshore migration corridors for salmonids that provide protection from predation.3. Permanent loss of habitat above +5 feet Mean Low-Low Water (MLLW), which represents the suitable habitat area for surf smelt and sand lance spawning. Puget Sound Salmon Recovery Plan (PSSRP), habitats and processes critical to support salmon recovery, "drift cell processes (including sediment supply, transport and deposition) that create and maintain nearshore habitat features such as spits, lagoons, bays and beaches" (page 368), PSSRP Dungeness Section, Key strategies and actions supporting the overall approach to recovery, "Nearshore habitat protection" (page 324).	WRIA 17 LFA, WRIA 18 LFA, Puget Sound Salmon Recovery Plan page 368 and 324.	Nearshore (5,200 acres total), especially eelgrass beds (363 acres) and salt marsh (161 acres)	Acquisition	Permanently conserve drift cell processes throughout 8.8 miles of coastal feeder bluffs in the Dungeness Drift Cell	Puget Sound Chinook, Hood Canal/Eastern Strait of Juan de Fuca summer chum, fall chum, pink, Coastal-Puget Sound bull trout	Puget Sound steelhead, coho	Bluff erosion measurement phase will be complete in early 2011				Conservation Plan	\$150,000	2014	Jamestown S'Klallam Tribe	\$7 million		SRFB, ESRP, National Coastal Wetlands Conservation	

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09091 (Projects 33, 34, 38, 42, 43 combined)	Restoration	Capital	Dungeness River Stream Flow Restoration-Irrigation Efficiencies	Through improvements in irrigation system efficiencies, Dungeness River water withdrawals will be reduced and stream flows will increase.	low instream flows	Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors, the WRIA 18 LFA, the WRIA 18 Watershed Plan (Chapter on Water Quantity) & the Puget Sound Chinook Recovery Plan (Chapter 6: Regional Salmon Recovery Strategies)	Instream habitat, riparian	Instream Flow	Restore 0.5-5 cfs of stream flow	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Preliminary design work completed, some cultural resources surveys completed						2015	CCD				
12098	Restoration	Capital	Dungeness River Stream Flow Restoration-Storage	Dungeness River high flows will be captured and stored in small reservoirs for late season irrigation or used for shallow aquifer recharge to ameliorate late summer and early fall low stream flows.	low instream flows	Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors, the WRIA 18 LFA, the WRIA 18 Watershed Plan (Chapter on Water Quantity) & the Puget Sound Chinook Recovery Plan (Chapter 6: Regional Salmon Recovery Strategies), Aquifer Recharge Feasibility Study for the Dungeness Peninsula	Instream habitat, riparian	Instream Flow	Restore 0.5-5 cfs of stream flow	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Feasibility study completed						2015	CCD, CC, WUJA, WWWT				

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09092 (Project #s 35 & 36 combined)	Restoration	Capital	Dungeness River Floodplain Restoration (replaces project 35 and 36 Corps dike setback)	Floodplain restoration through the setback or reconfiguration of dikes or armored banks (RM 0 to 10.7)	Alleviate channel constrictions and recover floodplain disconnected by dikes	NOPLE 2011 Draft Strategy Table C, WRIA 18 LFA p. 105, Puget Sound Recovery Plan-Dungeness p. 325.	floodplain	dike and armored bank removal and reconfiguration.	Seven floodplain restoration projects totaling roughly 2.4 river miles	Puget Sound Chinook, Puget Sound steelhead, summer chum, fall chum, pink, bull trout	coho	One project is completed (Rivers End), another is in design (Corps dike setback), a third is waiting funding (RR Bridge trestle). Ward Road reconfiguration, RR Bridge trestle replacement, Dungeness Meadows dike reconfiguration, Robinson side channel restoration, and upper Haller dike setback require communication with partners and the community	RR Bridge Trestle replacement design-only	\$100,000		Corps dike setback and channel restoration	\$10 million	2019	Jamestown S'Klallam Tribe/Clallam County/Army Corps	\$15 million		SRFB, PSAR, Corps	
09041.1	Restoration	Capital	Dungeness River - Meadowbrook Creek restoration (replace project 41)	Reconnect Meadowbrook Creek to the Dungeness River at the downstream end and relocate Meadowbrook Creek to its historic channel,	Tributary disconnected from the Dungeness River	NOPLE 2011 Draft Strategy Table C, Puget Sound Recovery Plan-Dungeness p. 325.	saltmarsh, tributary, mainstem	channel construction	restore tributary connection to 30 acres of saltmarsh and wetland and relocate 0.9 miles creek channel.	Puget Sound Chinook, Puget Sound steelhead, summer chum, fall chum, bull trout	coho	A hydrodynamic model of three alternatives is constructed. The site was extensively surveyed. A conceptual design is complete. The two culverts were pulled in August 2009.	Engineer design, bid contract, complete permitting	see 2013	Construct project	\$200,000		2013	Jamestown S'Klallam Tribe, Dungeness Farms, Clallam Conservation District, Washington Department of Fish and Wildlife	\$300,000		SRFB, PSAR	

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09040	Restoration	Capital	Cassalery Creek Instream Flow Enhancement Project	This project will add 0.1 to 0.2 CFS Class "A" Reclaimed Water into Cassalery Creek.	Insufficient instream flow & Riparian area degradation	Clallam County State of the Streams (page 94, Greater Dungeness Watershed Study) & Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors, the WRIA 18 LFA (p. 82 of WRIA 18 LFA), the WRIA 18 LFA (p. 82), the WRIA 18 Watershed Plan (Chapter on Water Quantity) & the Puget Sound Chinook Recovery Plan (Chapter 6: Regional Salmon Recovery Strategies).	Riparian	Instream Flow	Adds 0.1 to 0.2 CFS to Instream Flow	Fall Chum	Winter Steelhead, Cutthroat, Coho, and possibly Bull Trout	Design completed	Permitting & Riparian area clean-up	\$7,500	Construction	\$92,500			2011	SWD	\$100,000	\$15,000	unknown
10077	Restoration	Capital	Grays Marsh and Gierin Creek	Project Design and Feasibility Study to: Restore and enhance salt marsh connectivity and enhancement of Gierin Creek	Saltwater Estuary, LWD, Side Channel, riparian	WRIA 18 Limiting Factors Analysis	Estuary river delta and riparian	Instream, Riparian	50 ac riparian 5,300 ft edge, 50 ac off-channel, 10 log jams	Chinook, Chum, Coho Salmon, and Steelhead	Cutthroat and bull trout	This will be Phase 1: Conceptual, Feasibility and 30% design	NA	\$0	Conceptual, Feasibility	60-100K	Construction	n/a	2012	WDFW	\$100,000		SRFB; ESRP and or PSAR
09046	Acquisition for Protection	Capital	Washington Harbor Habitat Protection Project	Maintain expansive and important Nearshore habitat for numerous salmonid populations and forage fish in the 118-acre estuarine system at the mouth of Bell Creek and adjacent to the entrance to Sequim Bay.	Protection of estuaries, critical for production of prey organisms for juvenile out-migrant, juvenile salmonid rearing, and returning adults; and critical rearing and transitional habitat.	WRIA 18 LFA	Nearshore, Estuary	Land Acquisition project for protection of estuarine and Nearshore habitat	Protect 118 acre estuarine system	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Bull trout, Puget Sound steelhead & Chinook	Conceptual	Planning and Outreach to landowners	\$10,000	Planning and Outreach to landowners	\$10,000	Implementation - Conservation Easement Acquisition, and Fee Simple	\$1,000,000	2012	NOLT & JSKT	\$1,020,000	\$153,000	SRFB

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09047.1	Restoration	Capital	WA Harbor Restoration	WA Harbor is crossed by a 1,300-foot long road, equipped with just two 6-foot culverts, which disrupts habitat connectivity, tidal hydrology and habitat forming processes in the estuary's northern 37 acres. The project will provide unrestricted fish access and restore tidal hydrology and habitat forming processes in these 37 acres by removing the 6-foot culverts and 600 feet of road and replacing them with a 600-foot bridge.	Pocket estuary habitat, fish passage, tidal hydrology	WRIA 18 LFA	Estuary	Fish passage, tidal hydrology restoration, habitat forming processes restoration	Restore fish passage to 37 acres, restore tidal hydrology and habitat forming processes to 118 acres.	Hood Canal/Eastern Strait of Juan de Fuca summer chum, Puget Sound Chinook, Coastal/Puget Sound bull trout	Coho, pinks, fall chum, Puget Sound steelhead, cutthroat.	80% Design completed, cultural resources assessment completed, permitting underway.			\$116,000	Remove existing culverts and 600' of road. Construct 600-foot bridge.	\$1,629,288	12/31/2012	Jamestown S'Klallam Tribe				
09093 (Project #s 45 & 37 combined)	Acquisition for Protection	Capital	North Sequim Bay Drift Cell Conservation Project	Permanent protection will be provided for Gibson, South, Travis and Paradise Cove Spits, all clustered near the entrances to WA Harbor and Sequim Bay, along with the 5.2 miles of coastal feeder bluffs that support the spits. Protection will be accomplished using conservation easements, property purchases, and state land management planning. Protected habitat includes 5.2 miles of feeder bluff shoreline, 23,560 feet of spit shoreline, 269 acres of marine shallow water and estuarine habitat, and the productive 10-mile shoreline of the 3,200-acre Sequim Bay.	1) ecosystem links between upland and nearshore habitats, 2) reduced sediment input from feeder bluffs to nearshore area causes degradation of the beach, resulting in loss of the shallow, nearshore migration corridors and eventual loss of the spits themselves, 3) loss of riparian vegetation that provides shade to the upper beach.	WRIA 17 and 18 LFA's	Barrier estuary, estuarine delta, nearshore		5.2 Miles of feeder bluff shoreline, 23,560 feet of spit shoreline	Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout, Puget Sound Chinook, pink, and fall chum salmon.	Puget Sound steelhead, coho.	Phase 1 is ready to begin. Phases 1-3 could be combined into a design-only project.			\$390,000	Phase 1, 2, and 3 combined as a design-only project			JS'KT	\$5,000,000		SRFB, ESRP	

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12099	Acquisition for Restoration	Capital	Johnson Creek Riparian Protection and Restoration	Acquire and conduct restoration projects on intact riparian corridor above SR 101	Establish riparian corridor protection; address mass wasting potential and implement instream fish habitat enhancement project.	WRIA 17 LFA pg 212-215.	instream and riparian	large wood recovery, sediment reduction, and riparian protection	Acquire and restore degraded riparian areas and instream habitat conditions above SR 101	ESA winter steelhead, and coho	Sea-run cutthroat trout and resident trout	Conceptual	Phase I acquisition and restoration	1180000				2014	NOLT/JSKT	\$1,180,000	DNR wood donations/match; and Rocky Mountain Elk Foundation grant	SRFB and RIMEF	
09044	Acquisition for Protection	Capital	Jimmy-comelately Riparian Protection	Purchase a ¼-mile length of riparian forest along Jimmycomelately (JCL) Creek (conservation easement or fee-simple).	Riparian habitat, LWD	Summer Chum Salmon Recovery Plan pages 85, 99.	Riparian	Acquisition	0.75 Miles of riparian corridor, approximately 72 acres.	HC/ESJDF summer chum, Coho, PS steelhead	Cutthroat	Conceptual	Appraisal/ review/ title report/ negotiations/purchase	\$1,000,000				2010	NOLT & JSKT	\$1,000,000	\$150,000	SRFB	
11094	Restoration	Yes	Chicken Coop Rd. Culvert Replacement	Replace total fish-barrier culvert with fish passable culvert	Habitat - Access and Passage	Salmon and Steelhead Limiting Factors, WRIA 17 (2002) Sequim Bay Sub-basin	Riparian	Fish Passage	Allow fish access to 7,500 linear feet of stream	Coho	Winter Steelhead	Conceptual	Entire project	\$75,000	N/a	N/a	N/a	9/15/2011	Clallam County	\$75,000	50% from Clallam County Public Works	Salmon Community Fund	
09050.1	Assessment	Non-Capital	Clallam County Culvert Inventory	Identify road crossings, evaluate stream habitats and fish passage conditions	Identify and prioritize fish passage barriers by watershed	Limiting Factors Assessments for WRIA 17-19	in stream/floodplain	fish passage	restore access to an unknown amount of historic habitat	coho	chinook, chum, steelhead	conceptual						2014	LEKT/Clallam County	300,000-450,000	15%		

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Non-Capital Programs																							
Hatchery																							
09048	Non-Capital Programs	Plan Implementation & Coordination	Elwha River Native Steelhead Brood Development Project	Produce a new hatchery-origin winter steelhead population based upon the existing natural-origin winter steelhead stock in the Elwha River	Hatchery Practices	Elwha River Fish Restoration Plan; HSRG Eastern Straits Review	Hatchery Reform	Manage hatcheries for recovery through capital improvements	Establish a new hatchery-based winter steelhead population	Winter Steelhead		Ready to implement	Fish Production & Broodstock Development	\$150,000	Fish Production & Broodstock Development	\$150,000	Fish Production & Broodstock Development	\$150,000	On-going	LEKT	\$450,000	\$67,500	BIA
11095	Hatchery	Non-Capital	Maintenance of Elwha River Fish Populations During Removal of the Elwha River Dams	In order to protect native fish populations during dam removal, two hatcheries on the river (WDFW Elwha Rearing Channel and the Elwha Tribal Hatchery) will be utilized as safe refuges. Chinook, coho, steelhead, chum, and pink salmon will all rely to some extent on hatchery supplementation.	supplement productivity	Elwha Fish Restoration Plan (Ward et al, 2008)	In-Stream Water Quality	Hatchery Supplementation	Maintain ESA listed Chinook and Steelhead as well as coho, chum and pink salmon during Elwha Dam Removal	Chinook, Coho, pink, chum	Steelhead (covered under separate proposal)	Construction completed and strategy is developed and peer reviewed.	fish propagation	\$200,000	fish propagation	\$200,000	fish propagation	\$200,000	2021	LEKT and WDFW	\$600,000 for 3-years	WDFW and LEKT contributions of ~\$900,000/year	WDFW base, LEKT federal tribal hatchery funding
Harvest																							
Hydropower																							
Other																							
Total Capital Need													\$5,232,500	\$14,080,400	\$15,381,488	\$54,414,100	\$4,647,501						

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Harvest Management Support																							
09064	Harvest Management Support	Non-Capital	Dungeness Improved Fisheries Enforcement	Enforcement is understaffed. Two additional officers are needed for effective enforcement of enclosures, and to ensure orderly fisheries.	Illegal harvest of already small populations of Dungeness Chinook	Puget Sound Chinook Recovery Plan	Chinook-bearing streams	illegal harvesting	Protection of the Dungeness Chinook populations	Dungeness Chinook	Coho, steelhead, chum, pink,	Ready to implement	2 FTE's	\$200,000	2 FTE's	\$200,000	2 FTE's	\$200,000	On-going	WDFW & JSKT	\$600,000	\$90,000	SRFB, PSAR
Future Habitat Project Development																							
09054	Future Habitat Project Development	Non-Capital	Elwha Conservation Planning	Create a plan based on Elwha Fish Recovery Plan's recommendation to develop a long term strategy for purchase or development of conservation easements on floodplain & estuary property outside of ONP	Habitat degradation and loss, floodplain modification, fish access (dams), channel conditions, riparian condition, water quality, biological processes, estuarine processes	Elwha Fish Recover Plan, 75-82, Habitat Limiting Factors for WRIA 18 154-161	Riparian	Instream flow, sediment reduction	Report that contains a list of prioritized parcels and landowner willingness for conservation easements or acquisition	PS Summer Chinook	Summer/Fall Chum, Upper/Lower Pink, Summer/Winter Steelhead, Cutthroat Trout, Dolly Varden, Bull Trout	Feasibility completed	GIS, Develop a system for prioritization, landowner outreach	\$19,500	Preliminary Appraisals, Title Review, Landowner willingness forms	\$47,500	Report	\$2,000	2012	NOLT, LEKT & CC	\$69,000	\$13,500	Makah & CC
09055	Future Habitat Project Development	Non-capital	The Elwha Nearshore Action Plan	The Elwha Nearshore action plan: Understanding, protecting, and restoring the Elwha Nearshore (Freshwater Bay to Ediz Hook, central Strait of Juan De Fuca, Olympic Peninsula, Washington).	Need for a plan to restore the Elwha Nearshore	WRIA 18 LFA, Hood Canal/Eastern Strait of Juan de Fuca Summer Chum Recovery plan	Nearshore	Nearshore Action Plan	20 linear km of Nearshore & 90 acres of estuary habitat	ESA-listed Puget Sound & Columbia River Chinook	bull trout, steel head & summer chum	Conceptual	restoration priority catalog, land owner actions & inventory	\$150,000	Coordinate with landowners for protection strategies of acquisition & easement	\$150,000	Continue coordinate with landowners for protection strategies of acquisition & easement	\$150,000	2012	CC & WDFW	\$650,000	\$50,000	EPA or others

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09059	Future Habitat Project Development	Non-Capital	Port Angeles Harbor Basin Program	Bringing the stakeholders together to discuss the future of the Port Angeles Harbor Basin.	Degraded Nearshore and estuarine conditions and loss of associated habitat; Degraded water quality and temperature;	Chapter 2.11 STRAIT OF JUAN DE FUCA MARINE NEARSHORE ENVIRONMENT in the Elwha-Dungeness Watershed Plan Water Resource Inventory Area 18 (WRIA 18) and Sequim Bay in West WRIA 17; The WRIA 18 LFA; and The Puget Sound Chinook Recovery Plan, Chapter 3 - Habitat Factors Affecting Puget Sound Chinook Salmon and Bull Trout	Nearshore	Marine shoreline projects	A unified vision for the restoration of the PA Harbor Basin	Puget Sound Chinook	Hood Canal Strait of Juan de Fuca Summer Chum	Conceptual	Hiring a facilitator, and hosting visioning / planning meetings	\$20,000	Hiring a facilitator, and hosting visioning / planning meetings	\$20,000	Hosting meetings & write report	\$20,000	2012	NOPLE & MRC	\$60,000	\$9,000	SRFB, PSAR
09063.1	Future Habitat Project Development	non-capital	Dungeness River Habitat Resurvey (formerly project 63)	Resurvey in-river habitat conditions from the mouth to Klink Bridge (RM 11.7). Combine this survey with a Forest Service to compare channel conditions to the 1993 habitat survey	Pools, spawning gravel, high flow refugia	NOPLE 2011 Draft Strategy Table C, Puget Sound Recovery Plan-Dungeness p. 325.	in-river	habitat survey	resurvey 12 miles of mainstem habitat, compare results for entire water shed habitat survey with 1993 survey. Use to site restoration and protection projects	Puget Sound Chinook, Puget Sound steelhead, summer chum, fall chum, bull trout	coho	Forest Service survey in process, to be completed 2011.	habitat survey	\$50,000	analysis	\$15,000		2013	Jamestown S'Klallam Tribe, US Forest Service, Tetra Tech			SRFB	

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09067	Future Habitat Project Development	Non-Capital	Increase Recovery Capacity & Support NOPL-wide	Quicken the pace of recovery by diversifying funding, assisting with project design and implementation & coordinating with recovery organizations.	Recovery implementation hindered by lack of capacity & lack of funding	Recovery Plan goals	Riparian, estuary, river delta, Nearshore	Instream flow, fish passage	Increased projects developed & new funding gained	All ESA Salmon species	All other salmon species	Work underway	Maintain increased staffing which will allow us to begin more projects & gain new funding for such	\$50,000	Maintain increased staffing which will allow us to begin more projects & gain new funding for such	\$50,000	Maintain increased staffing which will allow us to begin more projects & gain new funding for such	\$50,000	On-going	NOPL	\$150,000	\$22,500	PSAR, SRFB
Habitat Protection																							
09049	Habitat Protection	Non-Capital	Create Stable-funded Incentive program	Non-regulatory riparian habitat protection program, with sufficient funding, could protect a lot of high quality fish habitat and help to support ecosystem function.	Funding limitations	Recovery Plans & LFA	Funding limitations	Riparian Habitat Protection	Sufficiently fund a non-regularly incentive program for riparian habitat protection	All ESA listed salmonids	All other salmonids	Implementation	Implementation	\$100,000	Implementation	\$100,000	Implementation	\$100,000	On-going	CC & CCD	\$300,000	\$150,000	CC
09052	Habitat Protection	Non-Capital	Clallam County Map Roadside Ditches	Assess quantity and quality of stormwater from roadside ditches to stream channels. Baseline for stormwater quality monitoring.	Degraded water quality	Recovery Plans & LFA	stream network	water quality	Assess stormwater quality and the effect of roadside ditches. Develop a baseline for stormwater quality monitoring.	All ESA Salmon species	All other salmon species	Conceptual	Identify crossing and ditches on maps	\$100,000	Ground truthing and water quality monitoring	\$30,000	water quality monitoring and develop report	\$30,000	2012	CC	\$75,000	\$11,250	SRFB, PSAR

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09053	Habitat Protection	Non-Capital	Clallam Watertype Inventory and Assessment	Correct and update the water type maps, which have many errors, and could result in under-protection of 40-60% of the fish-bearing streams, if not corrected.	Improves local gov't information sources for the protection of critical areas under the GMA.	Recovery Plans & LFA	Instream Riparian	Correction of maps	Elimination of errors in the WDNR water type maps	All ESA Salmon species	All other salmon species	Conceptual		project scoping, landowner contact, fieldwork, data collection	\$120,000	Assessment, field work, data entry, interactive mapping	\$200,000	2012	WFC	\$370,000	\$75,000	SRFB, PSAR	
09069	Habitat Protection	Non-Capital	NOPL area wide data base for habitat restoration, protection & permitted activities	Work w/nearby govts to integrate GIS & Permit Tracking to understand and monitor landscape-scale development patterns within LE	All- H Integration	Recovery Plans & LFA	Monitoring	Monitoring	Design, Purchase & Populate data base, followed by analysis	All ESA Salmon species	All other salmon species	Conceptual	Purchase & Install	\$100,000	Populate data base, followed by analysis	\$100,000	Continue to add new info to data base	\$15,000	Insertion of new data will be on-going	NOPL, CC, COPA & COS	\$200,000	\$39,750	PSAR/Other
09070	Habitat Protection	Non-Capital	Assess implementation of CAO, SMP & HPA ordinance.	Ground truth survey to gauge effectiveness of regulations designed to protect habitat.	Advance All-H Integration	Recovery Plans & LFA	Monitoring	Monitoring	Survey, info integrated into data base, analysis	All ESA Salmon species	All other salmon species	Conceptual		All	\$100,000			2012	NOPL, CC, COPA & COS	\$100,000	\$15,000	PSAR/Other	
09071	Habitat Protection	Non-Capital	NOPL Area Wide Increase compliance with ordinances & codes	Help increase compliance through active enforcement & inspection at all stages of development.	Advance All-H Integration	Recovery Plans & LFA	Monitoring	Monitoring	Resources to provide increased compliance and move to proactive enforcement.	All ESA Salmon species	All other salmon species	Conceptual		Increased & proactive enforcement	\$200,000	Continue increased & proactive enforcement	\$200,000	On-going	NOPL, CC, COPA & COS	\$200,000	\$20,000	Unknown	

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09072	Habitat Protection	Non-Capital	NOPL area wide update stormwater management program	Support efforts by Clallam Co. & City of PA to reduce stormwater runoff.	Advance salmon recovery	Puget Sound Chinook Recovery Plan, Clean Water Act	Instream Habitat & Riparian	Instream flow, fish passage	implement comprehensive stormwater management system	All ESA Salmon species	All other salmon species	Feasibility	Monitoring of the Sequim-Dungeness area		Monitoring all of Clallam County and convening a stakeholder group		Development of Stormwater Management Plan		NOPL, CC, COPA & COS	\$719,000	\$538,000	EPA	
09073	Habitat Protection	Non-Capital	NOPL Area Wide update Shoreline Master Program (SMP)	Support efforts by Clallam County & City of PA which are mandated by WA to update SMP's by 2011.	Advance salmon recovery	Puget Sound Chinook Recovery Plan	Instream Habitat, Nearshore & Riparian	Sediment Reduction	Update Shoreline Master Plans	All ESA Salmon species	All other salmon species	Conceptual	Obtain funding & begin SMP process	\$300,000	Continue work & process to update SMP	\$300,000	SMP update completed	2012	NOPL, CC, COPA & COS	\$600,000	\$90,000	DOE	
Watershed Plan Implementation & Coordination																							
09057.1	Monitoring	non-capital	Elwha Watershed Adaptive Management Plan & Monitoring	Conduct fish enumeration activities at multiple spatial and temporal locations in Elwha watershed following dam removal in 2014	Evaluate fish response to dam removal and provide feedback for project managers for adaptive management process	Elwha Fisheries Restoration Plan (Ward et al. 2008)	watershed	Fish abundance, productivity, diversity, spatial structure	Conduct adult and juvenile counts using multiple methods	all species	all species							2014	LEKT/NOAA/USGS/US FWS/WDFW	300,000-400,000/year	15%		
09066.1	Watershed Plan Implementation & Coordination	Non-Capital	12 River Channel Migration Zone Assessment	CMZ mapping and delineation, and incorporation of those maps into the Critical Areas Ordinance. Clallam County has jurisdiction and authority to limit development within CMZs through the Critical Areas Ordinance.	CMZ's are also the most productive salmonid habitat, so delineation will help protect.	Clallam County Critical Areas Ordinance	CMZs	CMZ mapping and delineation	CMZ delineation	All ESA listed salmonids	All other salmonids	Conceptual	project scope, consultant selection	\$50,000	CMZ Mapping and delineation	\$250,000			2011	JSKT, LEKT, Makah & CC	\$300,000	\$255,000	Unknown

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Outreach & Education																							
09051	Outreach & Education	Non-Capital	Clallam County Salmonid Outreach Planner	Develop a comprehensive and collaborative program for outreach, education, public involvement, and stewardship promotion.	Need a coordinated and consistent effort to communicate with citizens about salmonid ecology and recovery.		Capacity	Development of an outreach program	Increase public awareness of salmonid recovery efforts	All ESA listed salmonids	All other salmonids	Conceptual	Determine existing local efforts and ID potential linkages	\$66,600	Create links, close gaps	\$66,600	Project design and further recovery plan	\$66,600	On-going	CC & CCD	\$200,000	\$30,000	Unknown
09058	Outreach & Education	Non-Capital	Elwha Morse Management Team	Support and develop capacity for EMMT	Limited capacity		Capacity		Support and develop capacity for EMMT	All ESA listed salmonids	All other salmonids	Conceptual	Increase capacity	\$75,000	Project design / volunteer dev.	\$75,000	Implement Projects	\$75,000	On-going	CC	\$225,000	\$33,750	Unknown
09061	Outreach & Education	Non-Capital	WRIA-19 Watershed Council	Support and develop capacity for WRIA-19 Watershed Council.	Limited capacity	WRIA 19 SALMON RESTORATION PLAN	Capacity		Support and develop capacity for WRIA-19 Watershed Council.	All ESA listed salmonids	All other salmonids	Conceptual	Increase capacity	\$75,000	Project design / volunteer dev.	\$75,000	Implement Projects	\$75,000	On-going	CC	\$225,000	\$33,750	Unknown
09062	Outreach & Education	Non-Capital	Dungeness River Management Team	Support and develop capacity for the DRMT	Limited capacity		Capacity		Support and develop capacity for the DRMT	All ESA listed salmonids	All other salmonids	Conceptual	Increase capacity	\$75,000	Project design / volunteer dev.	\$75,000	Implement Projects	\$75,000	On-going	CC	\$225,000	\$33,750	Unknown
09068	Outreach & Education	Non-Capital	NOPL:Area Wide Outreach Program	Variety of efforts to inform and educate about the need for salmon recovery, local projects underway, and call to action about what individuals can do.	Need for an outreach program	Puget Sound Partnership Action Agenda	Development of an outreach program	Development of an outreach program	Development of an outreach program	All ESA listed salmonids	All other salmonids	Conceptual	Develop and implement outreach plan	\$30,000	Update website and outreach displays	\$30,000	Expand and Continue Outreach	\$25,000	On-going	NOPL & WDFW	\$85,000	\$12,750	Unknown

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Instream Flow Protection																							
Habitat Project																							
Stock Monitoring Support																							
09056	Stock Monitoring Support	Non-Capital	Elwha River Nearshore Biodiversity Investigations	Assess the current status of salmon and associated fish in the Nearshore adjacent to the Elwha River, characterization of habitat	Filling a data gap in the region	Technical Workshop on Nearshore Restoration in the Central Strait of Juan de Fuca	Nearshore	Biodiversity assessment	Development of pre dam removal and post dam removal databases for fish communities in the Central Strait. Identification of food web relationships, mapping of habitats.	PS Chinook	Coho, chum, steelhead, smelt, sand lance, herring, rockfish,	Ready to implement	Nearshore biodiversity Investigations	\$75,000	Nearshore biodiversity Investigations	\$75,000	Nearshore biodiversity Investigations	\$75,000	2015	NOAA, USGS & LEKT	\$450,000	\$67,500	LEKT, JSKT, Batelle
09076	Stock Monitoring Support	Non-Capital	Elwha River Salmon Enumeration Weir	Construct, install and maintain a floating weir in the Elwha River to allow the accurate enumeration of returning adult salmon to the Elwha River	Filling a data gap in the region - monitoring the effects of ecosystem restoration	Elwha River Fish Restoration Plan	Mainstem Elwha River	Enumeration of returning adult salmon	Count all adult salmon returning to Elwha River	PS Chinook	Coho, steelhead, chum, pink,	Being implemented for one year but operational funding needed to continue.		\$305,000	Maintenance and operation	\$305,000			2011	NPS, USGS, USFWS, NOAA, WDFW & LEKT	\$610,000	\$210,000	USGS/NPS grant
Habitat Project Monitoring																							

No.	Project Type	Plan Category	Project Name	Project Description (brief description)	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary river delta, Nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2012 Activity to be funded	2012 Estimated Cost	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
09065	Habitat Project Monitoring	Non-Capital	Jimmy-comelately Creek & Dungeness River Habitat	Stewardship funding for 300 acres conserved through conservation easements and acquisition	Protection from improper use, noxious weed control, general site maintenance, and monitoring of land use.	Recommended Land Protection Strategies for the Dungeness Riparian Area	Monitoring	Monitoring	Monitor and manage 300 acres of protected lands - salmonid habitat	Dungeness Chinook	all other salmonid species	Conceptual	Staff (0.17 FTE), mileage, supplies, equipment	\$17,200	Staff (0.17 FTE), mileage, supplies, equipment	\$17,200	Staff (0.17 FTE), mileage, supplies, equipment	\$17,200	On-going	WDFW, JSKT, NOLT & CC	\$51,600	\$7,740	SRFB, PSAR
09074	Habitat Project Monitoring	Non-Capital	NOPL: Area Adaptive Management Plan & Monitoring	LE will participate in group process needed to create an adaptive management plan	Lack of H integration	Recovery Plans & LE Statute	Monitoring	Monitoring	Participate & complete adaptive management process & plan	All ESA Salmon species	All other salmon species	Conceptual	Provide Further education about	\$1,000	Begin Adaptive Management Process	\$75,000	Continue & Complete Adaptive Mgmt Process & Plan	\$75,000	2012	NOPL, CC, COPA & COS	\$165,000	\$15,000	In-kind/other
09075	Habitat Project Monitoring	Non-Capital	NOPL: Area wide Monitoring Program	Establish monitoring program for VSP parameters & provide for data/findings for EDT/AHA	Need for a monitoring program	Puget Sound Chinook Recovery Plan	Monitoring	Monitoring	Begin w/Dungeness Chinook population analysis and modeling to support harvest, hatchery & habitat mgmt & planning	Dungeness Chinook	Coho, steelhead, chum, pink,	Conceptual	Design & Establish population analysis & modeling	\$100,000	Data Collection & Analysis	\$100,000	More Data collection & Analysis	\$100,000	2012	NOPL, CC, COPA & COS	\$300,000	\$45,000	Unknown
Research																							
Other																							

No.	Project Type	Plan Category	Project Name	Project Description (brief description)	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary river delta, Nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2012 Activity to be funded	2012 Estimated Cost	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
Total Non-Capital Need:														\$12,424,300		\$30,737,100		\$32,313,776			\$115,757,800	\$17,363,670	
Priority Projects and Programs Benefiting Non-Listed Species																							
Total Non-Listed Species Need:																							

NOPL 2012 Work Book for Ranking Work Plan Narratives	Date:
	7-Jan-12

Work Book Constructed by:

WH Pearson 17-Jan-
Peapod Research 2011
for
North Olympic Peninsula Lead Entity

Data Entered by:

Lara Kawal 7-Jan-
North Olympic Peninsula Lead Entity 2012

Review and Normalization by:

Lara Kawal 7-Jan-
2012

<h1 style="margin: 0;">NOPLE 2012 Scoring Work Plan Narratives</h1>	Date:
	7-Jan-12

List of Work Plan Narratives 2012

Category is either Capital or NON Capital (Non)

ID	Title	Sponsor	Category	Weighted Mean Score	Normalized Score	Max Score Capital
NEW PROJECTS						164.85
12096	Acquisition of Priorities identified in the "Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan"	NOLT	Capital	104.38	0.63	
12097	Clallam River Tributary Culvert Replacement	NOSC	Capital	89.33	0.54	
12098	Dungeness River Instream Flow Restoration - Storage	CCD, WUA, CC, WWT	Capital	107.79	0.65	
12099	Johnson Creek Riparian Protection and Restoration	NOLT/ JSKT	Capital	80.41	0.49	
12100	Elwha River Estuary Restoration Engineering Feasibility Project	LEKT	Capital	104.79	0.64	
UPDATED PROJECTS						
10077 .1	Gray's Marsh Restoration and Feasibility Design Phase 1	WDFW	Capital	97.59	0.59	

NOPLE 2012 Scoring Work Plan Narratives	Date:
	7-Jan-12

List of Ranked Work Plan Narratives 2012

Category is either Capital or NON-Capital

New or updated projects are highlighted in yellow

Rank	Title	Project ID	Sponsor	Category	Weighted Mean Score	Normalized Score
1	Elwha Revegetation Project	11087	LEKT/ONP	Capital	119.86	0.727
2	Dungeness River Floodplain Restoration (replaces project 35 and 36 Corps dike setback)	09092	Jamestown S'Klallam Tribe/Clallam County/Army Corps	Capital	119.78	0.727
3	Dungeness Drift Cell Conservation	09032.1	Jamestown S'Klallam Tribe	Capital	118.76	0.720
4	Elwha ELJ Project	09016.1	LEKT	Capital	118.63	0.720
5	WA Harbor Restoration	09047.1	Jamestown S'Klallam Tribe	Capital	118.16	0.717
6	North Sequim Bay Drift Cell Conservation Project	09093	JS'KT	Capital	116.26	0.705
7	Dungeness Riparian Habitat Protection	09030.1	JS'KT, WDFW, North Olympic Land Trust	Capital	112.32	0.681
8	Pysht River Salt Marsh Estuary Restoration	09009.1	LEKT/Merrill and Ring/Cascade Conservancy	Capital	111.73	0.678
9	Dungeness River Large Wood Restoration	09029.1	Jamestown S'Klallam Tribe/Clallam County	Capital	110.61	0.671
10	Salt Creek Salt Marsh Reconnection	09014	CCD, NOSC & LEKT	Capital	109.84	0.666
11	Dungeness River Riparian Restoration	09031.1	JSKT	Capital	108.62	0.659
12	Dungeness River Instream Flow Restoration - Storage	12098	CCD, WUA, CC, WWT	Capital	107.79	0.654
13	Elwha Watershed Adaptive Management Plan & Monitoring	09057.1	LEKT/NOAA/USGS/USFWS /WDFW	Non-Capital	88.07	0.653
14	Dungeness River - Meadowbrook Creek Restoration	09041.1	Jamestown S'Klallam Tribe, Dungeness Farms, Clallam Conservation District, Washington Department of Fish and Wildlife	Capital	107.55	0.652
15	Dungeness River Instream Flow Restoration – Irrigation Efficiencies	09091.1	CCD, WUA	Capital	106.09	0.644

Rank	Title	Project ID	Sponsor	Category	Weighted Mean Score	Normalized Score
16	Elwha River Estuary Restoration Engineering Feasibility Project	12100	LEKT	Capital	104.79	0.636
17	Acquisition of Priorities identified in the "Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan"	12096	NOLT	Capital	104.38	0.633
18	12 River Channel Migration Zone Assessment	09066.1	JSKT, LEKT, Makah & CC	Non-Capital	83.78	0.621
Those projects ranked 18 and above are encouraged to submit for 2012 SRFB/PSAR funding						
19	Elwha Conservation Planning	09054	NOLT, LEKT & CC	Non-Capital	81.95	0.607
20	Dungeness River Habitat Resurvey	09063.1	Jamestown S'Klallam Tribe, US Forest Service, Tetra Tech	Non-Capital	81.22	0.602
21	Clallam County Culvert Inventory	09050.1	LEKT/Clallam County	Capital	97.74	0.593
22	Elwha River Salmon Enumeration Weir	09076	NPS, USGS, USFWS, NOAA, WDFW & LEKT	Non-Capital	79.97	0.593
23	Pysht River Floodplain Acquisition & Restoration	09086	Makah, LEKT, NOLT	Capital	97.71	0.593
24	Gray's Marsh Restoration and Feasibility Design Phase 1	10077.1	WDFW	Capital	97.59	0.592
25	Clallam Watertype Inventory and Assessment	09053	WFC	Non-Capital	79.48	0.589
26	Elwha River Estuary Restoration	09018	LEKT, CC, WDFW & TNC	Capital	96.96	0.588
27	Washington Harbor Habitat Protection Project	09046	NOLT & JSKT	Capital	95.46	0.579
28	Elwha Culvert Replacement	09019	ONP & LEKT	Capital	95.41	0.579
29	Lower Morse Creek Restoration	10079.1		Capital	95.27	0.578
30	Nearshore Restoration Strategy for Twin Rivers	09011	CWI, WDFW, WDNR & LEKT	Capital	93.84	0.569
31	Hoko 9000 Road Abandonment	11083	LEKT/Rayonier	Capital	91.43	0.555
32	Siebert Creek Hwy 101 Fish Passage Restoration	09028.1	JS'KT - design project: conceptual bridge and site design to 10% engineering. WSDOT - final design, culvert removal, bridge construction.	Capital	91.27	0.554

Rank	Title	Project ID	Sponsor	Category	Weighted Mean Score	Normalized Score
33	Salt Creek Final Fish Passage Corrections Project	09015	LEKT, CCD & CC	Capital	90.81	0.551
34	Hoko 9000 Road Barrier Culvert	11082	LEKT/Rayonier	Capital	90.79	0.551
35	McDonald Creek channel rehabilitation, diversion dam removal, and ditch relocation	09039.1	Jamestown S'Klallam Tribe, WDFW, WSDOT, Agnew Ditch Co.	Capital	90.19	0.547
36	Pysht River LWD Project	11085	LEKT/Merrill and Ring	Capital	90.18	0.547
37	Elwha River Native Steelhead Brood Development Project	09048	LEKT	Non-Capital	73.38	0.544
38	Elwha Fish Propagation	11095	LEKT/ WDFW/ ONP	Non-Capital	73.21	0.543
39	NOPL Area wide Monitoring Program	09075	NOPL, CC, COPA & COS	Non-Capital	73.15	0.542
40	Clallam River Tributary Culvert Replacement	12097	NOSC	Capital	89.33	0.542
41	Salt Creek Habitat Protection	09013	NOLT	Capital	89.21	0.541
42	McDonald Creek Large Wood Restoration	10078.1	JSKT	Capital	89.04	0.540
43	Siebert Creek Ecosystem Protection Phase 3 and 4	09027.1	North Olympic Land Trust	Capital	88.79	0.539
44	Little Hoko LWD Project	09001.1	LEKT	Capital	88.69	0.538
45	Bear and Cub Creek LWD project	11084	LEKT/Rayonier	Capital	88.61	0.538
Those projects ranked 45 and above are eligible to submit for 2012 SRFB/PSAR funding						
46	Siebert Creek Large Wood Recovery	11090	JSKT	Capital	88.31	0.536
47	Elwha River Nearshore Biodiversity Investigations	09056	NOAA, USGS & LEKT	Non-Capital	71.06	0.527
48	The Elwha Nearshore Action Plan	09055	CC & WDFW	Non-Capital	69.95	0.519
49	Port Angeles Harbor Basin Program	09059	NOPL & MRC	Non-Capital	69.52	0.515
50	Lyre River Protection	10080	NOLT and WDFW	Capital	83.76	0.508
51	Morse Creek Property Acquisition	09026	WDFW	Capital	81.38	0.494
52	Ennis Creek Barrier Culvert	11088	LEKT/City of Port Angeles	Capital	80.64	0.489

Rank	Title	Project ID	Sponsor	Category	Weighted Mean Score	Normalized Score
53	Johnson Creek Riparian Protection and Restoration	12099	NOLT/ JSKT	Capital	80.41	0.488
54	Hoko River- Emerson Flats LWD Supplementation	09002	Makah	Capital	78.54	0.476
55	Nelson Creek Fish Passage Barrier Removal Project	09012	CC & WDNR	Capital	77.54	0.470
56	IMW Restoration Treatments	09010	LEKT	Capital	77.29	0.469
57	Dungeness Improved Fisheries Enforcement	09064	WDFW & JSKT	Non-Capital	61.73	0.458
58	NOPL area wide update stormwater management program	09072	NOPL, CC, COPA & COS	Non-Capital	60.90	0.451
59	Jimmycomelately Creek & Dungeness River Habitat	09065	WDFW, JSKT, NOLT & CC	Non-Capital	60.75	0.450
60	Chicken Coop Rd. Culvert Replacement	11094	Clallam County	Capital	74.15	0.450
61	Ediz Hook Beach Nourishment	09023	City of PA, Port of PA, WDNR & LEKT	Capital	71.33	0.433
62	NOPL Area Wide update Shoreline Master Program (SMP)	09073	NOPL, CC, COPA & COS	Non-Capital	57.77	0.428
63	Assess implementation of CAO, SMP & HPA ordinance.	09070	NOPL, CC, COPA & COS	Non-Capital	57.15	0.424
64	Create Stable-funded Incentive program	09049	CC & CCD	Non-Capital	55.88	0.414
65	Lower Hoko River - Riparian Revegetation	09003	NOSC/ Makah	Capital	68.19	0.414
66	Ennis Creek Habitat Restoration & Protection	09020	WFC, LEKT & NOLT	Capital	66.67	0.404
67	NOPL Area Wide Increase compliance with ordinances & codes	09071	NOPL, CC, COPA & COS	Non-Capital	53.74	0.398
68	Clallam County Salmonid Outreach Planner	09051	CC & CCD	Non-Capital	52.78	0.391
69	Increase Recovery Capacity & Support NOPL-wide	09067	NOPL	Non-Capital	52.55	0.390
70	Sekiu Mainstem (RM 2-5) LWD Restoration	09005	Makah	Capital	63.38	0.384
71	Port Angeles Waterfront Property Acquisition	09024	NOLT, COPA, LEKT & VCRC	Capital	63.31	0.384
72	Sekiu, Clallam, Pysht Riparian Re-vegetation	09006	Makah/ LEKT	Capital	62.35	0.378

Rank	Title	Project ID	Sponsor	Category	Weighted Mean Score	Normalized Score
73	NOPL-Area Wide Outreach Program	09068	NOPL & WDFW	Non-Capital	49.36	0.366
74	NOPL area wide data base for habitat restoration, protection & permitted activities	09069	NOPL, CC, COPA & COS	Non-Capital	49.13	0.364
75	NOPL Area Adaptive Management Plan & Monitoring	09074	NOPL, CC, COPA & COS	Non-Capital	48.12	0.357
76	Hoko River/ Hermans Creek - Instream LWD Supplementation	09004	Makah	Capital	58.71	0.356
77	Cassalery Creek Instream Flow Enhancement Project	09040	SWD	Capital	56.97	0.346
78	Clallam County Map Roadside Ditches	09052	CC	Non-Capital	44.09	0.327
79	Valley Creek Restoration	09021	VCRC, COPA	Capital	52.49	0.318
80	Dungeness River Management Team	09062	CC	Non-Capital	36.28	0.269
81	Elwha Morse Management Team	09058	CC	Non-Capital	35.26	0.261
82	WRIA-19 Watershed Council	09061	CC	Non-Capital	30.69	0.227

NOPLE 2011 Ranking Work Plan Narratives

NOPL 2011 Ranking Work Plan Narratives																	Date:				
Capital Project	Overall Weighted Score															NS = No Score Given			Date:		
MAXIMUM POSSIBLE SCORE	164.85															CV = Coefficient of Variation (Standard deviation/Mean as %)			12-Feb-11		
ID	Criteria for Ranking	Score 0 to 5 with 5 being best														Mean Score	Weight	Weighted Mean Score	CV (%)		
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12	Scorer 13	Scorer 14						
1	Watershed Priority	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.88	14.40	0.0	
2	Addresses limiting factor	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.04	20.20	0.0	
3	Addresses stock status and trends	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.56	12.80	0.0	
4	<i>Benefits an ESA-listed stock</i>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.33	16.65	0.0	
5	Benefits other stocks	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.00	15.00	0.0	
6	Protects high-quality fish habitat	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.82	19.10	0.0	
7	Restores formerly productive habitat	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.88	19.40	0.0	
8	Supports restoration and maintenance of ecosystem functions	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.67	18.35	0.0	
9	<i>Spatial-Temporal Scale of Influence</i>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.27	16.35	0.0	
10	<i>Project Readiness</i>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.52	12.60	0.0	
Mean		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	Overall Weighted Score w/ Watershed		164.85	
CV (%)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Overall Weighted Score w/o Watershed		150.45	

<h1 style="margin: 0;">NOPLE 2012 Ranking Work Plan Narratives</h1>	<p style="text-align: center; margin: 0;">Date:</p> <div style="background-color: yellow; text-align: center; padding: 5px; margin: 5px 0;">7-Jan-12</div>
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Final Watershed Priorities Sorted by Normalized Score

WRIA	System	Normalized Score (1 to 5)
18	Elwha River	5.00
18	Dungeness River	4.76
17	Nearshore	4.27
18	Nearshore	4.27
19	Nearshore	4.02
18	Morse Creek	3.90
19	Lyre River	3.05
19	Hoko River	2.93
19	Pysht River	2.93
19	Clallam River	2.80
19	Salt Creek	2.80
19	Sekiu River	2.68
17	Jimmycomelately Creek	2.56
18	Ennis Creek	2.56
18	McDonald Creek	2.32
18	Siebert Creek	2.20
19	Deep Creek	2.20
19	East Twin River	2.20
19	West Twin River	2.20
19	Jim Creek	1.83
19	Sail River	1.71
19	Whiskey Creek	1.71
18	Lees Creek	1.59
18	Meadowbrook Creek	1.59
18	Peabody Creek	1.59
18	Tumwater Creek	1.59
18	Valley Creek	1.59
19	Colville Creek	1.59
19	Bullman Creek	1.59

WRIA	System	Normalized Score (1 to 5)
19	Butler Creek (19.0112)	1.59
19	Field Creek	1.59
19	Joe Creek	1.46
19	Murdock Creek	1.46
18	Bell Creek	1.34
18	Bagley Creek	1.34
18	Dry Creek	1.34
17	Chicken Coop Creek	1.22
17	Dean Creek	1.22
17	Johnson Creek	1.22
18	18.0017 (Cooper Creek)	1.22
19	Olsen Creek	1.22
18	Cassalery Creek	0.98
18	Gierin Creek	0.98
17	17.0277	0.73
17	17.0284	0.73
17	17.0295	0.73
17	17.0296	0.73
17	17.0297	0.73
17	17.0300	0.73
18	18.0159	0.73
18	Agnew Creek (18.0172)	0.73
19	Falls Creek	0.73
19	19.0005	0.00
19	19.0006	0.00
19	19.0018	0.00
19	19.0019	0.00
19	19.0080	0.00
19	19.0081	0.00

NOPLE 2012 Ranking Work Plan Narratives	Date:
Criteria and Weights for Scoring and Ranking 2012 CAPITAL Projects	7-Jan-2012

Final wording and weights from Fall 2010 Retreat. New or modified wording in BOLDFACE Italics

New mean weight for each criteria from 1 to 5, with 5 being highest

Criteria 1 through 10 inclusive are used to assess Work Plan Narratives for Capital Projects. All Criteria are used to assess Project Proposals for Current Year's funding.

ID	Criteria for Ranking	Criteria Narrative	New Mean Weight
1	Watershed Priority	This criterion is based on data concerning historical and current productivity and stock diversity of the NOPLE watersheds. The data was presented and the priorities established in the development of the 2008 Strategy. Consideration of watershed priority is mandated by regulation. This score is added by Lead Entity staff for the watershed(s) covered by the proposed project.	2.88
2	Addresses limiting factor	This criterion pertains to the extent to which the proposed work would address the limiting factor(s) relevant to the watershed and stock. How well does the proposed work address the relevant limiting factors?	4.04
3	Addresses stock status and trends	This criterion derives directly from NOPLE's GOAL to achieve robust fish stocks and pertains to the extent to which the proposed work takes into account stock status and trends. Is the proposed work appropriate for the current status and trends of the stock(s) of interest?	2.56
4	Benefits an ESA-listed stock	<i>This criterion derives directly from NOPLE's GOAL to address ESA-listed stocks. To what extent does the proposed work benefit ESA-listed stock(s)?</i>	3.33
5	Benefits other stocks	<i>This criterion derives directly from NOPLE's long-standing principle that "All stocks need attention." To what extent to which the proposed work provide tangible benefit(s) to non-listed stock(s)?</i>	3.00

ID	Criteria for Ranking	Criteria Narrative	New Mean Weight
6	Protects high-quality fish habitat	This criterion derives directly from NOPL's GOAL to protect and restore fish habitat. This criterion pertains to the extent to which the proposed work would protect high-quality fish habitat. A project with acquisitions, easements, or other instruments that protects habitat would score well here. How well does the proposed instrument protect high-quality salmon habitat? How critical or important is the habitat in question? A restoration only project or a ecosystem only project would score zero.	3.82
7	Restores formerly productive habitat	This criterion derives directly from NOPL's GOAL to protect and restore fish habitat. This criterion pertains to the extent to which the proposed work restores formerly productive habitat. A project with active measures to restore habitat would score well here. To what extent does the proposed work restore formerly productive salmon habitat? An protection only project or ecosystem only project would score zero.	3.88
8	Supports restoration and maintenance of ecosystem functions	This criterion derived directly from NOPL's GOAL to restore and maintain ecosystem function and this pertains acquisition, restoration and combination projects. This criterion pertains to the extent to which the proposed work restores ecosystem function(s). To what extent does the proposed work support restoration or recovery of ecosystem function(s)? A project that restores a number ecosystem processes would score well here.	3.67
9	Spatial-Temporal Scale of Influence	<i>This criterion addresses the scale in space and time over which the benefits of the project would extend. A project for which the benefits would extend over a region or watershed and for years to decades would score high. Projects of local extent or temporary duration would score lower.</i>	3.27
10	Project Readiness	<i>This criterion addresses how ready projects are to implement. A project that can be implemented within the current year should score high. A project that is several years away should score low.</i>	2.52

ID	Criteria for Ranking	Criteria Narrative	New Mean Weight
11	Likelihood of success based proposer's past success in implementation	This criterion is a standard one in project selection and management. What is the probability that the project sponsor will succeed with the proposed work given their previous experience and current expertise and capability with the type of work proposed?	1.85
12	Likelihood of success based on approach	This criterion is a standard one in project selection and management. Is the approach appropriate to the work proposed? What is the probability of success of the proposed approach?	2.86
13	Reasonableness of cost and budget	This criterion is a standard one in project selection and management. Do the scope of work, overall estimated cost, and budget align? Are the budget items and costs reasonable given the scope of work?	2.17

NOPLE 2012 Ranking Work Plan Narratives

Capital Project 12096

Acquisition of Priorities identified in the "Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan"

Overall Weighted Score:

104.38

ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)	
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12					
1	Watershed Priority	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	2.88	11.58	0.0
2	Addresses limiting factor	2.00	NS	5.00	3.50	3.00	3.00	4.00	3.00	4.00	4.00	2.00	4.50	3.45	4.04	13.96	27.8	
3	Addresses stock status and trends	2.00	NS	5.00	2.50	2.00	3.00	2.00	3.00	3.50	4.00	2.00	4.00	3.00	2.56	7.68	34.2	
4	Benefits an ESA-listed stock	1.00	NS	0.00	3.50	0.00	4.00	1.00	4.00	2.00	2.00	1.00	1.00	1.77	3.33	5.90	83.1	
5	Benefits other stocks	2.00	NS	5.00	4.00	4.00	4.00	4.00	3.00	3.50	3.00	2.00	5.00	3.59	3.00	10.77	28.4	
6	Protects high-quality fish habitat	2.00	NS	5.00	4.00	5.00	4.00	5.00	5.00	5.00	4.00	5.00	5.00	4.45	3.82	17.02	21.0	
7	Restores formerly productive habitat	2.00	NS	0.00	3.00	0.00	0.00	2.00	0.00	2.00	0.00	0.00	0.00	0.82	3.88	3.17	142.7	
8	Supports restoration and maintenance of ecosystem functions	2.00	NS	5.00	3.50	4.00	4.00	4.00	3.00	3.50	4.00	2.00	2.50	3.41	3.67	12.51	27.7	
9	Spatial-Temporal Scale of Influence	2.00	NS	5.00	NS	5.00	5.00	4.00	4.00	4.00	4.00	2.00	5.00	4.00	3.27	13.08	28.9	
10	Project Readiness	2.00	NS	4.00	3.50	4.00	4.00	5.00	4.00	2.50	3.00	3.00	3.00	3.45	2.52	8.71	24.6	
Mean		2.10	4.02	3.80	3.50	3.10	3.50	3.50	3.30	3.40	3.20	2.30	3.40	Overall Weighted Score w/ Watershed		104.38		
CV (%)		35.38	#####	53.77	14.35	59.77	38.69	38.69	40.54	28.44	41.16	61.72	51.78	Overall Weighted Score w/o Watershed		92.80		

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Comments
12096	While this is a good first start the WRIA 19 conservation plan is insufficient in it's ecosystem function scope and as a result the portfolio of priority properties is fragmented and doesn't accurately reflect the true acquisition priorities for the WRIA. The nearshore element is one very good example. While NOLT is very good at what they do-land management for protection-and acquiring the priority properties will likely not harm salmon recovery- in general I'm not convinced that purchasing these properties will contribute significantly to salmon recovery-this is reflected in the scores.
12096	This project is one of the key missing pieces for salmon recovery in WRIA 19!
12096	For addressing limiting factors, project description states that "Protection of land with the best existing salmon habitat and ecosystem function on private land can only happen through voluntary conservation tools such as conservation easements." This simply is not accurate. Almost all of the limiting factors listed as being eliminated through permanent protection could also be addressed through other, much less expensive means. Protection of critical habitat, which is what various regulations were created to do, does not address existing limiting factors, including most of those listed. Although habitat protection plan has been done and properties have been rated, project readiness is a function of landowner williness and matching funds.

NOPLE 2012 Ranking Work Plan Narratives	Date:	7-Jan-12
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Capital Project 12097

Clallam River Tributary Culvert Replacement

Overall Weighted Score:

89.33

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)	
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12					
1	Watershed Priority	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.88	8.06	0.0
2	Addresses limiting factor	3	5	3	3.30	4	NS	4	5	NS	2	3.00	NS	3.59	4.04	14.50	27.8	
3	Addresses stock status and trends	3	4	3	2.50	2	NS	2	4	NS	3	2.00	NS	2.83	2.56	7.25	27.9	
4	<i>Benefits an ESA-listed stock</i>	1	0	0	3.00	0	NS	1	3	NS	1	0.00	NS	1.00	3.33	3.33	122.5	
5	Benefits other stocks	3	5	3	4.00	4	NS	3	3	NS	2	2.00	NS	3.22	3.00	9.67	30.2	
6	Protects high-quality fish habitat	1	0	0	3.50	0	NS	1	0	NS	0	0.00	NS	0.61	3.82	2.33	190.9	
7	Restores formerly productive habitat	3	5	3	4.00	3	NS	3	5	NS	3	2.00	NS	3.44	3.88	13.36	29.4	
8	Supports restoration and maintenance of ecosystem functions	2	5	4	4.00	3	NS	3	4	NS	3	3.00	NS	3.44	3.67	12.64	25.6	
9	<i>Spatial-Temporal Scale of Influence</i>	2	4	2.5	NS	4	NS	1	3	NS	3	1.00	NS	2.56	3.27	8.38	46.0	
10	<i>Project Readiness</i>	4	5	4	3.00	4	NS	3	4	NS	3	5.00	NS	3.89	2.52	9.80	20.1	
	Mean	2.48	3.58	2.53	3.34	2.68	2.80	2.38	3.38	2.80	2.28	2.08	2.80	Overall Weighted Score w/ Watershed		89.33		
	CV (%)	38.81	56.39	56.02	16.92	58.36	#####	44.72	42.53	#####	45.9	72.69	#####	Overall Weighted Score w/o Watershed		81.27		

ID	Comments
12097	Fairly straight forward project
12097	This project has many merits, but one that stands out is the work it builds upon. It's rare that restoration is done where conservation/restoration work has already been completed, and future work is planned.
12097	This project identifies a previously unknown barrier in the Clallam watershed (or at least new to me). Given the size of the wetland, if connectivity is improved this could potentially benefit coho salmon.
12097	Removing barriers to habitat should be at or near the top of our list of things to do; however, the habitat to be made accessible by this project was rated by the WDF&W as too low of value to qualify the project for the Family Forest Fish Passage Program.

NOPLE 2012 Ranking Work Plan Narratives Date: 7-Jan-12

Capital Project 12098

Dungeness River Instream Flow Restoration - Storage

Overall Weighted Score:

107.79

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	2.88	13.71	0.0
2	Addresses limiting factor	3.0	4	3.0	4.00	5.0	4.0	2.0	4	4.0	4.0	NS	5.0	3.82	4.04	15.43	22.9
3	Addresses stock status and trends	2.0	4	3.0	4.80	4.0	3.0	3.0	4	3.5	4.0	NS	5.0	3.66	2.56	9.38	23.9
4	Benefits an ESA-listed stock	2.0	4	3.0	4.00	4.0	4.0	3.0	4	4.0	4.0	NS	5.0	3.73	3.33	12.41	21.1
5	Benefits other stocks	2.0	3	3.0	4.00	4.0	4.0	3.0	3	3.5	4.0	NS	5.0	3.50	3.00	10.50	23.0
6	Protects high-quality fish habitat	1.0	0	0.0	3.50	0.0	4.0	2.0	0	1.0	0.0	NS	0.0	1.05	3.82	3.99	142.6
7	Restores formerly productive habitat	2.0	4	2.0	3.80	3.0	3.0	2.0	4	4.0	3.0	NS	4.0	3.16	3.88	12.27	27.1
8	Supports restoration and maintenance of ecosystem functions	2.0	4	3.0	3.50	4.0	3.0	2.0	4	3.5	3.0	NS	3.5	3.23	3.67	11.84	22.3
9	Spatial-Temporal Scale of Influence	2.0	4	3.5	NS	3.5	3.0	2.0	4	4.0	3.0	NS	3.0	3.20	3.27	10.46	23.5
10	Project Readiness	2	5	2	3.50	2.5	4	1	2	4	4	NS	4	3.09	2.52	7.79	40.2
Mean		2.28	3.68	2.73	3.98	3.48	3.68	2.48	3.38	3.63	3.38	4.76	3.93	Overall Weighted Score w/ Watershed		107.79	
CV (%)		43.58	37.96	45.09	12.57	41.06	17.03	41.17	41.52	27.47	39.1	#####	39.62	Overall Weighted Score w/o Watershed		94.08	

ID	Comments
12098	Details too vague and likelihood of success too ill defined to assess whether this project is ready to go. These projects in general are extremely expensive with undefined benefit to the resource. Also, it seems that the irrigation districts should be responsible for these costs-not salmon recovery dollars.
12098	Its not entirely clear exactly what is being proposed in this project. As written it sounds like a shotgun approach of water supplementation methods. Its difficult to evaluate what will be done, where it will be done and how much water will be banked.
12098	ESA stock benefit: perhaps we 'know' that there are esa listed fish in the Dungeness, but the narrative doesn't tell us so. This can be a detriment to the scores.

NOPLE 2012 Ranking Work Plan Narratives

Date: 1/7/2012

Capital Project 12099

Johnson Creek Riparian Protection and Restoration

Overall Weighted Score:

80.41

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12				
1	Watershed Priority	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	2.88	3.51	0.0
2	Addresses limiting factor	3.0	NS	3.0	3.00	2.5	3.0	2.0	3	4.0	2.0	1.00	2.0	2.59	4.04	10.47	30.9
3	Addresses stock status and trends	3.0	NS	3.0	3.50	2.0	3.0	1.0	3	3.0	2.0	1.00	2.0	2.41	2.56	6.17	35.7
4	Benefits an ESA-listed stock	2.0	NS	2.5	4.50	0.0	3.0	2.0	2	3.5	3.0	1.00	3.0	2.41	3.33	8.02	50.7
5	Benefits other stocks	2.0	NS	2.5	4.00	2.5	3.0	2.0	3	3.5	3.0	1.00	3.0	2.68	3.00	8.05	30.4
6	Protects high-quality fish habitat	2.0	NS	3.5	4.00	2.0	3.0	2.0	5	4.5	2.0	2.00	2.5	2.95	3.82	11.29	38.2
7	Restores formerly productive habitat	2.0	NS	3.0	3.00	0.0	3.0	2.0	0	3.0	2.0	1.00	2.0	1.91	3.88	7.41	59.5
8	Supports restoration and maintenance of ecosystem functions	2.0	NS	3.0	3.50	3.0	2.0	3.0	3	4.0	3.0	1.00	3.0	2.77	3.67	10.18	29.5
9	Spatial-Temporal Scale of Influence	2.0	NS	2.0	NS	4.0	2.0	1.0	3	4.5	3.0	2.00	2.0	2.55	3.27	8.34	41.8
10	Project Readiness	3	NS	3	4.00	2.5	4	1	2	4	3	2.00	2	2.77	2.52	6.99	35.5
	Mean	2.22	1.22	2.67	3.41	1.97	2.72	1.72	2.52	3.52	2.42	1.32	2.27	Overall Weighted Score w/ Watershed		80.41	
	CV (%)	26.48	#####	24.45	28.14	64.03	28.45	37.91	52.68	27.5	26.93	35.76	25.91	Overall Weighted Score w/o Watershed		76.90	

ID	Comments
12099	Preserving riparian zones is important but no indication this is a priority area or how this project will link to overall ecosystem goals. For this size of drainage I would think Bell Creek-which flows into Washington Harbor, where we are spending significant dollars- would be a better area to focus on riparian protection and restoration?
12099	I appreciate seeing a project that benefits both fish and farms.
12099	Write up could have provided a lot more information about why the habitat is valuable to salmon, what the quality of the existing habitat is, why LWD is needed, what the mass wasting potential is and how it would be addressed.
12099	Besides the fact that existing regulations prohibit any development within or adjacent to the Johnson Creek ravine, development in or adjacent to the ravine upstream of SR 101 is virtually impossible; therefore, this habitat is not under any threat. Mass wasting along the steep ravine has been occurring forever and will continue to occur regardless of whether there is a conservation easement recorded or not. Stormwater runoff into the ravine is more of a habitat threat and is not addressed by this project.

NOPL 2012 Ranking Work Plan Narratives

Date: 1/7/2012

Capital Project 12100

Elwha River Estuary Restoration Engineering Feasibility Project

Overall Weighted Score

104.79

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12				
1	Watershed Priority	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.88	14.40	0.0
2	Addresses limiting factor	2.0	5	NS	4.00	4.0	4.0	2.0	2	3.5	4.0	2.50	3.5	3.32	4.04	13.41	31.1
3	Addresses stock status and trends	3.0	4	NS	3.50	4.0	3.0	2.0	3	3.5	4.0	2.50	3.5	3.27	2.56	8.38	19.8
4	Benefits an ESA-listed stock	3.0	5	NS	4.00	4.0	4.0	2.0	3	4.0	4.0	2.50	5.0	3.68	3.33	12.26	26.0
5	Benefits other stocks	2.0	5	NS	4.00	3.0	4.0	1.0	3	4.0	4.0	2.50	5.0	3.41	3.00	10.23	36.4
6	Protects high-quality fish habitat	1.0	0	NS	3.00	0.0	0.0	2.0	0	2.0	0.0	0.00	0.0	0.73	3.82	2.78	151.8
7	Restores formerly productive habitat	2.0	5	NS	3.80	3.0	4.0	1.0	3	3.0	2.0	2.50	2.5	2.89	3.88	11.22	37.9
8	Supports restoration and maintenance of ecosystem functions	2.0	5	NS	3.50	4.0	5.0	2.0	3	4.0	2.0	2.50	4.0	3.36	3.67	12.34	34.0
9	Spatial-Temporal Scale of Influence	2.0	5	NS	NS	4.5	5.0	2.0	3	4.0	2.0	2.50	4.0	3.40	3.27	11.12	36.6
10	Project Readiness	1	5	NS	3.80	4	5	1	3	4	2	4.00	5	3.44	2.52	8.66	43.7
Mean		2.30	4.40	5.00	3.84	3.55	3.90	2.00	2.80	3.70	2.90	2.65	3.75	Overall Weighted Score w/ Watershed		104.79	
CV (%)		50.41	35.86	#####	14.13	38.97	39.07	57.74	43.9	21.32	52.55	47.94	41.81	Overall Weighted Score w/o Watershed		90.39	

ID	Comments
12100	The Elwha estuary is a top restoration priority for the Elwha nearshore, but this restoration should be done in the context of an overall plan that links the lower river to the nearshore and drift cell. This plan has been proposed for NOPL funding by other partners- twice-but it wasn't successful because the Tribe deemed a lower priority for the Elwha system. It seems premature and out of sequence to now come in for 'restoration feasibility' fund request-with no plan and for only a portion of the estuary (this proposal includes only Tribally owned property) as well as without an overall picture of what the priorities for Elwha nearshore restoration are, and where in the estuary they are. The hydrodynamics of this area, and upcoming sediment events, make this project both extremely important, and extremely complex. It can't be done with certainty without the broadest analysis. At this stage of the game, acquisition of properties might be a better use of restoration dollars-we dont know.It's also important to include all partners in the Elwha nearshore and estuary in this analysis which includes both Tribal and non-tribal landownership. There are a number of entities that have been actively working in the restoration, protection, and research of the Elwha nearshore for over a decade, including local, and private property owners and non-profit entities, that should be included in this restoration analysis-not just the Tribe and assigned contractors.
12100	This engineering feasibility project would lead to restoration of the estuary, increasing the scale of influence from dam removal. This is the kind of project TRG had in mind when we discussed the criterion for scale of influence.
12100	From the write-up, it is unclear as to whether or not the Elwha Estuary is a limiting factor for fish production (although a scorer may know themselves that it is, it should be clear in narrative). Spatial/temporal: How large is the estuary, how much is intact versus impacted, what are some of the concepts to be assessed for feasibility. A lot of info on dam project and whole watershed but not a lot on the actual estuary.
12100	While further study and assessment may lead to habitat protection or restoration, it does not in and of itself produce such results. \$200-250,000 to conduct a cost-benefit analysis of concepts that have already been assessed seems excessive.

NOPLE 2012 Ranking Work Plan Narratives

Date: 1/7/2012

Capital Project 10077.1

Gray's Marsh Restoration and Feasibility Design Phase 1

Overall Weighted Score

97.59

NS = No Score Given

CV = Coefficient of Variation (Standard deviation/Mean as %)

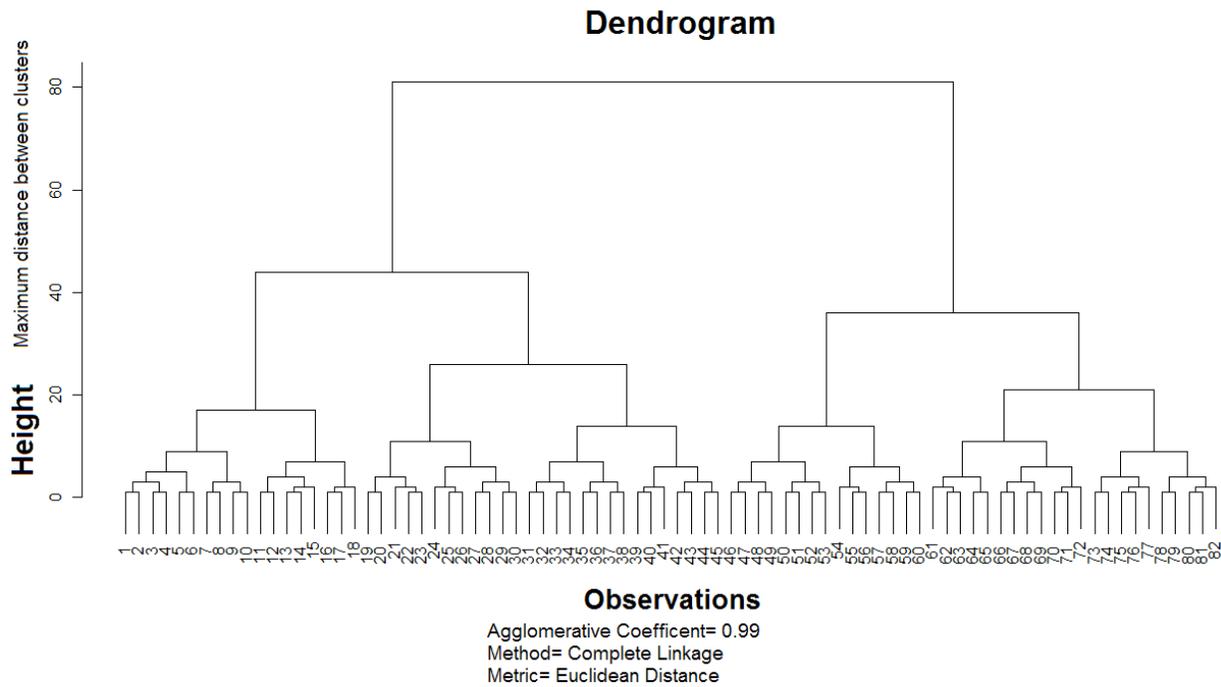
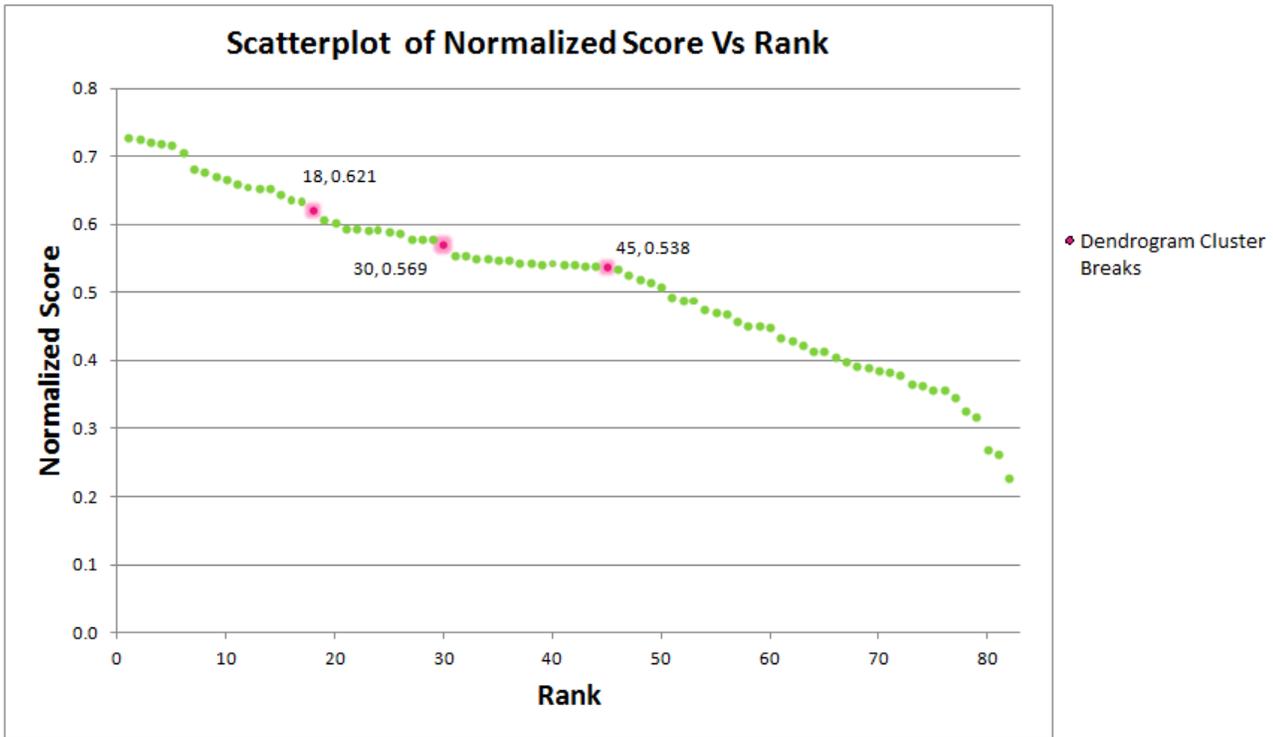
ID	Criteria for Ranking	Score 0 to 5 with 5 being best												Mean Score	Weight	Weighted Mean Score	CV (%)
		Scorer 1	Scorer 2	Scorer 3	Scorer 4	Scorer 5	Scorer 6	Scorer 7	Scorer 8	Scorer 9	Scorer 10	Scorer 11	Scorer 12				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	2.88	12.30	0.0
2	Addresses limiting factor	2.0	4	4.0	4.00	4.0	NS	NS	2	4.0	3.0	2.00	3.5	3.25	4.04	13.13	28.3
3	Addresses stock status and trends	2.0	4	3.5	3.50	4.0	NS	NS	3	3.5	3.0	2.00	3.5	3.20	2.56	8.19	22.3
4	Benefits an ESA-listed stock	2.0	4	3.0	4.00	4.0	NS	NS	2	3.5	3.0	2.00	4.0	3.15	3.33	10.49	28.0
5	Benefits other stocks	2.0	4	3.5	4.00	3.0	NS	NS	2	3.5	3.0	2.00	4.0	3.10	3.00	9.30	27.2
6	Protects high-quality fish habitat	2.0	0	0.0	3.00	0.0	NS	NS	0	2.0	0.0	0.00	0.0	0.70	3.82	2.67	165.6
7	Restores formerly productive habitat	1.0	4	3.0	4.00	3.0	NS	NS	3	4.0	3.0	2.00	2.0	2.90	3.88	11.25	34.3
8	Supports restoration and maintenance of ecosystem functions	2.0	4	3.0	4.00	4.0	NS	NS	3	3.5	3.0	2.00	2.5	3.10	3.67	11.38	25.0
9	Spatial-Temporal Scale of Influence	2.0	4	3.5	NS	4.0	NS	NS	2	4.0	3.0	2.00	2.5	3.00	3.27	9.81	30.0
10	Project Readiness	1	4	4	4.00	4	NS	NS	3	4	2	5.00	5	3.60	2.52	9.07	35.1
Mean		2.03	3.63	3.18	3.86	3.43	4.27	4.27	2.43	3.63	2.73	2.33	3.13	Overall Weighted Score w/ Watershed		97.59	
CV (%)		43.96	35.21	37.9	9.834	37.41	#####	#####	46.23	17.63	40.3	59.21	45.79	Overall Weighted Score w/o Watershed		85.30	

ID	Comments
10077.1	Grays Marsh is one of the largest remaining shoreline ownerships in WRIA 18. Protection is the highest priority-not a can of 'restoration' projects. This project should be sponsored by NOLT and focus on CE,acquisition, and protection-restoration can be done later and with higher certainty.
10077.1	I think it's worth exploring the restoration options at this location
10077.1	A good case is made for the need to assess alternatives for restoration at Grays Marsh. Are fish currently present at the site? To what extent? Species (specifically) should be listed if known. The feasibility study will help engage landowners and move the project ahead.
10077.1	Again, studies do not necessarily result in measurable habitat restoration outcomes. This project is a perfect example. It appears highly unlikely that the most significant habitat limiting factor - estuary restoration and access - will be addressed unless the property owners have a change of heart. Because of the level of study and management this property has received over the years, most of the other activities to be addressed could probably be figured out in a couple of site visits and meetings with the owners and managers. It isn't clear to me what will be accomplished by this feasibility project.

Review of NOPL 2012 Work Plan Narrative Scoring

7 January 2012

- Thank You!
 - ✓ to those sponsors that updated their narratives and offered new ones
 - ✓ to the scorers for this effort
- In December 2011, 12 TRG members scored five new and one updated workplan narratives. Only 1 TRG Member was unable to score.
 - ✓ Scorers score all narratives against all criteria except where they were primary sponsors or board members of primary sponsor organizations.
 - ✓ 6 capital narratives.
- The 2012 Narrative SCORING Workbook had two minor errors:
 - ✓ The Dungeness River Instream Flow Restoration – Irrigation Efficiencies was listed in the Narrative List Table under Updated Project
 - ✓ The Elwha River Estuary Restoration Engineering Feasibility Project was listed as an Updated Project and given a wrong ID
 - ✓ Sorry for possible confusion
- Coefficients of Variation for narratives were generally below about 40% with exceptions for criteria 4 (Benefits an ESA-listed stock), 6 (Protects high-quality fish habitat), 7 (Restores formerly productive habitat), 9 (Spatial-Temporal Scale of Influence), & 10 (Project Readiness).
 - ✓ Last year, Coefficients of Variation for capital narratives were generally below about 40% with exceptions for criteria 4 and 6.
 - ✓ Criterion 4 had
 - 1 case out of 6 where the CV was above 100%.
 - 2 cases out of 6 where the CV was above 40%.
 - ✓ Criterion 6 had 4 cases out of 6 where the CV was above 100%.
 - The scores for criteria 6 were generally where a restoration project was seen by some scorers to offer some protection of habitat that merited a score of 1 or 2; sometimes as high as a score of 4.
 - ✓ Criterion 7 had
 - 1 case out of 6 where the CV was above 100%.
 - 1 case out of 6 where the CV was above 40%.
 - The scores for criteria 7 were generally where an acquisition project was seen by some scorers to offer some restoration of habitat that merited a score of 1 or 2; sometimes as high as a score of 3.
 - ✓ Criterion 9 had 2 cases out of 6 where the CV was above 40%.
 - ✓ Criterion 10 had 2 cases out of 6 where the CV was above 40%.
- The dendrogram indicates cluster breaks at about
 - ✓ Project ranked in 18th place, Score 0.621- About 22% of the narratives
 - ✓ Project ranked in 30th place, Score 0.569- About 37% of the narratives
 - ✓ Project ranked in 45th place, Score 0.538- About 55% of the narratives
- Last year, the LEG decided that those projects ranked 42 and above are eligible to submit for 2011 SRFB/PSAR funding and encouraged submittals of projects ranked in the top 20.



2012 NOPL

Project Narratives

No.	Project Description	Likely Sponsor(s)
Capital Projects		
HABITAT		
12096	<p>Acquisition of Priorities identified in the “Western Strait of Juan de Fuca Salmonid Habitat Conservation Plan”</p> <p><u>Description:</u> This capital project will conserve the highest priority parcels identified in The Western Strait of Juan de Fuca (WSJF) Habitat Conservation Plan (Draft). The Plan identifies and prioritizes aquatic and riparian habitat within the planning area that are important to salmon and steelhead productivity and survival. Habitats and properties along the western portion of the Strait of Juan de Fuca were prioritized based on the recommendations and a system of prioritization set forth in the <i>WRIA 19 Salmonid Restoration Plan</i> (North Olympic Peninsula Lead Entity for Salmon [NOPL] 2011) and assess ecosystem function, market value, and landowner willingness on a parcel-by-parcel basis to develop a plan for land acquisition through permanent conservation easements and acquisition. This project benefits multiple stocks.</p> <p><u>Why the Project is needed (limiting factors to be addressed):</u> Protection of land with the best existing salmon habitat and ecosystem function on private land can only happen through voluntary conservation tools such as conservation easements. Acquisition of priority parcels will protect ecosystem function for salmonids in WRIA 19.</p> <p>These limiting factors would be eliminated if lands were permanently protected:</p> <ul style="list-style-type: none"> • Floodplain development and alterations • Loss of large woody debris • Estuary and nearshore alterations • Degraded water quality and high stream temperatures • Barriers that block access to spawning and rearing habitat • Conversion of riparian forests to non-forest uses • Excess sedimentation, including fine sediment in spawning gravels • Degraded riparian conditions (e.g, conversion from conifer to hardwood dominated riparian forests) • Stream channelization and bank armoring • Stream cleaning • Channel destabilization and channel incision • Loss of adequate quality and quantity of spawning gravel • Increased peak flows • Unauthorized water withdrawals and low flows <p>According to the Puget Sound Recovery Plan, “any further reduction in habitat quality and quantity will require more restoration to achieve recovery goals...protection is needed at the individual habitat site as well as the ecosystem scale to ensure the processes that create habitat to continue to function (p. 353). This is why it is paramount to follow the newly emerging tenet for species recovery - ‘protect the best and restore the rest’.</p> <p><u>Benefit to Salmon:</u> Five salmonid species are targeted to benefit from implementing the recommendations contained in this Plan: Chinook, coho, and chum salmon, and steelhead and coastal cutthroat trout. These species depend on sufficient habitat quantity and quality throughout their lifecycle.</p> <p><u>Which Salmon Recovery Plan Objective does this Project Meet and How?</u></p> <ul style="list-style-type: none"> • Puget Sound Recovery Plan – Habitat: Protect Existing Physical Habitat & Habitat Forming Processes • Puget Sound Partnership – Protect Habitat • Salmonid and Steelhead Habitat Limiting Factors in the Western Strait of Juan De Fuca – protect channel migration zone and conifer riparian areas. • NOPL Recovery Strategy 2008 - implement salmon recovery plans to protect fish habitat & maintain ecosystem function. 	NOLT

	<ul style="list-style-type: none"> • WRIA 19 Salmonid Restoration Plan- <i>Draft</i> - Protect habitat <p><u>How Project supports Restoration or Protection of Ecosystem Functions?</u> This project would result in protection of the most important floodplain, riparian, and nearshore habitats for salmonid and steelhead productivity, based on the recommendations and a system of prioritization set forth in the <i>WRIA 19 Salmonid Restoration Plan</i> (North Olympic Peninsula Lead Entity for Salmon [NOPL] 2011).</p> <p><u>Project’s Spatial-Temporal Scale of Influence:</u> The project covers the entire WRIA, from the Elwha to the western edge of Clallam County. The projects proposed for funding will likely be clusters of high priorities in a certain reach of a river, for example the Hoko River, which ranked the highest.</p> <p><u>Timing Needs and Sequencing Requirements (project readiness):</u> The project is ready to move forward once funding is available. The plan has many priorities for the WRIA, knowing that landowner willingness will be a limiting factor. If the highest priority is interested in conservation options, we will move down the list until there is a willing landowner.</p> <p><u>Range of Estimated Costs:</u> The Land Trust generally prefers conservation easements, though will consider land acquisition for certain projects. If high priority parcels are acquired fee-simple, land values will probably be around \$6,000/acre, and conservation easements, on average, are about half of fair market value, \$3,000/acre. The incidental costs, including survey, appraisal and review, legal, title, forest management plan, can add up to \$30,000.</p> <p><u>Watershed priority & watershed area (which WRIA):</u> WRIA 19</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u> The Plan was funded by the Salmon Recovery Funding Board (Project #09-1518) in 2009, and will be completed at the end of 2011. The intent of the Plan was to prioritize acquisition proposed in future funding phases. This project meets that intent.</p> <p>Photos and Graphics are available for viewing at: http://hwsconnect.ekosystem.us/Project/180/17386</p>	
09005	<p>Sekiu Mainstem (RM2-5) LWD Restoration</p> <p><u>Project Description:</u> The current Fall Chinook population returning to the Sekiu is very low and habitat needs to be improved to facilitate recovery of this traditional Chinook population. Furthermore, this watershed has been severely impacted by logging and road impacts. This project will restore spawning and rearing habitat in the Sekiu Mainstem, which is known Chinook habitat. Adding LWD to this reach will create habitat complexity, providing sheltering areas for spawning adults and rearing fingerlings. LWD also has the potential to moderate temperature by creating large deep pools. It will also assist in gravel bed creation and maintenance. This project will benefit Chinook as well as coho, chum, steelhead and cutthroat. Improvement of upland habitat conditions will contribute to recovering health of estuarine areas and the nearshore migration corridor, which is used by a wide variety of species and stocks as they exit and return to Puget Sound.</p>	Makah
09006	<p>Sekiu, Clallam, Pysht Riparian Re-vegetation</p> <p><u>Project Description:</u> This project will restore the riparian zone along the independent tributaries to the Strait of Juan de Fuca. All of these rivers are known Chinook habitat, although current populations are much depressed. Re-vegetation of riparian zones will reduce sediment impacts, improve water quality, and restore channel migration zone habitat and function. Shade and eventual LWD recruitment will continue to improve resting and rearing conditions in the mainstem for returning adults and rearing young. Reducing sediment will improve spawning bed and egg incubation conditions. This project will benefit Chinook as well as coho, chum, steelhead and cutthroat. Improvement of upland habitat conditions will contribute to recovering health of estuarine areas and the nearshore migration corridor, which is used by a wide variety of species and stocks as they exit and return to Puget Sound.</p>	Makah/ LEKT/ NOSC

11082	<p>Hoko River 9000 Road Barrier Correction</p> <p><u>Project Description:</u> The 9000 Road crosses the upper Hoko River at river mile 21.3. The road was originally constructed in the 1950's as a railroad grade; it was converted to a mainline logging road in the early 1970's. The existing crossing on the Hoko River is a 7' corrugated metal pipe that has an outlet drop of ~5' and is considered a total barrier to anadromous fish. LEKT in partnership with Rayonier Timber proposes to remove the existing culvert structure and replace it with a three piece prefabricated concrete bridge with a total span of ~130'. Correction of this long standing barrier would allow access to approximately 3 miles of low gradient habitat above the road crossing as well as allow fluvial transport of sediment and large wood.</p> <p><u>Limiting Factors Addressed:</u> This project will restore historic access to the upper portions of the Hoko River. The Hoko Watershed Analysis (Pentec 1995) identifies this culvert as the most significant barrier in the Hoko Watershed (Appendix F). This barrier has long been recognized by local habitat biologists for limiting anadromous fish access to the upper watershed.</p> <p><u>Benefits to Salmon:</u> This project will restore access to the upper Hoko River including approximately 3 miles of low gradient habitat. Multiple species of salmon will benefit from this project. Olympic Peninsula Chinook ESU, Olympic Peninsula coho ESU and Olympic Peninsula steelhead ESU as well as cutthroat trout will be the primary beneficiaries along with coastal cutthroat. Habitats accessed above the 9000 Road will likely provide spawning and rearing habitat primarily for coho, steelhead and cutthroat. Small numbers of Chinook may also access areas above the 9000 Road. Correction of human caused barriers is a fundamental concept in salmon habitat restoration. In a review of salmon restoration strategies in Pacific Northwest streams, Roni et al. (2006) considered these projects the highest priority for systematic watershed restoration.</p> <p><u>Recovery Plan Objectives:</u> The Hoko River is not currently included in any federally listed fish stocks in Washington State. There is no formal recovery plan for the Hoko River per se. However, several Hoko River stocks are performing below their potential and are considered stocks of concern. Of particular note is the summer/fall Hoko River Chinook stock which is considered in a "depressed" status because it has been chronically below its escapement goal of 1000 fish. Hoko steelhead and coho are currently considered healthy, meeting their escapement goals of 400 and 2,200 fish respectively in most years. The Hoko River currently supports the largest amount of low gradient habitat of any watershed in the NOPLEG planning area. A watershed analysis was completed for the Hoko Watershed (Pentec 1995). The analysis did not include a complete assessment of barriers in the basin; however the 9000 Road was noted (appendix F).</p> <p><u>Restoration or Protection of Ecosystem Function:</u> This project restores ecosystem function by restoring fish passage to historically accessible habitats in the upper Hoko Watershed. The primary land use in the Hoko Watershed is industrial forestry. Ecosystem functions are assumed to be protected through the Forest and Fish Agreement (FFA), which increased the standards of forest practices rules in Washington beginning in 2000. Examples of ecosystem protection measure instituted in the Hoko Watershed by FFA include wider riparian buffers, road improvements, identification and avoidance of geologically unstable areas and correction of fish passage barriers.</p> <p><u>Spatial/Temporal Influence:</u> This project represents a portion of the landowner's ongoing efforts to correct habitat problems generated by the location, historic construction practices and use of the 9000 Road. This road was originally constructed as a railroad grade adjacent to 2.5 miles of the upper Hoko River. The road accesses large blocks of industrial forest land in the upper Hoko, Dickey and Ozette watersheds. During wet weather haul, this road has historically been a chronic producer of fine sediment to the Hoko River. Rayonier has invested significant resources to correct this problem including relocating 2.5 miles of the road to a more stable ridge top location, installing sediment control measures, improving road surfacing and limiting wet weather haul. Upstream of the 9000 Road crossing on the 9200 Road, Rayonier has corrected two other culvert barriers in the upper Hoko under the FFA.</p> <p><u>Project Readiness:</u> Preliminary engineering has been completed by Rayonier. Additional engineering is currently underway and when completed will allow for a detailed cost estimation. Permitting could begin following completion of the final engineering design and if funded this project could be implemented within 2 years of the award.</p>	LEKT/ Rayonier
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	<p>Cost: Estimated cost is \$350,000-450,000. Rayonier is providing a 50% cash match according to the most recent RCO policies on fish barrier projects associated with the FFA.</p> <p>Watershed Priority: The Hoko River has a normalized score of 2.93, and is ranked as 8th priority watershed (5th freshwater).</p> <p>Miscellaneous: This project is also related spatially/temporally to the Hoko 9000 Road Abandonment Project which is located between river mile 18.5 and 20.0 and includes removal of side cast and road fill materials, revegetation and LWD additions to that reach of the Hoko River.</p>	
<p>11083</p>	<p>Hoko River 9000 Road Abandonment</p> <p>Project Description: The 9000 Road was formerly a railroad grade that connected Clallam Bay/Seki through the Hoko Watershed to the Sol Duc Valley. The grade was converted to a mainline logging road in the 1970's as railroad transport of logs was abandoned by the timber industry in favor of truck transport. The upper section of the 9000 Road begins at Lake Pleasant in the Sol Duc Valley and parallels portions of the Hoko River from the watershed divide at 2.4 miles to the confluence of the 6000 road (6.5 miles). This section of road has historically been a chronic producer of fine sediment to the Hoko River. Heavy use to access large tracts of forest lands in the Hoko, Dickey and Ozette watersheds, created very significant surface erosion issues. Additionally, the grade was constructed using large cut and fill surfaces that are potentially unstable. Beginning in 2000, significant efforts by the landowner have been made to improve road surfacing to reduce erosion from the road, and unstable fill that could be removed while maintaining a usable mainline road were removed. In 2005, Rayonier relocated 2.5 miles of the 9000 Road away from the Hoko River to a more stable location between the Hoko River and Bear Creek. While the early efforts to reduce landslide potential were worthwhile, large areas of unstable fill from the original grade construction remain on the old road surface. These remaining fills have landslide potential and some have recently failed and directly delivered sediment to the upper Hoko River. In this project we propose to fully abandon this portion of the old 9000 grade. Thirty-six sites have been identified for side-cast fill or stream-crossing fill removal. The material will be removed using heavy equipment and transported to stable locations for wasting. Natural water courses will be reestablished and the entire grade will be revegetated using native conifers. Additionally, LWD will be placed in the upper Hoko between River Mile 18.5-19.0 to restore in-channel fish habitat.</p> <p>Limiting Factors Addressed: This project will reduce the risk of landslide and fine sediment delivery to the upper Hoko River, a reach which is heavily utilized for spawning and rearing by multiple species of salmon. It will restore natural water drainage patterns and increase the long-term potential of functional riparian zones along the 2.5 mile reach. Additions of large wood will improve spawning and rearing habitat in a 0.5 mile reach of low gradient stream habitat. This reach of the Hoko River is included in long-term assessment of changes of in-channel wood on Olympic Peninsula streams. Since 1982, this site has maintained very low volumes of LWD (12.0-15.5 m³/100 m). The Hoko Watershed Analysis (Pentec 1995) identifies the sedimentation and depletion of in-channel wood as significant limiting factors for salmon habitat in the Hoko Watershed (Appendices E&F).</p> <p>Benefits to Salmon: This project will reduce the risk of accelerated sedimentation as well as improve hydrologic, riparian and in-channel spawning and rearing habitat in the upper Hoko River between river mile 18-22.5. It will also reduce potential sedimentation sources to the river as a whole. Multiple species of salmon will benefit from this project. Olympic Peninsula chinook ESU, Olympic Peninsula coho ESU, Olympic Peninsula chum salmon, Olympic Peninsula steelhead ESU as well as coastal cutthroat have all been documented to use habitats in this reach. Additions of LWD will improve pools structure in a reach that had only 35% pools by surface area (Pentec 1995). This reach is heavily utilized by multiple species of salmon for spawning and rearing.</p> <p>Recovery Plan Objectives: The Hoko River is not currently included in any federally listed fish stocks in Washington State. There is no formal recovery plan for the Hoko River per se. However, several Hoko River stocks are performing below their potential and are considered stocks of concern. Of particular note is the summer/fall Hoko River Chinook stock which is considered in a "depressed" status because it has been chronically below its escapement goal of 1000 fish. Hoko steelhead and coho are currently considered healthy, meeting their escapement goals of 400 and 2,200 fish in most years. The Hoko River currently supports the largest amount of low gradient habitat of any</p>	<p>LEKT/ Rayonier</p>

	<p>watershed in the NOPLEG planning area.</p> <p><u>Restoration or Protection of Ecosystem Function:</u> This project restores ecosystem function by reducing the potential of direct delivery of sediment to the upper Hoko River. It also restores hydrologic, riparian and in-channel functions to this reach. The primary land use in the Hoko watershed is industrial forestry. Ecosystem functions are afforded protection by the Forests and Fish Agreement (FFA). Examples of ecosystem protection measure instituted in the Hoko watershed by FFA include wider riparian buffers, road improvements, identification and avoidance of geologically unstable areas and correction of fish passage barriers. This restoration action is complementary to those long-term management strategies</p> <p><u>Spatial/Temporal Influence:</u> This project represents a portion of the landowner’s ongoing efforts to correct habitat problems generated by the location and use of the 9000 Road. Rayonier has invested significant resources to correct this problem including relocating 2.5 miles of the road to a more stable ridge top location, installing sediment control measures, removing unstable fill, improving road surfacing and limiting wet weather haul. Additionally, Rayonier has proposed to remove the largest remaining fish barrier in the Hoko River (9000 road crossing) and has corrected numerous other culvert barriers in the upper Hoko.</p> <p><u>Project Readiness:</u> Preliminary engineering has been completed by Rayonier. If funded this project could be implemented within 2 years of the award.</p> <p><u>Cost:</u> Estimated cost is \$250,000-350,000.</p> <p><u>Watershed Priority:</u> The Hoko River has a normalized score of 2.93, and is ranked as 8th priority watershed (5th freshwater).</p> <p><u>Miscellaneous:</u> This project is also related spatially/temporally to the Hoko 9000 Barrier Correction Project.</p>	
<p>09001.1</p>	<p>Little Hoko River LWD Project</p> <p><u>Project Description:</u> This project is an on-going effort to improve salmon habitat; adult spawning and juvenile rearing. Between 1994 and 1998, the Little Hoko received extensive habitat restoration which included; cattle exclusion, planting of 20,000 native trees and shrubs, restructuring of channel habitats using 2,500 pieces of LWD, floodplain road abandonment, and off-channel habitat development. This project was one of the largest restoration projects conducted on the Olympic Peninsula at that time. Monitoring has shown that the project has been partially successful in restoring channel and riparian habitat features, however much of the wood that was utilized were smaller cut logs that have been buried by channel aggradation or degraded over time. In this proposal we propose to add additional LWD (200 pieces) using a helicopter. All wood will be very large coniferous trees with root wads attached and wood will be placed in aggregations to maximize channel effects. Adding additional LWD in Little Hoko will create additional habitat complexity, providing sheltering areas for spawning adults and rearing fingerlings. It will also reduce scour and assist in gravel bed creation and maintenance. Continuing the process of bed aggradation will assist with floodplain connectivity that was lost through incision caused by historic land uses.</p> <p><u>Limiting Factors Addressed:</u> This project will restore/improve spawning habitat for returning adults and provide rearing habitat for juvenile salmonids. Not only will LWD reduce scour and assist in gravel bed creation, LWD placement has the potential to moderate temperature by creating large deep pools. The Hoko Watershed Analysis (PenTech 1995) identifies the sedimentation and depletion of in-channel wood as significant limiting factors in the Hoko watershed (appendices E&F). For the Little Hoko, the intentional removal of LWD along with channelization and unrestricted grazing, has led to channel incision and disconnection of its floodplain Pentech 1995, Appendix E). While the previous restoration efforts have been beneficial in promoting recovery, additional inputs of LWD are recommended based on long term monitoring conducted by LEKT (McHenry 2008).</p> <p><u>Benefits to Salmon:</u> Multiple species of salmon will benefit from this project. Olympic Peninsula chinook ESU, Olympic Peninsula</p>	<p>LEKT</p>

	<p>coho ESU, Olympic Peninsula chum salmon, Olympic Peninsula steelhead ESU as well as coastal cutthroat have all been documented to use habitats in the Little Hoko River. Improvement of upland habitat conditions will contribute to recovering health of main-stem Hoko River and estuarine areas and the nearshore migration corridor. Additions of large wood will be designed to maximize floodplain connectivity by encouraging continued bed aggradation and lateral migration. Previously planted riparian trees are rapidly gaining height and size to partially support these processes. Unfortunately the overall stand age of the forest established some twenty years ago is still too small to support all riparian functions.</p> <p>Recovery Plan Objectives: The Little Hoko River is not currently included in any federally listed fish stocks in Washington State. There is no formal federal recovery plan for Little Hoko River. However, a watershed analysis has been completed for the watershed (PenTec 1995). The channel section (appendix E) found that because of conversion of the forested floodplain to agricultural uses and significant wood removal, channel incision of up to a 1.5 meter had occurred. Additionally, wood recovery is listed as an important component of overall Hoko recovery. A restoration plan for the Little Hoko River prepared by LEKT (1993) guided initial restoration actions through the late 1990's. That plan included the following objectives: 1) control of unrestricted livestock grazing, 2) revegetation of floodplain riparian areas, 3) channel restructuring with LWD, 4) development of off-channel habitats (connected wetlands, ponds), and 5) floodplain road abandonment. A long term monitoring component was also instituted to evaluate the project over time. Based on monitoring results (McHenry 2007), these objectives have largely been met although further LWD introductions were recommended.</p> <p>Restoration or Protection of Ecosystem function: This project restores ecosystem function by restoring fish habitat, improving riparian zones, and re-connecting floodplain throughout Little Hoko River Watershed and as such is a restoration function project. However, the lower portions of the Little Hoko River are owned by the Washington State Parks and Recreation Commission. The Cowan Ranch State Park is undeveloped and managed primarily for day use only at this time.</p> <p>Spatial/Temporal Influence: This project represents a continued effort to build upon LEKT's ongoing efforts to improve habitat problems in the Little Hoko River generated by historic land uses including logging, agriculture, and channelization. Natural recovery of the system is ongoing and lands in the project area are under long term protection in Cowan Ranch State Park.</p> <p>Project Readiness: If funded this project could be implemented within 2 years of award. Washington Parks and Recreation has been a strong project partner during previous restoration efforts and will be asked to partner again.</p> <p>Cost: \$250,000-350,000</p> <p>Watershed Priority: Little Hoko River has a normalized score of 2.93, and is ranked as 8th priority watershed (5th freshwater).</p> <p>Miscellaneous: The Little Hoko River is the largest tributary of the Hoko River and was the site of the first comprehensive watershed scale restoration effort. The Hoko River currently has more available low gradient habitat than any other river in the NOPLEG planning area and currently supports the largest natural coho salmon and winter steelhead populations.</p>	
<p>09002</p>	<p>Hoko River – Emerson Flats LWD Supplementation</p> <p>Project Description: This project will restore spawning and rearing habitat in the Hoko Mainstem, approximately RM 6, which is known Chinook habitat.</p> <p>Why the Project is Needed (limiting factors addressed)? Adding LWD to this reach will create habitat complexity, providing sheltering areas for spawning adults and rearing fingerlings. It will also reduce scour and assist in gravel bed creation and maintenance.</p> <p>Benefit to Salmon: This project will benefit Chinook, as well as coho, chum, steelhead and cutthroat.</p>	<p>Makah</p>

	<p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> Hoko River Fit To Strategy on www.Noplegroup.org</p> <p>1. The NOPLE strategy plan, defined by WIRA 19 lists “Severe Lack of Large Woody Debris (LWD)” as one of “the major limiting factors for the Hoko River system.” “Sediment transport and water velocity effects are worsened by a severe lack of large woody debris (LWD). Many riparian areas are dominated by hardwoods, and will not contribute to future LWD. Also, it is believed that the change in age and type of surrounding forests contributes to an increased frequency and severity of peak flows.”</p> <p>2. Hoko Watershed Analysis Riparian Function</p> <p>The Department of Natural Resources completed a Hoko Watershed Analysis in 1995 that lists LWD as one of the major limiting factors. There is a low amount of LWD, the future prospect for LWD recruitment is low, and this has impacted salmonid habitat.</p> <p><u>Other Key Information:</u> Makah as project sponsor</p>	
<p>09003</p>	<p>Lower Hoko River - Riparian Revegetation</p> <p><u>Project Description:</u> This project will compliment phase I by restoring the riparian zone along the Hoko Mainstem, RM 1-7, which is known Fall Chinook habitat.</p> <p><u>Why the Project is Needed (limiting factors addressed)?</u> Water Resource Inventory Area 19 (Lyre-Hoko) Salmonid Restoration Plan, Chapter 5 (draft dated April 20, 2008), specifies that “Identified limiting factors in WRIA 19 include the following: ... Degraded water quality and high stream temperature and ...Degraded riparian conditions”</p> <p><u>Benefit to Salmon:</u> This project will restore known Hoko Fall Chinook habitat, and also benefit coho, chum, steelhead and cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> Water Resource Inventory Area 19 (Lyre-Hoko) Salmonid Restoration Plan, Chapter 5 (draft dated April 20, 2008), specifies that “Identified limiting factors in WRIA 19 include the following: ... Degraded water quality and high stream temperature and ...Degraded riparian conditions”. These are two of the numerous limiting factors that have lead to a decline in the salmonid populations in WRIA 19, and restoring the quality and quantity of healthy salmonid habitat will help restore salmonid populations on the Hoko.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Revegetation of riparian zones will increase channel stability thereby reducing sediment impacts and improving water quality in this reach of the river. The floodplain and channel migration zone will benefit from increased roughness by reducing water velocity and increasing floodplain storage capabilities and creating access to greater diversity of habitat for all salmonids. Shade and eventual LWD recruitment will continue to improve resting and rearing conditions in the mainstem for returning adults and rearing young. Reducing sediment will improve spawning bed and egg incubation conditions.</p> <p><u>Address Timing Needs & Sequencing Requirements:</u> This project will compliment other projects by restoring the riparian zone along the Hoko Mainstem, RM 1-7, which is known Fall Chinook habitat.</p> <p><u>Other Key Information:</u> NOSC as project sponsor, Makah as sponsor</p>	<p>NOSC/ Makah</p>
<p>09004</p>	<p>Hoko River/Hermans Creek – Instream LWD Supplementation</p> <p><u>Project Description:</u> This project will restore formerly productive spawning and rearing habitat to Herman Creek, a Tributary to the Hoko River and known Chinook habitat. Adding LWD to this tributary will create habitat complexity, providing sheltering areas for spawning adults and rearing fingerlings. It will also reduce scour and assist in gravel bed creation and maintenance. Herman creek provides high quality habitat for Chinook as well as coho, steelhead</p>	<p>Makah</p>

	and cutthroat.	
11084	<p>Bear and Cub Creek LWD Project</p> <p><u>Project Description:</u> Bear and Cub creeks are low gradient tributaries in the Upper Hoko Watershed. Historically affected by logging and road impacts, salmon habitat has been degrading over time by loss of large woody debris and pool structure. This project will restore spawning and rearing habitat in both Bear and Cub creeks for Chinook and coho salmon, steelhead and cutthroat trout. Using a heavy lift helicopter, a total of 150 large conifer logs with root wads attached will be flown into pre-selected sites in the lower reaches (river miles 0-1.5 in each creek) creating habitat complexity for sheltering spawning adults and rearing juveniles.</p> <p><u>Limiting Factors Addressed:</u> This project will restore/improve spawning habitat for returning adults and provide rearing habitat for juvenile salmonids. Not only will LWD reduce scour and assist in gravel bed creation, LWD placement has the potential to moderate temperature by creating large deep pools that increase groundwater connectivity. Treatment reaches are focused on the lower portions of both creeks which are characterized by pool-riffle, forced pool-riffle and plane bed habitat types. These types of channels are unconstrained by their valleys, have gradients less than 3%, and generally respond favorably to the additions of large wood (Montgomery and Buffington 1993). Both Cub and Bear creeks are part of a long term study assessing changes in channel wood characteristics over time on Olympic Peninsula streams in response to logging. Both creeks continue to have dramatic reductions in wood volume. Since 1982, volumes of LWD have dropped by 84% and 72% in Cub and Bear creeks, respectively (McHenry et al. 1998; McHenry et al. In Prep.).</p> <p><u>Benefits to Salmon:</u> This project will restore habitat and potentially benefit Chinook, coho, steelhead, and cutthroat trout; chum might also utilize these creeks. Multiple species of salmon will benefit from this project. Olympic Peninsula Chinook ESU, Olympic Peninsula coho ESU, Olympic Peninsula chum salmon, Olympic Peninsula steelhead ESU as well as coastal cutthroat have all been documented to use habitats in the Hoko River and its larger tributaries. Improvement of upstream habitat conditions will contribute to recovering health of the mainstem Hoko River and estuarine areas and the nearshore migration corridor.</p> <p><u>Recovery Plan Objectives:</u> The Hoko River is not currently included in any federally listed fish stocks in Washington State and there are no formal federal recovery plans for either Cub or Bear creeks. However, a watershed analysis has been completed for the Hoko watershed (Pentec 1995). Wood recovery is listed as an important component of the overall watershed health (appendices E &F). The Hoko Watershed Analysis found that riparian forests had been harvested between 1920's and 1960's and that extensive wood removal had occurred throughout the watershed. The current structure of riparian forests in the Hoko River is generally inadequate to provide for natural habitat-forming processes particularly with regards to in-channel wood. For example, plots of the riparian forests along Bear and Cub creeks conducted in the Hoko Watershed Analysis found that forests were dominated by deciduous trees (average 88%) with diameters that did not exceed 26" (Pentec 1995 Appendix E).</p> <p><u>Restoration or Protection of Ecosystem Function:</u> This project restores ecosystem function by restoring in-channel fish habitat and improving floodplain connectivity throughout both tributaries. The primary land use in the Hoko Watershed is industrial forestry. Ecosystem functions are afforded protection by the Forests and Fish Agreement (FFA). Examples of ecosystem protection measure instituted in the Hoko Watershed by FFA include wider riparian buffers, road improvements, identification and avoidance of geologically unstable areas and correction of fish passage barriers. This restoration action is complementary to those long-term management strategies.</p> <p><u>Spatial/Temporal Influence:</u> This project represents an expansion of recent effort in the upper Hoko River to improve habitat conditions for anadromous fish consistent with the Forests and Fish Agreement. Two other projects are proposed just upstream of this site (Hoko 9000 Road Abandonment/Hoko 9000 Road Barrier Correction). Downstream, a large scale restoration project on the mainstem Hoko River and Ellis Creek was completed by partners in 2008. This project included the removal of a culvert barrier (trib 19.0191), abandonment of 0.5 miles of floodplain road, removal of two railroad trestles, and additions of large wood in Ellis Creek and in the mainstem Hoko River.</p> <p><u>Project Readiness:</u> If funded, this project could be implemented within 2 years of award. Project layout/design would proceed</p>	LEKT/ Rayonier

	<p>permitting. Rayonier Timberlands and the Makah Tribe would be the primary potential partners.</p> <p>Cost: \$100,000-155,000</p> <p>Watershed Priority: The Hoko Watershed has a normalized score of 2.93, and is ranked as 8th priority watershed (5th freshwater).</p> <p>Miscellaneous: This project is modeled after similar projects conducted by LEKT with support from Columbia Helicopter in Sadie Creek (2004), Salt Creek (2006 and 2010), East Fork Deep Creek (2007), West Fork Deep Creek (2009) and Ellis Creek (2008). These projects have focused on small to medium-sized, low gradient streams in forested settings. The Vertol Helicopter, which is a smaller version of the Chinook, is the perfect cost effective machine for these types of settings. It is fast and causes virtually none of environmental impacts associated with ground based LWD placements.</p>	
12097	<p>Clallam River Tributary Culvert Replacement</p> <p>Project Description: Located on the 203 acre Sadilek property at approximately river mile 2 on the Clallam River, this project will result in removal of two undersized (24") culverts in a private road and replace them with a bridge. The culverts currently restrict the flow of water from a forested wetland into the unnamed tributary (Sadilek Creek for our purposes) of the Clallam River. In addition to simply being too small for winter flows, the problem at this site is exacerbated by the presence of some unknown critter that continually stuffs vegetative debris into the ends of the pipes. Weekly pipe cleaning is necessary during the winter to reduce flooding. Additionally, and most importantly from an ecosystem perspective, the pipes are perched the majority of the time and don't allow for consistent juvenile fish access to the almost 16 acre forested wetland upstream of the culverts. A bridge is needed to allow a more functional hydrologic connection between the wetland and the Sadilek Creek while maintaining property access for the landowners and restoring juvenile fish migration up into the forested wetland where there is prime off channel over wintering habitat for Clallam River coho and steelhead.</p> <p>Why the Project is Needed (limiting factors to be addressed): "Barriers to fish passage (culverts and dams)" and "poor off-stream rearing and overwintering habitat" are identified in the 2008 NOPL Strategy as limiting factors.</p> <p>Benefit to Salmon (how does it address stock status & trends?)Which ESA-listed stock and/or non-listed stock does this project address? The barrier removal project will open access to off channel rearing in a nearly 16 acre forested wetland. Coho, steelhead and cutthroat are expected to benefit by increased access to high quality off channel rearing habitat. No salmon or trout species in the Clallam River are currently listed under the ESA.</p> <p>Which Salmon Recovery Plan Objectives does this Project Meet & How? This project meets goals and objectives of the NOPL 2008 Salmon Recovery Strategy. Specific goals stated in the Strategy that the project will address include: Goal 1: <i>Achieve robust fish stocks</i> - this project will contribute to greater juvenile production, especially for coho, thereby likely contributing to greater harvest opportunities for this non-listed commercial and sport fish species. Goal 2: <i>Implement recovery plans and protect and restore fish habitat</i> - this project implements elements of the NOPL 2008 Salmon Recovery Strategy and the WRIA 19 Salmonid Recovery Plan related to the objective of 'Restoring Fish Passage' and will lead to one barrier removed. Goal 3: <i>Restore and maintain ecosystem function and nearshore processes</i> - Objective: <i>Focus on protection and restoration of habitat forming process.</i> This project restores ecosystem function to a nearly 16 acre forested wetland. This wetland is larger than any of those identified in the 2008 <i>Clallam River Watershed Stream Habitat Inventory and Assessment</i> as blocked by partial or full fish passage barriers. A larger opening will restore the habitat processes and hydrologic function between the forested wetland, the 0.13 miles of Sadilek Creek downstream of the barrier, and the Clallam River. Goal 4: <i>Instill ecosystem awareness:</i> The project has already led to communications with the family and local community members about the importance of the forested wetland for juvenile fish, has led to education of young field crew workers spending their time to keep the culvert clear of debris, and will become part of the sponsors education and outreach program as we educate Clallam and Jefferson County residents about the</p>	NOSC

	<p>project and its benefits.</p> <p>Goal 5: Integrate efforts: Objective: Already the project has 4 partners including NOSC, the landowner, local community members and the Pacific Coast Salmon Coalition. The project will be shared through two statewide databases, the Habitat Work Schedule and Prism.</p> <p><u>How Project supports Restoration or Protection of Ecosystem Functions? (Does it protect high quality fish habitat or restore formerly productive habitat? Does it support restoration and maintenance of ecosystem functions?)</u></p> <p>The project will restore fish access to nearly 16 acres of high quality forested wetlands and will restore hydrologic connectivity between the wetland, Sadilek Creek and the Clallam River improving juvenile fish migration between the Clallam River and the forested wetland. It is a simple fix that will dramatically improve ecosystem function of an area likely to have been productive juvenile rearing habitat.</p> <p><u>Address the project’s spatial-temporal scale of influence:</u></p> <p>The project will result in the construction of a simple bridge that will likely have a 50 year life span, thereby improving habitat connectivity and ecosystem function to nearly 16 acres of wetland. The size of this forested wetland is far greater than any of the other’s blocked by fish passage barriers as identified in the Clallam River Assessment (Haggerty 2008) which speaks to the projects substantial spatial scale.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u></p> <p>The project is ready. The landowner is ready for this project to happen and as soon as the sponsor has funding, the bridge can be designed, permitted and installed.</p> <p><u>Range of Estimated Cost:</u> 40,000-\$130,000 depending on length of opening, width of bridge and type of bridge.</p> <p><u>Watershed priority & watershed area or which WRIA Nearshore project is located in:</u></p> <p>WRIA 19. Clallam River.</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u></p> <p>The Sadilek family has undertaken multiple restoration projects on their property. The landowners are recipients of a 2006 DOE ‘Washington Conservation Farms Award - Farming for Clean Water’ award and have completed livestock exclusion fencing, riparian planting and livestock watering projects as well as a culvert replacement on Pearson Creek with the Clallam CD as a partner. It is also important to note that this project was brought to the FFFPP program for funding and was denied because they require ‘stream miles’ to be opened up with their projects and this project opens forested wetland which doesn’t qualify for FFFPP. The landowners are talking with NOLT about a conservation easement, which should be a high priority given the amount of restoration that has already taken place on this important parcel that has Clallam River and tributary habitats.</p>	
<p>11085</p>	<p>Pysht River LWD Restoration Project</p> <p><u>Project Description:</u></p> <p>This project is an on-going effort to improve salmon habitat; adult spawning and juvenile rearing in the Pysht River and its largest tributary the South Fork Pysht River. Since 1994, Merrill and Ring and LEKT have conducted a series of cooperative restoration projects focusing on in-channel LWD and riparian restoration at multiple sites in those river systems. On the SF Pysht River, LWD has been added to ten reaches between river mile 0.5-7.0 using both ground based and helicopter techniques. On the mainstem Pysht River LWD has been added only on one reach (river mile 10.0-11.5) using ground based methods. Monitoring has shown that these projects have been successful in restoring channel and riparian habitat features, however the scale of wood additions to date has been less than what is required to restore habitat features at the watershed scale. Because of historic logging practices, the entire stream network is considered chronically low in LWD (McHenry et al 1994). In this proposal we propose to add additional LWD as either free key pieces using a helicopter or by constructing engineered logjams where access and stream power dictate. LWD addition locations will be focused to connect previous restoration project reaches with those that have not been treated to date. For the SF Pysht River, emphasis would be on the lower portions of the river below RM 2.5 and for the mainstem Pysht River below RM 10.0. All wood will be very large coniferous trees with root wads attached and wood will be placed in aggregations to maximize channel effects. Adding additional LWD in the Pysht River will improve habitat complexity, providing sheltering areas for spawning adults and rearing fingerlings. It will also reduce scour and assist in gravel bed creation and maintenance.</p>	<p>LEKT</p>

Limiting Factors Addressed:

This project will restore/improve spawning habitat for returning adults and provide rearing habitat for juvenile salmonids. Not only will LWD reduce scour and assist in gravel bed creation, LWD placement has the potential to moderate temperature by creating large deep pools that increase groundwater exchange with the channel. A basin wide evaluation of habitat conditions identified depletion of in-channel wood and age/composition of riparian forests as significant limiting factors in the Pysht watershed (McHenry et al. 1995). Additionally, the intentional removal of LWD along with channelization from the construction of highway 112, has led to channel incision and disconnection of its the floodplain have further degraded habitat conditions. While the previous restoration efforts have been beneficial in promoting recovery, additional inputs of LWD are necessary to connect reach scale restoration and expand toward watershed level restoration.

Benefits to Salmon:

Multiple species of salmon will benefit from this project. Olympic Peninsula chinook ESU, Olympic Peninsula coho ESU, Olympic Peninsula chum salmon ESU, Olympic Peninsula steelhead ESU as well as coastal cutthroat have all been documented to use habitats in the Pysht River. Improvement of upland habitat conditions will contribute to recovering health of main-stem Hoko River and estuarine areas and the nearshore migration corridor. Additions of large wood will be designed to maximize floodplain connectivity by encouraging continued bed aggradation and lateral migration. Unfortunately the overall stand age of the forest established following historic logging disturbances is still too small to support all riparian functions especially the contribution of large, coniferous LWD to channel habitat forming processes.

Recovery Plan Objectives:

The Pysht River supports no currently federally listed stocks of salmon; however listed stocks of chinook salmon from Puget Sound and the Columbia River have been found rearing in the Pysht River estuary (Shaeffer et al. 2009). Other species of salmon from the Pysht (i.e. Olympic Peninsula Coho) have been included within the larger and more numerous populations along the Washington coho and therefore not included with listings from Puget Sound. Two watershed analyses (Todd et al. 2006; Haggerty et al. 2006) recommend restoration of ecosystem processes in the Pysht Estuary as critical to recovering native Pysht River salmon populations.

Restoration or Protection of Ecosystem Function:

This project is a restoration of ecosystem function project. Because the vast majority of the watershed is managed for industrial forestry purposes, protection of ecosystem function is provided by the Forest and Fish Act (FFA). The FFA provides forest practice rules that are supposed to be consistent with the requirements of the Endangered Species Act (ESA) and the Clean Water Act (CWA).

Spatial/Temporal Influence:

This is a continuation of multiple reach scale in-channel and riparian restoration projects dating to 1995. In addition, several estuary restoration projects that might be undertaken with the approval of the landowner (Merrill and Ring) in the Pysht River estuary are currently being developed. Project proponents hope to build on these projects and over time restore much of the ecological processes throughout the watershed. The landowner has been a strong proponent of these efforts and has made other major contributions on their ownership in terms of barrier corrections and improvements to road surfaces/reductions in fine sediment contributions.

Project Readiness:

Individual reach level projects would be developed by project proponents in consultation with supportive landowners. Based on similar past project a project could be designed, permitted and constructed within 1-3 years of project award.

Cost:

\$1.5-3,000,000 in total. Note this project description is broad in coverage; however the project proponent envisions that smaller individual reach level projects of ~350,000/per application would be the actual outcome. Project would be tailored toward individual site conditions and landowner needs.

Watershed Priority:

The Pysht River estuary is located within the WRIA 19 nearshore and has a normalized score of 4.02 (4th ranked), while the Pysht River has a normalized score of 2.93 (ranked 9th).

Miscellaneous:

The Pysht River contains the second largest amount of currently accessible low gradient stream habitat in the NOPLG planning area. Merrill and Ring has consistently supported restoration efforts on their property and has

	<p>provided matching resources valued in the hundreds of thousands of dollars since 1994. Additionally, a private landowner along Hwy 112 has interest in LWD treatments on their property to minimize sediment inputs into the river and improve long term in stream habitat conditions.</p>	
<p>09086 (Comb- ination of Projects 8 & 81)</p>	<p>Pysht Floodplain Acquisition & Restoration</p> <p>Project Description: This is a multi-phase project. Phase I was completed, and NOLT, in partnership with the Makah Tribe, acquired 22-acres (09-1528). Phase II (10-1509) has been approved and will build upon that acquisition and protect additional lands in that area. Phase III and IV will protect additional land in a 10 mile stretch of the Pysht River, by means of conservation easements and fee simple acquisition. NOLT is working with landowners between RM 6.7 to approximately RM 8.9. Phase V of this project will include install engineered log jams, fix roughness elements dispersed throughout the active floodplain, and intensive riparian revegetation of the acquired lands. Additional restoration may also be merited, and all restoration will be accomplished in partnership with the Makah Tribe.</p> <p>Why the Project is Needed (limiting factors addressed): It is not certain whether future zoning will protect riparian functions that are still relatively intact. Conservation easements and acquisition by a local Land Trust are the only way to guarantee habitat protection in perpetuity.</p> <p>Benefits to Salmon: This project aims to protect a highly utilized reach of Pysht river that is annually used for spawning habitat by multiple salmonid species. The Pysht River system supports nine species of freshwater fish: five species of salmonids and four species of non-salmonids (WDFW 2002; Mongillio & Hallock 1997). Salmonids present include: chinook salmon (<i>Oncorhynchus tshawytscha</i>), coho salmon (<i>Oncorhynchus kisutch</i>), chum salmon (<i>Oncorhynchus keta</i>), coastal cutthroat trout (<i>Oncorhynchus clarki clarki</i>), and steelhead/rainbow trout (<i>Oncorhynchus mykiss</i>). Chinook escapements of several hundred fish were observed into the 1950s, but the run rapidly collapsed in the 1960s and 1970s (McHenry et al. 1996). A few chinook salmon are observed annually during chum and coho spawning ground surveys, however it is unclear whether these few fish represent a remnant population or strays from adjacent populations such as the Hoko River. Pysht River chum salmon are a species of concern, representing a historically large population. During the period from 1986 to 1994 Pysht River chum salmon escapements averaged 2,146 (median 1,896), from 1995 to 2003 escapement averaged 1,039 (median 800), a decrease of more than 50%.</p> <p>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how? This project addresses the primary objective of the NOPL strategy by attempting to protect and restore fish habitat on the North Olympic Peninsula while maintaining existing ecosystem function (NOPL Strategy 2008). It also exemplifies the objectives of the Puget Sound Partnership which promote protecting and restoring habitat, preservation of biodiversity, and recovery of imperiled species (Puget Sound Partnership 2008). More importantly, this project meets the recovery goals identified in the DRAFT WRIA 19 Recovery Plan (Haggerty et al. 2009). These goals were identified as priorities by the local citizens of WRIA 19 for the recovery of both depressed salmonid stocks and the critical habitat they utilized within the Pysht river.</p> <p>Illustrate how Project supports Restoration or Protection of Ecosystem Functions: Protection of existing functional habitat through acquisition and conservation easement is listed in the Assessment as a major action to protect and improve ecosystem function. It is not certain whether future zoning will protect ecosystem functions that are still intact. Conservation easements and acquisition by a local Land Trust are the only way to guarantee habitat protection in perpetuity.</p> <p>Project's Spatial-Temporal Scale of Influence: This is part of a multi-phase, multi-year vision to protect up to 10 river miles reaching from the Pysht River's estuary which is protected by a Cascade Land Conservancy easement.</p> <p>Certainly of Project Success: The Land Trust has been working with landowners on the Pysht for over 7 years, and many are interested in conservation easements or acquisition. Additionally, many landowners in the area are supportive of salmon and salmon habitat. The only impediment to moving forward with conservation is funding.</p> <p>Address Timing Needs and Sequencing Requirements: The first year will involve discussions with landowners on the Pysht River, and negotiations to purchase development rights and land fee simple. The second year will close the transaction, if that was not accomplished</p>	<p>NOLT/ Makah/ LEKT</p>

	<p>in the first year.</p> <p><u>Cost Appropriateness:</u> Land values are low making now an opportune time to acquire the best existing habitat for salmon.</p> <p><u>Watershed Priority and watershed area:</u> WRIA 19, Watershed score 2.93. This is a high priority for WRIA 19, and it is a high priority for the North Olympic Land Trust.</p> <p><u>Other Key Information (especially any relationship to previous or current projects):</u> NOLT recently completed Phase I (09-1528) of the project, using SRFB grant funds to purchase 22 acres of nearby Pysht River floodplain, and has been awarded funding for Phase II, which will be completed in 2011. Phase II (10-1509) of the project will conserve 0.83 miles on the Pysht River mainstem and 0.53 miles of Pysht tributaries, permanently protecting the river’s floodplain and channel migration zone. The land contains critical spawning habitat including 8.49 acres of floodplain, 27.24 acres of riparian habitat, and 2.12 acres of wetland.</p>	
09009.1	<p>Pysht River Salt Marsh Estuary Restoration Project</p> <p><u>Project Description:</u> The Pysht River estuary was historically utilized for the marine transport of logs between 1915-1975. In order to operate and maintain this log transport facility, the lower river was channelized and periodically dredged. Dredge materials were typically discharged into salt marsh or placed along channel margins in piles. As a result, significant areas of the Pysht River estuary have been disconnected from the river. Suction dredge deposits first appear in the 1951 aerial photograph series and form a series of interconnected, large mounds on what was formerly tidal marsh in the southwest portion of the estuary. Removal options for this deposit have been explored in the recently completed <i>Pysht River Estuary Restoration Feasibility Study</i>. This project involves the removal of suction and clamshell dredge deposits placed on a 20.5 acre area of historic salt marsh in the Pysht River estuary. Dredged material would be removed to restore tidal elevations and channels so that the area would be regularly inundated by tidal cycles. Dredged materials (~138,500 yds³) would be removed and transported to upland disposal sites and stabilized. A series of tidal channels would be constructed and natural recolonization of salt tolerant native plants would be used to revegetate the site.</p> <p><u>Limiting Factors Addressed:</u> Suction dredge deposits effectively raised the elevation of the marsh plain and converted tidally inundated marsh area to upland vegetation sites with no value for rearing salmonids and other estuary dependent species. This project would result in the direct restoration of 20.5 acres of salt marsh and tidal channels. A historic analysis of the Pysht River Estuary found that over half the historically accessible estuary had been disconnected and was no longer accessible for rearing by salmonids (Todd et al. 2006). This proposal is the largest actions identified to date that will recovery that habitat loses. Salt marsh habitats provide both rearing habitat for juvenile salmon and rich sources of food for life histories making the transition from freshwater to saltwater.</p> <p><u>Benefits to Salmon:</u> The removal of dredge spoils over 20.5 acres will result in the reestablishment of salt marsh and associated tidal channels that drain directly into the Indian Creek slough complex. The estimated density of tidal channels created is 483 feet/acre. Tidal channels are of critical importance to salt marsh ecology and salmonid life histories. Tidal slough geometry controls physical processes such as sediment transport/storage, hydrodynamics and vegetation patterns. Several species of salmonids are known to rear in tidal changes including Chinook, chum, coho and pink salmon. A native population of chinook is thought to be extirpated (or nearly so). The Pysht River supports one of the larger populations of chum salmon in the SJF region, however its numbers are declining. Coho numbers in the Pysht are highly variable, with recent escapements ranging from 1000-7,500 adults. All three of these species could benefit by improvements in estuary habitat.</p> <p><u>Recovery Plan Objectives:</u> The Pysht River supports no currently federally listed stocks of salmon, however listed stocks of chinook salmon from Puget Sound and the Columbia River have been found in the Pysht River estuary (Shaeffer et al. 2009). Other species of salmon from the Pysht (ie. Olympic Peninsula Coho) have been included within the larger and more numerous populations along the Washington coho and therefore not included with listings from Puget Sound. Two watershed analyses (Todd et al. 2006; Haggerty et al. 2006) recommend restoration of ecosystem processes in the Pysht Estuary as critical to recovering native Pysht River salmon populations.</p> <p><u>Restoration or Protection of Ecosystem Function:</u></p>	LEKT/ Merrill & Ring/ Cascade Land Conservancy

	<p>This project is a restoration of ecosystem function project. However it should be noted that the entire 700 acre Pysht Estuary complex has been placed in a conservation easement negotiated by the Cascade Conservancy with Merrill and Ring. The easement does not allow for any future development activities but does allow for habitat restoration actions.</p> <p><u>Spatial/Temporal Influence:</u> This is the first of several large scale estuary restoration projects that might be undertaken with the approval of the landowner (Merrill and Ring) in the Pysht River estuary. Project proponents hope to build on this project and over time restore much of the ecological processes in the area that were disrupted by historic channelization necessary to maintain the log dump. Other future projects might include the removal of driven log piling lining the lower river, further dredge deposit removals and removal of road surfaces constructed adjacent to the lower river and estuary. Projects conducted in the estuary build upon a number of projects conducted in the riverine portions of the Pysht since 1994.</p> <p><u>Project Readiness:</u> A 30% engineering design has been completed for the project. Final engineering and permitting are a necessary next step and might logically be the next step in project implementation. The high cost of this project make it likely that project proponents will need to “bank” several grant sources as SRFB funding alone will likely not be adequate in any single grant application.</p> <p><u>Cost:</u> \$4,000,000.</p> <p><u>Watershed Priority:</u> The Pysht River estuary is located within the WRIA 19 nearshore and has a normalized score of 4.02 (4th ranked), while the Pysht River has a normalized score of 2.93 (ranked 9th).</p> <p><u>Miscellaneous:</u> The Pysht River estuary contains the second largest areas of salt marsh remaining in the Strait of Juan de Fuca area. Restoration of the salt marsh will result in benefits to many other species including invertebrates, non-salmonid fishes and birds. This project is similar to other similar estuary restoration projects that have been completed in Puget Sound including local projects at Jimmycomelately Creek and Discovery Bay.</p>	
09010	<p>IMW Restoration Treatments</p> <p><u>Project Description & Purpose:</u> The Intensively Monitored Watershed (IMW) program has been adopted by the SRFB as a key part of its validation monitoring program. IMW is designed to assess the effects of watershed scale restoration on fish production. The IMW study plan identifies clusters of watersheds around the state where watershed scale restoration is or will occur as well as watershed where no restoration will occur (control). The Strait of Juan de Fuca complex includes two treatment (East Twin and Deep Creek) and one control (West Twin) watershed. This cluster of watersheds is arguably the most important to the overall project because of the commitment of project partners to science based restoration and long term fish production monitoring.</p> <p>Extensive restoration has been conducted in both treatment watersheds dating to 1997 in Deep Creek and 2002 in East Twin. These projects include LWD, barrier corrections, road abandonment, riparian revegetation and off-channel development. A review of restoration treatments to date has been conducted and concludes that additional restoration efforts need to be made in order to complete the goal of achieving watershed scale restoration. Specifically these include additional LWD additions in Sadie Creek and the lower East Twin River. For both sites, access issues dictate that helicopter placement be the preferred method for importing wood into untreated reaches.</p> <p><u>Benefit to Salmon:</u> The East Twin River provides spawning and rearing habitat for coho, steelhead, chum and cutthroat trout. Chronic deficiencies in large wood have been identified for streams throughout WRIA 19 including the East Twin River and its largest tributary (Sadie Creek). Large wood is necessary to offset the lack of wood currently being contributed by riparian forests and to promote habitat forming processes in stream, floodplain and riparian habitats. Restoration of riparian forests will provide future sources of large woody debris to support habitat forming processes in the river.</p>	LEKT

	<p>Restoration of Ecosystem Functions: This project builds on previous efforts to achieve watershed scale restoration. Additive LWD restoration supports multiple habitat forming processes in channel as well as in floodplain and riparian habitats. These include sediment storage, pool development and connectivity with floodplains to name a few. Restoration goals are synchronized with improvements in riparian buffers through implementation of the Forest and Fish Agreement on private lands, commitments through the WDNR Habitat Conservation Plan (HCP) on state land, and for federal lands the Presidents Forest Plan.</p> <p>Certainty/Timing/Success: This project utilizes techniques used and tested in multiple north Olympic Peninsula watersheds over the last 15 years. Restoration is additive and linked to long term monitoring efforts. Costs are based on estimates derived from similar projects conducted in the last 5 years. Long term monitoring of the overall project and its effects on fish populations is being conducted through a interagency science team chaired by the WDOE.</p> <p>Partners: Lower Elwha Klallam, WDFW, WDOE, WDNR, NOAA, SRFB</p>	
<p>09011</p>	<p>Nearshore Restoration Strategy for Twin Rivers</p> <p>Project Description: The project consists of both a land acquisition and restoration elements. The acquisition includes purchase of all or part of the LaFarge mine site, with particular focus on riparian corridor of both east and west Twins Rivers. The restoration includes 1) Reconnecting the historic Twins estuary of the two rivers and the connection of the estuary to the Strait shoreline, and 2) Removing rock and sheet pile surrounding a 3 acre pier (also called a 'mole') located entirely on WDNR leased tidelands, and cutting a channel along the base of the pier, thereby allowing the native material to feed to the nearshore naturally. Rock and sheet pile is to be disposed of upland. The 3 acre pier was constructed within Ordinary High Water Mark in the mid 1960's. The pier consists of steel and creosote treated sheet pile crib filled with native material from the adjacent bluff. The structure, built adjacent to a clay pit mine, was used as a landing for loading barges. The pier is approximately 465 feet long, 258 feet wide, and 16 feet high, which totals to 62,600 cy of fill. There is also an additional 13,000 cy of rip rap which is 2-3 man rock placed around much of the perimeter of the structure in a band approximately 25 yards wide. Assuming sheet/treated pile around the entire pier there may be approximately 1300 linear feet of shoreline with sheet and treated creosote pile.</p> <p>Limiting Factors, Benefit to Salmon, Project Success, Recovery Plans Timing & Other Key Information: Collectively the Twin Rivers (WRIA 19) are important for a number of salmon stocks including coho, cutthroat, and steelhead (Roni et al 2008; Haggerty in prep). Chinook use is cited for the Twins (Kramer 1952) and juvenile Chinook are theorized to use the nearshore. The nearshore of the Twins, prized by locals for its high resources and recreation value, supports a number of critical habitats including kelp beds, eelgrass beds, and surf smelt spawning beaches (Shaffer et al. 2003; Penttilla 1999). The area is an important migratory corridor for juvenile trout (including both cutthroat and steelhead), salmon, and forage fish (Shaffer 2004 Shaffer et al 2008).</p> <p>Shaffer and Ritchie (2008) concluded that there are several impacts to the estuarine habitat occur near the East and West Twin Rivers and recommended the following list of restoration and aquisition priorities: 1. Acquisition of nearshore private properties along the Twins shoreline; 2. Restoration of the Twins nearshore by removal of the 2.5 acre fill structure in the Twins nearshore should be completed as soon as possible; 3. Additional study to define the ecological function of the Twins nearshore for Coho and Chinook, including the role lower river an shoreline alterations combined with apparently naturally occurring macroalagae blooms, may play in defining fish use in the nearshore Twins is a priority; 4. That habitat and fish management revises provisions to better protect trout and salmon species in the nearshore during later summer, fall, and winter months.</p> <p>Restoration priorities for the Twin Rivers Watersheds are listed as a Tier 2 in the North Olympic Lead Entity Group (NOPL) strategy (Barkhuis 2004). Nearshore is listed as Tier 1. For the Twins, LWD, riparian habitat, fish passage blockages, and estuarine impacts are listed as top limiting factors (Barkhuis 2004). Subsequently, a number of large scale restoration projects have been completed or are underway on the Twins. Along the east Twin, citizens and local groups, in partnership with the Tribe, have built off channel habitat for coho. Over half of the two miles of private lands have been placed in a conservation easement. In the last two years, the Lower Elwha Klallam Tribe has constructed large LWD jams, and placed key pieces of LWD in inaccessible reaches of the East Twin River and Sadie Creek leading to the capture of large amounts of sorted gravels and the creation of complex rearing habitat.</p>	<p>CWI, WDFW, WDNR, & LEKT</p>

	<p>The East Twin River is a study watershed (along with West Twin and Deep Creek) under the SRFB’s Intensively Monitored Watershed (IMW) Program. The IMW program is designed to assess changes in fish production and ecosystem response from habitat restoration. An ongoing NOAA study of juvenile salmonid survival and movement rates offers a unique opportunity to monitor the effectiveness of habitat improvements.</p> <p>Designing and permitting would take place in 2010, with construction in 2011, estimated cost have been done and are within the range for completion.</p>	
<p>10080</p>	<p>Lyre River Protection</p> <p><u>Project Description:</u> NOLT and WDFW are making this proposal as the first phase of a long-term project to protect habitat connectivity from old growth forest to the marine shoreline within the Lyre River corridor from RM 0.0 to RM 2.0. The Lyre River is located on the Olympic Peninsula. The river flows north from its headwaters at Lake Crescent in the Olympic National Park approximately 5.5 miles to the marine shoreline of the Strait of Juan de Fuca. The Lyre River drainage consists of approximately 85% public lands. The majority of the river flows through land managed by the Department of Natural Resources, Olympic National Park and Olympic National Forest. The main concentrations of private lands are in the lower reaches of the river.</p> <p>The goals of this land acquisition are: 1) Purchase, protect and enhance the important habitat in the river corridor. 2) Develop a long-term management plan to preserve and enhance WDFW managed lands within project area. 3) Seek mutual partnerships with the National Park Service, U.S. Forest Service, and Department of Natural Resources, local governments and other nonprofit organizations. 4) Provide passive public access to the unique coastline.</p> <p>Future phases of this project are intended to acquire ownership or conservation easements of additional parcels within and adjacent to the Lyre River Corridor.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> Limiting factors within the mainstream are lack of LWD and channelization in the lower mile. Additionally, parcels targeted for this acquisition are threatened by development.</p> <p><u>Benefits to Salmon:</u> There is nearshore, estuarine, riparian and wetland habitat within the parcels targeted for acquisition. The excellent habitat for salmon would be preserved in perpetuity.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?</u> This project addresses the primary objective of the NOPLE strategy by attempting to protect and restore fish habitat on the North Olympic Peninsula while maintaining existing ecosystem function (NOPLE Strategy 2008). It also exemplifies the objectives of the Puget Sound Partnership which promote protecting and restoring habitat, preservation of biodiversity, and recovery of imperiled species (Puget Sound Partnership 2008).</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> It is not certain whether future zoning will protect ecosystem functions that are still intact. Conservation easements and acquisition by a local Land Trust are the only way to guarantee habitat protection in perpetuity.</p> <p><u>Certainly of Project Success:</u> The Land Trust and WDFW have made contact with a number of landowners in the area who are interested in conservation options and are interested in selling the property. Funding for conservation is the only impediment.</p> <p><u>Address Timing Needs and Sequencing Requirements:</u> The first year will require outreach with landowners with land adjacent to or encompassing the Lyre River’s floodplain and estuary. The second and third year will involve negotiations to purchase development rights and land fee simple. We will prioritize habitat in the coastal/estuarine area first then work upstream prioritizing the best existing habitat and protecting those properties first.</p> <p><u>Cost Appropriateness:</u> Land values are low making now an opportune time to acquire the best existing habitat for salmon.</p>	<p>NOLT & WDFW</p>

<p>09012</p>	<p>Nelson Creek Fish Passage Barrier Removal Project (Barrier Removal from the Route of the Former Lyre River Railroad Grade that is to be the Future Route of the Olympic Discovery Trail)</p> <p><u>Project Description:</u> This project is focused on removing fish passage barriers found on the main stem and a side stem of Nelson Creek which flows into the Lyre River. The fish passage barriers are two undersized culverts found at Nelson Creek ravine crossings along the route of the former Lyre River Railroad Grade. The Lyre River Railroad Grade has been planned for the last decade to be the permanent route of the regional multi-user trail system known as the Olympic Discovery Trail. This project would replace the existing undersized culverts with 6' to 8' culverts suitable for fish passage and restore the railroad grade fills for use as a part of the region serving multi-user trail system known as the Olympic Discovery Trail</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> Fish passage is blocked by undersized and deteriorated culverts that block passage to a half mile long reach of the main stem of Nelson Creek and also along a side stem of Nelson Creek that extends for another half mile. In total, one mile of stream could be opened to fish passage by this improvement project. (WRIA 19 LFA)</p> <p><u>Benefit to Salmon:</u> Salmon are entirely blocked from the upper reaches of Nelson Creek by the fish passage barrier culverts that would be replaced under this project. Additional valuable habitat and stream areas would open up to spawning at project completion.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> Nelson Creek is in WRIA 19 where the watershed plan is under development. Restoring stream miles to fish passage and removing fish passage barriers is a feature of every Salmon Recovery Plan/Watershed Analysis and Plan Objective and will be a part of the WRIA 19 plan when it is completed.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Nelson Creek was not blocked for fish passage prior to construction of the railroad grade. When this restoration project is complete, the new culverts will be fish friendly allowing unhindered passage. New habitat and a much fuller range of ecosystem functions will occur in the uppermost regions of Nelson Creek. Coho stocks, steelhead, Chum and Cutthroat will benefit from this habitat restoration project.</p> <p><u>Certainty of Project Success:</u> There is 100% certainty of success that the fish passage barriers will be removed and that fish friendly culverts will allow fish passage to occur upon project completion.</p> <p><u>Address Timing Needs & Sequencing Requirements:</u> Design and permitting will take place in 2010. Construction will occur in 2010. This work would occur prior to the railroad grade be converted to a regional trail facility.</p> <p><u>Cost Appropriateness:</u> Project costs are based on County experience with very similar salmon enhancement projects in the Joyce area.</p> <p><u>Other Key Information:</u> The County and DNR will be working together on this project to provide match funding. It is anticipated that DNR involvement in match may be to the level of fill and culvert removal for the culvert locations and assisting in reforestation of the area. County funding will cover a portion of the culvert replacement and fill replacement costs. SRFB funding is sought to provide a portion of the culvert replacement costs.</p>	<p>CC & WDNR</p>
<p>09013</p>	<p>Salt Creek Habitat Protection</p> <p><u>Description:</u> The goal of this project is to permanently protect, by means of conservation easements, the best existing functional spawning and rearing habitat for Coho salmon in the Salt Creek Watershed. Salt Creek historically had relatively high productivity and supported significant runs of Coho, steelhead and cutthroat as well as Chum and Chinook. Specific properties have already been identified in Appendix 1 of <i>Salt Creek Watershed: An Assessment of Habitat Conditions, Fish Populations and Opportunities for Restoration</i>, a report prepared</p>	<p>NOLT</p>

	<p>by Mike McHenry and Randall McCoy of the Lower Elwha Klallam Tribe Fisheries. The Assessment identifies conversion as the greatest risk to salmon. Conversion is imminent in the Salt Creek watershed unless habitat preservation is addressed. The Land Trust will contact landowners identified in the Assessment as well as landowners with property adjacent to the estuary and Crescent Bay to discuss conservation easements. The Land Trust will negotiate with willing landowners to acquire development rights by purchase and/or donation. Habitat protection in perpetuity will ensure that the best existing habitat for salmon is not converted to development. Project partners include landowners who donate their development rights to the project and Clallam County. Additional partners include LEKT and WDFW as technical advisors.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> According to the Assessment, winter steelhead have declined to critically low levels, chum are teetering on the verge of extirpation, and coho are static or declining nor are showing signs of recovery. Increasing development is an ecosystem stressor and is partially responsible for the chronic lack of large woody debris, inadequate riparian forest conditions and low flow noted in the Assessment as limiting factors. Restricting development and other activities that are detrimental to salmon habitat through conservation easements will allow forests to regenerate that will create shady conditions for Salt Creek. Mature forest is also a source for large woody debris recruitment.</p> <p><u>Benefits to Salmon:</u> The best existing habitat for salmon would be preserved in perpetuity.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?</u> Salt Creek Watershed: An Assessment of Habitat Conditions, Fish Populations and Opportunities for Restoration. Michael McHenry and Randall McCoy, Lower Elwha Klallam Tribe & Michael Haggerty, fisheries/Hydrology Consultant. 2004.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Protection of existing functional habitat through acquisition and conservation easement is listed in the Assessment as a major action to protect and improve ecosystem function. It is not certain whether future zoning will protect ecosystem functions that are still intact. Conservation easements and acquisition by a local Land Trust are the only way to guarantee habitat protection in perpetuity.</p> <p><u>Certainty of Project Success:</u> The Assessment noted that an overwhelming majority of landowners in Salt Creek were supportive of salmon and salmon habitat. Through outreach the Land Trust can present conservation options to landowners that protect salmon habitat and the rural character of the area that is treasured by the community.</p> <p><u>Address Timing Needs and Sequencing Requirements:</u> Property ownership is rapidly changing and there are more opportunities to negotiate conservation easements and fee simple acquisition. The first year will require outreach with landowners with land adjacent to or encompassing Salt Creek’s floodplain and estuary. The second and third year will involve negotiations to purchase development rights and land fee simple. We will prioritize habitat in the coastal/estuarine area first then work upstream prioritizing the best existing habitat and protecting those properties first.</p> <p><u>Cost Appropriateness:</u> Land values are low making now an opportune time to acquire the best existing habitat for salmon.</p>	
09014	<p>Salt Creek Salt Marsh Reconnection</p> <p><u>Description:</u> <u>Project Goal:</u> To restore unobstructed tidal inundation and associated ecological processes to 22.5 acres of estuary and associated salt marsh currently isolated by a private dike road. <u>Project Objectives</u> are: 1) Provide fish access to 22.5 acres of obstructed salt marsh. 2) Improve tidal channel connectivity and decrease isolated pools in the marsh. 3) Improve salt marsh vegetation communities. 4) Maintain access to private property. 5) Do no harm to adjacent infrastructure.</p> <p>Currently the Salt Creek estuary is bisected by a 1,000’ long earthen dike which was installed in the early 1920’s. Within the 10’ high, 50’ wide dike, there are two failed wooden culverts which restrict tidal flows and fish access to over 22.5 acres of historically highly functioning salt marsh. The Salt Creek estuary is one of the only salt marsh complexes in the WRIA 19 watershed and is surpassed in scale only by the Pysht River estuary complex</p>	NOSC

(Todd et al. 2006). The community is prepared for NOSC to take the lead. A critical part of the project is to assess landowner opportunities and constraints for several alternatives likely to include installation of a bridge or bridges, installation of a causeway, and road re-location. The project will include hydrologic, archaeology, geotechnical & topographical studies to inform development of conceptual then final designs. The multiple community members are all key stakeholders and will be integral to selecting a project design that maximizes ecological function in a way that works for the community.

Why the project is needed (limiting factors to be addressed):

The project addresses the following limiting factor: Loss of salt marsh habitat due to the road bisecting the estuary. The road limits hydrologic connectivity including tidal and fresh water exchange, limits fish utilization and has been observed to lead to fish stranding on outgoing tides. (Haggarty 2009 Draft WRIA 19 Salmon Recovery Plan).

Benefit to Salmon, how project addresses stock status & trends and which ESA listed stock or non-listed stocks the project addresses:

Stock Status and Trends : The project addresses stock status and trends by increasing access to important nearshore habitat for numerous natal and non-natal salmonid populations in an effort to increase productivity for stocks using the system.

Listed Stocks: Non-natal, migrating ESA listed Puget Sound Chinook juveniles have been documented using the Salt Creek Salt Marsh by A. Schaffer. The Salt Creek estuary is one of the first non-natal estuarine refugia for Puget Sound chinook leaving the currently designated ESU.

Other Stocks: Salt Creek supports stocks of coho, winter steelhead, cutthroat and chum.

Which Salmon Recovery Plan Objectives does this project meet and how?

The project is identified in the North Olympic Peninsula Lead Entity (NOPL) three-year work plan (#15) and the Draft WRIA 19 Salmon Restoration Plan (Haggerty, 2010) and the Salmon and Steelhead LFA for the area (Smith, 2000). The WRIA 19 Salmon Restoration Plan provides a nice summary: “The road alters estuarine hydrology and vegetation patterns in the west side of the estuary. Tidal exchange to the west marsh is greatly diminished by drainage of water upstream of the road through drainage ditches, and the presence of two under-sized decaying wooden culverts placed under the road... Juvenile fish, including salmon, have been observed “stranded” above this road during the spring, the road accommodates very limited fish passage.” The NOPL 2005 Strategy identifies the project as important to “Restore the connection between the Salt Marsh and the tidally influenced reaches of Salt Creek that were disconnected by a dike.”

How does the project support Restoration or Protection of Ecosystem Functions?

The project restores formerly productive habitat through restoring hydrologic function. The project design will be sized to create a self-sustaining process whereby tidal and flood waters maintain habitat complexity and tidal channels.

Spatial-temporal scale of influence:

The project will restore 22.5 acres of salt marsh habitat. This is 1/3 of the existing salt marsh in the system. This action will improve feeding & refuge for natal salmonids as well as for non-natal salmonids traveling from Puget Sound, and will be a self-sustaining design with a positive effect into the foreseeable future.

Timing Needs & Sequencing Requirements - Project readiness:

Since 1995, landowners, nonprofits, local tribes and governments have all tried varied avenues to address the dike road. No one has met with success yet, but significant progress has been made in this time. The informed community, partners, and project momentum that have resulted from this process makes the dike road and associated salt marsh ripe for restoration. Final consensus building in the community informed by hydrologic analysis, archaeological survey, geotechnical investigations, and engineered conceptual designs will lead to final engineering design and cost estimates, construction permitting and baseline monitoring on the project.

Range of estimated cost:

\$600,000-2,000,000

Watershed priority & watershed area:

The project is located in WRIA 19 and the Salt Creek estuary is technically part of the nearshore. PSNERP defines nearshore as ‘the area from the deepest part of the photic zone (approximately -20m below MLLW) landward to the top of shoreline bluffs, or in estuaries upstream to the head

	<p>of tidal influence.” NOPL watershed priority for nearshore projects is third on the ranked list of watershed scores in the 2009 update.</p> <p><u>Other Key information:</u> This project was brought forward for NOPL funding in the 2009 grant round by the Coastal Watershed Institute. Significant strides were made in the development of the project at that time, and as a result the community is ready to move forward with NOSC as the project sponsor. NOSC believes, after multiple meetings with some of the community members, that the community understands the need to explore a range of restoration possibilities, including road re-location. An insurance stipulation by the community has held up past efforts to pursue a project. Through several meetings attended by community members, it has become evident that the majority of folks are ready to move past this stipulation and it is not likely to be a barrier to the project any longer.</p>	
09015	<p>Salt Creek Final Fish Passage Corrections Project</p> <p><u>Description & Purpose:</u> Watershed analysis completed for Salt Creek in 2005 has identified the correction of human caused barriers as the highest priority for restoration in Salt Creek. Most of the barriers have been caused by culverts at road crossings. To date, significant progress has been made correcting these barriers. Of the 28 culvert barriers to fish passages identified in the watershed analysis, 15 have been or will be corrected by 2011. This proposal would treat the remaining culvert barriers with the goal of correcting all fish passage barriers in the watershed by 2015. Most of the remaining barriers are located on tributary I streams with undersized culverts on a mix of ownerships including privately owned roads, county roads and highway 112.</p> <p><u>Benefits to Salmon:</u> Salt Creek supports a productive coho salmon population as well as populations of steelhead, cutthroat and a remnant chum salmon population. Correction of human caused barriers allows access to historic habitats in Salt Creek. Following their correction with structures that meet state fish passage criteria natural recolonization would be the mechanism for fish to restore access.</p> <p><u>Restoration of Ecosystem Function:</u> Restoring access to historically used habitats has been identified as the highest priority for restoring ecosystem function in Pacific Northwest watershed supporting anadromous salmonids (Roni et al. 2005). This goal has been adopted for Salt Creek at the watershed scale. Correction of all barriers in Salt Creek will allow anadromous fish to access a total of 50 miles of streams.</p> <p><u>Certainty/Timing/Success:</u> Replacement of culvert barriers with new crossing structures that meet WDFW fish passage criteria has a high probability of success. The culverts identified in this proposal block access to low gradient stream channels (<4%). Correction of barriers in Salt Creek has made tremendous progress in the last 5 years and this project will continue those efforts. Note: Planning necessary to correct some barriers, particularly those owned by WDOT may require time outside of the three-year window.</p> <p><u>Partners:</u> Lower Elwha Klallam Tribe, Clallam County, Washington Department of Transportation</p>	LEKT, CCD & CC
09016.1	<p>Elwha River ELJ Project</p> <p><u>Project Description:</u> Removal of two hydroelectric dams on the Elwha River is scheduled for 2011 as authorized by the Elwha River Ecosystem and Fisheries Act (PL102-495). Complementary to this large scale ecosystem restoration project, efforts are being made by LEKT to restore floodplain habitat conditions in the lower Elwha River below River Mile 3.5. These efforts include the removal of older flood control dikes, reforestation, control of exotic plants, barrier corrections and additions of large wood. Between 1999 and 2010, 33 engineered logjams (ELJ) have been constructed in the reach between river mile 1-5-2.5. Additionally, the Tribe has recently secured funding to construct an additional 8 ELJ’s between river mile 2.5-3.0. This proposal is focused on the construction of 10 additional ELJ’s in the reach between river mile 0-1.5, which is located on the Tribes reservation. This reach includes the estuary, which has been dramatically simplified as a result of channelization and truncation of sediment supplies from dam construction.</p>	LEKT

Limiting Factors Addressed:

This project will restore habitat for salmonids by affecting geomorphology in a large floodplain river at the reach scale. Construction of ELJ's will accelerate the recovery of forested islands which support floodplain riparian communities along 1.5 miles of the Elwha River including its estuary. Forested islands by definition have mature trees that influence river morphology and habitat. The Elwha from a morphological standpoint is considered to be an anastomosing or island braided stream. Large wood and trees provide roughness that promotes a multi-channel form. These braids provide diverse spawning and rearing habitats for anadromous and resident fish. Construction of ELJ's causing both scour and depositional processes. Scour results in pool development which are the preferred rearing areas for juvenile fish and holding areas for adult fish. Sediment deposition occurs in the lee of ELJ structures and may provide substrate for spawning and/or island development. Acceleration of forest development via planting and exotic plant control will assist in the development of forests that ultimately stabilizes river form and provides a source for new woody debris.

Benefits to Salmon:

This project will restore habitat and benefit Chinook as well as coho, steelhead, chum, pinks, bulltrout, resident rainbow trout and cutthroat trout. Dam removal will restore natural habitat forming processes (sediment and wood transport/restoration of natural flow regimes) in the lower river and contribute to recovering health of main-stem and estuarine areas and the nearshore migration corridor. An analysis of historic aerial photographs clearly depicts the loss of habitat diversity in the lower river and particularly its estuary (Draut et al. 2009). Over time the lower river has lost large deposits of sediment (fewer islands and bars), has much lower diversity of channels, and less diversity of vegetation (age and species). These changes are attributed to the cumulative effects of dam construction which truncated sediment and wood sources and channelization.

Recovery Plan Objectives:

Elwha chinook are federally listed and part of the Puget Sound ESU. Dam removal is keystone for recovery of the ESU and arguable the single largest action planned in the near future. Elwha steelhead are also federally listed and part of the Puget Sound steelhead ESU, however a recovery plan has not been prepared to date for this species. However implementation of the dam removal effort will likely be a cornerstone. Puget Sound bull trout are also a federally listed fish stocks in Washington State and the Elwha River is a core population area. Puget Sound coho, while not currently listed are a species of concern, and the Elwha population is currently supported almost entirely by hatchery production. Chum and pink populations in the Elwha are considered chronically depressed and have escapements less than 1000 and 200 adults per year, respectively. Recovery of fish resources is guided by the Elwha Fisheries Restoration Plan (Ward et al. 2008). In the habitat restoration section (chapter 8) installation of ELJ's in the lower river is encouraged to restore habitat features.

Restoration or Protection of Ecosystem Function:

This project restores ecosystem function by restoring fish habitat, improving riparian zones, and re-connecting floodplain in the lower reaches of the Elwha River including its estuary. This project restores ecosystem function by accelerating the recovery of floodplain habitats that have been altered by dam construction and channelization. Ecosystem function is also permanently guaranteed within this area because the floodplain forest of the reservation is protected from development of any kind.

Spatial/Temporal Influence:

This project represents a portion of LEKT's ongoing efforts to restore the Elwha River ecosystem and its historically productive salmon populations. Floodplain restoration efforts in the lower river were initiated in 1995 and have scaled up progressively in scale and scope. In 2009, the Tribe received one of 50 NOAA habitat grants awarded nationwide under the Stimulus Act. This has allowed the Tribe to greatly advance a portion of its lower river restoration goals. While simultaneously pursuing implementation of the Elwha Act (Dam Removal), the tribe has actively pursued floodplain restoration in the lower river, development of reservoir revegetation plans, conservation of salmon genetics and ecosystem scale monitoring of the overall Elwha restoration effort.

Project Readiness:

This project is being systematically sequenced with other ELJ installations on the lower River. The reach between river mile 1.5-2.5 has been completed and now has 33 ELJ's more than have constructed in any large river in Washington. The reach above river 3.0 will be completed by the end of 2013 resulting in 8 additional ELJ's. This project is proposed to initiate in 2014-2015 and would result in an additional 10 ELJ's. The Tribe is in the process of updating its programmatic permits from the federal agencies to reflect the expansion of restoration efforts. It is anticipated that the Tribe will have all applicable permits prior to applying for funding for this project.

Cost:

	<p>\$850,000</p> <p><u>Watershed Priority:</u> Elwha River has a normalized score of 5.00, and is ranked 1st as priority watershed.</p> <p><u>Miscellaneous:</u> The Elwha River has the largest productive potential of any river in the NOPLEG planning area and its productivity is intricately linked to the reestablishment of its forested floodplain. The most productive areas are located in unconstrained river valleys that have anastomosing or braided island morphology. In these areas forest features can attain sizes sufficient to form stable hard points within the floodplain. The interaction of river flows with these surfaces creates boundary conditions which promote a multi-thread channel. Multi thread channels may include surface-water, ground-water or combinations of the two that support diverse life histories of salmon.</p>	
<p>11087</p>	<p>Elwha River Revegetation Project</p> <p><u>Project Description:</u> This project will support revegetation efforts associated with implementation of the Elwha Dam removals scheduled to begin in 2011. Under that project two hydroelectric dams will be removed on the Elwha River at River Mile 4.9 and 13.5. Dam removal will drain and expose two reservoir surfaces that have accumulated ~21.5 million yd³ of fine sediment. A revegetation plan (Chenoweth et al. 2010) has been developed for the two reservoir surfaces, however due to limitations in project funding, only about half the monies necessary to achieve the project goals are provided. This project will supplement those efforts by funding a 4 person tribal revegetation crew to plant native vegetation in Aldwell reservoir following its draining in 2011-12 and to conduct control of exotic vegetation in the project area. The crew will be funded for seasonal revegetation activities in the calendar years 2012-2014, directly following reservoir dewatering. The crews activities will be guided by the goals of the Elwha Regetation Plan (Chenoweth et al. 2010) and directly supervised by ecologists at the LEKT and ONP.</p> <p><u>Limiting Factors Addressed:</u> This project will accelerate the recovery of forested floodplain riparian communities along 6 miles of the Elwha River. The Elwha River restoration project is the largest single salmon restoration project in Puget Sound and revegetation of the reservoirs is arguable the second most important action following dam removal. The Elwha has the largest productive potential of any river in the NOPLEG planning area and its productivity is intricately linked to the reestablishment of its forested floodplain. Both reservoirs were located in unconstrained, alluvial reaches of the river dominated by forested islands. Forested islands by definition have mature trees that influence river morphology and habitat. The Elwha from a geomorphological standpoint is considered to be an anastomosing or island braided stream. Large wood and trees provide roughness that promotes a multi-channel form. These braids provide diverse spawning and rearing habitats for anadromous and resident fish. Acceleration of forest development via planting and exotic plant control will assist in the development of these critical habitats</p> <p><u>Benefits to Salmon:</u> This project will improve spawning and rearing for multiple species of salmon including Puget Sound chinook, Puget Sound coho ESU, Puget Sound steelhead ESU, Puget Sound chum, Puget Sound pink salmon as well as coastal cutthroat and bull trout which have all been documented to use the lower river and are expected to recolonize habitats above the dams. A sockeye salmon population has been extirpated from the Elwha River but may redevelop from the landlocked kokanee population in Lake Sutherland or from strays from other watersheds.</p> <p><u>Recovery Plan Objectives:</u> Elwha chinook are federally listed and part of the Puget Sound ESU. Dam removal is keystone for recovery of the ESU and arguable the single largest action planned in the near future. Elwha steelhead are also federally listed and part of the Puget Sound steelhead ESU, however a recovery plan has not been prepared to date for this species. However implementation of the dam removal effort will likely be a cornerstone. Puget Sound bull trout are also a federally listed fish stocks in Washington State and the Elwha River is a core population area. Puget Sound coho, while not currently listed are a species of concern, and the Elwha population is currently supported almost entirely by hatchery production. Chum and pink populations in the Elwha are considered chronically depressed and have escapements less than 1000 and 200 adults per year, respectively.</p> <p><u>Restoration or Protection of Ecosystem Function:</u></p>	<p>LEKT/ ONP</p>

	<p>This project restores ecosystem function by accelerating the recovery of floodplain forests that support habitat forming processes. Ecosystem function is also permanently guaranteed in the former reservoir areas: the Mills surface is located within Olympic National Park, while the Aldwell surface will be protected by conservation easements.</p> <p><u>Spatial/Temporal Influence:</u> The Elwha restoration project represents the largest dam removal project conducted to date. The 308 million dollar project has been in planning for the better part of two decades and is by far the largest restoration effort conducted on the Olympic Peninsula. This project is technically supported by the Elwha Revegetation Plan (Chenoweth et al. 2010), which guides revegetation effort and is consistent with the Elwha Fisheries Restoration Plan (Ward et al. 2008). The project ties to efforts by LEKT to conduct large scale restoration of floodplain habitats in the lower river. The Elwha project as a whole is considered a watershed wide restoration effort.</p> <p><u>Project Readiness:</u> This project is ready to go in the sense that the Tribe has a trained crew that has been working on exotic plant control and revegetation for the past six years and is operating under a cooperative revegetation plan with ONP on the Elwha.</p> <p><u>Cost:</u> Estimated cost is \$150,000-200,000</p> <p><u>Watershed Priority:</u> The Elwha River has a normalized score of 5.0, and is ranked as the highest priority in the NOPLEG planning area.</p> <p><u>Miscellaneous:</u> Invasion of exotic plants on the newly exposed reservoir surfaces are the biggest threat to efforts to revegetation plans. Noxious weed source areas are targeted in the project area and include species such as knotweeds, thistles, reed canary grass, blackberries, St. Johns Wort and Herb Robert.</p>	
12100	<p>Elwha River Estuary Restoration Engineering Feasibility Project</p> <p><u>Project Description (Why Needed):</u> This project will support assess the cost and feasibility of implementing large scale estuary restoration concepts on the Elwha River. In 2011 the Lower Elwha Klallam Tribe commissioned a conceptual analysis of potential restoration scenarios in the estuary on lands owned by the Tribe. Entrix (2011) assessed several estuary restoration concepts that could complement the Elwha Dam removals beginning in 2011. Under that project two hydroelectric dams will be removed on the Elwha River at River Mile 4.9 and 13.5. Dam removal will drain and expose two reservoirs surfaces that have accumulated ~21.5 million yd³ of fine sediment. Sediments will be available for fluvial transport and retaining those sediments in the Elwha estuary and nearshore are critical to recovery of historic habitats. The Elwha estuary and nearshore are currently sediment starved and have been impacted by channel simplification. The engineering feasibility project would allow the tribe to perform a cost benefit analysis of several restoration concepts, including the 1) reactivation of historic distributary channels, 2) sediment retention devices, 3) abandonment of road features and 4) engineered logjams.</p> <p><u>Limiting Factors Addressed:</u> This project will assess possible restoration actions that could accelerate and maintain the recovery of estuary, nearshore and forested floodplain riparian communities in the Elwha River. The Elwha River restoration project is the largest single salmon restoration project in Puget Sound and estuary restoration is arguably the second most important action following dam removal. The Elwha has the largest productive potential of any river in the NOPLEG planning area and its productivity is intricately linked to the reestablishment of its forested floodplain. The estuary, nearshore and lower river have been dramatically impacted by both dam construction and historic channelization.</p> <p><u>Benefits to Salmon:</u> This project could result in restoration actions that improve rearing habitat for multiple species of salmon including Puget Sound chinook, Puget Sound coho ESU, Puget Sound steelhead ESU, Puget Sound chum, Puget Sound pink salmon as well as coastal cutthroat and bull trout which have all been documented to use the lower river and are expected to recolonize habitats above the dams. In addition nearshore habitat conditions for a myriad of species could also be improved.</p> <p><u>Recovery Plan Objectives:</u></p>	LEKT

	<p>Elwha chinook are federally listed and part of the Puget Sound ESU. Dam removal is keystone for recovery of the ESU and arguable the single largest action planned in the near future. Elwha steelhead are also federally listed and part of the Puget Sound steelhead ESU, however a recovery plan has not been prepared to date for this species. However implementation of the dam removal effort will likely be a cornerstone. Puget Sound bull trout are also a federally listed fish stocks in Washington State and the Elwha River is a core population area area. Puget Sound coho, while not currently listed are a species of concern, and the Elwha population is currently supported almost entirely by hatchery production. Chum and pink populations in the Elwha are considered chronically depressed and have escapements less than 1000 and 200 adults per year, respectively. Restoration of habitat and habitat forming processes in the estuary would complement overall recovery goals in the Elwha River.</p> <p>Restoration or Protection of Ecosystem Function: This project restores ecosystem function by accelerating the recovery of estuary and nearshore processes that support habitat forming processes. Ecosystem function is also permanently guaranteed on these reservation lands as development activities have been prohibited.</p> <p>Spatial/Temporal Influence: The Elwha restoration project represents the largest dam removal project conducted to date. The 308 million dollar project has been in planning for the better part of two decades and is by far the largest restoration effort conducted on the Olympic Peninsula. The project ties to efforts by LEKT to conduct large scale restoration of floodplain habitats in the lower river. The Elwha project as a whole is considered a watershed wide restoration effort.</p> <p>Project Readiness: This project is ready to go in the sense that the Tribe has completed a conceptual planning document but needs additional information to advance costs and benefits to policy, permitting and funding venues</p> <p>Cost: Estimated cost is \$200,000-250,000</p> <p>Watershed Priority: The Elwha River has a normalized score of 5.0, and is ranked as the highest priority in the NOPLEG planning area.</p> <p>Miscellaneous: Elwha River restoration is one of the few projects that is arguable being conducted at the watershed scale. This project addresses restoration of critical habitats in ways that have not been considered to date.</p> <p>Photos and Graphics are available for viewing at: http://hwsconnect.ekosystem.us/Project/180/5148</p>	
09018	<p>Elwha River Estuary Restoration</p> <p>Project Description: The Elwha estuary provides critical habitat to numerous federally listed species and is a component of the nationally recognized dam removal restoration project that will begin in 2012. The project is listed in the Elwha chapter of the regional recovery plan. This project will develop and implement a short and long term strategy for ecosystem restoration focusing on property acquisition and conservation easement. Project will build on short term fish passage restoration of west levee currently underway. The project directly benefits numerous federally listed ESA species including Puget Sound (Elwha) and numerous listed Columbia river Chinook, Steelhead, Bull trout, and Eulachon.</p>	LEKT, CC, WDFW & TNC
09019	<p>Elwha Culvert Replacement</p> <p>Project Description: We propose to restore Bull trout and anadromous salmonid refugia in the Elwha Watershed (OLYM) through the replacement of undersized barrier culverts on Olympic Hot Springs Road at Griff Creek, Madison Creek, and two other unnamed tributaries to the Elwha River. This project needs to proceed dam removal on the Elwha River (scheduled to begin in 2012) as culvert replacement will provide access to more than 1500 meters of high quality riverine habitat, providing critical, clear-water refuge habitat for bull trout and other fish species during the</p>	ONP & LEKT

	<p>period of removal of the Glines Canyon and Elwha dams (when the mainstem of the river will carry large loads of sediment). Culvert replacement will also restore access to important tributary spawning and rearing habitat for all anadromous fish species following dam removal. The existing culverts will be replaced with culverts sized according to Washington State guidelines. The existing culverts are complete or partial barriers to upstream migration of Bull trout (a threatened species), Rainbow trout, Cutthroat trout, other resident fish species in the Elwha watershed, as well as anadromous salmonids (including listed Puget Sound Steelhead and Chinook) following removal of the dams. This project would be implemented through a partnership between the Elwha Tribe and Olympic National Park.</p>	
<p>11088</p>	<p>Ennis Creek Barrier Replacement</p> <p>Project Description: This project will remove a fish passage barrier culvert at River Mile 1.0 on Ennis Creek. The existing double concrete culverts under a road used by the City of Port Angeles on East Ennis Creek will be replaced with either a bridge or a wide concrete box culvert. Rayonier, LLC is the underlying landowner.</p> <p>Limiting Factors Addressed: This project will improve fish passage by correcting a long standing barrier to migration on Ennis Creek</p> <p>Benefits to Salmon: This project will improve access to upstream habitats for multiple species of salmon including Puget Sound Coho ESU, Puget Sound steelhead ESU as well as coastal cutthroat which have all been documented to use habitats in Ennis Creek. Ennis Creek may also support bull trout. A chum salmon population has been extirpated from Ennis Creek but is a candidate for reintroduction following planned restoration actions in lower Ennis Creek and its estuary and nearshore.</p> <p>Recovery Plan Objectives: Ennis Creek steelhead are part of the Puget Sound steelhead ESU, however a recovery plan has not been prepared to date for this species. Puget Sound bull trout are also a federally listed fish stocks in Washington State and Ennis Creek is included in their recovery plan as rearing and migration area. Puget Sound coho, while not currently listed are a species of concern, and the Ennis Creek population is considered depressed (or below its potential). Monitoring conducted by LEKT indicates that the adult population is well less than 100 returning adults per year producing annual smolt outmigrations of less than 1000 coho smolts annually.</p> <p>Restoration or Protection of Ecosystem Function: This project restores ecosystem function by improving access to historically accessible portions of the Ennis Creek watershed. It also improves transport of sediment and large wood to downstream reaches of Ennis Creek.</p> <p>Spatial/Temporal Influence: This project represents a pioneering effort to initiate large scale restoration on Ennis Creek. Ennis Creek has been significantly impacted by urbanization, stormwater runoff, channelization, and industrialization of its former estuary. The now abandoned Rayonier Mill site which was constructed on top of the historic lower river and estuary has been dismantled and is being cleaned under a three way agreement between Rayonier, DOE and LEKT. A conceptual plan for the restoration of the entire site is also being prepared between these parties (as well as WDNR). The plan identifies significant restoration opportunities not only on Rayonier's ownership but throughout the watershed. Correction of the fish passage barrier on East Ennis Creek is a logical first step towards more comprehensive restoration in future years. Significant restoration and long term conservation has already occurred on the 40 acre Mantooth property upstream of highway 101.</p> <p>Project Readiness: Preliminary engineering will be completed by the city of Port Angeles during the 2011 calendar year. If funded this project could be implemented within 2 years of the award. Final design, contract documents, bidding, and construction should be included in the grant project scope.</p> <p>Cost: Estimated cost is \$250,000-450,000.</p> <p>Watershed Priority: Ennis Creek has a normalized score of 2.56, and is ranked as 14th priority watershed (11th freshwater).</p> <p>Miscellaneous:</p>	<p>LEKT/City of Port Angeles</p>

	<p>Ennis Creek is widely recognized as having the highest potential for restoration amongst the urbanized streams of Port Angeles. Its headwaters are protected in Olympic National Park.</p>	
<p>09020</p>	<p>Ennis Creek Habitat Restoration & Protection</p> <p><u>Project Description:</u></p> <p>1) Continue prior restoration, including addition of large woody debris and boulder placement on the approximately one-quarter mile of the stream that is directly south of Hwy. 101 and its fishway;</p> <p>2) Fence off the access point on the east side of the Ennis Creek ravine where it is so easy for thieves to haul out maple to sell that they have already cut down 6 maples, 75- to 100-years old, causing significant destruction of the forest canopy and erosion from their foot traffic and camps, as well as destruction from fires that could spread beyond their camps, and stream contamination from latrines they have dug and waste materials they have discarded;</p> <p>3) Decrease erosion from stormwater runoff created by new development along Del Guzzi Drive, on the west side of the Ennis Creek ravine, through enhancement of existing wetlands and better dispersal of water now flowing directly from City of PA outfall pipes and from land where native trees have been removed and impervious surfaces greatly increased;</p> <p>4) Continue the property owners' efforts to plant trees for erosion control and eventual replacement of the trees thieves removed, reducing the forest canopy and eventual supply of natural LWD. The property has been designated as a sensitive area by the City of Port Angeles and the WRIA 18 salmon recovery plan describes Ennis Creek as the Port Angeles urban independent stream with the greatest potential, based on its variety of stocks, its snow-fed origins, and its relatively pristine conditions. Stocks include coho, winter steelhead and cutthroat trout, and Dolly Varden have been documented there. Fall chum are believed to have been extirpated. Smolt counts by Bob Campbell, Feiro Marine Life Center Coordinator, indicate increasing numbers from 2004 to 2008, since LWD and boulder installations and improvements to the fishway under Hwy. 101, with coho increasing from 433 to 1,060; steelhead, 182 to 877; and cutthroat from 45 to 136.</p> <p>Ennis Creek's importance was also noted in the WRIA 18 Watershed Plan because of its accessible location for public education and outreach. The property is part of a 47-acre conservation easement upheld by North Olympic Land Trust. An adjacent part of the property is the site for the Land Trust's annual StreamFest, which provides guided walks as well as booths hosted by businesses, agencies and organizations to provide information about environmental restoration and protection. Restoration and protection described above could add to the event's educational potential through photos documenting the impacts for salmon habitat before and after the improvements.</p>	<p>WFC, LEKT & NOLT</p>
<p>09021</p>	<p>Valley Creek Restoration</p> <p><u>Project Description:</u></p> <p>Valley Creek in the proposed project boundaries is located in an open channel on the southern end. The channel is straight with armoring on the west bank to protect the Valley Street road prism. Little variation in morphology exists. A 3 block section, from 9th Street to 6th Street, has a service road constructed on the east side of the creek, further emphasizing the channelization of the creek in this section. Recently, the replacement of the 8th Street bridge over the valley resulted in the creation of a large wetland under the bridge and adjacent to the Valley Creek channel.</p> <p>The northern portion of the project beginning at approximately the 6th Street right-of-way to the 2nd / 3rd alley places Valley Creek in a culvert. The culvert grade slopes anywhere from 1.19% to 1.69%.</p> <p>This project contains two parts.</p> <ol style="list-style-type: none"> 1. The southern portion, from approximately 9th Street to 6th Street is a re-meander of the existing open channel to move the floodway to the east, away from Valley Street, and creation of a wider riparian zone. 2. Additionally, one block of culvert, between 5th Street and 6th Street, (approximately 200 feet) would be removed and that portion of the creek re-meandered with an enhanced riparian zone. A series of pool and riffle transitions would be created as part of the re-meandering. The entry to the culvert would be moved north and include a trash rack and a maintenance platform. 	<p>VCRC, COPA</p>

	<p>Property acquisition for this portion has been completed with the City of Port Angeles owning the property.</p> <p>The section portion of the project would be the installation of four "fishways" or step-down weirs. These weirs would be located at intervals of 150 to 250 feet, and would have open grates at the street level. The fishways would be either 20 or 25 feet in length and contain 3 or 4 weirs.</p> <p>The project would result in the removal of approximately 1,100 feet of the access road on the east side of the creek, daylighting and re-meander of approximately 200 feet of creek, widening of the floodway and riparian zone along approximately 1,700 feet of creek, and the enhancement of approximately 700 feet of culvert which is currently a restriction to fish passage.</p>	
<p>09023</p>	<p>Ediz Hook Beach Nourishment</p> <p><u>Project Description:</u> This project will help restore & maintain the inner spit. The outer spit is maintained by the Army Corps. This will also complement a project on the Three Year Workplan, Ediz Hook A-frame Site Shoreline Restoration.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> "Loss of shoreline sediment from the armoring of the water line"; and "need for supplemental beach nourishment" (Salmon And Steelhead Habitat Limiting Factors Water Resource Inventory Area 18).</p> <p><u>Benefit to Salmon:</u> Restoration of the inner spit will increase forage fish spawning areas, and improve salmonid habitat and the shallow water migration corridor.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> In the Nearshore Assessment's Executive Summary: Nearshore function of the central Strait of Juan de Fuca for juvenile fish, including Puget Sound Chinook salmon, it specifies that "Restoration of the degraded Elwha drift cell, including the feeder bluffs and Ediz Hook is ... a top priority". In the Salmon And Steelhead Habitat Limiting Factors Water Resource Inventory Area 18, "Restore shoreline sediment transport from the Elwha River and the feeder bluff between the Elwha River and the west end of Ediz Hook" was the first restoration action recommended".</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> In the Salmon And Steelhead Habitat Limiting Factors Water Resource Inventory Area 18, it claims that "shoreline armoring is ... the greatest impact to the integrity of Ediz Hook. This armoring reduced the contribution of shoreline sediments in the shoreline drift cell that extends from the mouth of the Elwha to the end of Ediz Hook, and increased shoreline energy. ...The loss of shoreline sediment from the armoring of the water line resulted in the loss of the beach on the outer side of Ediz Hook, putting the integrity of the hook at risk." The document also specifies the "need for supplemental beach nourishment".</p> <p><u>Certainty of Project Success:</u> The project is likely to succeed based on the success of similar SRFB-funded projects in Whatcom County.</p> <p><u>Address Timing Needs & Sequencing Requirements:</u> The project should take two years total. In the first year, design and permitting will be completed.</p> <p><u>Cost Appropriateness:</u> The cost estimate is extrapolated from cost estimates in the Ediz Hook A-frame Site Shoreline Restoration, Project v#32 on the Three Year Workplan Narrative 2008.</p> <p><u>Other Key Information:</u> Project Partners may include The Lower Elwha Klallam Tribe, the City of Port Angeles, the Port of Port Angeles, & the Washington State Department of Natural Resources.</p>	<p>City of PA, Port of PA, WDNR & LEKT</p>
<p>09024</p>	<p>Port Angeles Waterfront Property Acquisition</p> <p><u>Project Description:</u></p>	<p>NOLT, COPA, LEKT & VCRC</p>

This project will acquire a 2-acre shoreline property in the City of Port Angeles for the purpose of estuary and nearshore protection and restoration for habitat, ecosystem function, and environmental education. The property includes .3 mi. of urban, heavily armored shoreline adjacent to the Valley Creek Estuary, the site of an estuary restoration project completed in 1998. Acquiring this property would give project partners the opportunity to further existing restoration efforts and preserve the site as a public park.

Location of project & stock status and trends:

From Salmon and Steelhead Limiting Factors for WRIA 18 (p. 44-45)

“The Valley Creek watershed is 2.4 mi² in size, with headwaters in the lower foothills at the northern boundary of Olympic National Park (Economic and Engineering Services, Inc. 1996). Sixty percent of the watershed is in urban land use, with 50% of that land in impervious surface (TetraTech 1988). Valley Creek has been significantly altered to accommodate urban and industrial development in Port Angeles, and is heavily impacted by stormwater runoff from the urban and industrial development. The level of habitat degradation has been great enough to extirpate all salmonid species except for cutthroat trout. Ironically, with the construction of an engineered 1.5 acre estuary in 1998, Valley Creek is now the primary focus of restoration efforts within the urban streams of Port Angeles. A conceptual restoration plan for the watershed has been developed (McHenry and Odenweller 1998).”

From Salmon and Steelhead Limiting Factors, Estuarine (p.147)

Valley Creek is the site of a well-publicized estuary restoration project completed in 1998. This project was actually a mitigation project for filling of a log pond by the Port of Port Angeles. The newly created estuary, although actually representing only a 1.5 acre opening in the otherwise heavily armored Port Angeles harbor shoreline, perhaps represents an important change in local shoreline management philosophies. Historically, the Valley Creek estuary was much different, likely discharging to the harbor over an intertidal flat shortly after passing through the bluffs. This area has since been filled and culverted to accommodate urban waterfront development. The Valley and Tumwater Creek estuaries may have interacted because of their physical proximity (separated by a narrow bluff).

Why the Project is Needed (limiting factors addressed):

LFA WRIA 18 - Habitat Loss, degraded nearshore and estuarine conditions.
 PA Shoreline Plan - “Public access to the water along Railroad Avenue is limited and uninviting – an important potential exists.” (p.2).
 Opportunities exist to enhance previous restoration efforts that would benefit multiple stocks after the property is purchased.

Benefits to Salmon:

Acquire and protect land for restoration that will benefit Puget Sound Chinook, coho, and winter steelhead, and other species that use Valley Creek and the nearshore.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?

Port Angeles Shoreline Rehabilitation Plan, 1982. “Reestablish shoreline edges” and “public access to the waterfront edge”. (p. 9)
 NOPL Recovery Plan. Goals 2, 3, 4, 5
 Puget Sound Partnership – Harbor cleanup goals

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

This project will expand Valley Creek’s Estuary habitat and improve ecosystem function. Acquiring this property would fulfill NOPL’s goal to instill public awareness about salmon recovery because of its central location. Humans and the community of Port Angeles are also a part if this ecosystem and this project is congruous with the Port Angeles Shoreline plan which states, “Improvements of the waterfront area would strengthen the vitality of the Central Business District, and the city, create public amenity for local residents and create a positive image of this country...” (summary).

Certainly of Project Success:

The Landowner, owner of Olympic Lodge, LLC made a public statement explaining why he purchased the waterfront property. He did so to reduce the threat of competition of other hotels so he wishes to leave the property undeveloped. I am optimistic that the landowner would work with North Olympic Land Trust to keep the land undeveloped, make it available for restoration, and eventually make the resource available to the public for enjoyment and education.

	<p><u>Address Timing Needs and Sequencing Requirements:</u> The purpose of this project is to buy land for future restoration of the Valley Creek estuary and marine shoreline. The City or the Port owns most waterfront property in the Central Business District of Port Angeles. This property is one of the few remaining privately owned parcels of land that has not been developed. The property is for sale now and the landowner is willing.</p> <p><u>Cost Appropriateness:</u> The property is on the market for 2.7 M. The landowner is interested in keeping this property undeveloped, as open space so might be interested in a bargain sale – since the development potential of the property makes up much of its value.</p>	
09026	<p>Morse Creek Property Acquisition</p> <p><u>Project Description:</u> This project will acquire two desirable properties along Morse Creek at the upstream end of the Morse Creek Re-meander project. The properties were originally part of the larger property acquisition carried out by WDFW which resulted in the 100 acres purchased along Morse Creek. Unfortunately, funds ran out and the Cottonwood Lane properties were not acquired as part of the larger purchase. Currently, WDFW is facing a need to purchase lands to compensate SRFB for the construction of chinook rearing ponds along Morse Creek and additional funds would facilitate the acquisition of these high priority properties adjacent to the future floodplain reconnection. (See related project in the work plan: Morse Creek Re-Meander)</p> <p><u>Limiting Factors Addressed:</u> The project will address limiting factors related to increasing stream length, complexity, riparian habitat, and floodplain connectivity to increase and improve spawning and rearing habitat for all salmonids historically and potentially using Morse Creek</p> <p><u>Stock Status and Trends:</u> Anadromous fish stocks have been in steady decline in Morse Creek, largely due to the channelization of the lower creek. This project is expected to assist in arresting that trend, and possibly even reversing it in time.</p> <p><u>Listed Stocks:</u> It is inhabited by bull trout, winter steelhead and ESA listed Strait of Juan De Fuca summer chum,. Puget Sound Chinook are a historic resident but were recently extirpated in Morse Creek. A chinook rearing facility is planned for downstream of the project reach to preserve genetic stocks from the Elwha in preparation for dam removal.</p> <p><u>Other Stocks:</u> Pink salmon, coho salmon, summer steelhead, sea-run cutthroat trout</p> <p><u>Habitat Status:</u> The current alignment of Morse Creek is an artifact of intentional channelization that occurred during the 1950-1970's by previous landowners and likely in cooperation with the Washington Department of Transportation. Morse Creek was straightened and moved to the west side of its valley and forced through an artificially small bridge opening on Highway 101. Channelization below Highway 101 to the Strait of Juan de Fuca was also extensive. These activities have greatly changed the velocity conditions and therefore spawning and rearing habitat critical to support native anadromous salmon populations. The Lower 1.5 miles of Morse Creek are essentially a flume with very little spawning or rearing habitat. The channel has degraded to bedrock in most places. Habitat surveys conducted by the Tribe and Peninsula College show that in this reach only 14% of the total surface area is classified as pool habitat.</p> <p><u>Ecosystem Restoration:</u> The project will accomplish the reconnection of Morse Creek to its historic floodplain. Ecosystem function will be immediately restored. A canopy of mature alder and cottonwood, and undergrowth of some conifers exists and will remain intact which provides immediate improvement to creek conditions and habitat features for both stream, wetland and forest species.</p> <p><u>Partnerships:</u> This project is being conducted through a partnership with WDFW (project lead) and North Olympic Salmon Coalition (project support).</p>	WDFW

10079.1	<p>Lower Morse Creek Feasibility Study</p> <p><u>Project Description:</u> A feasibility study is needed to explore the restoration options for the lower 1.2 miles of Morse Creek where it passes through 4 Season’s Ranch, a private community. This effort builds on current and earlier work taking place on .5 miles of creek just upstream. Linking the lower reach to the upstream reach is integral to recovery of habitat in this watershed. The feasibility study will include necessary survey, hydrologic, archaeological, geotechnical and instream and riparian investigations to inform development of a suite of possible enhancement actions. A critical component to the project will be landowner meetings with the 4 Season’s Ranch Community to determine the community member’s needs, concerns and support for possible restoration actions. This information will be brought together with technical information to develop restoration alternatives.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> Fish habitat throughout this reach and extending to the estuary is extremely poor. The channel is straightened, confined and cut off from its floodplain. There are very few pools (3 according to the WRIA 18 LFA) and no habitat features such as woody debris or side channels. Gravel size tends to be too large for spawning due to high velocities flushing material out of the system. Riparian cover is also somewhat limited in parts of this reach. Fish navigating the reach encounter high velocities and over-simplified habitat. This project is the next major action for Morse Creek following the completion of the re-meander upstream in 20010. The entire Morse Creek estuary exists on these properties. It is vastly impacted and simplified.</p> <p><u>Benefit to Salmon:</u> <u>ESA Listed Stocks:</u> Morse Creek is home to multiple stocks of imperiled salmonids. The project targets ESA listed steelhead and bull trout, pink salmon, chum and coho salmon. All stocks use the creek for spawning and rearing. Morse is within the ESU for ESA listed chinook however, Puget Sound chinook are extirpated from Morse Creek. Out planting of Elwha chinook into the system has taken place since 2005, and raceways for juvenile Elwha chinook for stock protection during Elwha dam removals are located on Morse Cr. The project concepts developed in this study will aim to improve spawning, rearing, holding and/or riparian habitats.</p> <p><u>Non Listed Stocks:</u> Coho, pink, chum, trout</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> The WRIA 18 LFA identifies these restoration actions as important to Morse Creek.</p> <ul style="list-style-type: none"> • “Restore floodplain function downstream of RM 1.7, including the removal of portions of dikes, elimination of floodplain constrictions, and restoration of natural banks” • ‘Restore large woody debris (LWD) presence throughout the channel downstream of the natural falls at RM 4.9; develop and implement a short-term LWD strategy to provide LWD presence and habitat diversity until full riparian function is restored. • “Restore riparian function by encouraging conifer regeneration in deciduous stands that historically had a conifer component” • Todd et. al list the estuary as severely impaired <p><u>How Project supports Restoration or Protection of Ecosystem Functions:</u> The project will aim to enhance severely impacted, formerly productive habitat. This reach contains 25% of the anadromous zone of Morse Cr and the Morse Cr estuary. Currently this reach is severely compromised and enhancement will result in a improvement in the functionality of the anadromous zone of Morse Creek.</p> <p><u>Spatial/Temporal Scale of influence:</u> The project could affect up to a mile of lower Morse Creek and the Morse Creek estuary and will compliment another .5 miles of habitat restored in 2010. Temporal scale is somewhat unknown until the feasibility study is complete and project approaches are identified.</p> <p><u>Address Timing Needs & Sequencing Requirements:</u> Tremendous efforts on the part of many partners have gone into a substantial floodplain reconnection project upstream of the 4 Season’s Ranch. Throughout 5 years of planning for that project, the partners have always said <i>“It is hoped that conducting this restoration project on state land will serve as a model for good project implementation, demonstrate positive outcomes and will lead to future opportunities on private lands in the two residential developments on Morse Creek.”</i>. An invitation to visit the 4 Season’s Ranch community came in 2009. Some members of the community feel there are a large number of residents who have been following the</p>	NOSC
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	<p>floodplain restoration efforts, attending public meetings and communicating with project partners who are ready to talk about possible restoration within their community. This opportunity must not be missed and momentum should be maintained. If restoration can be achieved in this reach, there will be only a small piece of un-restored creek between this reach and the floodplain reconnection project which took place in 2010. The reach between the two projects contains the Highway 101 bridge and a private road abutting the creek. Although it would be desirable to address the road and replace the bridge, these are elements of restoration that are not ripe for action, whereas the 4 Season’s Ranch project is. A feasibility study is the critical first step for determining what, if any actions will be possible in this complex community.</p> <p><u>Range of Estimated Cost:</u> Actual project costs are unknown at this time. However, as stated above, this feasibility study is critical to any efforts at restoration actions in this community.</p> <p><u>Watershed priority:</u> Morse Creek Watershed priority is set by the Lead Entity.</p> <p><u>Other Key information:</u> During 2010/2011, NOSC engaged in outreach to the community to assess their support for NOSC applying for funds for a feasibility study. The board of Four Season’s Ranch voted not to allow NOSC to pursue the feasibility study.</p>	
<p>09027.1</p>	<p>Siebert Creek Ecosystem Protection (Phase I completed in 2007, Phase II funded in 2009)</p> <p><u>Project Description:</u> The goal of Phase III and IV is to conserve additional land along Siebert Creek through the following measures: (1) Extending the riparian buffer another river mile on the west side of the creek. The East side is already protected. The 200-acre property that contains the longest continuous reach of targeted riparian buffer is for sale and negotiations have started with a willing seller. If the land is not purchased for conservation it will be sold for development. Two marine feeder bluff properties will be protected with conservation easements in the project area. (2) Protection of another 1/3rd of a mile of the Creek, south of the existing protection accomplishments, working with another landowner who has been interested in conservation easements for quite some time.</p> <p>Siebert Creek is a significant independent drainage to salt water, entering the Strait of Juan de Fuca at Green Point. The Siebert Creek watershed includes 31.2 miles of mainstem stream and tributaries.</p> <p>Conservation easements are one of the most cost effective tools for the perpetual protection of land. This project will build upon the protection efforts completed and underway. Land in the Siebert Creek watershed is under the pressure of a growing population land conversion. We must seize the opportunity to protect the nearly pristine quality if the watershed while it is in good condition.</p> <p><u>Area Description:</u> (from SALMON AND STEELHEAD HABITAT LIMITING FACTORS FOR WATER RESOURCE INVENTORY AREA 18. p 42)</p> <p>The Siebert Creek drainage is included as part of the Dungeness Area Watershed. The following information provides additional information specific to Siebert Creek. Siebert Creek is located approximately midway between Port Angeles and Sequim, draining an area of 19.5 mi² (17,200 acres). The creek is 12.4 miles long, draining directly to the Strait of Juan de Fuca (Williams et al. 1975). Siebert Creek drains the low hills paralleling the Strait of Jan de Fuca, and the upper reaches of the watershed are typically steep and incised at elevations up to 3,800 feet. Land in the upper watershed is managed for commercial forestry, with the extreme headwaters located in the Olympic National Park. The lower reaches contain both moderate and low-gradient habitat, with land uses including commercial forestry, agriculture, and increasing levels of real estate development (McHenry et al. 1996).</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> The Assessment describes factors limiting the function of the watershed as degraded channel conditions, lack of LWD, and fine sediment in some areas of the watershed however the lower reach, which this project aims to protect, flows through a wooded ravine that is well vegetated and undisturbed with a 1 mile corridor protected with conservation easements. To guarantee greater ecological benefits, the entire 2 miles of the lower reach must be protected on both sides of the creek. Ecosystem processes and habitats are still functional and intact and therefore should be protected now.</p>	<p>NOLT</p>

	<p><u>Benefits to Salmon:</u> The project permanently protects habitat and ecosystem processes for multiple stocks including coho, cutthroat and steelhead.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?</u> Puget Sound Recovery Plan – Protect Existing Physical Habitat and Habitat Forming Processes WRIA 18 Watershed Plan – Protect the best habitat for multiple stocks Siebert Creek Watershed Assessment - Protect intact ecological processes through conservation easements and property acquisitions. NOPL Recovery Strategy – Protect the best and maintain ecosystem function Puget Sound Partnership – Protect habitat</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Lower Siebert Creek is in relatively good condition. This could quickly change according to current zoning. The area will rapidly become developed unless properties are protected now.</p> <p>Marine Feeder bluffs in the drift cell that this project will permanently protect through conservation easements are important for maintaining ecosystem processes by delivering sediment to Dungeness Spit.</p> <p><u>Project’s Spatial-Temporal Scale of Influence:</u> Two contiguous River Miles have been conserved, but additional protection is needed on the west side of the Creek. We also have the opportunity to conserve an additional 1/3rd of a mile beyond the existing corridor. This is conservation on a landscape scale.</p> <p><u>Certainly of Project Success:</u> Landowners have expressed willingness. Successful funding will guarantee success. The County is interested in developing an Olympic Discovery Trail park on the 200-acre property and may contribute funding to this project.</p> <p><u>Address Timing Needs and Sequencing Requirements:</u> An assessment of Siebert Creek has been completed and habitat protection is a recommendation in the assessment which is consistent with Pacific Woodrush’s vision which is to protect intact ecological processes of the Siebert Creek Corridor; in order to achieve this vision the following conditions and outcomes are desired: protection in perpetuity of naturally-functioning habitats through conservation easements and property acquisitions (Siebert Creek Watershed Assessment p. 8).</p> <p><u>Cost Appropriateness:</u> Cost is based on the listing price of the property to be acquired fee simple. Cost to acquire development rights through conservation easements is based on comparable values of recently appraised conservation easements.</p> <p><u>Watershed Priority and watershed area:</u> WRIA 18, Watershed Priority 2.20.</p> <p><u>Other Key Information (especially any relationship to previous or current projects):</u> In 2002 an effort to protect the lower 2 miles of Siebert Creek was initiated by Pacific Woodrush and North Olympic Land Trust to protect the lower reach of the watershed from the estuary to Highway 101. Siebert Creek Ecosystem Protection started with Phase 1. One mile of Siebert Creek was protected with permanent conservation easements including the estuary. 50 acres were protected with conservation easements and a 33-acre property was purchased. With Phase II, 26 additional acres will be conserved along Siebert Creek, and 2 contiguous river miles will be protected.</p>	
09028.1	<p>Siebert Creek Hwy 101 Fish Passage Restoration</p> <p><u>Watershed Priority:</u> 2.20</p> <p><u>Project Description:</u> The Hwy 101 box culvert at river mile 2.4 is a serious, partial barrier to 1) upstream fish passage and 2) the downstream transport of large wood. Fish passage and large wood transport will be restored by removing the culvert and replacing it with full-spanning bridge.</p>	JSKT/ WSDOT

Why the Project is needed (limiting factors addressed):

Siebert Creek's anadromous length is approximately 10 miles, but fish passage is severely impaired at river mile 2.4 by the Hwy 101 box culvert. The culvert is equipped with a sub-standard fishway that provides, at best, partial fish passage. The culvert is too small to accommodate an efficient fishway, and the large amount of bedload transported by Siebert Creek makes fishway maintenance very problematic. The project will remove the box culvert and replace it with a bridge to restore unimpeded fish passage to prime spawning and rearing habitat upstream for Puget Sound steelhead, coho, and coastal cutthroat. Due to its small size, the culvert also hinders the downstream transport of large wood, thereby depriving the lower 2.4 miles of Siebert Creek of this important habitat-forming material.

Benefit to Salmon (how does it address stock status & trends):

Siebert Creek steelhead and coho stocks are both imperiled. The project addresses this condition by opening approximately 75% (7.6 miles) of the stream's anadromous habitat to unimpaired accessibility for both stocks. The project will also produce habitat benefits to the lower 2.4 miles of Siebert Creek by restoring the downstream transport of large wood. This culvert is the last anthropogenic impediment to fish passage in Siebert Creek.

Specific Salmon and Char Stocks that will benefit.

ESA-listed: Puget Sound steelhead. **Non-listed:** Coho, cutthroat.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?

The Siebert Watershed Analysis calls for replacement of the culvert with a bridge (2004, Siebert Technical Advisory Group). WRIA 18 Watershed Report: Correct fish passage problems at Highway 101 by replacing the existing culvert crossing with a bridge, as recommended by WDFW.

Restores Formerly Productive Habitat:

The project restores unimpaired fish access to approximately 75% of the stream's anadromous habitat. The restoration of large wood transport will produce habitat benefits to Siebert Creek's lower 2.4 miles.

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

Ecosystem functions are restored by: 1) Restoring unimpaired fish migration into approximately 75% of the stream's anadromous habitat. This will benefit the fish stocks and their predators, and the increased import of ocean carbon and other nutrients represented by increased numbers of fish carcasses will provide benefits to a large number of plants and animals. 2) Restoring large wood transport past Hwy 101 will improve aquatic habitat conditions in the stream's lower 2.4 miles. 3) The Hwy 101 road fill is a very significant barrier to the movement of mammals, reptiles, and amphibians. Replacement of the culvert and road fill with a full spanning bridge will restore the migration corridor for a multitude of creatures.

Scale of influence:

Spatial- The project will provide benefits throughout the entire 10 miles of anadromous habitat, especially the 7.6 miles upstream of Hwy 101. **Temporal -** Life span of the bridge would likely equal or exceed 70 years. It's unlikely that another structure that obstructs fish migration and large wood transport would ever be permitted in the future. Therefore, the project benefits can reasonably be considered permanent.

Certainty of Project Success:

The eastbound lanes of Hwy 101 currently cross Siebert Creek on a full-spanning bridge, which does not hinder the movement of large wood, fish, or other animals. Replacing the road fill and culvert on the westbound lanes with a similar bridge will unquestionable eliminate the existing impacts.

Timing Needs & Sequencing Requirements (project readiness):

The project will begin with a design project: conceptual bridge and site design to 10% engineering. Once the design is in place, then the project can be placed on the DOT project list.

Cost Range and Appropriateness:

Estimated cost range of the 10% design is \$75,000 to \$150,000. The full project will cost approximately \$12 to \$15 million. It is expected that most of the cost will be covered by the WSDOT as a highway improvement/maintenance or mitigation project.

Other Key Information, especially any relationship to previous or current projects:

A similar culvert removal/bridge construction project was completed in the 1990's by Clallam County

	<p>downstream at Old Olympic Highway. The Lower Elwha Tribe has placed numerous pieces of LWD below Old Olympic Highway, greatly improving habitat condition. The North Olympic Land Trust owns several properties and conservation easements on lower Siebert Creek.</p>	
<p>11090</p>	<p>Siebert Creek Large Wood Restoration</p> <p>Watershed Priority: 2.20</p> <p>Project Description: Construct design/build logjams (DBLJ's) in Siebert Creek from the mouth to RM 2.4 at the Highway 101 box culvert. Work will be accomplished in a series of construction phases occurring from 2012 to 2015. A combination of ground-based and helicopter placement techniques will be employed depending on access and landowner agreements.</p> <p>Why the Project is needed (limiting factors addressed): Riparian conditions and habitat quality downstream of SR 101 have been cited numerous as limiting factors for salmon recovery in Siebert Creek (McHenry 1992, as referenced in McHenry et al. 1996, Bernthal and Rot 1999). The box culvert at SR 101 further exacerbates the downstream transport of large wood from upstream areas of the creek with more mature forest cover. The WRIA 18 LFA references the above studies by reporting pool percentage ratings of fair to poor with critically low levels of LWD, and recommends developing and implementing a short-term LWD strategy in lower Siebert Creek to restore LWD presence and pools, particularly from the mouth to SR 101 (WRIA 18 Watershed Plan, page 3.12-7). More recent survey data generated from habitat mapping (pool/log jam locations) is being used to prioritize restoration projects (Siebert Creek Watershed Assessment, Hagen and Erickson 2004 and Tribal habitat surveys conducted by the Jamestown and Lower Elwha Klallam Tribes, 2003 and 2010 unpublished survey data).</p> <p>Benefit to Salmon (how does it address stock status & trends): This project will return stable, complex salmonid spawning and rearing habitat to lower Siebert Creek, by scouring pools, stabilizing spawning riffles, retaining salmon carcasses, providing cover, and encouraging the access of the creek to its floodplain. Besides the immediate benefits provided by the DBLJ's, the project will recreate the channel structure necessary to allow the retention of naturally recruiting wood. Tribal survey data collected in 2003 and 2010 shows long plane-bed channel form reaches below the SR 101 culvert that are devoid of wood, scoured to bedrock or have large substrate not conducive to salmon spawning. Channel reaches downstream of Old Olympic Highway restored by the Lower Elwha Klallam Tribe in 2005 are showing signs of recovery based on survey data the tribes collected this past summer (2010). Future wood recruitment is incorporated by conifer under-planting in the floodplain with each restoration project.</p> <p>Specific Salmon and Char Stocks that will benefit. ESA-listed: Puget Sound steelhead Non-listed: Coho, cutthroat</p> <p>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How? NOPL 2011 Draft Strategy Table D: Restore habitat. While the recovery plan for steelhead is not available, it undoubtedly will include recover steelhead habitat by placing LWD. WRIA 18 LFA page 3.12-7, "Develop and implement a short-term LWD strategy in lower Siebert Creek to restore LWD presence and pools, particularly from the mouth to SR 101". Siebert Creek Watershed Assessment recommendations (2004) "Restore natural levels of instream large woody debris (LWD) by: direct placement of LWD and restoration of mature riparian forest to provide long-term recruitment of LWD".</p> <p>Restores Formerly Productive Habitat: Siebert Creek historically supported coho and chum salmon, steelhead, cutthroat, and rainbow trout, and Dolly Varden. According to the LFA analysis, the loss of large wood is one of the primary limiting factors. Until the comprehensive fixes at HWY 101 occur, constructing DBLJ's will provide a near-term restoration opportunity for the impaired reaches downstream of the SR 101 culvert. It also serves as an immediate mechanism to reestablish habitat forming processes in the channel until riparian forest cover has a chance to naturally recover.</p> <p>Illustrate how Project supports Restoration or Protection of Ecosystem Functions: Restoring large woody debris jams below SR 101 will improve aquatic habitat conditions in the streams lower 2.4 miles. Mapping of habitat features such as pools, jams, and riffles by the JSKT and LEKT in this area clearly show a need and justification for restoration projects. The three-tiered restoration approach that JSKT employs is designed to restore ecosystem functions to a level that supports salmon recovery. Floodplain forest restoration</p>	<p>JSKT</p>

	<p>through controlling invasive species and reestablishing conifer, coupled with installing DBLJ's where they are needed is the approach we use to restore ecosystem functions.</p> <p>Scale of influence: Spatial- This project will cover approximately 2.4 miles, from SR 101 down to the estuary. Monitoring data collected in the last 7 years will help prioritize log jam locations where they are needed most. The stream is low gradient (1-2%) and unconfined through this reach, with good floodplain habitat on both banks. Temporal - We can expect the conifer wood used in these logjams to last 20-50 years depending on whether they are mostly wet or wet/dry. The existing alder in the riparian forest will provide good habitat in the coming decades, however alder decays in a matter of a decade. The key is conifer replanting and re-growth to create the type of riparian habitat that creates stable salmonid habitat.</p> <p>Certainty of Project Success: The Jamestown S'Klallam Tribe completed a successful DBLJ project on McDonald Creek downstream of Old Olympic Hwy (Phase I), building 8 logjams. We will build in 2011 a similar number of logjams in the ¼ mile downstream of Phase I. Monitoring data collected in 2003 resulted in a successful restoration project downstream of Old Olympic Highway by the LEKT in 2005. It is likely that the JSKT will partner with the LEKT on this project. The tribes worked together this last summer to repeat the 2003 habitat survey which mapped all the jam locations from the mouth to SR 101. Our experience in other watershed supports a high certainty of success in Siebert Creek. We installed over 700 pieces of wood in the Jimmycomelately Creek restoration project in Sequim Bay. In the Dungeness River, we have constructed design/build logjams below Woodcock Bridge (RM 2.9), upriver of Hwy 101 in the main river (RM 6.6), in Dawley side channel (RM 6.7), and downstream of the Powerlines (RM 8.3).</p> <p>Timing Needs & Sequencing Requirements (project readiness): The JSKT is again working with the WADNR to secure wood donations from State Lands timber sales in the Siebert Creek, and other adjacent watersheds for in-stream restoration projects. Depending on funding availability, the tribe could be ready to implement restoration projects in the summer of 2012.</p> <p>Cost Range and Appropriateness: To construct logjams in the lower 2.4 miles of Siebert Creek will cost between \$250,000 to \$300,000. This figure assumes we would be working along the entire 2.4 mile reach between SR 101 and the estuary. The project can be scaled back or sequenced depending on available funding by prioritizing restoration locations based on monitoring data.</p> <p>Other Key Information, especially any relationship to previous or current projects: As mentioned earlier, Siebert Creek has been fairly well studied compared with other central straits drainages. Monitoring data has been compiled and analyzed with an eye to getting the most restoration benefit from conservation dollars. This project would complement the HWY 101 fish passage project by restoring the most heavily impacted areas of the creek below this barrier. As mentioned earlier, a successful logjam project was completed downstream of Old Olympic Highway by the LEKT in 2005.</p>	
<p>10078.1</p>	<p>McDonald Creek Large Wood Restoration</p> <p>Watershed Priority: 2.32</p> <p>Project Description: Construct design/build logjams (DBLJ's) in McDonald Creek from the mouth to RM 5.2 at the confluence with Pederson Creek. Plant native conifers in project area where needed. Work will be accomplished in a series of construction phases occurring from 2011 to 2015. We are currently working on Phase II downstream of Old Olympic Hwy. Planning for Phase III just upstream of Old Olympic Hwy will begin shortly.</p> <p>Why the Project is Needed (limiting factors addressed): The last habitat survey was over a decade ago and found that pool frequency and number of key pieces of LWD that would anchor logjams were in poor condition (Bernthal and Rot 2001). The WRIA 18 LFA recommended that LWD be restored from the mouth to RM 4.9 (Haring 1999). Haring 1999 lists the riparian condition as good condition, however the source he cited only surveyed the watershed above RM 4.9. The lower watershed has been logged several times and is dominated by young to mature red alder with very little conifer in the understory, or at best a mixed alder/conifer forest (Rot, personal observation).</p> <p>Benefit to Salmon (how does it address stock status & trends):</p>	<p>JSKT</p>

	<p>This project will return stable, complex salmonid spawning and rearing habitat to McDonald Creek, by scouring pools, stabilizing spawning riffles, retaining salmon carcasses, providing cover, and encouraging the access of the creek to its floodplain. Besides the immediate benefits provided by the DBLJ's, the project will recreate the channel structure necessary to allow the retention of naturally recruiting wood. Future wood recruitment is being ensured by numerous completed and planned riparian habitat purchases and conservation easements, along with conifer under-planting with each restoration project.</p> <p><u>Specific Salmon and Char Stocks that will Benefit:</u> ESA-listed: Puget Sound steelhead. Non-listed: coho, fall chum (likely extirpated), cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> NOPL 2011 Draft Strategy Table D: Restore habitat. While the recovery plan for steelhead is not available, it undoubtedly will include recover steelhead habitat by placing LWD. WRIA 18 LFA page 124, restore LWD presence and function from the mouth to Pederson Creek (RM 5.2).</p> <p><u>Restores Formerly Productive Habitat:</u> McDonald Creek has a historical productivity rating of 3 (of a possible 5). Current productivity rating is 2. According to the LFA analysis, the loss of large wood is one of the primary limiting factors.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Olympic Peninsula streams and rivers and their salmonid populations evolved with extremely high levels of instream large wood. Wood provides physical fish habitat, serves as a biological substrate, roughens stream channels to scour pools and stabilize spawning habitat, and aggrades channel beds so these systems interact with their floodplains. In McDonald Creek, channel grade in the lower 5 miles averages 1-2% (Bernthal and Rot 2001). Where wood is deficient, cobble sized substrate is common. By building stable logjams and replanting conifer riparian forest, the ecosystem processes of habitat formation and nutrient processing can resume at levels appropriate for salmon recovery.</p> <p><u>Scale of influence:</u> Spatial - The project will cover approximately 5 miles, which is the entire anadromous zone. McDonald Creek is incised into the surrounding glacial till, the stream corridor is undeveloped with the exception of two road stream crossings and the Agnew irrigation outtake. Temporal – We can expect the conifer wood used in these logjams to last 20-50 years depending on whether they are mostly wet or wet/dry. The existing alder in the riparian forest will provide good habitat in the coming decades, however alder decays in a matter of a decade. A key element is conifer replanting and regrowth to create the type of riparian habitat that creates stable salmonid habitat.</p> <p><u>Certainty of Project Success:</u> The Jamestown S’Klallam Tribe completed a successful DBLJ project downstream of Old Olympic Hwy (Phase I), building 8 logjams. We will build in 2011 a similar number of logjams in the ¼ downstream of Phase I. The McDonald stream corridor is virtually undeveloped, which removes a big hurdle with landowners. Our experience in other watershed supports a high certainty of success in McDonald Creek. We installed over 700 pieces of wood in the Jimmycomelately Creek restoration project in Sequim Bay. In the Dungeness River, we have constructed design/build logjams below Woodcock Bridge (RM 2.9), upriver of Hwy 101 in the main river (RM 6.6), in Dawley side channel (RM 6.7), and downstream of the Powerlines (RM 8.3).</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> We are in the midst of restoration. Phase II will be completed the summer of 2011 (already funded). Funding for Phase III is still needed, construction will occur in 2012.</p> <p><u>Cost Range and Appropriateness:</u> To construct logjams in the entire lower 5 miles will cost between \$750,000 to \$1 million. This will recover habitat in the entire range of ESA listed winter steelhead.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u> As stated above, we have a plan for McDonald Creek recovery and are implementing the plan.</p>	
09039.1	<p>McDonald Creek channel rehabilitation, diversion dam removal, and ditch relocation</p> <p><u>Watershed Priority:</u> 2.32</p>	<p>JSKT, WDFW, WSDOT, Agnew Ditch Co.</p>

Project Description:

This project has two phases. Phase I is to rehabilitate the channel downstream of the diversion dam to provide fish passage. The current design is a rock ramp fishway. This phase should be constructed prior or during the WSDOT bridge construction. Phase II is to remove the Agnew diversion dam and infrastructure just upriver of Hwy 101, and places the ditchwater into a pipe that follows alongside Sherburne Rd (a county road). Currently Agnew ditch inputs Dungeness River water into McDonald Creek at RM 5 and takes it out at RM 3.2. McDonald Creek is used as part of the Agnew irrigation ditch system; Agnew also has a 1 cfs water right to McDonald Creek.

Why the Project is Needed (limiting factors addressed):

Phase I is needed because the creek bed has degraded 3 ft from the diversion dam and the riprap from the diversion facility and bridge creates very poor habitat conditions for fish (see photos). Phase II is needed because McDonald Creek diversion dam blocks adult and juvenile fish passage during low flow summer months. The fish ladder is closed during summer months to increase flow into the ditch outtake. Phase II potentially would remove the diversion dam, fish ladder, outtake infrastructure, restore the floodplain. This would be depended on negotiations with Agnew ditch. It would certainly discontinue using McDonald Creek to convey Agnew (Dungeness River) ditchwater.

Benefit to Salmon (how does it address stock status & trends):

Some of the best habitat in McDonald Creek is found upstream of the diversion dam. Coho, winter steelhead, and sea-run cutthroat spawn and rear both upstream and downstream of the diversion dam. Juveniles cannot move upstream in summer months, and downstream movement is either over a concrete spillway, or through a steep pipe. Both can potentially injure or kill fish.

Specific Salmon and Char Stocks that will Benefit.

ESA-listed: Puget Sound steelhead. **Non-listed:** coho, fall chum (likely extirpated), cutthroat.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?

NOPL 2011 Draft Strategy Table D: Restore habitat. While the recovery plan for steelhead is not available, it undoubtedly will include recover steelhead habitat by removing the diversion dam and the influence of Dungeness River water. WRIA 18 LFA page 124, identify options to reduce/eliminate the influence of Dungeness River water, conveyed through the irrigation system, on homing ability of Dungeness and McDonald origin salmonids.

Restores Formerly Productive Habitat:

McDonald Creek has a historical productivity rating of 3 (of a possible 5). Current productivity rating is 2. The difference is habitat quality upstream and downstream of the diversion dam is clearly seen in the two accompanying photos. The channel bed has degraded three feet downstream of the diversion dam, large riprap has fallen into the channel from the irrigation outtake facility and from the DOT bridge. This riprap is in the channel for several hundred feet downstream of the bridge (see photo). The division structure and bridge create a corridor of extremely poor habitat quality that extends downstream for roughly 1/10 of a mile.

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

In McDonald Creek, channel grade in the lower 5 miles averages 1-2% (Bernthal and Rot 2001). Yet the creek produces much more coho and steelhead smolts than Siebert Creek, it's similarly sized sister to the west. Good habitat exists upriver of this facility. Improving habitat quality and quantity, migration, and reducing straying all improve ecosystem function in this small creek.

Scale of influence:

Spatial - The project is located at roughly RM 3.2. By completing Phase I, habitat will be accessible year around up to RM 5.2, and habitat conditions will improve for 1/10 mile or more downstream. With the completion of Phase II, the effects of Dungeness water will be removed for 5 miles, since RM 5 is the input point for Agnew ditch, which is the entire anadromous zone. **Temporal** – Phase I will have an immediate effect on juvenile fish allowing for upstream migration at the end of summer, and allowing for adult migration at all flows. Phase II would have an immediate effect by removing Dungeness River water from McDonald Creek and the potential for straying.

Certainty of Project Success:

Phase I is a straightforward project that has a draft design and budget. Phase II also has a draft design and is equally straightforward. The only uncertainty for Phase II is removal of Agnew outtake infrastructure.

Timing Needs & Sequencing Requirements (project readiness):

	<p>Phase I can move fairly quickly, it is limited by funding. Phase II requires negotiations with Agnew ditch.</p> <p>Cost Range and Appropriateness: Phase I estimate is \$200k, Phase II is \$1.5-\$2 million.</p> <p>Other Key Information especially any relationship to previous or current projects: Both Phase I and II support and integrate with downstream habitat restoration.</p>	
09029.1	<p>Dungeness River Large Wood Restoration</p> <p>Watershed Priority: 4.76</p> <p>Project Description: Build approximately 50 engineered and design/build logjams (ELJ's and DBLJ's) in the Dungeness River from river mile (RM) 2.7 to 18.8 and in the Gray Wolf River from RM 0.0 to 2.0. Work will be accomplished in a series of design and construction phases occurring from 2010 to 2019.</p> <p>Why the Project is Needed (limiting factors addressed): Dungeness River channel structure and complexity have been severely harmed by decades of extensive large wood removal projects. From the 1950's to 1982, the near annual "log drives" piled and burned river wood to keep the channel neat and tidy. Significant removal of wood ceased in 1982, but the channel still needs stable logjams to retain the size-classes of wood that recruit into the system today. Meanwhile, the system is extremely lacking in large deep pools and stable spawning habitat.</p> <p>Benefit to Salmon (how does it address stock status & trends): Return stable, complex salmonid spawning and rearing habitat to the mainstem Dungeness and lower Gray Wolf Rivers, by scouring pools, stabilizing spawning riffles, retaining salmon carcasses, providing cover, and engendering the formation of side channels. Besides the immediate benefits provided by the ELJ's and DBLJ's, the project will recreate the channel structure necessary to allow the retention of naturally recruiting wood. Future wood recruitment will be ensured by riparian habitat acquisition, conservation easements, and riparian restoration.</p> <p>Specific Salmon and Char Stocks that will Benefit. ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, pinks, fall chum, cutthroat.</p> <p>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How? NOPL 2011 Draft Strategy Table C: Recommended actions for Dungeness River - "LWD Placement". "Develop and implement a short-term LWD strategy to provide LWD presence and habitat diversity until full riparian function is restored." WRIA 18 LFA page 105. Restore LWD from RM 0.9 to Hwy 101. Puget Sound Recovery Plan, page 325.</p> <p>Restores Formerly Productive Habitat: The Dungeness River has a historical productivity rating of 5 (of a possible 5). Current productivity rating is 2. According to the EDT analysis, the loss of large wood is one of the primary factors for the decline in productivity.</p> <p>Illustrate how Project supports Restoration or Protection of Ecosystem Functions: Olympic Peninsula rivers and their salmonid populations evolved with extremely high levels of instream large wood. Wood provides physical fish habitat, serves as a biological substrate, and roughens stream channels to scour pools and stabilize spawning habitat. Rivers damaged by serious loss of stable, large wood lose these beneficial attributes and also become unable to efficiently retain newly recruited wood and salmon carcasses. By providing stable logjams, the ecosystem processes of habitat formation and nutrient processing can resume at levels appropriate for salmon recovery.</p> <p>Scale of influence: Spatial - The project will cover approximately 18 miles of mainstem river. Temporal - Although some DBLJ structures may move during floods, the engineered logjams will last 50 years or more. By capturing recruited wood, by stabilizing bars and channels to allow the creation of forested islands, and forcing flows into side channels, the benefits of the project will persist beyond the life of the individual wood jams.</p>	JSKT/ CC

	<p><u>Certainty of Project Success:</u> The Jamestown S’Klallam Tribe has completed a successful ELJ project near RR Bridge (RM 5.2 to 6.0). We have also constructed design/build logjams below Woodcock Bridge (RM 2.9), upriver of Hwy 101 in the main river (RM 6.6), in Dawley side channel (RM 6.7), and downstream of the Powerlines (RM 8.3).</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> Because of its large size and the numerous landowners involved, the project must be undertaken as a series of design and construction phases. Seven ELJ’s have been built in the RM 5.2 to 6.0 reach. Several more ELJ’s will be built when a SRFB-funded acquisition is completed. A habitat restoration/public outreach project for the Hwy 101 to the Fish Hatchery reach is underway. The Upper Dungeness and Lower Gray Wolf LWD project, which targets Chinook, Upper River pink and steelhead habitat, has been funded for design work. The project can be considered ongoing and eminently ready.</p> <p><u>Cost Range and Appropriateness:</u> The entire project will cost about \$5 million. Lessons learned from the RM 5.2 to 6.0 ELJ projects will enable the Tribe to maximize the cost appropriateness of this project.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u> The project integrates extremely well with numerous habitat protection and stream flow conservation projects previously completed on the Dungeness River.</p>	
09030.1	<p>Dungeness River Riparian Habitat Protection</p> <p><u>Watershed Priority:</u> 4.76</p> <p><u>Project Description:</u> The project will protect many previously identified Dungeness River riparian properties downstream of DNR ownership (approximately river mile 12.0) through the purchase of property and conservation easements. High quality riverine forest habitat, particularly those areas with side channels, is a priority for protection. Also included for acquisition are properties needed for flood plain restoration projects, an especially high priority on the Dungeness River. The project’s goal is to purchase fee simple titles and conservation easements on approximately 160 acres and about 4 miles of river channel in 8 years. The project will be undertaken as a series of annual phases.</p> <p><u>Why the Project is needed (limiting factors addressed):</u> The project addresses four limiting factors: protecting functional side channels, preventing floodplain modifications, protecting water quality by maintaining off-channel habitat and functional floodplains, and protecting riparian forests. The lower Dungeness Valley is being rapidly developed for residential use. However, high quality riverine forests still exist and must be protected while the opportunity remains. Experience has shown that because of weak standards, non-compliance and the issuance of variances, land use regulations have not adequately protected Dungeness River fish habitat. Downstream of RM 12 dikes, levees and other attempts to control the river have degraded vital spawning, rearing, and foraging habitat for salmon and char. In the diked and armored sections, the natural process of stream channel movement, habitat formation, flood plain processes, and sediment transport are severely impaired or eliminated. Elsewhere, homes continue to be built within the channel migration zone and vegetation is sometimes cleared virtually to the riverbank. Relocating dikes and other infrastructure requires the purchase of affected properties or easements. The Ecoregional assessment by WDFW and the Nature Conservancy rated Dungeness highest for conservation value and vulnerability for both species and landscape weighted rankings (March 2004).</p> <p><u>Benefit to Salmon (how does it address stock status & trends):</u> The project will permanently protect and/or enable restoration on approximately 160 acres of high quality riverine forest and associated instream habitat and areas needed for flood plain restoration projects. These acres will include about 4 miles of river channel. Protection will far exceed the requirements of current land use regulations.</p> <p><u>Specific Salmon and Char Stocks that will benefit.</u> ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, pinks, fall chum, cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p>	JSKT, WDFW, NOLT

	<p>Puget Sound Recovery Plan, pages 324, 325: "Restoration of Lower River floodplain and delta to River Mile 2.6, Protection of existing functional habitat through land purchase (RM 2.6 - 11.3), Protection of existing functional habitat within the watershed." WRIA 18 LFA: Channel structure and complexity, floodplain connectivity & function, riparian areas & LWD recruitment, water quality.</p> <p><u>Restores Formerly Productive Habitat:</u> Often, land purchases are the initial actions leading to major restoration accomplishments, For example, at Rivers End 15 properties, which boarder about 2,000' of river channel and includes about 55 acres of delta flood plain, have been purchased. Livestock have been permanently removed from 50 acres of former flood plain pasture. Numerous cabins and other structures have been removed and extensive reforestation has occurred. Flood plain processes are beginning to occur, the river channel is becoming increasingly sinuous, and levels of large wood are increasing. Similar land purchase, building removal, and reforestation activity is occurring adjacent to the Corps Dike in anticipation of dike setback and flood plain restoration. In many cases the land purchases are a crucial element of large restoration actions.</p> <p><u>Protects High Quality Fish Habitat:</u> The project targets the highest-quality remaining habitat and will provide protection far exceeding the requirements of current land use regulations.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Ecosystem functions are protected by 1) permanently protecting mature conifer/hardwood riverine forests for the benefit of fish, mammals, birds, amphibians, and reptiles and/or 2) enabling the restoration of flood plains along 4 miles of river.</p> <p><u>Scale of influence:</u> Spatial- The project will protect about 4 miles of mainstem river and side channels. Temporal - Protection will be permanent.</p> <p><u>Certainty of Project Success:</u> Numerous properties have already been purchased, including the Woods property which was funded in the 2010 SRFB round. Target properties routinely appear on the market, so certainty of success is very high.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> Several properties must be acquired in the near-term to enable relocation of the Corps Dike on the lower river, an extremely high priority restoration action. Because the lower river is developing rapidly, the project should be initiated immediately before habitat protection and restoration opportunities are lost.</p> <p><u>Cost Range and Appropriateness:</u> Sales price are based on fair market value as determined by an appraisal. Land prices are currently favorable.</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u> This is a highly successful, ongoing project with numerous purchases to date.</p>	
09031.1	<p>Dungeness River Riparian Restoration</p> <p><u>Watershed Priority:</u> 4.76</p> <p><u>Project Description:</u> In the lower Dungeness River corridor (from the mouth to RM 11), approximately 20% of riverbank riparian vegetation has been removed or significantly denuded. Problem areas are the Mouth to Hurd Creek, RR Bridge reach, and Hwy 101 to May Rd. In addition the entire lower river corridor is infested with Buddleia. This is a long-term investment in the river. Riparian restoration involves three interrelated actions: to eliminate or control noxious weeds, plant unproductive or non-forested sites with appropriate shrubs and trees, and maintain the site until the desired forest community is established (5 years or more).</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> The 1914 tax assessor's map described properties along the river corridor as "logged and burned", "brush", and "cleared," with the stumps per acre noted. The riparian forest has been logged twice throughout much of the river corridor. Loss of native riparian cover allows colonization of invasive species, reduced filtering of sediments and pollutants (fine sediment and water quality), and depleted reserves for woody debris recruitment into the river (channel condition). Some of the riparian corridor is in fair shape, other portions are young and</p>	JSKT

	<p>shrub/alder dominated. Buddleia is a present and prolific (noxious-weed) shrub along the entire river corridor. Buddleia displaces native trees and shrubs by forming dense thickets.</p> <p>Benefit to Salmon (how does it address stock status & trends): A functional, cottonwood and conifer-dominated forest is a key element to salmon habitat recovery. Large trees are needed as key pieces that anchor log jams and create deep pools for salmon. Large trees also slow down floods and force the river through stable-forested side channels instead of unstable gravel bars. Stable logjams are also a feedback loop to protect the growth and development of riparian forests downstream of the logjams.</p> <p><u>Specific Salmon and Char Stocks that will Benefit.</u></p> <p>ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, pinks, fall chum, cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <p>The NOPL 2011 Draft Strategy Table C: Recommended actions for Dungeness River, Dungeness WRIA 18 LFA (pg 105), and Chapter 5-Dungeness, Puget Sound Recovery Plan, page 325, all have very similar recommendations. “restore functional riparian and riverine habitat..to moderate temperatures, recruit LWD long-term, provide cover, and food production.”</p> <p>Restores Formerly Productive Habitat: The Dungeness River has a historical productivity rating of 5 (of a possible 5). Current productivity rating is 2, which is directly related to poor habitat caused by diking, riparian forest harvest, and large wood removal. A riparian forest of functional size and species composition is an essential element to salmonid recovery.</p> <p>Illustrate how Project supports Restoration or Protection of Ecosystem Functions: Our strategy to recovery ecosystem function is three-fold. Recover floodplain to the greatest extent possible, improve salmon habitat in the near term with large wood recovery, and restore the riparian forest to a species composition and function that benefit salmonids. The riparian species composition would include black cottonwood since that species will grow to 3-4 ft diameter in less than 50 years, and conifers such as western red cedar and Douglas-fir. A restored riparian forest will shade the river and especially side channels, provide cover for fish and wildlife, and serve as a permanent source of wood for habitat.</p> <p><u>Scale of influence:</u></p> <p>Spatial - The project will cover approximately 11 miles of the lower river (we are controlling knotweed upriver of the hatchery). We have been engaged in noxious weed control for about four years (see map); while knotweed is under control, a concerted effort and more years is needed to control Buddleia. Temporal – while there are places currently with good riparian habitat, it will take time to re-grow a functional riparian forests in other parts of the river corridor; in the short-term we plan large wood projects to provide for improved salmon habitat now.</p> <p><u>Certainty of Project Success:</u></p> <p>We have multiple ongoing riparian restoration projects, some in partnership with Clallam County and WDFW. We have planted and are planting roughly 40 acres of riparian forest at Rivers End as the last step to floodplain recovery. Behind the Corps dike we have planted 46 acres (which we are maintaining) and have 15 acres remaining to plant. We are controlling Buddleia and replanting with western red cedar in about ¼ of the river corridor and need to expand that to the entire river corridor. We will build upon these projects and expand this effort to the lower 11 miles.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u></p> <p>Because of its large size and the numerous landowners involved, this is a multi-year effort with several funding sources. What is limiting our effort at this time is limited funding.</p> <p><u>Cost Range and Appropriateness:</u></p> <p>The entire project to control invasive species, replant and maintain will cost \$350-500k over a period of 7 years.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u></p> <p>The project integrates with previous and future work building logjams on the river, and setting back dikes or pulling out rock banks in favor of logjams. We view habitat recovery in the Dungeness as a three-legged stool: floodplain restoration to provide flood storage, new side-channels, and space to reduce channel grade, large-wood placement to provide habitat in the short-term, and riparian forest recovery for the longer term.</p>	
09032.1	<p>Dungeness Drift Cell Conservation</p> <p><u>Watershed Priority:</u> 4.27</p>	JSKT

Project Description:

Dungeness Bay provides approximately 5,200 acres of critical spit and estuary habitat for a large variety of waterfowl, shorebirds, wading birds, marine and freshwater mammals, crustaceans, shellfish, forage fish, salmon and char. Dungeness Bay is wholly created by the fragile 5-mile long Dungeness Spit. The spit itself is entirely the product of enormous sediment recruitment, originating primarily from the 8.8-mile drift cell to the west. Any decrease in sediment supply resulting from the construction of shoreline armoring, jetties, groins, or other shoreline structures could cause Dungeness Spit, Dungeness Bay, and their associated nearshore habitats to quickly erode away. This project will provide long-term protection for Dungeness Spit and Dungeness Bay through the purchase of conservation easements and properties, and the relocation or decommission of structures and infrastructure along the entire Dungeness drift cell. The project will occur in the following phases: 1) measure bluff erosion rates, 2) develop a conservation plan, including public outreach 3) design conservation measures, 4) relocate infrastructure and buildings, and 5) purchase conservation easements and property.

Why the Project is needed (limiting factors addressed):

Although upland areas are being developed adjacent to the Dungeness drift cell (DDC), no shoreline armoring has occurred to date. Spectacular erosion of the similar Ediz Hood in Port Angeles demonstrates the vulnerability of Strait of Juan de Fuca spits to the loss of recruited sediment. Any significant shorelines armoring within the DDC will seriously imperil the existence of Dungeness Spit and Dungeness Bay. Existing regulations do not provide protection from this potential devastating impact. In numerous locations structures and infrastructure are located near the bluff edge, requiring that either a) shoreline armoring must occur or b) improvements be relocated or decommissioned. LFA elements include: 1) ecosystem links between upland and nearshore habitats, 2) reduced sediment input from feeder bluffs to nearshore area causes degradation of the beach, resulting in loss of the shallow, nearshore migration corridors and eventual loss of the spits themselves, 3) loss of riparian vegetation that provides shade to the upper beach.

Benefit to Salmon (how does it address stock status & trends):

The project will permanently protect an enormous amount (approximately 5,200 acres) of 1) forage fish spawning habitat and 2) prime nearshore salmon and char rearing and migration habitat, especially for Coastal-Puget Sound bull trout, Puget Sound Chinook, pink, coho, and fall chum salmon, and summer chum originating in the Dungeness River, Jimmycomelately Creek and Discovery Bay.

Specific Salmon and Char Stocks that will benefit.

ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. **Non-listed:** coho, pinks, fall chum, cutthroat.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?

Puget Sound Salmon Recovery Plan (PSSRP), habitats and processes critical to support salmon recovery, "drift cell processes (including sediment supply, transport and deposition) that create and maintain nearshore habitat features such as spits, lagoons, bays and beaches" (page 368), PSSRP Dungeness Section, Key strategies and actions supporting the overall approach to recovery, "Nearshore habitat protection" (page 324). "Estuarine and marine nearshore areas of Discovery Bay, Sequim Bay and the Eastern Strait of Juan de Fuca provide valuable juvenile rearing and migration habitats as well as production of food resources for juveniles and adults." Summer Chum Salmon Recovery Plan – May 2007, pg 84. The project protects the above-reference habitat type. NOPL 2011 Draft Strategy Table A: Goals and Objectives, "Restore and maintain ecosystem function and nearshore processes - focus on protection and restoration of habitat-forming, watershed, and nearshore processes." The project's specific objectives, which will be accomplished as described above, are to protect habitat-forming and nearshore processes.

Protects High Quality Fish Habitat:

Dungeness Bay is by far the largest estuary on the Washington side of the Strait of Juan de Fuca (2nd - Pysht estuary, approx. 275 acres, 3rd - WA Harbor, 118 acres). The Bay is replete with superb, productive eelgrass beds (363 acres) and tidal marshes (161 acres).

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

The natural recruitment and transport of marine sediment is an elemental and crucial ecosystem function that creates and maintains complex shorelines features and associated habitat, in this case Dungeness Spit and Dungeness Bay. These are habitats of regional significance. The project is designed specifically to protect this ecosystem function, which in turn supports the entire Dungeness Bay ecosystem.

Scale of influence:

	<p>Spatial - the project seeks to conserve drift cell processes along 8.8 miles of marine feeder bluffs, leading to the protection of 5,200 acres of aquatic habitat at Dungeness Spit and Dungeness Bay. Temporal - Conservation measures will be designed to preserve drift cell processes for a period of 200 to 500 years.</p> <p>Certainty of Project Success: Landowner willingness is the crucial factor in project success. The number of landowners will increase as larger parcels are subdivided. Drift cell protection will be more difficult and expensive as homes are built near the edge of the bluff. Certainty of success is at its high point now and will diminish over time.</p> <p>Timing Needs & Sequencing Requirements (project readiness): Phase 1 (Measurement of bluff erosion rates) is underway and will be completed in early 2011. The remaining phases will then be ready to be undertaken in the order identified above, except that parts of Phases 4 and 5 might occur concurrently or in reverse order.</p> <p>Cost Range and Appropriateness: Cost range for Phase 2 is \$ 75,000 to \$150,000. Cost estimates for the remaining phases cannot be made until Phase 2 is complete, although a placeholder of \$7 million is being used. Easements and land purchases will be based on fair-market value appraisals.</p>	
<p>09091.1 (Combination of Projects 33, 34,38, 42, 43)</p>	<p>Dungeness River Instream Flow Restoration – Irrigation Efficiencies</p> <p>Watershed Priority: Dungeness – 4.76</p> <p>Project Description: This suite of projects includes multiple interrelated strategies that restore stream flows in the Dungeness River. One strategy is irrigation water conservation – primarily, irrigation ditch piping. The specific projects proposed include the following:</p> <ul style="list-style-type: none"> • Agnew Irrigation District – piping about 2 miles of ditch saving an estimated 1.0 cfs of water. • Dungeness Irrigation District – piping about 4.6 miles of ditch, preventing 1-1.5 cfs of conveyance losses and tailwater losses that exceed 1.0 cfs. This will complete the piping of the entire distribution system, eliminating all conveyance and tailwater losses. • Dungeness Irrigation Group – piping about 4 miles of ditch, preventing an estimated 1 cfs of conveyance losses and as much as 0.6 cfs of tailwater losses. These projects will complete the piping of the entire Dungeness Group distribution system, eliminating all system losses. • Highland Irrigation District – piping one to two miles of ditch (H10 Lateral), installing a well, or switching to City of Sequim re-use water resulting in in-river water savings of 1.1 cfs and eliminating tailwater discharges to Bell Creek. • Sequim Prairie-Tri Irrigation Association – piping approximately 1.5 miles of ditch (SP-5 & EM-1) to conserve 1-1.5 cfs. <p>Why the Project is Needed (limiting factors addressed): Low stream flow in the Dungeness River, particularly in late summer and early fall when flows may dip below 80 cubic feet per second (cfs), is a major habitat limiting factor (WRIA 18 LFA, Comprehensive Water Conservation Plan and EIS, Dungeness CIDMP). According to the USGS (CIDMP 2006), only five of 16 fish life history stages are supported in Dungeness River side channels when flows fall below 80 cfs. A minimum of 128 cfs is necessary to support 12 of the 16 life history stages. The US Fish & Wildlife Service recommended minimum flows of 180 cfs during the latter third of the irrigation season (USF&W 1993), although such flows are not achieved in most years. The NOAA Fisheries established a minimum flow target of 105 cfs through the Comprehensive Irrigation District Management Plan (CIDMP) process.</p> <p>The Dungeness River Agricultural Water Users Association (WUA), comprised of four irrigation districts and three irrigation companies have rights to withdraw water from the Dungeness River to supply irrigation water to approximately 7,000 acres of land in the Dungeness Valley. They maintain five diversion points on the Dungeness River and average approximately 50 cfs in withdrawals for the irrigation season running from April 15 to September 15. Water rights and certificates for the Dungeness River held by the WUA total 518.16 cfs. The WUA has agreed to limit water withdrawals to 156 cfs, and at no time take over 50 percent of the river’s flow, thus alleviating catastrophic late season habitat conditions. However, irrigators frequently must sacrifice production to meet the 50 percent requirement and would have to make significant sacrifices to comply with the NOAA Fisheries recommendations.</p>	<p>CCD, WUA</p>

	<p><u>Benefit to Salmon (how does it address stock status & trends):</u> Research indicates that when flows are below 100 cfs, each additional cfs of flow may result in a one percent increase in Chinook spawning habitat. A <i>Comprehensive Water Conservation Plan</i> was prepared for the Washington Department of Ecology in 1999 to identify and recommend irrigation water conservation projects that the WUA members could implement to reduce withdrawals "...from the Dungeness River to the minimum practicable, thus increasing streamflow in the Dungeness River itself and increasing the chances of survival of federally listed species of salmonids and other stocks of concern, such as pink salmon." A total of 113 ditch-piping projects are recommended in the plan for a total estimated water savings of over 38 cfs.</p> <p><u>Specific Salmon and Char Stocks that will:</u> Increasing flows in the Dungeness River benefits all salmonids and all life stages, particularly Chinook and pink salmon.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project meet and how?</u> Restoration of Dungeness River stream flows is identified in the following plans:</p> <ul style="list-style-type: none"> o Dungeness chapter of the Puget Sound Chinook Recovery Plan o WRIA 18 Salmon & Steelhead Habitat Limiting Factors Analysis o WRIA 18 Watershed Plan o Comprehensive Water Conservation Plan o Comprehensive Irrigation District Management Plan <p><u>Restores Formerly Productive Habitat:</u> Reducing water withdrawals from the Dungeness River will restore instream flows. Restoration of instream flows will result in increased habitat in the Dungeness River from the most upstream irrigation water diversion point at river mile 11.1 downstream to the mouth.</p> <p><u>Illustrate how Project Supports Restoration or Protection of Ecosystem Functions:</u> Restoring instream flows is basic to restoration of aquatic ecosystem functions. Without adequate flow in the Dungeness River, the value of other habitat restoration efforts is severely compromised.</p> <p><u>Certainty of Success:</u> Since the <i>Conservation Plan</i> was prepared in 1998, nearly 30 irrigation efficiencies projects have been implemented. Approximately 40 miles of irrigation ditches have been replaced with pipelines and nearly half of the water savings proposed in the <i>Conservation Plan</i> have been realized.</p> <p><u>Cost Range and Appropriateness:</u> Irrigation ditch piping costs are estimated to be \$3-4 million.</p>	
<p>12098</p>	<p>Dungeness River Instream Flow Restoration - Storage</p> <p><u>Watershed Priority:</u> Dungeness – 4.76</p> <p><u>Project Description:</u> This suite of projects includes interrelated water storage strategies that contribute to Dungeness River late season stream flow restoration. These strategies include water storage in small off-channel reservoirs and shallow aquifer recharge (SAR). The irrigation water conveyance infrastructure will be utilized to capture and convey Dungeness River flows during periods of high runoff. Capture and storage of runoff will decrease late season withdrawals from the Dungeness River when flows are critically low. In the case of reservoir storage, early season snowmelt will be stored for use later in the irrigation season when stream flows are critically low. In the case of SAR, water will be infiltrated into the ground during periods of high stream flows. Recharging the shallow aquifer early in the summer will ameliorate low late season stream flows in the main stem and tributaries. Treated and reclaimed sewer water will also be infiltrated. The irrigation infrastructure, which includes five diversion points on the Dungeness River and approximately 170 miles of canals, laterals and pipelines, is ideally suited for diverting water and conveying it to areas suitable for SAR. And, there are many existing small reservoirs that could be improved and areas located along irrigation ditches that are suitable for construction of new reservoirs. Both SAR and reservoirs are integral components of comprehensive irrigation improvement projects.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> Low stream flow in the Dungeness River, particularly in late summer and early fall when flows may dip below 80 cubic feet per second (cfs), is a major habitat limiting factor (WRIA 18 LFA, Comprehensive Water Conservation</p>	<p>CCD, WUA, CC, WWT</p>

	<p>Plan and EIS, Dungeness CIDMP). According to the USGS (CIDMP 2006), only five of 16 fish life history stages are supported in Dungeness River side channels when flows fall below 80 cfs. A minimum of 128 cfs is necessary to support 12 of the 16 life history stages. The US Fish & Wildlife Service recommended minimum flows of 180 cfs during the latter third of the irrigation season (USF&W 1993), although such flows are not achieved in most years. The NOAA Fisheries established a minimum flow target of 105 cfs through the Comprehensive Irrigation District Management Plan (CIDMP) process.</p> <p>Modeling suggest that less leaking from open irrigation ditches lowers the water table, thereby resulting in less stream recharge later in the season. Irrigation water withdrawals account for as much as 80 percent of stream flow losses, while natural losses to the aquifer can be as high as 20 percent (Bureau of Reclamation 2003). Achieving these targeted flows may in some years only be possible through a combination of reduced late season withdrawals from the Dungeness River and shallow aquifer recharge earlier in the summer.</p> <p><u>Benefit to Salmon (how does it address stock status & trends):</u> Research indicates that when flows are below 100 cfs, each additional cfs of flow may result in a one percent increase in Chinook spawning habitat. A Dungeness groundwater model was developed to quantify stream flow benefits from SAR (PGG 2009); however, the benefits of small reservoir storage have not been quantified. There are limited opportunities to restore stream flows and keep agriculture in production in the Dungeness Valley. SAR and small storage represent solutions that to meet the water needs of fish and farms.</p> <p><u>Specific Salmon and Char Stocks that will:</u> Increasing flows in the Dungeness River benefits all salmonids and all life stages. Chinook and pink salmon particularly benefit from increased flows in the summer.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project meet and how?</u> Restoration of Dungeness River stream flows is identified in the following plans:</p> <ul style="list-style-type: none"> o Dungeness chapter of the Puget Sound Chinook Recovery Plan o WRIA 18 Salmon & Steelhead Habitat Limiting Factors Analysis o WRIA 18 Watershed Plan o Comprehensive Water Conservation Plan o Comprehensive Irrigation District Management Plan o Aquifer Recharge Feasibility Study for the Dungeness Peninsula <p><u>Restores Formerly Productive Habitat:</u> Reducing water withdrawals from the Dungeness River and mitigating the impacts of groundwater withdrawals will restore instream flows. Restoration of instream flows will result in increased habitat throughout the lower Dungeness River, particularly the water losing reaches.</p> <p><u>Illustrate how Project Supports Restoration or Protection of Ecosystem Functions:</u> Restoring instream flows is basic to restoration of aquatic ecosystem functions. Without adequate flow in the Dungeness River, the value of other habitat restoration efforts is severely compromised.</p> <p><u>Certainty of Success:</u> Over the past century, small reservoirs have been constructed by individual landowners throughout the Dungeness Valley to ensure adequate supplies of irrigation water. Many of these reservoirs would greatly benefit from enlargement and enhancement. The largest reservoir in the valley was constructed in 2005-06 by the Sequim Prairie-Tri Irrigation Association as part of a highly successful comprehensive irrigation efficiencies project that also included piping over 3.5 miles of open ditches. A shallow aquifer recharge feasibility study completed in 2009 determined that SAR holds considerable promise for increasing late season stream flows.</p> <p><u>Cost Range and Appropriateness:</u> Anticipated costs for implementation of all the strategies identified here have not been determined.</p>	
<p>09092 (Combination of Projects 35 & 36)</p>	<p>Dungeness River Floodplain Restoration</p> <p><u>Watershed Priority:</u> 4.76</p> <p><u>Project Description:</u> This project is floodplain restoration through the setback or reconfiguration of dikes or armored banks, from the mouth to Canyon Creek (RM 0 to 10.7). The productivity of salmon in this steep watershed is dependent on a functional floodplain and the river free to move. Where possible, floodplain restoration projects will be linked to</p>	<p>JSKT/CC/Army Corps</p>

riparian reforestation and placement of engineered logjam projects. Riparian reforestation and large wood restoration are covered under separate projects. Project phases for floodplain recovery include: Rivers End acquisition (RM 0.3-0.8, completed), Army Corps dike setback and channel reconstruction (RM 0.8-1.7), Ward Road reconfiguration (RM 3-3.3), RR Bridge trestle replacement (RM 5.7), Dungeness Meadows dike reconfiguration (RM 7.5), Robinson side channel restoration (RM 8.9-9.2), and upper Haller dike setback (RM 9.4-9.6).

Army Corps dike setback is in planning and design. The Ward Rd reconfiguration would pull the road back from the river edge and setback the bank armoring that confines the river. The RR Bridge trestle replacement would open the floodplain to the west of the bridge to side channel development and flooding. Currently the trestle functions as a sieve and significantly restricts flood flows. The Dungeness Meadows dike reconfiguration would return some amount of river flows to Spring Creek. Spring Creek at one time was a productive spawning and rearing side channel. Robinson side channel restoration would setback an armored pinch point on the river to expand spawning and rearing area, and upper Haller dike setback would recover floodplain lost in the last several decades.

Why the Project is Needed (limiting factors addressed):

The Dungeness watershed is very steep, likely the steepest fall per mile for a river of its size on the Peninsula. The river pattern is anastomosing, with channel avulsion creating multiple main channels or side channels. The river system is sensitive to the loss or confinement of floodplain through diking and bank armoring. Historically (1914 through 1960's, the start of diking in the river), the lower river accessed channels across a much wider floodplain area than present. It is likely the river bed has in places degraded (downcut) one to several feet from Old Olympic Hwy to Kinkade Island (RM 4-10). Further bed degradation was observed following diking and channel manipulation at the Dungeness Meadows dike reach (1980's). Salmon habitat recovery is tied to floodplain recovery in the Dungeness watershed.

Benefit to Salmon (how does it address stock status & trends):

In the 1950's and 1960's, the river meandered across a wider floodplain area. The overall channel grade was less than present. The force of floodwater is driven by channel slope. Restoring floodplain, along with in-river wood placement and riparian forest recovery, will return stable, complex salmonid spawning and rearing habitat to the mainstem Dungeness. Above Old Olympic Hwy, median diameter of the bed is cobble sized at 100-170 mm (BOR 2002), much larger than preferred chinook spawning gravel size of 80 mm.

Specific Salmon and Char Stocks that will Benefit.

ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. **Non-listed:** coho, pinks, fall chum, cutthroat.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?

The NOPLE 2011 Draft Strategy Table C: Recommended actions for Dungeness River, Dungeness WRIA 18 LFA (pg 105), and Chapter 5-Dungeness, Puget Sound Recovery Plan, page 325, all have very similar recommendations. "Floodplain Restoration/Constriction Abatement (RM 2.6 - 11.3) to alleviate channel constrictions thereby increasing corresponding channel meanders, and reduce gradient, velocity, scour, and bank erosion."

Restores Formerly Productive Habitat:

The Dungeness River has a historical productivity rating of 5 (of a possible 5). Current productivity rating is 2, which is directly related to poor habitat caused by diking, riparian forest harvest, and large wood removal. Floodplain recovery is an essential element to salmonid recovery.

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

Scale of influence: Spatial - The project will cover approximately 10 miles of mainstem river, this is virtually all of river corridor with a large and wide floodplain. **Temporal** – Restored floodplain will benefit salmon in perpetuity. This project will be combined with Large wood restoration and riparian reforestation where appropriate and allowed.

Certainty of Project Success:

Each project element has its own challenges to complete. Dungeness Corps dike setback is underway. Ward Rd reconfiguration will require some property acquisition and an agreement with Clallam County. Replacing the RR Bridge trestle with a floodplain-friendly structure requires funding. The remaining projects upriver of Hwy 101 will continue to evolve following community meetings with landowners. Jamestown S'Klallam Tribe, Clallam County, Washington Department of Fish and Wildlife have a strong partnership in moving towards floodplain recovery in the Dungeness watershed.

	<p><u>Timing Needs & Sequencing Requirements (project readiness):</u> Because of its large size and the numerous landowners involved, the project must be undertaken as a series of design and construction phases. One project is completed (Rivers End), another is in design (Corps dike setback), in the third we are looking for funding (RR Bridge trestle), and the others require more communication with partners and the community.</p> <p><u>Cost Range and Appropriateness:</u> The entire project will cost between \$10 and \$15 million.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u> The project integrates with previous and future work building logjams on the river, invasive weed control, and riparian reforestation. We view habitat recovery in the Dungeness as a three-legged stool: floodplain restoration to provide flood storage, new side-channels, and space to reduce channel grade, large-wood placement to provide habitat in the short-term, and riparian forest recovery for the longer term.</p>	
09041.1	<p>Dungeness River – Meadowbrook Creek Restoration</p> <p><u>Watershed Priority:</u> 4.76</p> <p><u>Project Description:</u> We will reconnect Meadowbrook Creek to the Dungeness River. East of Sequim-Dungeness Way, Meadowbrook Creek will be returned to its original, more sinuous channel, fill will be removed that supports reed canary grass, and we will plant with native wetland species. The existing ditched channel will remain as off-channel habitat. Culverts that used to constrain Meadowbrook Creek were removed in 2009.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> The Dungeness River has limited tributary rearing. Prior to 1999, Meadowbrook Creek was the last tributary of the Dungeness River before saltwater. Beach erosion redirected the Creek directly to saltwater. Meadowbrook creek used to support spawning and rearing coho and spawning fall chum, which ended around 2000. The former mouth of Meadowbrook Creek at Dungeness River is documented rearing habitat for all Dungeness salmon including chinook. The goal is to extend and open significant new rearing habitat to salmon.</p> <p><u>Benefit to Salmon (how does it address stock status & trends):</u> Meadowbrook Creek is a spring-fed tributary that is also fed via groundwater from a water-losing reach of the Dungeness River. It is expected the River will continue to lose water in this reach for some years to come, even following dike setback. The flow in Meadowbrook Creek is fairly constant year-around. We expect salmon to utilize this rearing and spawning habitat. Chinook is dependent on hatchery support because the in-river habitat is steep, in poor condition, and with limited spawning grounds and potential rearing habitat. This project should provide additional rearing space to chinook, summer chum, and steelhead.</p> <p><u>Specific Salmon and Char Stocks that will Benefit.</u> ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, fall chum, cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> The NOPL 2011 Draft Strategy Table C: Recommended actions for Dungeness River, and Chapter 5-Dungeness, Puget Sound Recovery Plan, page 325, recommend: “restoration of the lower river floodplain and delta to increase the quantity of essential rearing and salt/freshwater transition habitat.” Meadowbrook creek is both a spring-fed (former) tributary and is also tidally influenced. While the entire project area will still be tidally influenced, modeled salinities were very similar to the Dungeness River mouth and approximated freshwater (Meadowbrook Creek Restoration Hydrodynamic Model, Battelle 2010).</p> <p><u>Restores Formerly Productive Habitat:</u> The Dungeness River has a historical productivity rating of 5 (of a possible 5). Current productivity rating is 2, which is directly related to poor habitat conditions. It will take some time to recover Dungeness in-river habitat, this project will provide access now to high-quality rearing and potentially spawning habitat.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Scale of influence: Spatial - The project is approximately 30 acres of mostly saltmarsh \and wetland habitat,</p>	JSKT/ Dungeness Farms/ CCD/ WDFW

	<p>and will return 0.9 miles of creek to functional salmon habitat. Temporal – the site vegetation will fully recover and recolonize disturbed soils in three to five years. It is expected that fish will utilize the site almost immediately.</p> <p><u>Certainty of Project Success:</u> We are certain the site will be used by salmon. The former mouth of Meadowbrook Creek is currently heavily utilized by rearing juvenile salmon, especially around the logjams (Nikki Sather, M.S. Theses 2008). The shoreline adjacent to the mouth of Meadowbrook Creek is again accreting. It is expected the shoreline will accrete bay-ward in the coming years, although it is unknown how that would impact the mouth of Meadowbrook Creek if this project was not constructed. Battelle was contracted to look at three project alternatives for reconnecting the Creek to the River, the one displayed here (map) is cost effective and is further from the bay, thereby ensuring it will function into the future.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> This project is on one landowner’s property, a duck-hunting club that is active in habitat conservation. The project was initially managed by Ducks Unlimited (DU), they are no longer active on the north Peninsula. Ducks Unlimited contracted to Battelle for their tidal study, DU also created an extensive topographic survey of the site, and developed a conceptual restoration plan. Jamestown S’Klallam Tribe in 2009 implemented the first portion of the project and remove two undersized culvers over Meadowbrook Creek. We are ready for final design and construction.</p> <p><u>Cost Range and Appropriateness:</u> Expected funding needs are around \$250k.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u> Houses on 3 Crabs Rd (adjacent to the project) are subject to flooding during winter high tides. The Clallam Conservation District convened a series of public meetings to discuss flooding and possible remedies (3 Crabs Report, January 2009). Reconnecting Meadowbrook Creek to the Dungeness River was suggested as a way to reduce flooding to landowners, and also reduce flooded septic systems (improve Dungeness Bay water quality).</p>	
09040	<p>Cassalery Creek Instream Flow Enhancement Project</p> <p><u>Project Description:</u> This project is located in a critical aquifer recharge area within the Dungeness River Watershed and WRIA 18 East. The project focuses on improving Cassalery Creek salmon habitat through the addition of between 0.1 and 0.2 CFS of Washington State Department of Ecology classified Class “A” reclaimed water to the stream, drinking water quality. This re-use water would be pumped through a buried pipeline from the SunLand Wastewater Treatment Plant to a series of cooling ponds prior to entering Cassalery Creek. This concept of re-use water for stream flow augmentation is not new or dissimilar to the Bell Creek Instream Flow Enhancement Project sponsored by the City of Sequim.</p> <p>The concept for this Salmon Habitat Improvement Project utilizing Beneficial Water Re-use in this location has been under discussion for more than eight years with many stakeholders, including SunLand Water District, Washington State Department of Health, Clallam County, Washington State Department of Fish and Wildlife, Washington State Department of Ecology, and the Jamestown S’Klallam Tribe.</p> <p>During those discussions, it was agreed that the project should reference a guaranteed supplemental instream flow, and due to the plants limited capacity, SunLand Water District can only guarantee 0.1-0.2 cfs of additional instream flow.</p> <p>Stocks benefiting from this project are Fall Chum, Winter Steelhead, Cutthroat, and Coho. Also, according to the WRIA 18 Watershed Plan, Bull Trout may occur in Cassalery Creek because they have been observed in Bell Creek.</p> <p>Clallam County State of the Streams (page 94, Greater Dungeness Watershed Study) refers to Cassalery Creek as a low velocity stream with limited flows, so there is limited ability for the stream to flush out any toxins that enter the stream. The Creek has highly impaired ratings for biological conditions and highly/critically impaired ratings for habitat integrity.</p> <p>Higher instream flows would improve the habitat for salmonid species and improve the overall biological viability of the Creek.</p>	SWD

	<p>In the WRIA 18 Limiting Factors Analysis, it states that “Instream flow recommendations, based on toe width measurements of 5.7 feet made at Woodcock Rd., have been made for Cassalery Creek. Recommended instream flows are 5.0 cfs for the period November-January (coho spawning), 3.0 cfs for February, 12.0 cfs for March-April (steelhead spawning), 8.0 cfs for May-June, and 2.0 cfs for the period July-October (steelhead rearing)(Beecher and Caldwell 1997). Toe-width is primarily influence by bank-full flows in winter months, however it may be additionally influenced in this watershed by irrigation groundwater returns and past land use. The limited flow data that is available for Cassalery Creek was not reviewed to ascertain consistency with recommended instream flows.”</p> <p>In the WRIA 18 Watershed Plan (the Chapter on Water Quantity), Cassalery Creek is listed as one of the few creeks with high instantaneous water rights relative to their flows. There are 9.74 cfs of instantaneous water rights, and the average annual flow is 0.8 cfs.</p> <p>It’s clear that there is a need for instream flow supplementation. With an average flow of 0.8 cfs, it is well below the levels recommended in the Limiting Factor Analysis. The low flow issue is compounded by the high allocation of water rights.</p> <p>The Puget Sound Chinook Recovery Plan (Chapter 6: Regional Salmon Recovery Strategies) references the importance of regulating instream flows, particularly for the Dungeness River Watershed. Additionally, low instream flows are also mentioned as a viability stressor in the Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors.</p>	
<p>10077.1</p>	<p>Gray’s Marsh Restoration and Feasibility Design Phase 1</p> <p><u>Project Partners and point of contact:</u> Gray’s Marsh Landowners (Robin Berry), WDFW (Michael Blanton), NOSC (Rebecca Benjamin) and Dungeness Farms (Matt Heinz).</p> <p><u>Background:</u> Graysmarsh is an approximately 140-acre freshwater/brackish water marsh located at the mouth of Gierin Creek (WRIA 18.), which enters the Strait of Juan de Fuca immediately east of Dungeness Bay. The stream presently drains through an undersized tide gate that limits the saltwater tidal prism. An approximately 30 acre brackish portion of Grays marsh is all that remains of the Gierin Creek estuary, which was once about 120 acres in size. The remainder of the marsh is now freshwater. Tide gating of Gierin Creek dates back to approximately 1910. In contemporary times, Graysmarsh has been managed exclusively for wildlife and fish habitat. Livestock are not allowed access to the marsh, nor do any agricultural practices occur within the marsh. The private owners of Graysmarsh diligently strive to maintain good waterfowl habitat through the practices of 1) growing barley specifically for duck forage on adjacent agricultural land, 2) annually mowing expansive areas of cattails and Reed’s canary grass and 3) occasionally dredging certain channels within the marsh to maintain depth. Recently the piping of Dungeness Irrigation Canals to eliminate seeping and conserve Dungeness river water has resulted in reduced freshwater flows into Graysmarsh and subsequent loss of spawning habitat in the upper reaches of Gierin Creek. The Landowners are interested in learning what the available restoration alternatives are that would benefit this unique costal marsh estuary and riverine ecosystem while maintaining the various agricultural and recreational land uses.</p> <p><u>Project Scope and Purpose:</u> This project is a <u>restoration feasibility and conceptual design study</u>, similar to the Discovery Bay Rail Road Grade Feasibility study; Washington Harbor feasibility study and Pysht Estuary Restoration feasibility and design study.</p> <p>We are seeking funds to develop a suit of various restoration design concepts and scenarios while working with Graysmarsh landowners to understand their land use desires and objectives. As with any restoration project occurring on private land, the land owners will have the ultimate decision as to what, if any, restoration activity will occur at Gray’s Marsh. Likewise, any restoration design concept put forward seeking additional funding for engineering and construction through the Lead Entity and Salmon Recovery process will have to be vetted through that processes and compete with other restoration projects proposed. This estuary area is extremely unique and very limited within the Eastern Straits of Juan de Fuca. There is a range of possible restoration options that can occur at this site that will benefit salmon restoration and that can meet the needs of the land owners. As restoration practitioners know, an important aspect of habitat restoration for salmonids, is returning fish access to their historic fresh and saltwater estuaries. While, full restoration of natural fish access and estuary function to the entire site may need to be limited by the land owners desire to manage the site for other uses. Meaningful restoration is achievable at this site. Other examples of nearshore restoration projects that</p>	<p>WDFW</p>

	<p>have or will achieve great benefits to salmon despite the lack of full restoration of the site include Washington Harbor, Physt and Pitship Pocket Estuaries. At Washington Harbor, full removal of road prism was not achievable due to various land owner constraints. Likewise, at the Physt and Pitship pocket estuary, full restoration was not achievable due to land owner constraints. However, both the proposed restoration projects at the Washington Harbor and work done at the Physt and Pitship pocket estuary will have tremendous impact to the recovery of salmon. Likewise, full restoration of Graysmarsh to pre 1800 conditions is not achievable. What can be achieved? The ability to increase access of salt and freshwater marsh to salmonids for rearing and feeding is critical. Let’s explore and understand what are the salmonid restoration opportunities that can be achievable at Graymarsh? This is a great opportunity and we look forward to your support for the first phase of this project.</p> <p><u>Why the Project is needed (limiting factors addressed):</u></p> <ul style="list-style-type: none"> • “There is broad consensus that salmon require estuarine conditions that support production of prey organisms for juvenile outmigrants as well as for juvenile salmonid rearing and for returning adults. Estuaries, which provide critical rearing and transition habitat for salmonids have been physically altered at the mouth of many of the streams in WRIA 18, dramatically affecting the habitat and physical functions characteristic of natural estuaries.” • Inter-tidal water exchange is currently significantly restricted by the construction of a tide gate. In addition to impairment of fish passage, the primary effect of the tide gate is that salt water interchange with the historic estuary is severely limited. <p><u>WRIA 18 Limiting Factors Analysis Action Recommendations: The following ranked salmonid habitat restoration actions are recommended for Gierin Creek (taken from WRIA 18 LFA):</u></p> <ul style="list-style-type: none"> • Pursue removal of the tide gate and restoration of salt marsh habitat in the estuary, including returning Gierin Creek to its former meandering location, which essentially bisected the marsh (<i>this option is not currently favored by the landowners - a more likely scenario may involve development of a pocket estuary, enlarging existing tide gate or relocating tide gate, or multiple tide gates and/or restoration enhancements to Gierin Creek . These types of scenarios and others will be considered</i>) • Develop and implement a short-term LWD strategy to provide LWD presence and habitat diversity until full riparian function is restored • Restore functional riparian zones throughout watershed, particularly upstream of Holland Rd., and identify and correct areas affected by unrestricted animal access <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> Increase salt and freshwater marsh connectivity. Enhancement of Gierin Creek will benefit all fish species.</p> <p><u>Certainty of Project Success:</u> This feasibility study will help to determine restoration options and relatively likelihood of success.</p> <p><u>Address Timing Needs & Sequencing Requirements:</u> This is the first and most logical phase of the project.</p> <p>Cost Appropriateness: 60 – 100K Full restoration costs will be able to be estimated once a restoration options has been made. This feasibility, restoration and design “report project” is the first step and funding will be in line with the scope of work... number of options consider, hydraulic modeling, and engineering design 30%.</p> <p>Photos and Graphics are available for viewing at: http://hwsconnect.ekosystem.us/Project/180/15528</p>	
09046	<p>Washington Harbor Habitat Protection Project</p> <p><u>Project Description:</u> Washington Harbor is an approximately 118-acre estuarine system at the mouth of Bell Creek and is also located adjacent to the entrance of Sequim Bay. The estuary lies 5 miles along the marine migration corridor of Puget Sound Steelhead and Hood Canal/Strait of Juan de Fuca summer Chum salmon from Jimmycomelately Creek in Sequim Bay. Washington Harbor is also located just 7.5 miles from the Dungeness River mouth and therefore likely provides habitat for Dungeness Chinook, Bull trout, and summer Chum.</p> <p>The estuary is probably used by many populations of juvenile salmonids originating from Discovery Bay and other systems to the west. This habitat protection project will purchase conservation easements to permanently</p>	NOLT/ JSKT

	<p>protect a 150 to 450-foot wide riparian buffer (approximately 75 acres) surrounding Washington Harbor. The bed of Washington Harbor is stateowned.</p> <p>Limiting Factors Addressed:</p> <p>1. "There is broad consensus that salmon require estuarine conditions that support production of prey organisms for juvenile outmigrants as well as for juvenile salmonid rearing and for returning adults.--- Estuaries, which provide critical rearing and transition habitat for salmonids (as they move as juveniles from fresh to salt water, and as adults from the marine environment back to fresh water), have been physically altered at the mouth of many of the streams in WRIA 18, dramatically affecting the habitat and physical functions characteristic of natural estuaries." (WRIA 18 LFA)</p> <p>2. "This marine estuary has long been recognized as providing very high quality fish and wildlife habitat. The Interagency Committee for Outdoor Recreation (IAC) has committed \$3.2 million towards acquisition of property in and immediately adjacent to Washington Harbor. Unfortunately, there has been a lack of willing sellers. Funds should be retained to utilize for any acquisition or conservation easement opportunities that may arise." (WRIA 18 LFA)</p> <p>Stock Status and Trends:</p> <p>The project addresses stock status and trends by maintaining expansive, important nearshore habitat for numerous salmonid populations and forage fish.</p> <p>Listed Stocks:</p> <p>Hood Canal/Strait of Juan de Fuca summer chum and Puget Sound steelhead: Jimmycomelately Creek (5 miles directly along the migration corridor), Salmon Creek and Snow Creek (16 miles east along the likely migration corridor), Dungeness River (7 miles west), Chimacum Creek (20 miles east). Puget Sound Chinook and Bull trout: Dungeness River (7 miles west). Dungeness Chinook marine distribution data suggest that this population most likely utilizes Travis Spit nearshore habitat.</p>	
09047.1	<p>Washington Harbor Restoration Project</p> <p>Watershed Priority: 4.27</p> <p>Project Description:</p> <p>WA Harbor is crossed by a 1,300-foot long road, equipped with just two 6-foot culverts, which disrupts habitat connectivity, tidal hydrology and habitat forming processes in the estuary's northern 37 acres. This area historically provided the finest tidal marsh and eelgrass habitat in the estuary. The road's impacts appear to have destroyed the eelgrass beds and evidence indicates that the estuarine marsh has been deprived of sediment and is eroding. Superb habitat still exists within the marsh, but fish access into this area is hindered by the culverts which are perched and discharge flood and ebb tides with extremely high velocities. At no time in the tidal cycle can chum fry migrate into the northern 37 acres while remaining in their preferred shallow water habitat. During much of the tidal cycle velocities in the culverts are too high to allow fish passage. The movements of sediment and wood are blocked by the road. The culverts cause a 2-hour lag in tidal processes in the northern 37 acres, which has caused WA Harbor's main inlet to narrow by 28% since the road was constructed in the mid 1960's. The project will provide unrestricted fish access and restore tidal hydrology and habitat forming processes in WA Harbor's northern 37 acres by removing the 6-foot culverts and 600 feet of road and replacing them with a 600-foot bridge.</p> <p>Why the Project is needed (limiting factors addressed):</p> <p>From the WRIA 18 LFA: 1) "Estuaries, which provide critical rearing and transition habitat for salmonids--- have been physically altered at the mouth of many of the streams in WRIA 18, dramatically affecting the habitat and physical functions characteristic of natural estuaries." 2) "Intertidal water exchange to the north end of the (WA) harbor was significantly restricted by the construction of a 650-foot long fill causeway across the tidelands to support the Sequim Wastewater Treatment Plant outfall. This fill resulted in the direct loss of approximately 13,000 ft.2 of intertidal area under the road fill, assuming an average fill base width of 20 ft." 3) "In addition, approximately 10-12 acres of intertidal estuary in the north end of the bay was adversely affected by reduction of tidal flux and hypersalinity, which has also developed as a result of reduced tidal interchange." 4) LFA recommendation: "Restore unrestricted tidal flow and flushing to the north end of Washington Harbor."</p> <p>Benefit to Salmon (how does it address stock status & trends):</p> <p>Pocket estuaries, such as WA Harbor, provide supremely valuable, productive nearshore habitat for juvenile salmon, especially chum and Chinook. WA Harbor lies 5 miles along the marine migration corridor of ESA-listed</p>	JSKT

Hood Canal/Eastern Strait of Juan de Fuca summer chum salmon from Jimmycomelately Creek, the site of a completed, highly successful \$7.5 million portfolio ecosystem restoration project. This stock has increased from a return of 7 spawners in 1999 to 4,027 spawners in 2010. The project will provide a significant increase (37 acres) in pocket estuary habitat to support this spectacularly rebounding salmon stock. WA Harbor is also located just 7.5 miles from the Dungeness River mouth and is thought to provide habitat for Dungeness Chinook, summer and fall chum, and bull trout. Many other populations of juvenile salmon, including summer chum from Discovery Bay's Salmon and Snow Creeks (16 miles east) and fish originating from other systems farther east in Hood Canal and Puget Sound most likely use the estuary.

Specific Salmon and Char Stocks that will benefit.

ESA-listed: Hood Canal/Strait of Juan de Fuca summer chum, Puget Sound Chinook, Puget Sound steelhead, Coastal/Puget Sound bull trout. **Non-listed:** coho, pinks, fall chum, cutthroat.

Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?

Puget Sound Salmon Recovery Plan Dungeness Section, Key strategies and actions supporting the overall approach to recovery, "*Nearshore habitat protection and restoration to improve the quantity and quality of estuarine and nearshore habitat.*" (Page 325).

WRIA 18 LFA, "*Restore unrestricted tidal flow and flushing to the north end of Washington Harbor.*" NOPL 2011 Draft Strategy Table A: Goals and Objectives, "*Restore and maintain ecosystem function and nearshore processes - focus on protection and restoration of habitat-forming, watershed, and nearshore processes.*" Tidal hydrology and habitat-forming processes were specifically addressed in the 2010 **Washington Harbor Restoration Project Geomorphic Assessment**, and the 600-foot bridge will meet these objectives.

Restores Formerly Productive Habitat:

WA Harbor is a 118-acre barrier estuary that provides superb, productive estuarine marshes and eelgrass meadows that are excellent marine nearshore habitat for a variety of salmon and char species. Within the northern 37 acres the road and culverts have eliminated the eelgrass beds, degraded the salt marsh, caused concerns for thermal impacts, and impaired fish access. The project will reverse or eliminate these impacts and return this area to its former condition. The Point No Point Treaty Council (PNPTC) Report, "*Historical Changes to Estuaries, Spits, and Associated Tidal Wetland Habitats in the Hood Canal and Strait of Juan de Fuca Regions of Washington State*" (2006) makes the following observations. "Perhaps the most apparent human alteration to wetland habitat is a 1250 foot-long east-west road that traverses the lagoon and tidal marsh and alters much of the north section of tidal lagoon and marsh habitats (Figure 7). This road has substantially impaired the historical habitat connectivity of the complex." The project will eliminate this connectivity impact.

Illustrate how Project supports Restoration or Protection of Ecosystem Functions:

The project restores ecosystem processes by: 1) Restoring tidal hydrology, which will engender the return of eelgrass beds, eliminate thermal pollution caused by the incomplete draining of the northern 37 acres, increase shorebird foraging habitat, restore the movement of sediment, large wood and nutrients, and improve stability of the main WA Harbor inlet. 2) Restoring habitat connectivity which will allow fish and crustaceans to freely move throughout the entire estuary.

Scale of influence:

Spatial- The project has large spatial scale. It profoundly affects 37 acres of estuarine habitat and has secondary benefits for the remainder of the 118-acre estuary. **Temporal-** Life span of the bridge would likely equal or exceed 70 years. It's unlikely that another structure that obstructs fish migration and the movement of large wood, sediment, and nutrients would ever be permitted in the future. Therefore, the project benefits can reasonably be considered permanent.

Certainty of Project Success:

Certainty of success is extremely high. Geomorphic and cultural resource assessments are complete, the bridge is designed to the 80% level, partial construction funds are in hand, permitting is funded, and the project is supported by the landowner, easement holder, and stakeholders including JST, WDFW, Clallam County, and NOSC.

Timing Needs & Sequencing Requirements (project readiness):

The project is construction ready (see certainty of success).

Cost Range and Appropriateness:

\$1,745,288 Total project cost = \$47,170/acre. This is extremely cost-appropriate. The average cost for other estuarine marsh restoration projects on the Olympic Peninsula and Hood Canal is \$170,000/acre.

	<p>Other Key Information, especially any relationship to previous or current projects: This project continues restoration of JCL summer chum pocket estuary habitat that was begun with the 2009 Pitship Pocket Estuary project.</p>	
<p>09093 (Combination of Projects 45 & 37)</p>	<p>North Sequim Bay Drift Cell Conservation Project</p> <p>Watershed Priority: 4.27</p> <p>Project Description: Permanent protection will be provided for Gibson, South, Travis and Paradise Cove Spits, all clustered near the entrances to WA Harbor and Sequim Bay, along with the 5.2 miles of coastal feeder bluffs that support the spits. Protection will be accomplished using conservation easements, property purchases, and state land management planning. Protected habitat includes 5.2 miles of feeder bluff shoreline, 23,560 feet of spit shoreline, 269 acres of marine shallow water and estuarine habitat, and the productive 10-mile shoreline of the 3,200-acre Sequim Bay. Preserving the health of these spits is essential for the continued existence of WA Harbor, Paradise Cove and the productive geomorphology of Sequim Bay. The project will occur in the following phases: 1) measure bluff erosion rates, 2) develop a conservation plan, including public outreach 3) design conservation measures, 4) relocate infrastructure and buildings, and 5) purchase conservation easements and property.</p> <p>Why the Project is needed (limiting factors addressed): Although upland areas are being developed adjacent to the North Sequim Bay drift cell (NSBDC), little shoreline armoring has occurred to date. Spectacular erosion of the similar Ediz Hood in Port Angeles demonstrates the vulnerability of Strait of Juan de Fuca spits to the loss of recruited sediment. Any significant shorelines armoring within the NSBDC will seriously imperil the existence of these spits, WA Harbor, Paradise Cove and the productive geomorphology of Sequim Bay. Existing regulations do not provide protection from this potential devastating impact. In some locations structures and infrastructure are located near the bluff edge, requiring that either a) shoreline armoring must occur or b) improvements be relocated or decommissioned. LFA elements include: 1) ecosystem links between upland and nearshore habitats, 2) reduced sediment input from feeder bluffs to nearshore area causes degradation of the beach, resulting in loss of the shallow, nearshore migration corridors and eventual loss of the spits themselves, 3) loss of riparian vegetation that provides shade to the upper beach.</p> <p>Benefit to Salmon (how does it address stock status & trends): On the spits themselves, the project will permanently protect an enormous amount (approximately 23,560 feet) of 1) forage fish spawning habitat and 2) prime nearshore salmon and char rearing and migration habitat, especially for Coastal-Puget Sound bull trout, Puget Sound Chinook, pink, coho, and fall chum salmon, and ESA-listed Hood Canal/Eastern Strait of Juan de Fuca summer chum originating in the Dungeness River, Jimmycomelately (JCL) Creek and Discovery Bay. In the embayments, over 11 miles of productive shorelines are protected by the spits. The project addresses stock status and trends by maintaining expansive, important nearshore habitat for numerous salmon, char, and forage fish populations. The project is especially important for summer chum salmon from JCL Creek, the site of a completed, highly successful \$7.5 million portfolio ecosystem restoration project. This stock has increased from a return of 7 spawners in 1999 to 4,027 spawners in 2010. The project will maintain much of the nearshore habitat that supports this spectacularly rebounding salmon stock during the early portion of its marine life history.</p> <p>Specific Salmon and Char Stocks that will benefit. ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, pinks, fall chum, cutthroat.</p> <p>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How? Puget Sound Salmon Recovery Plan (PSSRP), habitats and processes critical to support salmon recovery, "drift cell processes (including sediment supply, transport and deposition) that create and maintain nearshore habitat features such as spits, lagoons, bays and beaches" (page 368), PSSRP Dungeness Section, Key strategies and actions supporting the overall approach to recovery, "Nearshore habitat protection" (page 324). "Estuarine and marine nearshore areas of Discovery Bay, Sequim Bay and the Eastern Strait of Juan de Fuca provide valuable juvenile rearing and migration habitats as well as production of food resources for juveniles and adults." Summer Chum Salmon Recovery Plan – May 2007, pg 84. The project protects the above-reference habitat type. NOPL 2011 Draft Strategy Table A: Goals and Objectives, "Restore and maintain ecosystem function and nearshore processes - focus on protection and restoration of habitat-forming, watershed, and nearshore processes." The project's specific objectives, which will be accomplished as described above, are to protect</p>	<p>JS'KT</p>

	<p>habitat forming and nearshore processes.</p> <p><u>Protects High Quality Fish Habitat:</u> Protected habitats include superb, productive eelgrass beds, tidal marshes, pocket estuary habitat, and low-gradient fine-grained beaches.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> The natural recruitment and transport of marine sediment is an elemental and crucial ecosystem function that creates and maintains complex shorelines features and associated habitat, in this case Gibson, South, Travis and Paradise Cove Spits and WA Harbor, Paradise Cove, and Sequim Bay. These are habitats of regional significance. The project is designed specifically to protect this ecosystem function, which in turn supports the entire WA Harbor and Sequim Bay ecosystems and their populations of fish, shellfish, mollusks, crustaceans, birds, and mammals.</p> <p><u>Scale of influence:</u> Spatial- enormous: 5.2 miles of coastal feeder bluffs, 23,560 of spits, 11+ miles of productive shorelines. Temporal - conservation measures will range from 100 years to permanent.</p> <p><u>Certainty of Project Success:</u> Landowner willingness is the crucial factor in project success. The number of landowners will increase as larger parcels are subdivided. Drift cell protection will be more difficult and expensive as homes are built near the edge of the bluff. Certainty of success is at its high point now and will diminish over time.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> Phase 1 (Measurement of bluff erosion rates) is ready to begin. The remaining phases will then be ready to be undertaken in the order identified above, except that parts of Phases 4 and 5 might occur concurrently or in reverse order.</p> <p><u>Cost Range and Appropriateness:</u> Cost range for Phase 1 is \$50,000 to \$70,000; Phase 2 is \$ 75,000 to \$150,000. Cost estimates for the remaining phases cannot be made until Phase 2 is complete, although a placeholder of \$5 million is being used. Easements and land purchases will be based on fair-market value appraisals.</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u> The project integrates well with the WA Harbor Restoration, Pitship Pocket Estuary, and JCL Ecosystem Restoration projects.</p>	
12099	<p>Johnson Creek Riparian Protection and Restoration</p> <p><u>Description:</u> Johnson Creek is east of Sequim, and contains valuable habitat for salmonids and elk. This capital project would acquire land for conservation through easements or fee simple acquisition, and conduct restoration projects on the intact riparian corridor above SR 101 along Johnson Creek. Restoration work could include LWD and management of invasive species.</p> <p><u>Why the Project is needed (limiting factors to be addressed):</u> These limiting factors would be eliminated if lands were permanently protected and restored:</p> <ul style="list-style-type: none"> • Establish riparian corridor protection • Address mass wasting potential • Implement instream fish habitat enhancement project. <p><u>Benefit to Salmon</u> Multiple stocks would benefit from protection of the Johnson Creek riparian corridor including ESA winter steelhead, coho, sea-run cutthroat trout, and resident trout</p> <p><u>Which Salmon Recovery Plan Objective does this Project Meet and How?</u></p> <ul style="list-style-type: none"> • WRIA 17 LFA pg 212-215. Protecting and restoring a riparian buffer. • Puget Sound Recovery Plan – Habitat: Protect Existing Physical Habitat & Habitat Forming Processes • Puget Sound Partnership – Protect Habitat • NOPL Recovery Strategy 2008 – implement salmon recovery plans to protect fish habitat & maintain ecosystem function. 	NOLT/ JSKT

	<p><u>How Project supports Restoration or Protection of Ecosystem Functions?</u> This project would establish riparian corridor protection of an intact corridor, and enhance fish habitat through restoration projects.</p> <p><u>Project’s Spatial-Temporal Scale of Influence:</u> Johnson Creek corridor above SR 101, east of Sequim</p> <p><u>Timing Needs and Sequencing Requirements (project readiness):</u> There are landowners along Johnson Creek who are interested in working with the Land Trust when funding is available.</p> <p><u>Range of Estimated Costs:</u> One of the properties that is considered for conservation is 155 acres, which is probably \$15,000 per acre fair market value, and conservation easements, on average, are about half of fair market value, \$7,500/acre. The incidental costs, including survey, appraisal and review, legal, title, forest management plan, can add up to \$30,000. Large wood projects could be \$50-100,000. This brings the total project cost to \$1.18 million.</p> <p><u>Watershed priority & watershed area (which WRIA):</u> WRIA 17</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u> It is likely that this project would score well with the Rocky Mountain Elk Foundation because it’s an active elk migration corridor. NOLT will pursue funding them RMEF and other grant sources.</p> <p>Photos and Graphics are available for viewing at: http://hwsconnect.ekosystem.us/Project/180/17388</p>	
<p>11094</p>	<p>Chicken Coop Road Culvert Replacement Project</p> <p><u>Project Description:</u> Clallam County Public Works proposes to replace a deteriorating non fish-passable culvert located at MP 1.4 of Chicken Coop Road with a fish-passable pipe, potentially opening up 1.4 miles of Chicken Coop Creek to coho and winter steelhead. The existing culvert is a 24” steel pipe, rusting at the bottom, and not adequately sized to pass flows. The resulting backwater has caused bedload to accumulate throughout the pipe, causing almost complete blockage. The backwater has also caused erosion of the road shoulder at the inlet, further adding to siltation of Chicken Coop Creek during storm flows. A second, 18” steel culvert, located 24” above the stream bed serves as an overflow, however his pipe does little to aid fish passage. The proposal is to replace both culverts with a single 6 foot culvert, meeting WDFW guidelines for road culverts (2003).</p> <p><u>Why the Project is Needed (limiting factors to be addressed):</u> According to the WRIA 17 Salmon and Steelhead Limiting Factors (2002), this culvert is a total barrier. It is leaking through holes in the bottom and eroding away road fill. The Action Recommendation is to replace this culvert, addressing the factors of Access and Passage. If this is replaced in conjunction with the total culvert barriers at Highway 101 and Old Blyn Highway it will open up 2.7 miles of fish habitat. This recommendation is repeated in the Elwha-Dungeness Watershed Plan, WRIA 18 (2005).</p> <p><u>Benefit to Salmon:</u> According to the WDFW Salmonscape mapping, Chicken Coop Creek has potential use by coho and winter steelhead, although the barriers at Old Blyn Highway and Highway 101 make this creek inaccessible at present. Trap surveys done by the Jamestown Tribe in 2008 show use by coho, cutthroat and steelhead/rainbow juveniles below Highway 101. If the barrier at Chicken Coop Rd. were to be removed, (along with the barriers at Old Blyn Highway and Hwy 101) approx. 4,200 linear feet of stream above Chicken Coop Rd. would become accessible to winter steelhead and 7,500 linear feet of stream accessible to coho.</p> <p><u>Which Salmon Recovery Plan Objectives does this Project Meet and How?</u> At present a recovery plan for ESA-listed winter steelhead is being developed, however, many aspects of the Puget Sound Recovery Plan (2007) for Puget Sound Chinook can be applied to steelhead and coho, specifically:</p> <ul style="list-style-type: none"> • The Protection of Physical Habitat and Habitat-Forming Processes. • Water Quality and Instream Flows • Also: 	<p>CC</p>

- Protect key fresh- and saltwater processes and habitats from physical or biological disruptions
- Reduce the risk and damage from catastrophic events.

These goals would be met by re-establishing a natural flow to allow fish access to existing habitat. The larger culvert would be able to pass storm flows, reducing the input of sediment from road erosion and possible catastrophic failure (and resulting impacts to fish) of the road.

Additionally, the project attains two issues of the Draft Salmon Habitat and Ecosystem Conservation Plan (Clallam County 2000); specifically:

- Avoid stream crossings by roads wherever possible, and where one must be provided, minimize impacts through choice of mode, sizing and placement.
- Preserve the hydrologic capacity of any intermittent or permanent stream to pass peak flows.
- Prevent erosion and sediment runoff during construction.

By following the WDFW Design of Road Culverts for Fish Passage (2003), the new culvert will ensure passage of a 100-year peak flow and allow fish access. The project will be constructed by Clallam County Road Maintenance crews. Clallam County is a member of the Regional Road Maintenance Program and adheres to all elements of that agreement, including the incorporation of BMP's. Our work is approved under the 4(d) Rule for Limit 10 (Routine Road Maintenance), and has received concurrence from the National Marine Fisheries Service. Crews have received training in BMP use and in-water work to prevent erosion and sedimentation runoff during construction.

How Project supports Restoration or Protection of Ecosystem Functions?

According to the Elwha-Dungeness Watershed Plan, WRIA 18 (2005):

“Chicken Coop experiences excess sedimentation and sporadic water quality violations. There are several fish passage blockages as well as degraded fish and wildlife habitat...Chicken Coop Creek is the second largest watershed in the Sequim Bay Basin. It suffers from the effects of numerous culverts throughout the watershed and has experienced various episodes of excessive sediment. These sediments may contribute to the occasionally intermittent presence of surface flow - a condition that has been identified as potentially the most significant limiting factor for restoration of anadromous stocks.”

Replacing this culvert will potentially open up 7,500 linear feet of former productive habitat for coho (4,200 linear feet for steelhead), restoring this function. The current deteriorated culvert is contributing to sedimentation from the road erosion, and a possible catastrophic event from a road failure. Replacement will reduce sedimentation which has been contributing to the intermittent surface flow.

Address the Project's spatial-temporal scale of influence:

Replacing the culvert will lead to immediate fish accessibility for the portions of Chicken Coop Creek above the road. However, total use of Chicken Coop Creek depends on replacing the culverts at Old Blyn Highway and Highway 101. The Highway 101 culvert is reportedly scheduled for repair (Elwha-Dungeness Watershed Plan, WRIA 18, 2005). The crossing at Old Blyn Highway is proposed to be improved, as part of the Jamestown S'Klallam Tribe's planned interchange with Highway 101 (if funded).

Timing Needs and Sequencing Requirements (project readiness):

There is no sequencing needed for this project. The culvert replacement could be done during the WDFW 2011 Allowable Work Window (July 16 – September 15). Since the project would be done by the County's own road crew, there would be no advertisement period and no bid award. Construction drawings would be done in-house. Work could begin as soon as materials were delivered and would last 3-4 days. Since Chicken Coop Road is open at both ends, the road could be closed to traffic at the site, making the actual installation time considerably shorter than would be required with a partial closure.

Range of estimated cost: \$50,000 to \$75,000.

Watershed Priority and watershed area project is located in:

This is the Sequim Bay Subbasin of WRIA 17, Chicken Coop Creek Watershed is identified as WRIA 17.0278. This was given a score of 1.22 in the NOPL 2010 Work Plan Ranking. Watershed planning was done Under Elwha-Dungeness Watershed Plan, WRIA 18 (2005). Repairing the culvert is listed as recommendation #1 under “Habitat.” Controlling sedimentation is listed as recommendation #1 under “Water Quality.”

	<p><u>Other Key Information:</u> This culvert has been a barrier to fish for at least 15 years, in other words, fish have not been able to access the 1.4 miles of Chicken Coop Creek above the road for 15 years. Once the Highway 101 culvert and the Old Blyn Highway culverts are repaired, a potential 2.7 miles of stream would be useable for fish (Limiting Factors Analysis 2002).</p>	
<p>09050.1</p>	<p>Clallam County Roads Culvert Inventory</p> <p><u>Projection Description:</u> The municipality of Clallam County encompasses an area of 1,752 square miles that is drained by thousands of miles of streams. It also maintains a road network that includes approximately 850 miles of asphalt and gravel roads. These roads cross numerous drainages that support anadromous and resident trout populations. Many of these roads were built prior to the enactment of the Hydraulic Act and as a result their stream crossing structures do not meet modern fish passage criterion. This project will identify all stream crossings within county jurisdiction using GIS Tools by watershed. The stream network affected by the road system will also be classified by gradient and confinement criteria within each watershed. This analysis will produce a population of culvert sites and potential stream habitat upstream affected by those crossings. Individual culvert sites will then be field surveyed to assess their impacts to fish passage using the WDFW (2009) level A assessment. From these data a prioritized list of fish passage improvement projects will be generated by watershed and by county ownership. The over-all goal is to identify and replace barrier culverts and to restore unimpeded fish passage to historical spawning and rearing habitat upstream with structures that meet fish passage criteria. This project will help Clallam County and its partners identify those barriers and compete for the resources necessary to correct barriers over time.</p> <p><u>Limiting Factors Addressed:</u> This project will result in a prioritized list of fish passage barriers on Clallam County road ownership. Currently Clallam County does not have such an inventory and its road culverts are replaced only when public safety is threatened or there is an engineering reason to do so. As a result, numerous migration barriers remain unidentified and are not being targeted for systematic correction. Barrier correction and the restoration of access is fundamental to salmon restoration. Indeed, in a recent review of watershed restoration priorities Roni et al. (2006) recommend the correction of human caused fish passage barriers as the first and greatest priority for restoring salmon habitat in Pacific Northwest watersheds.</p> <p><u>Benefits to Salmon:</u> Because of the geographic scope of this project, numerous stocks of salmon ranging from Puget Sound coho to Olympic Peninsula chum would be positively affected. Restoring access to historically utilized habitats has perhaps the greatest cost-benefit of any salmon restoration project type. If barriers are not identified they will not be proactively repaired, except at the end of their life expectancy. Many municipalities of the state of Washington currently do not have the tools or fiscal resources to carry out such a fish passage correction program.</p> <p><u>Recovery Plan Objectives:</u> Clallam County currently contains several listed species including: Ozette Lake Sockeye, Puget Sound Steelhead, Puget Sound Summer Chum, Puget Sound Chinook, and Puget Sound/WA Coastal Bull Trout. Recovery plans have been developed for all of these ESU's with the exception of Puget Sound Steelhead. Restoration of access to historically utilized areas is included in all these plans. However this project is more likely to benefit species such as coho and steelhead which utilize tributaries as opposed to chinook which primarily utilize mainstem and large river side channels.</p> <p><u>Restoration or Protection of Ecosystem Function:</u> This project restores ecosystem function by leading to a process that restores access for anadromous and resident salmonids to habitats blocked by undersized, over-steepened, perched or velocity barrier culverts across Clallam County. Replacement of these structures over time will also restore ecosystem function by allowing unimpeded transport of sediment and large wood. Degraded channel conditions often occurs immediately downstream of undersized culverts and replacement of these structures will result in additional habitat recovery benefits</p> <p><u>Spatial/Temporal Influence:</u> This project has a broad impact in terms of identifying barriers in multiple watershed in WRIA 17-19. It could (and should) be coupled with a similar effort in WRIA 20 which has a different lead entity group (NPCLE).</p>	<p>LEKT/ CC</p>

	<p>Project Readiness: This project could be completed within 1-3 years of funding. It will require a considerable amount of GIS time and each culvert requires approximately half a day to locate and survey.</p> <p>Cost: \$300,000--450,000</p> <p>Watershed Priority: Due to the geographic scope of this project, which encompasses survey activities in multiple watersheds, it is impossible to assign a priority value according to the system adopted by NOPL.</p> <p>Miscellaneous: This project is modeled after LEKT watershed analysis in Salt Creek (McHenry et al 2006). That project identified multiple culver barriers (31) that affected at least half of the historically affected habitat in the watershed. Seven barriers were identified on Clallam County ownership. Using state and federal grant sources, LEKT in partnership with Clallam County has corrected six of those barriers. The final barrier is currently being analyzed for correction during the summer of 2011.</p>	
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Non-Capital Projects

HATCHERY

09048	<p>Elwha River Native Steelhead Brood Development Project</p> <p>Likely Sponsors: Lower Elwha Klallam Tribe</p> <p>Funding Request: \$138,342</p> <p>Brief Description of Project: An alternate winter steelhead broodstock is being developed for use in the Elwha River. This new stock based upon the native wild steelhead found in the Elwha River will permit the phase-out of the use of the Chambers Creek winter steelhead salmon in the Elwha River. This project, initiated as a captive brood program (redd pumping employed to capture eyed eggs and pre-emergent fry) is now expanding to include a smolt production component. Currently 1,700 fish (age 0 to age 4) are being reared to maturity (age 4) at the hatchery. Upon reaching maturity, adults will be spawned and the resulting offspring will be reared to age 2 smolts for release. Fish will be released both from on-station and at remote release locations.</p> <p>This effort will permit discontinuance of the Chambers Creek stock and will result in the development of a new hatchery-based population that will be used to promote steelhead recovery and assist in achieving the goals of river restoration as identified in the Elwha River Fish Restoration Plan (NOAA Technical Memorandum NMFS-NWFSC-90).</p> <p>Project Description: The goal of the program is to develop a hatchery stock of winter steelhead salmon based upon a natural-origin late-timed winter steelhead (Elwha River). This stock is currently present in the river at critically-low levels. This program will permit the replacement of enhancement efforts currently supported by winter steelhead salmon of Chambers Creek origin (South Puget Sound) and will assist in the amplification of the depressed native population.</p> <p>The production methods employed and project goals have been developed in consultation with scientists from NOAA Fisheries, USFWS, NWIFC, WDFW, and NPS (Olympic National Park). This program will be dependent upon on-going annual program reviews – annual consultations/program reviews have proved to be an import component to ensuring the success of this effort and providing options to manage the project adaptively. Reviews/consultations will continue to be a critical component to the success of this production effort through its duration.</p> <p>This enhancement effort was begun in 2005 as a captive brood-based program and now includes individuals from four brood years (2005, 2006, 2007 and 2008). The program methods include: Capture of eggs and fry from redds (redd pumping), inserting a passive integrated transponder tag (PIT tag) into each fish being reared in captivity to adulthood to permit identification of individuals throughout their residency at the hatchery, conducting genetic analysis of each fish reared in captivity to adulthood to determine parental lineage and assist in the development of spawning matrices, rearing each captive brood fish to age 4, spawning of fish, incubation of eggs and rearing of offspring to age 2 smolts, on-station and off-station releases of smolts.</p>	LEKT
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	<p>Project Need: The project meets needs identified in areas critical to salmon recovery in the region: The target stock is currently present in the river at critically-low levels. This program will permit the replacement of enhancement efforts currently supported by winter steelhead salmon of Chambers Creek origin (South Puget Sound) and will assist in the amplification of the depressed native population and will act to reduce the potential for negative genetic and ecological interactions between the native stock and the imported stock.</p> <p>Significance to Hatchery Reform Implementation: This project addresses a specific recommendation <i>from a HSRG Regional Review</i>. Review of the Eastern Straits region by the HSRG identified the winter steelhead stock currently used at the Lower Elwha Fish Hatchery (Chambers Creek origin) as being inappropriate for use in the recolonization of the upper watershed following dam removal, and that any stock conservation program developed by co-managers in the Elwha River Fish Restoration Plan (NOAA Technical Memorandum NMFS-NWFSC-90) should use a more appropriate stock of steelhead..</p> <p>The goal of this production effort is to use the late timed Elwha River origin winter steelhead stock to replace the existing Chambers Creek winter steelhead population. Once increasing returns of this new hatchery-origin stock is observed the use and production of the Chambers Creek population will be ramped-down and may be discontinued.</p> <p>Relevance to Salmon Recovery: This project will increase the abundance of a natural stock by selectively amplifying the total population and using this stock as the basis for a new hatchery-origin population. The Hatchery Reform effort in the state of Washington has recognized the importance of protecting genetically-unique threatened native winter steelhead stocks through importation into the hatchery and has funded similar protection and enhancement efforts in other Puget Sound watersheds. This program will help to protect a genetically unique and separate natural-origin stock that has declined to critically-low levels (less than 100 adults per season). Increases in the number of natural-origin steelhead and phase-out of the production of Chambers Creek origin fish will reduce the potential for harmful genetic and ecological competition between the native stock and the non-Elwha River origin winter steelhead in the system.</p> <p>Proposed Starting and Ending Dates: This is an ongoing project, initiated in 2005 and projected to continue through 2018. This funding is to support program efforts beginning August 2010 and continuing through June 30 2012.</p> <p>Certainty of Project Success: This project has a high degree probability of success. It is based upon utilization of existing hatchery methodologies/technologies and bolstered with routine semi-annual guidance consultations held with project cooperators (USFWS, NOAA Fisheries, NPS, and WDFW).</p>	
11095	<p>Elwha Fish Propagation</p> <p>Project Title: Maintenance of Elwha River Fish Populations During Removal of the Elwha River Dams</p> <p>Project Description: The two Elwha River Dams will be removed beginning in September 2011 and continuing for three years. Dam removal on the Elwha will restore access to over 70 miles of mainstem and tributary habitat. The project as a whole will also restore those processes which are necessary for a functioning ecosystem.</p> <p>The dam removal process is anticipated to result in episodic periods of high turbidity, often exceeding 1,000 ppm and occasionally exceeding 10,000 ppm. These levels are known to result in the direct mortality of fish. It is critical to protect the native populations of salmon in the Elwha River during these periods of high turbidity.</p> <p>In order to protect native fish populations during dam removal, two hatcheries on the river (WDFW Elwha Rearing Channel and the Elwha Tribal Hatchery) will be utilized as safe refuges. Chinook, coho, steelhead, chum, and pink salmon will all rely to some extent on hatchery supplementation. The Chinook and steelhead populations are currently listed as “threatened” under ESA. Details of the hatchery supplementation strategy for the Elwha Project are found in the Elwha Fish Restoration Plan (Ward et al, 2008). The hatchery program is intended to be an interim action (~10 years) to support fish through dam removal and the years following removal when colonization of the watershed is occurring.</p>	LEKT/ WDFW/ ONP

	<p>Funding has been secured through the Elwha Project and federal stimulus programs for construction of a new tribal hatchery. In addition, both Washington State and tribal funding is available for partial operations of the two hatchery facilities. However, additional funding is needed to fully implement the actions described in the Elwha Fish Restoration Plan. Approximately \$200,000 per year is needed for the program (not including the steelhead program which has been identified as a separate stand-alone project).</p> <p>The Elwha River has the highest ranking in the NOPL strategy (score of 5).</p> <p>Stock preservation has been rated as the highest priority task to be implemented in the Elwha River during dam removal.</p>	
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HARVEST MANAGEMENT SUPPORT

09064	<p>Dungeness Improved Fisheries Enforcement</p> <p><u>Project Description:</u> Harvest management calls for effective enforcement of harvest regulations and implementation of orderly fisheries. Currently fisheries are limited in the vicinity of the Dungeness watershed. However, control of the limited existing fisheries and protection against poaching to which Chinook are particularly vulnerable during the low flow summer months, requires enforcement personnel to patrol the river and proximal marine waters. Two additional officers are needed for effective enforcement of closures and to ensure orderly fisheries. Currently, enforcement personnel are spread thin and do not sufficiently cover enforcement needs. The addition of two officers would meet present requirements and help ensure that the harvest management provisions of the recovery plan are met. If the this program is not funded as part of the three year plan, the existing risk of illegal harvest of already small numbers of Dungeness Chinook will continue.</p>	WDFW/ JSKT
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FUTURE HABITAT PROJECT DEVELOPMENT

09054	<p>Elwha Conservation Planning</p> <p><u>Project Description:</u> This non capital project follows the Elwha Fish Recovery Plan's recommendation to develop a long term strategy for purchase or development of conservation easements on floodplain & estuary property outside of the ONP (p.80). The Plan states, "Restoring and maintaining physical processes that form habitat in the mainstem Elwha River is the highest priority following dam removal (p.75). North Olympic Land Trust will work with willing private landowners to create plan to maintain physical processes on private land in the Elwha watershed, including Indian Creek and the Little River, specifically through conservation easements and in some cases fee simple acquisition of important lands. This project is a strategic planning process that identifies private properties in the Elwha watershed based the recommendations and system of prioritization set forth in the Elwha River Fish Restoration Plan's. This planning process will assess ecosystem function, market value, and landowner willingness on a parcel-by-parcel basis to develop a plan for land acquisition through permanent conservation easements and fee simple acquisition. The outcome of the project will be a prioritized list of properties to begin acquiring as early as 2011. This project will help achieve NOPL's goal to restore and maintain ecosystem function on the North Olympic Peninsula for the entire watershed through strategic planning designed to create the greatest ecological benefits for listed species.</p> <p>All limiting factors listed for the Elwha River Protection can be address by protecting the best existing salmon habitat and ecosystem function on private land, which can only happen through voluntary conservation tools such as acquisition and conservation easements, non regulator conservation tools that this project addresses.</p> <p>This project will create a road map to protect habitat for ESA listed species in the Elwha River in addition to multiple stocks of fish – all that depend on existing quality and quantity of habitat in marine and freshwater. According to the Puget Sound Recovery Plan, "any further reduction in habitat quality and quantity will require more restoration to achieve recovery goals...Protection is needed at the individual habitat site as well as the ecosystem scale to ensure the processes that create habitat to continue to function (p. 353). This is why it is paramount to follow the newly emerging tenet for species recovery - 'protect the best and restore the rest'.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?</u></p> <ol style="list-style-type: none"> 1. Puget Sound Recovery Plan – "protect existing environmental functions in both urban and rural areas using the array of protection tools available." (357). 	NOLT, LEKT & CC
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	<ol style="list-style-type: none"> 2. Puget Sound Partnership – Protect Existing Habitat: Land Acquisition/Protection Plan 3. NOPL Recovery Strategy 2008 – Goals 2 &3. 4. Salmon and Steelhead Habitat Limiting Factors of Juan de Fuca – Recommendation: “Acquisition/conservation easement access and set back of structures constructed within the channel migration zone(p.162). 5. Elwha River Fish Restoration Plan – “ Consideration should be given to developing a long-term strategy for purchase or development of conservation easements on floodplain and estuarine property outside ONP. Unconstrained reaches of the Elwha River where lateral migration can occur should be of the highest priority...significant parcels of floodplain are privately owned, some of which may not be adequately protected but local land use regulations to meet the goals of river restoration. These lands may be logged or converted to housing or other uses that are not compatibility with long term restoration. <u>It is conceivable that a corridor from the ONP boundary on the south to the LEKT reservation could be targeted for protection in cooperation with an appropriate partnership between landowners and conservation organizations.</u> If successfully implemented, such a corridor would link floodplain and estuary habitats in the lower river with pristine habitats within ONP. The Elwha River could represent one of the largest, largely intact watersheds in the conterminous United States (p80-81). <p>Acquiring properties with important habitat as opportunities arise has been a common trend in salmon recovery. Though worthy, this approach does not reap the same ecological benefits as landscape scale conservation planning, which this project would accomplish.</p> <p>With funding, North Olympic Land Trust has the organizational capacity to complete this project within 2 years, has in house GIS capability, and will rely on its project partner, LEKT for technical review of priority habitats and GIS. This planning process will dovetail with North Olympic Land Trust’s efforts to create a 100-year conservation plan for Clallam County by focusing on salmon and steelhead recovery in the Elwha watershed. The Land Trust is now building a constituency to support rapid implementation of conservation plans through partnerships and funding opportunities. This project will lead to voluntary conservation easements and land acquisitions that protect the best existing habitat and ecosystem function for salmon and steelhead. Non regulatory protection efforts – such as conservation easements and fee simple acquisitions negotiated by local land trusts - has a proven track record for protecting private land with important habitat and ecosystem function in perpetuity. North Olympic Land Trust has already protected over 90 acres in the Elwha watershed and will soon protect an additional 120 in the Little River Valley.</p> <p>Timing for planning for acquisition is ideal since the Elwha Recovery Plan and WRIA 18 plan are finalized and both recommend protecting habitat as a major priority for recovery. This project will develop an achievable plan for strategic acquisitions of parcels with the best existing habitat and ecosystem function through perpetual conservation easements and fee simple acquisition, which will lead to capital acquisition projects.</p> <p>The cost of the project covers staff time for 2 years of work doing outreach, GIS, coordinating appraisals, reviewing title, parcel prioritization, and compiling a final report. The cost of outreach material and postage for landowners is included, including preliminary appraisals and title review. The Lower Elwha Klallam Tribe is the major partner for this project and will provide GIS and technical review of prioritized habitat.</p>	
<p>09055</p>	<p>The Elwha Nearshore Action Plan</p> <p><u>Project Description:</u> The Elwha watershed consists of 321 square miles of watershed, 20 linear km of nearshore, and 90 acres of estuary habitat critical for numerous salmon species including ESA-listed Puget Sound and Columbia River Chinook, bull trout, and steel head, and Hood Canal/ Eastern Strait of Juan de Fuca summer chum. In-river damming, shoreline armoring, and lower river and estuary alterations have resulted in significant impact to the function of the nearshore Elwha. Eighty three percent of the Elwha River is within the Olympic National Park. In contrast, the majority of the Elwha nearshore is in private ownership, and experiencing a high development pressure. Dam removal through the Elwha Ecosystem Restoration project will reopen 70 miles of riverine habitat and reestablish river sediment processes but doesn’t include any nearshore restoration. This project fills completes Elwha ecosystem restoration by developing and implementing a conservation easement and protection action plan for the Elwha nearshore with scientifically measurable outcomes and monitoring to do so.</p> <p><u>Limiting Factors, Benefit to Salmon, Project Success, Recovery Plans Timing & Other Key Information:</u> This proposal is consistent with, and builds upon, the goal of the federal Elwha Fisheries Restoration Act (1992) and associated Elwha river dam removal project by restoring and protecting riverine/ nearshore functional</p>	<p>CC & WDFW</p>

	<p>linkages. It is identified as a top priority in the NOPLE three year strategy. Shared Strategy (2007), and the Olympic Peninsula Chapter of the Puget Sound Chinook recovery plan.</p> <p>Habitat function has been degraded, migratory and rearing habitat for both Puget Sound and Columbia River stocks of Chinook salmon, as well as steelhead, coho, and chum salmon, will continue to be degraded and inaccessible. Long term outcomes if not funded will be current habitat function within the Elwha drift cell will be at high risk due to development; and full ecosystem restoration in the Elwha system, due to degraded state of Elwha nearshore, will occur. Nearshore restoration from restored riverine sediment processes will be partial and competing immediately and continuingly with development pressures.</p> <p>The project addresses both priority need and opportunity. A number of landowners have expressed an interest in participating in conservation easements, property acquisition, and restoration projects, as well as a high interest in water quality monitoring. Resources have not been available to move forward effectively. Level of urgency is high; dam removal is slated to begin in 2012. Likelihood of success is high.</p> <p>The project will create and initiate the trajectory for substantive permanent protection and restoration of a critical component of Elwha ecosystem that is currently at risk, by providing comprehensive long term conservation, protection, and restoration of the Elwha nearshore, which is not currently addressed in the Elwha restoration project. It will provide baseline and resulting water quality monitoring data that indicate measurable and scientifically defensible environmental improvement, and does so while incorporating the concept of ecosystem services and collaborative stewardship mindset with local landowners.</p> <p>Also the project builds on the Elwha Nearshore Restoration Strategy, developed in 2005 which addresses both the before and after and control and treatment elements of assessing protection and restoration success (Shaffer et al 2008). The assessment has been developed to accommodate the high variability inherent in the Elwha nearshore. Primary elements for monitoring are standard fish use techniques to define basic ecological indices and fish metrics, and water quality metrics in the Elwha and comparative estuary and embayed shorelines. Sampling for fish use, will be conducted bi-monthly for fish use, and basic water quality using standard PSAT protocol. Data will be quantified to provide the baseline for both post dam removal, and post protective action assessment.</p> <p>The work will continue to be integrated with the Elwha Nearshore Consortium, a group of scientists, managers, and citizen groups and stakeholders that are dedicated to understanding and promoting the restoration associated with the upcoming dam removals. Ongoing collaborative work includes citizen outreach workshops (Elwha Conversations), annual newsletters (Elwha nearshore newsletter), and citizen science monitoring work with landowners and local college students.</p>	
<p>09059</p>	<p>Port Angeles Harbor Basin Program</p> <p>Project Description: This program sponsored by the North Olympic Peninsula Lead Entity and the Clallam Marine Resources Committee; will facilitate a planning process that brings stakeholders in the PA Basin area together to talk about the future of the PA nearshore, and explore the potential for restoration and protection. There are some planning and development activities underway, but not all of the critical stakeholders are always involved and there may also be visions for the greater region which need to be explored.</p> <p>There are many individual projects currently included on the N. Olympic Peninsula Lead Entity's 3 year workplan that are in the PA Basin, such as Ediz Hook A-Frame Site Shoreline Restoration, Ennis Creek Habitat Restoration & Protection, and Valley Creek Estuary Restoration. There are also some new projects being proposed for the Lead Entity's 2009 Workplan. There are also longer term projects such as the restoration of the mouth of Ennis Creek. The Clallam MRC has its own workplan of proposed nearshore projects.</p> <p>This program will help tie all these individual projects into the larger picture, with a stakeholder process that will look at a broader scale and coordinate the various activities into a grand visioning process for the greater Port Angeles harbor area ecosystem.</p> <p>Why The Project is Needed: WRIA 18 Limiting Factors Analysis: "The Port Angeles harbor historically functioned as a large estuary, providing high quality rearing areas for many salmonid species. The harbor has been extensively altered from a variety of cumulative physical effects... The following salmonid habitat restoration actions are recommended for nearshore and subtidal marine areas within WRIA 18:</p>	<p>NOPLE & MRC</p>

	<ul style="list-style-type: none"> • Restore shoreline sediment transport from the Elwha River and the feeder bluff between the Elwha River and the west end of Ediz Hook • Restore the littoral drift from marine bluffs to the west of Morse Creek • Minimize the growth of <i>Ulva (spp)</i> by eliminating point and non-point source nutrient delivery to shallow embayments with limited tidal flushing • Evaluate the effects of shoreline armoring on shoreline sediment transport and nearshore sediment composition, and implement corrective actions, where appropriate • Remove or reconfigure the Rayonier pier to provide unrestricted nearshore salmonid migration and longshore sediment transport.” <p>Many of these restoration actions will be coordinated through the visioning process. This program would improve nearshore habitat for Puget Sound Chinook and other salmonids using this migration corridor. , It will also improve forage fish habitat and feeding and resting areas for juvenile salmonids.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <ol style="list-style-type: none"> 1. Chapter 2.11 STRAIT OF JUAN DE FUCA MARINE NEARSHORE ENVIRONMENT in the Elwha-Dungeness Watershed Plan Water Resource Inventory Area 18 (WRIA 18) and Sequim Bay in West WRIA 17 describes the “extensive loss and impairment of nearshore and estuarine habitat has occurred within WRIA 18 and throughout the Puget Sound Estuary/Strait of Juan de Fuca region.” This visioning would start the process of restoring the degraded marine shoreline. 2. The Puget Sound Chinook Recovery Plan, Chapter 3 - Habitat Factors Affecting Puget Sound Chinook Salmon and Bull Trout also references how habitat modifications have reduced the amount of salmon habitat that was historically available. <p>With a unified vision, the restoration of the Port Angeles Harbor Basin can restore a larger area by (1) identifying other projects that are needed, (2) helping connect the various projects and partners in the basin, (3) identifying areas of overlap between projects and partners, (4) helping to prioritize the projects already planned, (5) facilitate cost sharing, and (5) reduce the potential for tying things up in litigation.</p> <p>Taking the basin-wide approach with stakeholder involvement increases the certainty of project success. Stakeholders will be working towards restoration of the Port Angeles Harbor Basin with one vision, and restoration will not be occurring in a piecemeal way.</p> <p>We need to embark upon this visioning process soon because critical habitat has become available recently, and other activities are underway to make plans for how land could be utilized in that area. This visioning process will ensure that the restoration activities are embarked upon in a unified way.</p> <p>Funding will be needed for a facilitator, food for participants, potential room rental, meeting supplies, and copying costs. Costs will be fairly low for the benefits that’ll be reaped now and into the future.</p> <p>The N. Olympic Lead Entity for Salmon and Clallam Marine Resources Committee would be the program sponsors.</p>	
<p>09063.1</p>	<p>Dungeness River Habitat Resurvey</p> <p><u>Watershed Priority:</u> 4.76</p> <p><u>Project Description:</u> Baseline habitat monitoring is a basic need to understanding whether habitat conditions are improving or degrading. In 1993, JKT along with Jack Orsborn and Steve Ralph completed a Dungeness watershed-wide habitat survey. Since 1998, the Tribe, County, CCD, and others have engaged in habitat restoration throughout the lower 10 miles of river. What is the habitat trend for the Dungeness? The purpose is to redo the habitat survey, to look at trends in habitat conditions at a watershed level, and additionally identify areas of concern.</p> <p><u>Why the Project is Needed (limiting factors addressed):</u> Since the report was written in 1993 (17 years ago), we have had one 25-50 year flood event, three 10 year flood events, two 5 year flood events, and ten 2 yr flood events (some years have more than one major flood). Each flood brings a change to habitat conditions and potentially channel location. With four ESA-listed salmonids, it is important to update our knowledge of habitat conditions in order to better plan restoration projects.</p> <p><u>Benefit to Salmon (how does it address stock status & trends):</u></p>	<p>JSKT, US Forest Service, Tetra Tech</p>

	<p>This is the habitat for the four ESA list salmonids in the Dungeness. In this survey, we will GPS habitat features for better ESA planning and discussion. Where should we target scarce restoration/protection resources? Where has habitat conditions significantly changed (better or worse) in the last 17 years?</p> <p><u>Specific Salmon and Char Stocks that will Benefit.</u> ESA-listed: Puget Sound Chinook, Puget Sound steelhead, Hood Canal/Eastern Strait of Juan de Fuca summer chum, Coastal-Puget Sound bull trout. Non-listed: coho, pinks, fall chum, cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u> NOPL 2011 Draft Strategy Table C: Recommended actions for Dungeness River and the Puget Sound Recovery Plan, page 325. Both plans recommend "restoration of the lower river floodplain..." and "protect existing functional habitat within the watershed." We do a fine job of counting fish with two or three WDFW habitat biologists walking the river every day for 2½ months. This spawning survey effort has lasted over the past 18 years. But counting fish is just one "H." This is a funding request for one habitat survey of survey intensity equal to one year of spawning surveys.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions:</u> How can we understand whether the ecosystem is functioning if we do not monitor it? Tetra Tech is doing an intensive monitoring of the Engineered Logjam project in the vicinity of RR Bridge; their habitat survey covers about 2/3 of a mile (they have monitored 2005, 2006, 2008, 2010). The Forest Service is monitoring the Dungeness to Gold Creek and the Gray Wolf up to the Forest Service Boundary (about RM 5, 2010 and 2011). Their survey will start upriver of the Klink Bridge (roughly RM 11.7). The Forest Service will require their surveyors to GPS logjams. What is missing is most of the lower river corridor, where all of our restoration effort has been concentrated to date.</p> <p><u>Scale of influence:</u> Spatial - This survey will be GPS-based in order to create a habitat map of the river. The survey will run from the Dungeness River mouth to Klink bridge. With the Forest Service data, we will compare to the 1993 survey to track changes in habitat conditions in the watershed (see the large wood recovery map, this will be a similar spatial area). To the extent possible, data will be spatially mapped so that it can be presented to the Dungeness River Management Team, used for restoration planning, and other forums. Temporal – If funded, our survey will be the summer of 2012, one to two years following the Forest Service monitoring.</p> <p><u>Certainty of Project Success:</u> Jamestown S’Klallam Tribe has completed several TFW habitat monitoring efforts. We now use a modified TFW survey protocol, and GPS logjams and pool/riffle boundaries. One of our technicians was on the survey crew with Steve Ralph. Another technician used to have his own business doing these kind of surveys. We expect to hire Steve to help with survey design and analyses, to provide continuity with the 1993 data collection. Steve Ralph wrote the original TFW habitat monitoring protocol.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> If funded, the project will be surveyed the summer of 2012. Data analysis will occur the fall and winter of 2012. The project is ready to go.</p> <p><u>Cost Range and Appropriateness:</u> \$75,000 assuming 30 survey days with two crews of three. We will survey from the mouth to Klink Bridge.</p> <p><u>Other Key Information especially any relationship to previous or current projects:</u> We will be using the Forest Service survey data for our analysis of habitat conditions and change since 1993.</p>	
09067	<p>Increase Recovery Capacity & Support NOPL-wide</p> <p><u>Project Description:</u> This program will build & support increased capacity for habitat project sponsors, additional coordination with PSP, develop funding strategies, and further ESA recovery efforts. This will allow for funding diversification, increased project design and implementation, all of which will quicken recovery efforts. This meets all objectives (I through ix) for non-capital projects.</p>	NOPL
HABITAT PROTECTION		
09049	Create Stable-funded Incentive program	CC & CCD

	<p>Project Description: Habitat protection is a priority action. Non-regulatory riparian protection incentives are successful and with sufficient funding could be more widely used. Currently a County sponsored riparian habitat protection program is funded by one-time only grant dollars. Through conservation easements, the program has contributed to protecting in perpetuity about 500 acres of marine and freshwater riparian habitat. The project protects high quality fish habitat and helps to support ecosystem function. Project partners include Clallam County, land trusts; willing private landowners; tribes; cities; state agencies, and local businesses.</p>	
09052	<p>Clallam County Map Roadside Ditches</p> <p>Project Description: Streamkeepers of Clallam County monitors water quality in area streams on a quarterly basis. However, impervious surfaces in the LE area have increased in recent years, with a potential increase in the contribution of stormwater to roadside ditches. The quantity and quality of stormwater contributions from roadside ditches to stream channels need to be identified and a prioritized list of improvement projects must be developed. This project advances habitat protection and restoration and could become a baseline for stormwater quality monitoring.</p>	CC
09053	<p>Clallam Watertype Inventory and Assessment</p> <p>Project Description: Errors in Washington State water type maps result in the under-protection of 40-60% of the fish-bearing stream network. Work by the Wild Fish Conservancy, Tribes, and others have systematically documented streams mapped incorrectly or not at all, limiting the effectiveness of habitat protection on private lands under local government land use and state forest practice regulations. Though water typing errors have been documented as a problem on managed timberlands, problems on private developed/developing lands are less well known. Washington State local governments make frequent use of the WDNR water type maps but do not have resources to validate their accuracy in land use planning permitting.</p> <p>The correction and updating of these water type maps are pivotal to the full protection of streams from development impacts, since fish-bearing streams are frequently misrepresented as non-fish-bearing, mis-located, or even missing from regulatory maps.</p> <p>Using visual and electrofishing surveys, Wild Fish Conservancy will document and correct water type classifications using established state protocols in approximately 60 sq miles of at-risk lands around fast-developing urban fringe areas prioritized by the NOPLÉ technical advisory committee. Using GPS and GIS, WFC will accurately map previously unmapped/incorrectly mapped water courses to ensure informed and responsible watershed management. WFC will incorporate assessment results in a web-based interactive GIS available to planners, landowners, and resource managers (see www.wildfishconservancy.org). WFC will also submit assessment results to WDNR for correction and update of state water type maps. In addition to corrected water type maps, this assessment will generate species-specific fish distribution data and identify restoration opportunities on lesser-known tributaries.</p> <p>The Clallam water type inventory and assessment “advances implementation of the recovery plan” (ii.) by improving local government information sources for the protection of critical areas under the GMA. The project would “advance habitat protection and restoration” (iii.) by improved on-the-ground resource protection for sensitive stream-riparian corridors, and by pinpointing small restoration opportunities on lesser known tributaries. The project would also “advance recovery of ecosystem function” (iv.) and “advance ecosystem awareness” (v.) through improved habitat protection and public awareness of the significance of individual stream segments passing through neighborhoods. Finally, the project Wild Fish Conservancy would “advance integration” (vi.) by linking habitat assessment with growth management policy implementation, and providing proactive assistance to private landowners seeking to protect fragile public resources on their land.</p>	WFC
09069	<p>NOPLÉ area wide data base for habitat restoration, protection & permitted activities</p> <p>Project Description: Work with neighboring jurisdictions to integrate Geographic information System and the Permit Tracking programs to CC/City of PA/City of Sequim understand and monitor the landscape-scale development patterns</p>	NOPLÉ, CC, COPA & COS

	occurring in the LE's geographic setting. Understanding the patterns at this scale will advance ecosystem awareness and offer a useful tool for monitoring and adaptive management. Partners include cities, county, state agencies, tribes.	
09070	<p>Assess implementation of CAO, SMP & HPA ordinance.</p> <p>Project Description: A ground-truth survey is essential to understand the status and effectiveness of regulations designed to protect habitat. Coupled with the tracking system described in (42), a ground-truthed assessment will be used as a tool for monitoring and adaptive management. Partners include Clallam County, cities, state agencies, tribes. The project can also be used as a tool to advance habitat protection and restoration.</p>	NOPLE, CC, COPA & COS
09071	<p>NOPLE Area Wide Increase compliance with ordinances & codes</p> <p>Project Description: The City of Port Angeles has recently hired a Code Compliance Officer. At this time the position is only funded as a 40% position. Recent efforts to strengthen the Environmentally Sensitive Areas Protection Ordinance have been successful and the city plans further code amendments to further strengthen the ESA Protection Ord. The enforcement sections of our codes are a little weak and will require political support and staff effort to strengthen. A community forestry program is being developed with the intent to increase the tree canopy cover in the city to increase stormwater interception, infiltration, and evapotranspiration. Clallam County DCD has revamped its code compliance program to include 2 Code Compliance officers and a group of active volunteers. Still, most compliance actions are limited to responding to complaints due to limited staff resources. Additional resources will help to increase compliance through active involvement in project inspection and monitoring at all stages of development. This program advances habitat protection.</p>	NOPLE, CC, COPA & COS
09072	<p>NOPLE area wide update stormwater management program</p> <p>Project Description: The City of Port Angeles is currently drafting programs to better manage stormwater, including LID techniques, elimination of combined sewer overflows (CSO), and Phase II NPDES requirements. The long-term goal of the County is to improve water quality through stormwater management. Salmonid recovery plans and watershed plans recommend a more comprehensive, collaborative stormwater management program that builds on existing local efforts. To most effectively advance salmonid recovery, the program needs to be extended to other areas of the county. Partners are county, cities, tribes, Clallam Conservation District, North Olympic Salmon Coalition.</p>	NOPLE, CC, COPA & COS
09073	<p>NOPLE Area Wide update Shoreline Master Program (SMP)</p> <p>Project Description: The City of Port Angeles is mandated by the State of Washington to update its Shoreline Master Program by 2011. Review and update required to comply with new state requirements. Funding needed for staff support, public process, and supporting studies Clallam County updates will consider the findings and recommendations in <i>the Dungeness Watershed Salmonid Recovery Planning Notebook</i>. Updates of the SMP are identified as implementation actions in the salmonid recovery plans; will help to advance habitat protection and restoration; and will affect shorelines across the county.</p>	NOPLE, CC, COPA & COS
WATERSHED PLAN IMPLEMENTATION & COORDINATION		
09057.1	<p>Elwha Watershed Adaptive Management Plan & Monitoring</p> <p>Project Description: Removal of two hydroelectric dams on the Elwha River is scheduled to begin in the fall of 2011 as authorized by the Elwha River Ecosystem and Fisheries Act (PL102-495). Full removal will be completed by 2014 and for the first time in over a century, anadromous fish will have access to the upper watershed. Restoration of fish populations is guided by the Elwha Fish Restoration Plan (Ward et al. 2008) which documents strategies for population rebuilding by stock, hatchery utilization, habitat restoration and monitoring. Monitoring the</p>	LEKT

population response of Elwha River fish populations is fundamental to understanding the effects of the overall project. Monitoring strategies for salmon response and recovery on the Elwha rely on a suite of testable hypotheses using the concept of Viable Salmon Populations (VSP). VSP includes parameters that describe individual stock health including: Abundance, population growth rate (productivity), population spatial structure and diversity (NOAA 2000). Unfortunately there are almost no project monies available to answer these critical long term question. Project partners have secured enough internal resources to answer some of the short term (pre dam removal) questions concerning salmon abundance, productivity, and life history strategies including estimation of adult abundance and productivity for some species. However, these efforts will need to be expanded over space and time in order to be effective. This proposal would support a portion of that effort beginning in 2014-2017 to spatially expand adult salmon surveys using a combination of survey techniques (weir, foot, aerial) combined with marking strategies to assess effectiveness. Additionally we propose to add three upstream smolt trapping sites to measure production from the upper watershed and two major tributaries.

Limiting Factors Addressed:

Dam removal on the Elwha will restore access to over 30 miles of mainstem and 70 miles of tributaries. Dam removal also restores physical processes and will result in improved spawning habitat for returning adults and rearing habitat for juvenile salmonids throughout the watershed. This non-capitol project proposes to measure that response over space and time for two purposes: 1) to provide information on salmon response to project managers so that adjustments to restoration strategies can be made using real data (adaptive management), and 2) to document ecosystem response of the largest controlled dam removal conducted to date in the United States.

Benefits to Salmon:

This project will restore habitat and benefit Chinook as well as coho, steelhead, chum, pinks, bulltrout, resident rainbow trout and cutthroat trout. Improvement of upland habitat conditions will contribute to recovering health of main-stem and estuarine areas and the nearshore migration corridor. Historic aerial photographs clearly depict the loss of habitat diversity in the lower river and particularly its estuary. Over time the lower river has lost large deposits of sediment (fewer islands and bars), has much lower diversity of channels, and less diversity of vegetation (age and species). These changes are attributed to the cumulative effects of dam construction and channelization.

Recovery Plan Objectives:

Elwha chinook are federally listed and part of the Puget Sound ESU. Dam removal is keystone for recovery of the ESU and arguable the single largest action planned in the near future. Elwha steelhead are also federally listed and part of the Puget Sound steelhead ESU, however a recovery plan has not been prepared to date for this species. However, implementation of the dam removal effort will likely be a cornerstone of several ESU recovery plans. Puget Sound bull trout are also a federally listed fish stocks in Washington State and the Elwha River is a core population area. Puget Sound coho, while not currently listed are a species of concern, and the Elwha population is currently supported almost entirely by hatchery production. Chum and pink populations in the Elwha are considered chronically depressed and have escapements less than 1000 and 200 adults per year, respectively.

Restoration or Protection of Ecosystem Function:

This project restores ecosystem function by restoring access to fish habitats blocked for over a century. It also results in improved floodplain habitats as ecosystem processes such as sediment and wood transport are reestablished. Revegetation of reservoirs results in improved riparian zones while restored sediment flux re-connects floodplains in the lower reaches of the Elwha River including its estuary. This project restores ecosystem function by accelerating the recovery of floodplain habitats that have been altered by dam construction and channelization. Ecosystem function is also permanently guaranteed within this area because the floodplains of the watershed are largely protected under the management of Olympic National Park, Project lands and LEKT Reservation are protected from future development of any kind.

Spatial/Temporal Influence:

This proposal represents spatial and temporal monitoring efforts for salmon abundance and productivity that to date have focused almost exclusively on the lower river below Elwha Dam (RM 4.9). Monitoring would expand into upstream reaches below river mile 19.5 and focus on adult escapement, distribution and timing. Smolt outmigration would be measured at new sites below Glines Canyon Dam and from to large middle River tributaries (Indian Creek and Little River). An existing lower river site will continue to be monitored by LEKT.

Project Readiness:

This project is being sequenced with ongoing monitoring projects to provide expansion of monitoring efforts

	<p>beginning in 2014, the year salmon will first have restored access to the upper river.</p> <p>Cost: \$300-400,000 for three years beginning in 2014.</p> <p>Watershed Priority: Elwha River has a normalized score of 5.00, and is ranked 1st as priority watershed.</p> <p>Miscellaneous: The Elwha River has the largest productive potential of any river in the NOPLEG planning area and its productivity is intricately linked to the reestablishment of its forested floodplain. The most productive areas are located in unconstrained river valleys that have anastomosing or braided island morphology. In these areas forest features can attain sizes sufficient to form stable hard points within the floodplain. The interaction of river flows with these surfaces creates boundary conditions which promote a multi-thread channel. Multi thread channels may include surface-water, ground-water or combinations of the two that support diverse life histories of salmon.</p>	
09066.1	<p>12 River Channel Migration Zone Assessment and Delineation</p> <p>Project Description: The Channel Migration Zone assessment and delineation will outline the zone of historical channel migration and potential future channel migration over a timeframe of 100 years. The CMZ delineations will be used for land-use planning decisions; to inform Clallam County’s Shoreline Master Plan and relevant updates to the Critical Areas Ordinance; and for restoration project planning. In all watersheds, the CMZ’s are found in lower reaches, <i>which also are the most productive salmonid habitat and the first to develop. Floodplain modifications invariably follow floodplain development. Without CMZ delineations, the County cannot effectively protect this productive riverine habitat.</i> CMZ mapping and delineation would occur for McDonald Creek, Siebert Creek, Morse Creek, Elwha River, Salt Creek, Lyre River, East and West Twin Rivers, Deep Creek, Pysht River, Clallam River, and Sekiu River.</p> <p>This information will provide technical information to local officials and stakeholders to better inform their management decisions related to channel migration hazards along rivers. The project will also be important as an educational tool to increase public and landowner awareness of probable channel movements and erosion in the next five to ten decades.</p> <p>Methodology would follow Department of Ecology guidelines where aerial photos can identify channel patterns, and follow DNR Forest and Fish guidelines where mapping must occur on the ground. This project would provide the funding to conduct a CMZ delineation for each of these drainages and work with Clallam County Department of Community Development to incorporate those maps into the Critical Areas Ordinance.</p> <p>Why the Project is Needed (limiting factors to be addressed): An assessment of the channel migration zones will provide data that is critical to restoration planning. Clallam County has jurisdiction and authority to limit development within channel migration zones (CMZs) through Clallam County’s Critical Areas Ordinance and is currently updating its Shoreline Master Program. Updated CMA information would be used to provide guidance and regulations that more closely fit the river systems.</p> <p>Limiting factors addressed include: <u>Floodplain Modifications</u> <u>Stormwater Runoff</u> <u>Magnitude and Frequency of Peak Flows</u> <u>Channel conditions</u> <u>Riparian condition</u></p> <p>The limiting factors listed above either affect, or are affected by, river channels and their migration patterns. Understanding and accurate mapping of the river channels aids in assuring that river processes continue to provide their full range of ecosystem benefits.</p> <p>Benefit to Salmon (how does it address stock status & trends?) Which ESA-listed stock and/or non-listed stock does this project address? ESA-listed stocks A functional floodplain is a key element to salmon habitat recovery. In all watersheds, the CMZ’s are found in lower reaches, which also are the most productive salmonid habitat and the first to develop. Without CMZ delineations, the County cannot effectively protect this productive riverine habitat. Floodplain</p>	CC/ NOPL/ JSKT/ LEKT/ Makah Tribe

	<p>modifications invariably follow floodplain development.</p> <p><u>Which Salmon Recovery Plan Objectives does this Project Meet & How?</u> The NOPL 2011 Draft Strategy Appendix A, p. 35, Elements of the Action Agenda states that:</p> <ul style="list-style-type: none"> • The amount, quality and location of marine, nearshore, freshwater and upland habitats sustain the diverse species and food webs of Puget Sound lands and waters. • The amount, quality and location of marine, nearshore, freshwater and upland habitats are formed and maintained by natural processes and human stewardship so that ecosystem functions are sustained. <p>The CMZ study will provide information to help avoid future constriction of the river channels and will provide information for restoration in areas that are now constricted.</p> <p><u>How Project supports Restoration or Protection of Ecosystem Functions? (Does it protect high quality fish habitat or restore formerly productive habitat? Does it support restoration and maintenance of ecosystem functions?)</u> The channel migration zone study provides information to help protect and maintain ecosystem functions. The study will provide information for land use decisions and for setting restoration priorities. Study results will be used as a protection tool and as a restoration tool.</p> <p><u>Address the project’s spatial-temporal scale of influence:</u> Spatially the CMZ assessment and delineation project ranges from the Sekiu River at the west end of the Strait of Juan de Fuca to the Dungeness River in the central-eastern Strait of Juan de Fuca. The information can be used for years once the report is complete.</p> <p><u>Timing Needs & Sequencing Requirements (project readiness):</u> Project is ready to go. Channel migration zone delineation studies are underway in on the Hoko; Department of Ecology is conducting a Shoreline Master Program level CMZ study.</p> <p><u>Range of Estimated Cost:</u> The project is estimated to cost \$250,000 – 450,000, based on the cost of the current Hoko channel migration zone study undertaken by the Bureau of Reclamation.</p> <p><u>Watershed priority & watershed area or which WRIA Nearshore project is located in:</u> The project is located in WRIsAs 18 and 19, and includes priority watersheds such as the Dungeness.</p> <p><u>Other Key Information, especially any relationship to previous or current projects:</u> NOPL 2011 has contracted with the Bureau of Reclamation to conduct a channel migration zone study on the Hoko River, a priority river for identifying channel migration zones. Washington Department of Ecology, with EPA funding, is conducting a study to identify channel migration zones within Clallam County. Results of the Ecology study are expected to inform updates to Clallam County’s Shoreline Master Program, but do not provide the detailed information required for restoration planning.</p>	
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OUTREACH & EDUCATION

09051	<p>Clallam County Salmonid Outreach Planner</p> <p><u>Project Description:</u> Building on existing local efforts, develop a comprehensive collaborative program for outreach, education, public involvement, and stewardship promotion At this time outreach efforts are funded by project monies only and are focused on an individual project. A coordinated and consistent effort to communicate with citizens about salmonid ecology and recovery will go a long way to increase public awareness of salmonid recovery efforts and the role that each individual can play. Partners include Clallam County, cities, tribes, state agencies, Clallam Conservation District, North Olympic Salmon Coalition, Clallam Marine Resources Committee, WSU Beachwatchers, and school districts.</p>	CC & CCD
09058	<p>Elwha Morse Management Team</p> <p><u>Project Description:</u> Support and develop capacity.</p>	CC

09061	<p>WRIA-19 Watershed Council</p> <p><u>Project Description:</u> Support and develop capacity.</p>	CC
09062	<p>Dungeness River Management Team</p> <p><u>Project Description:</u> Support and develop capacity.</p>	CC
09068	<p>NOPL:Area Wide Outreach Program</p> <p><u>Project Description:</u> These varied efforts will inform and educate about the need for salmon recovery, local projects underway and a call to action about the local changes required to assist salmon and lessen degradation of salmon habitat. This specifically addresses Non-Capitol project objectives iii, iv, v, vi, vii and viii.</p>	NOPL & WDFW
STOCK MONITORING SUPPORT		
09056	<p>Elwha River Nearshore Biodiversity Investigations</p> <p><u>Likely Sponsors:</u> NOAA Fisheries, USGS, Lower Elwha Klallam Tribe, Battelle PNW Labs</p> <p><u>Funding Request:</u> \$450,000</p> <p><u>Partnerships:</u> This project is an on-going partnership between NOAA Fisheries, USGS the Lower Elwha Klallam Tribe and Battelle Pacific Northwest Laboratory.</p> <p><u>Brief Description of Project:</u> Assess the current status of salmon, associated forage fish populations, and invertebrate communities in the nearshore environment adjacent to the Elwha River and compare fish use in non-impacted regions of the Strait of Juan de Fuca.</p> <p>The nearshore environment adjacent to the mouth of the Elwha River is severely degraded and has been impacted over time by restricted flow of sediment from the upper Elwha River watershed. Assessing the status of juvenile salmon and associated forage fish populations, determining their use of this habitat, quantifying the nearshore habitat types and analyzing food web will provide critical baseline information necessary to fully document and understand both the impacts of dams on the Elwha River and the effects that this removal has on the populations of concern.</p> <p>This assessment effort will consist of 7 <i>primary assessment methods</i> and will provide a quantitative profile of habitat parameters, fish use in the inter-tidal, sub-tidal, and offshore deepwater areas and provide an analysis of the food web of juvenile salmonids encountered in the survey using stable isotopes methodologies.</p> <p>The project will include beach seining of juvenile salmon and forage fish, inter-tidal habitat surveys, SCUBA-based sub-tidal characterizations of habitat and fish use, profiling of kelp forests use by juvenile salmon and associated forage fish with lampara net sampling coupled with snorkel surveys, and deep water tow netting to sample fish use in deep-water transit corridors adjacent to the mouth of the Elwha River and the mouth of the Strait of Juan de Fuca.</p> <p><u>Limiting Factors Addressed:</u> The need to conduct biodiversity investigations of the Elwha Nearshore was identified as a priority activity in the proceedings of the Technical Workshop on Nearshore Restoration in the Central Strait of Juan de Fuca (Triangle Associates, INC. 2004. Technical Workshop on Nearshore Restoration in the Central Strait of Juan de Fuca. 59pp).</p>	NOAA, USGS & LEKT

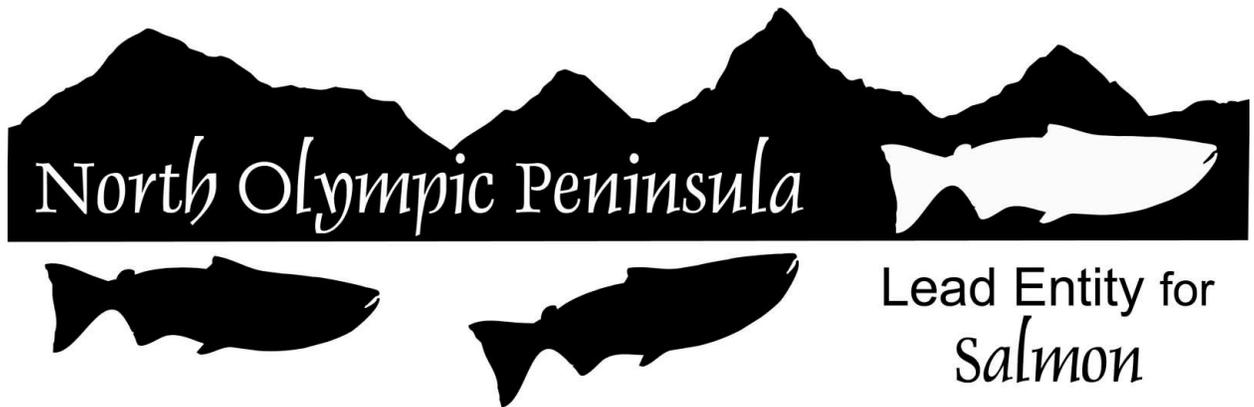
	<p><u>Stock Status and Trends:</u> The project addresses stock status and trends by assessing the status of stocks in the nearshore and assessing their temporal and special usage of the nearshore.</p> <p><u>Listed Stocks:</u> Hood Canal/Strait of Juan de Fuca summer chum and Puget Sound steelhead, Puget Sound Chinook and bull trout.</p> <p><u>Other Stocks:</u> Non-listed stocks originating in nearby watersheds include coho and sea-run cutthroat, pink salmon. In addition, the nearshore is utilized by a number of forage fish populations.</p> <p><u>Benefit to Salmon:</u> <i>Implementation of Key Action Area Work Plan</i> Assessing the status of juvenile salmon and associated forage fish populations, determining their use of this habitat, quantifying the nearshore habitat types and analyzing food web will provide critical baseline information necessary to fully document and understand both the impacts of dams on the Elwha River and the effects that this removal has on the populations of concern. This project will benefit the Strait through implementation of a <i>Key Action Area Work Plan</i> – The assessment of juvenile fish use in all WRIsAs in the region is noted as being an on-going project necessary to furthering the understanding of the use of the nearshore environment by juvenile fish.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objective Does This Project Meet and How?</u> This project will fill an important data gap identified in the Technical Workshop on Nearshore Restoration in the Central Strait of Juan de Fuca (Triangle Associates, INC. 2004. Technical Workshop on Nearshore Restoration in the Central Strait of Juan de Fuca. 59pp).</p> <p><u>Project Support of Restoration or Protection of Ecosystem Functions:</u> The Elwha River Nearshore Biodiversity Investigations will add to the on-going assessment and of juvenile fish use within the greater Puget Sound region and contribute to the understanding of fish use following entrance into the Strait of Juan de Fuca.</p> <p><u>Certainty of Project Success:</u> The partners in this project have been actively involved with similar assessments of populations of salmon and associated forage fish populations in the greater Puget Sound region for a number of years. The project lead, Kurt Fresh is currently a member of the Puget Sound Nearshore Partnership and has helped to design and implement Guidance Strategies for the Protection and Restoration of the Nearshore Ecosystems of Puget Sound. This project will build upon and expand these past efforts and successes.</p> <p><u>Proposed Starting and Ending Dates:</u> 2012 to 2018</p> <p><u>Cost Appropriateness:</u> Cost estimates are based upon expenses incurred in the past conducting similar assessments.</p>	
09076	<p>Elwha River Salmon Enumeration Weir</p> <p><u>Likely Sponsors:</u> National Park Service, US Geologic Survey, NOAA Fisheries, US Fish and Wildlife Service, Lower Elwha Klallam Tribe</p> <p><u>Funding Request:</u> \$610,000</p> <p><u>Partnerships:</u> This project will consist of a partnership between 4 federal agencies and the Lower Elwha Klallam Tribe.</p> <p><u>Brief Description of Project:</u> Construct, install and maintain a floating weir in the Elwha River to allow the accurate enumeration of returning adult salmon to the watershed.</p>	NPS, USGS, USFWS, NOAA, WDFW & LEKT

	<p>The current depressed state of the native Elwha River populations are at risk of extinction with the impending removal of the hydroelectric projects on the Elwha River and release of sediment into the system (expected duration of impact 5-7 years). However, following dam removal the potential for stock recovery is high. A fish enumeration weir on the river will allow managers to accurately assess recovery rates, will provide an efficient means for broodstock collection and will allow for tagging and collection of other important biological information needed to assess the success of ecosystem recovery on the Elwha River.</p> <p><u>Limiting Factors Addressed:</u> There is currently no enumeration of adult salmon returning to the Elwha River. The weir will permit enumeration to occur and will help managers assess the effectiveness of restoration and recovery actions being conducted in conjunction with dam removal on the Elwha River.</p> <p><u>Stock Status and Trends:</u> Stocks of Chinook, steelhead, and bull trout are currently endangered. Chum and pink salmon are at critically low levels.</p> <p><u>Listed Stocks:</u> Puget Sound Chinook, Puget Sound steelhead, bull trout.</p> <p><u>Other Stocks:</u> Non-listed stocked include coho and sea-run cutthroat, pink salmon and chum salmon.</p> <p><u>Benefit to Salmon: <i>Implementation of Key Action Area Work Plans</i></u> A weir allows managers to accurately assess recovery rates and provides an efficient means for brood stock collection, tagging and collection of other important biological information pertinent to ecosystem recovery on the Elwha River. This information will provide managers with tools necessary to accurately evaluate and the effect of the Elwha River Fish Restoration Plan (NOAA Technical Memorandum NMFS-NWFSC-90) and manage the restoration actions adaptively.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objective Does This Project Meet and How?</u> Implementation of Key Action Area Work Plans. This project will help to fulfill the monitoring needs identified in the Elwha River Fish Restoration Plan (NOAA Technical Memorandum NMFS-NWFSC-90).</p> <p><u>Project Support of Restoration or Protection of Ecosystem Functions:</u></p> <ol style="list-style-type: none"> A key tool for decision making: One of the key concepts identified in the Elwha River Fish Restoration Plan is the assessment of strategies employed to restore fish populations. The fish enumeration weir will provide accurate information on the number of salmon returning to the Elwha River. This information will assist managers in answering the most anticipated question of "How many fish are returning to the Elwha River?" Without the weir, this question may never be accurately answered. Implementing the recommendations of the Hatchery Scientific Review Group (HSRG): The fish enumeration weir will also assist managers in meeting escapement limits of Hatchery Origin Returns (HORs) in the watershed and therefore limiting the potential for negative genetic and ecological interactions between HORs and Natural Origin Returns (NORs). The HSRG has identified a limit of 20% HORs in the watershed as being critical to meeting interaction guidelines between hatchery and natural-origin fish. The weir will allow managers to assess observed ratios and permit HSRG recommendations to be attained. <p><u>Certainty of Project Success:</u> The partners in this project have been actively consulting with other regional managers involved with the design, construction and operation of floating weirs used to enumerate salmon.</p> <p><u>Proposed Starting and Ending Dates:</u> 2012 to 2014</p> <p><u>Cost Appropriateness:</u> Cost estimates are based upon expenses incurred in similar weir construction and operation programs.</p>	
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HABITAT PROJECT MONITORING		
09065	Jimmycomelately Creek & Dungeness River Habitat	WDFW, JSKT, NOLT & CC

	<p>Project Description: Implementing conservation goals laid out in watershed recovery plans has resulted in about 300 acres of land conserved in acquisitions and easements by WDFW, Clallam County, Jamestown S'Klallam Tribe, and NOLT. There is a strong need for stewardship funding to assure that the conservation goals are met and the habitat remains in good condition. Stewardship will focus protecting the sites from improper use, noxious weed control, general site maintenance, and monitoring of land use. WDFW is very close to placing a moratorium on future land acquisition because they lack funds and personnel to maintain the portion of their land base purchased for salmon recovery. Habitat protection through acquisition and easement is a cornerstone for salmonid recovery. This is a critical issue that needs funding.</p>	
09074	<p>NOPL Area Adaptive Management Plan & Monitoring</p> <p>Project Description: This will allow the lead entity to participate in the group process needed to create an adaptive management plan which incorporates areas needed for recovery which have not been primary focuses previously and better integrates efforts. This meets Non-Capital program objectives I, ii, iii, iv, vi, vii, and ix.</p>	NOPL, CC, COPA, & COS
09075	<p>NOPL Area wide Monitoring Program</p> <p>Project Description: This program will establish watershed- based programs to monitor for Viable Salmonid Populations parameters and will provide for intra-NOPL coordination to compile and report data/findings for EDT/AHA. The following present details on the Dungeness. As the program develops, appropriate programs would be developed for other watersheds.</p> <p><u>Dungeness Chinook Population Analysis and Modeling to Support Harvest, Hatchery and Habitat Management and Planning</u> This program would address the population analysis and modeling needs identified in the Dungeness Chinook recovery plan. Accomplishing the tasks under this program would help fill gaps identified by the TRT (see below) and would increase understanding and certainty in the management of Dungeness Chinook recovery. The program would support hiring an analyst proficient in population modeling and assessment to accomplish the following tasks:</p> <ul style="list-style-type: none"> • Chinook cohort analysis and run reconstruction of Dungeness Chinook Hatchery stock. Though data is currently limited, the layout and initiation of the analysis and could and should begin. • Use run reconstruction results to estimate Chinook exploitation rates over time and provide historical modeling input for preseason fisheries planning. • Estimate a rebuilding exploitation rate (RER) as defined in the Co-managers Chinook Harvest Management Plan; this would be the exploitation rate that controls protective measures incorporated in annual fisheries planning and management. • Update the Dungeness Chinook EDT analysis and use it to reinforce and expand assessments of impacts on VSP parameters and effectiveness of recovery measures. • Help prepare for 2009 PST negotiations of a new Chinook annex to offer improved protection from non-southern U.S. harvest impacts. <p>This is a high priority program because it addresses immediate needs for population analysis and modeling to help reduce uncertainties and close gaps in the Dungeness recovery plan, including those identified by the Puget Sound Technical Recovery Team (TRT)*. The immediate need for improving the recovery plan and its ongoing and pending recovery measures is necessary for effective adaptive management. Accordingly this program should be put in place as soon as possible and operate at least over the next three years.</p> <p><u>Dungeness Chinook Biological Monitoring Project</u> A biological monitoring project is proposed to augment the current biological monitoring of spawning escapements (that includes determining natural and hatchery origin of Chinook spawners), and juvenile out-migrant trapping on Matriotti Creek. This project is intended to collect life history and distribution information on Chinook in the watershed and Dungeness estuary, and also on other salmonids that may interact with the Chinook. Data collected over the long-term would provide for monitoring biological changes or trends in relation to recovery actions and to test assumptions made in recovery planning.</p> <ul style="list-style-type: none"> • Operate a screw trap on the Dungeness mainstem to determine juvenile abundance of Chinook, coho and steelhead, and timing of their migratory movements (Apr. – Sep.). • Survey the Dungeness nearshore with beach seines and traps at a variety of tidal regimes to collect information on the distributions and life histories of all species (Apr. Sep.). 	NOPL, CC, COPA & COS

	<ul style="list-style-type: none"> • Fence trap Canyon Creek (fish passage is being restored) and Bear Creek to determine juvenile distribution, abundance and migration patterns of all salmonid species (Apr. – Sep.). • Help with Chinook and pink (in odd numbered years) salmon spawner surveys in late summer/early fall (Aug.- Oct.). Conduct coho salmon spawner surveys in late fall/early winter (Oct. – Dec.). Determine proportion of hatchery and wild origin coho salmon on spawning grounds. • Conduct steelhead spawner surveys in April and May, as time permits (priority is with juvenile sampling of other species), to determine stock status. • As time permits, snorkel survey index areas throughout the system to determine relative species abundance and rearing habitats. <p>The project was identified in the Dungeness recovery plan as a critical part of the hatchery and harvest components. The TRT stated that the most important way to improve certainty of an effective hatchery strategy was to improve adaptive management.*</p>	
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North Olympic Peninsula Lead Entity for Salmon
Clallam County Courthouse
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(360) 417-2326

HOW TO SUBMIT A PROJECT TO BE CONSIDERED FOR OUR 2012 WORK PLAN

OUR MISSION & WHO WE ARE:

The mission of the North Olympic Peninsula Lead Entity for Salmon is to work towards a future on the North Olympic Peninsula which includes a healthy Puget Sound ecosystem with thriving salmon populations that support ceremonial, subsistence, recreational and commercial fisheries.

1. **Our Goals Are:** To achieve fish stocks that are robust to changing conditions, self-sustaining over the long term, and capable of supporting harvests (ceremonial, subsistence, recreational, and commercial)
2. To implement the salmon recovery plans to protect and restore fish habitat on the North Olympic

- Peninsula.
3. Restore and maintain ecosystem function on the North Olympic Peninsula.
 4. Instill ecosystem awareness.
 5. Integrate efforts towards these goals with larger visions for overall salmon recovery and restoration of the Puget Sound ecosystem.

These Goals were re-affirmed during the Fall 2010 Retreat.

We work to gain funding for needed salmon habitat and ecosystem restoration projects and non-capital projects and programs which foster salmon recovery on the North Olympic Peninsula. Our geography region spans the Strait of Juan de Fuca from Sequim Bay on Clallam County's eastern boundary west to Cape Flattery. It includes Water Resource Inventory Areas (WRIA) 17 west, 18 and 19.

Clallam County is the fiscal agent that carries the operating grant for the lead entity which is a local, collaborative effort which brings together citizens, scientists, restoration practitioners, non-profit organizations and local city, county and tribal governments to work together to recover salmon.

Our work is guided by our strategy as well as local and regional salmon recovery plans. The Lead Entity re-affirmed its strategy last month with only minor updates. At the 2010 Retreat, only minor updating of a few objectives and sub-objectives occurred. The watershed priorities remain unchanged. Salmon recovery involves a complex set of actions and interactions that are directed by recovery plans and by practical realities within each watershed.

We also work closely with our two salmon regional recovery organizations, the Hood Canal Coordinating Council and the Puget Sound Partnership, which oversee implementation of the Hood Canal Summer Chum Recovery Plan and the Puget Sound Chinook Recovery Plan, respectively. Efforts are currently underway to finalize a salmon recovery plan for WRIA 19 (from the Elwha River west to Cape Flattery) and to prepare a steelhead recovery plan.

Our work is scientifically vetted at local, state and federal levels. The proposed actions should be targeted, strategic, and prioritized, **so the highest priority projects are tackled in a sequential approach.** For example, when proposing projects, consider how the conditions both above and below the reach in which restoration work is proposed will impact the project and its chance of success.

Our regional recovery organizations and major project funders, such as, Washington's Salmon Recovery Funding Board and Puget Sound Acquisition and Restoration Funds, require that projects be part of existing three-year work plans in order to be considered for funding. However, inclusion on this list **does not** insure eligibility for funding.

Generally, additional grant applications and review processes are required to be considered for funding. In order to be more strategic, the Lead Entity will issue further information and a decision about what current funding priorities are after reviewing the updated, 2012 work plan of ranked capital and non-capital proposed projects. **Not all proposed projects and programs on the work plan will be priorities for current funding.**

The work plan is an important, evolving, strategic tool that guides planning, project prioritization, funding, and adaptively-managed salmon recovery implementation. The work plan includes both capital and non-capital programmatic actions that reflect the most important watershed priorities to start or continue a recovery trajectory and meet implementation goals outlined in salmon recovery plans. The work plan generally contains restoration projects, protection projects and efforts, and ecosystem capital projects, as well as combination projects.

CURRENT CALL TO UPDATE OR WITHDRAW PROJECT NARRATIVES IN OUR 2011 WORKPLAN FOR INCLUSION IN OUR 2012 WORKPLAN

From Tuesday, October 4, 2011 to 12 noon on Friday, October 28, 2011.

Project sponsors who have projects on our existing three-year work plan that they previously submitted, may make significant changes or significant updates to those existing project write-ups and then have those projects rescored (minor changes will not warrant rescoring.) Project sponsors need to address all criteria upon which their project proposals will be scored. See more information on this below. Project sponsors should review how their project previously fared in technical review by the TRG and consider comments reviewers made about the project concept in order to best improve their project narrative. For example, if scorers last year noted that the work plan description did not provide enough detail for scorers to make an informed decision about the project's merits, that project could be rewritten to include more specific project details.

All changes to existing projects contained within our work plan must be submitted no later than **12 noon on Friday, Oct. 28th, 2011 via e-mail** to the lead entity coordinator, cbbaumann@co.clallam.wa.us. **THIS IS A FIRM AND FINAL DEADLINE AND NO CHANGES TO EXISTING PROJECT NARRATIVES WILL BE ACCEPTED AFTER THE ABOVE DEADLINE, SO PLEASE PLAN ACCORDINGLY.**

If a capital project or non-capital programmatic action that is listed on the current work plan is no longer needed, this is also the time period in which the project sponsor should e-mail the lead entity coordinator and request that it be removed.

CURRENT CALL TO SUBMIT NEW PROJECT PROPOSALS FOR INCLUSION IN OUR 2012 WORK PLAN**From Tuesday, October 4, 2011 to 5 p.m. Monday, October 31, 2011.**

This is our annual open call to propose new projects to be considered for our 2012 Three-Year Work Plan. The plan will include capital projects and non-capital programs that could, with funding, be reasonably started within 2013 - 2016.

There is not expected to be another open call for consideration to add new, non-emergency projects to the work plan for at least a year, and maybe longer.

When proposing projects, chose ones that target goals and objectives, in our strategy as well in local recovery and watershed plans and, especially, in regional and ESA- salmon recovery plans. Consider the watershed priorities. Make sure to show how these projects further large-scale recovery and what they will do for salmon. Also, consider integration of management actions across habitat, hatchery, harvest and hydropower management to the best extent possible, as well as logical and defensible sequencing of actions (e.g., downstream culvert removal before upstream restoration).

Capital Project Categories Include:

Habitat: including Restoration, Acquisition for Restoration & Acquisition for Protection

Also:

Hatchery

Harvest

Hydropower

& Other

Non-Capital Program Categories Include:

Harvest Management Support

Project Monitoring

Stock Monitoring Support

Flow Protection

Habitat Project Development

Outreach & Education

Habitat Protection
Plan Implementation & Coordination

Research & Other

IN ORDER FOR BOTH CAPITAL AND NON-CAPITAL PROJECTS TO BE CONSIDERED FOR INCLUSION IN THE WORK PLAN, THE FOLLOWING IS REQUIRED:

ALL SUBMITTALS ARE DUE BY THE REQUIRED DEADLINES which is 12 noon Friday, Oct. 28, 2011 for changes to current work plan projects and 5 p.m. Mon. Oct. 31, 2011 for new project proposals. NO late submittals accepted!

Any project updates or new project descriptions must be submitted electronically on the attached, spreadsheet template, as well as including the required project narrative and required two j-peg photos. The template must be completed in its entirety, along with the written project narrative. The information must be submitted electronically via the Internet to: cbaumann@co.clallam.wa.us

IMPORTANT: When submitting, please e-mail the template individually. Then send another e-mail with the project narrative and a third e-mail with the j-peg photos attached. In this way it is easiest for our staff to manage the submittals and forward them where needed. **DO NOT SEND ALL THE ATTACHMENTS TOGETHER AS PART OF ONE E-MAIL!!!**

Early submittal is welcomed!

The spreadsheet template needs to be completed in full as is. This means the spreadsheet template can **NOT** be rearranged, resized, no columns deleted, or font size changed, etc.

ALSO REQUIRED is a written project narrative in Word format, no smaller than size 11 font and no more than 2 pages. The narrative must explicitly address the following:

1. **Project Title and Description**
2. **Why the Project is Needed (limiting factors to be addressed)**
3. **Benefit to Salmon (how does it address stock status & trends?) Which ESA-listed stock and/or non-listed stock does this project address?**
4. **Which Salmon Recovery Plan Objectives does this Project Meet & How?**
5. **How Project supports Restoration or Protection of Ecosystem Functions? (Does it protect high quality fish habitat or restore formerly productive habitat? Does it support restoration and maintenance of ecosystem functions?)**
6. **Address the project's spatial-temporal scale of influence**
7. **Timing Needs & Sequencing Requirements (project readiness)**
8. **Range of Estimated Cost**
9. **Watershed priority & watershed area or which WRIA Nearshore project is located in**
10. **Other Key Information, especially any relationship to previous or current projects.**

This maximum 2 page narrative proposal will be used by the North Olympic Technical Review Group members who will score all proposed projects. Therefore, the narrative is the one opportunity to really educate and convince reviewers why this project is integral to achieving salmon recovery on the North Olympic Peninsula. The level of detail in the proposal may also indicate to a reviewer the prospective project's sponsor's potential ability to successfully complete such a project.

Both a completed, electronic spreadsheet template AND a completed project narrative proposal are **REQUIRED BY THE APPROPRIATE DEADLINE** listed previously (there is one deadline for changes to existing projects and another for new project proposals) in order to be considered for inclusion in the work

plan. **NO project submittals which come in after the project deadline will be accepted. No incomplete project submittals will be included, nor will any placeholders. No extensions will be granted.**

You are also requested to provide two photos in j-peg format showing the project site. These photos may be used in the online Habitat Work Schedule data base should the project be added to our three-year work plan. Please e-mail these as independent attachments (**do not** send in pdf format.)

New Project Applicants are HIGHLY encouraged to review our existing Strategy, our 2011 Work Plan to see project priorities, existing project narratives and the **2011 Work Plan and its Prioritized Project list**. Please look at the descriptions of high ranking projects. The score sheets and comments by scorers on all projects are also included in the work plan and provide insight into how projects are scored. Please call or e-mail the Lead Entity Coordinator if you do not have access to these documents (360-417-2326 and cbaumann@co.clallam.wa.us)

A review of local & regional, ESA-Recovery strategies is also critical. Those can be found at on the Puget Sound Partnership's website which is <http://www.psp.wa.gov/> then click on Salmon Recovery on the left hand index. Also relevant are comments from the Regional Implementation Technical Team's review of our 2010 Work Plan which is also attached.

HOW PROPOSALS WILL BE SCORED:

The main knowledge from which the scorer's make decisions is your narrative project proposal, so it is important to make that as compelling and comprehensive as possible.

When scoring narrative project proposals, reviewers use a multi-criteria, decision-making process which is included in our 2011 Work Plan. There are separate sets of criteria for capital projects and non-capital programs. Both sets were reviewed and updated at the Fall 2010 Retreat. Reviewers screen capital project proposals using Table 1 (Screens for Habitat Capital Projects in Attached Spreadsheet 2011 Criteria and Weights) and then score them using criteria in Table 2 (Criteria and Weights for Habitat Capital Projects) and the values in Table 3 (Normalized Weighted Scores for Each Watershed).

Scoring Non-Capital Activities follows the same process but uses the criteria and weights in Table 4 (Criteria and Weights for Non-Capital Activities, Programs & Projects).

Please see the Criteria and Weights, plus additional information about them which is included with this document.

If you have questions about this overall process, feel free to call Lead Entity Coordinator Cheryl Baumann at 360/417-2326 or email her at: cbaumann@co.clallam.wa.us.

If you have questions about completing the template or your draft project narrative, please call Restoration Planner Eric Carlsen at 360/417-2324 or e-mail him at: ecarlsen@co.clallam.wa.us Remember, we have other work commitments and may have time off during this time, and Eric works for us part-time, so please call and schedule assistance as soon as possible and DO NOT wait until the last possible moment to request such help. If you do, we may be unable to assist you.

The North Olympic Peninsula Lead Entity for Salmon reserves the right to amend and recirculate this document if needed. We also reserve the right to edit or add to project submittals, if necessary; as time and staffing allow in an attempt to provide reviewers with needed project information and as much consistency as possible between proposals.

Criteria and Weights for Scoring and Ranking CAPITAL Projects

New or modified wording in **BOLDFACE Italics**

New mean weight for each criteria from 1 to 5, with 5 being highest

Criteria 1 through 10 inclusive are used to assess Work Plan Narratives for Capital Projects. All Criteria are used to assess Project Proposals for Current Year's funding.

ID	Criteria for Ranking	Criteria Narrative	New Mean Weight
1	Watershed Priority	This criterion is based on data concerning historical and current productivity and stock diversity of the NOBLE watersheds. The data was presented and the priorities established in the development of the 2008 Strategy. Consideration of watershed priority is mandated by regulation. This score is added by Lead Entity staff for the watershed(s) covered by the proposed project.	2.88
2	Addresses limiting factor	This criterion pertains to the extent to which the proposed work would address the limiting factor(s) relevant to the watershed and stock. How well does the proposed work address the relevant limiting factors?	4.04
3	Addresses stock status and trends	This criterion derives directly from NOBLE's GOAL to achieve robust fish stocks and pertains to the extent to which the proposed work takes into account stock status and trends. Is the proposed work appropriate for the current status and trends of the stock(s) of interest?	2.56
4	Benefits an ESA-listed stock	<i>This criterion derives directly from NOBLE's GOAL to address ESA-listed stocks. To what extent does the proposed work benefit ESA- listed stock(s)?</i>	3.33
5	Benefits other stocks	<i>This criterion derives directly from NOBLE's long-standing principle that "All stocks need attention." To what extent to which the proposed work provide tangible benefit(s) to non-listed stock(s)?</i>	3.00
6	Protects high-quality fish habitat	This criterion derives directly form NOBLE's GOAL to protect and restore fish habitat. This criterion pertains to the extent to which the proposed work would protect high-quality fish habitat. A project with acquisitions, easements, or other instruments that protects habitat would score well here. How well does the proposed instrument protect high-quality salmon habitat? How critical or important is the habitat in question? <i>A restoration only project or an ecosystem only project would score zero.</i>	3.82
7	Restores formerly productive habitat	This criterion derives directly form NOBLE's GOAL to protect and restore fish habitat. This criterion pertains to the extent to which the proposed work restores formerly productive habitat. A project with active measures to restore habitat would score well here. To what extent does the proposed work restore formerly productive salmon habitat? <i>A protection only project or ecosystem only project would score zero.</i>	3.88
8	Supports restoration and maintenance of ecosystem functions	This criterion derived directly from NOBLE's GOAL to restore and maintain ecosystem function and this pertain to acquisition, restoration and combination projects. This criterion pertains to the extent to which the proposed work restores ecosystem function(s). To what extent does the proposed work support restoration or recovery of ecosystem function(s)? A project that restores a number ecosystem processes would score well here.	3.67
9	Spatial-Temporal Scale of Influence	<i>This criterion addresses the scale in space and time over which the benefits of the project would extend. A project for which the benefits would extend over a region or watershed and for years to decades would score high. Projects of local extent or temporary duration would score lower.</i>	3.27
10	Project Readiness	<i>This criterion addresses how ready are projects to implement. A project that can be implemented within the current year should score high. A project that is several years away should score low.</i>	2.52

Criteria and Weights for Scoring and Ranking CAPITAL Projects

New or modified wording in ***BOLDFACE Italics***

New mean weight for each criteria from 1 to 5, with 5 being highest

Criteria 1 through 10 inclusive are used to assess Work Plan Narratives for Capital Projects. All Criteria are used to assess Project Proposals for Current Year's funding.

ID	Criteria for Ranking	Criteria Narrative	New Mean Weight
12	Likelihood of success based on approach	This criterion is a standard one in project selection and management. Is the approach appropriate to the work proposed? What is the probability of success of the proposed approach?	2.86
13	Reasonableness of cost and budget	This criterion is a standard one in project selection and management. Do the scope of work, overall estimated cost, and budget align? Are the budget items and costs reasonable given the scope of work?	2.17

Criteria and Weights for Scoring and Ranking NON-CAPITAL Projects

New or modified wording in ***BOLDFACE Italics***; ***New mean weight for each criteria from 1 to 5, with 5 being highest***

Criteria 1 through 9 inclusive are used to assess Work Plan Narratives for Non-Capital Projects. All Criteria are used to assess Project Proposals for Current Year's funding.

ID	Criteria for Ranking	Criteria Narrative	New MEAN Weight
1	Advances robust harvestable stocks	This criterion derives from NOPLE's GOAL to achieve harvestable fish stocks. To what extent does the proposed work lead to progress towards harvestable fish stocks?	3.23
2	Advances implementation of recovery plan(s)	This criterion derives from NOPLE's GOAL to implement recovery plans. To what extent does the proposed work lead to progress in the implementation of recovery plan(s)?	3.73
3	Advances habitat protection and restoration	This criterion derives from NOPLE's GOAL to protect and restore salmon habitat. To what extent does the proposed work lead to progress in protecting and/or restoring salmon habitat?	4.05
4	Advances recovery of ecosystem function	This criterion derives from NOPLE's GOAL to support recovery and restoration of ecosystem function. To what extent does the proposed work lead to progress in the recovery and restoration of ecosystem function(s)?	4.21
5	Advances ecosystem awareness	This criterion derives from NOPLE's GOAL to instill ecosystem awareness. To what extent does the proposed work increase the ecosystem awareness and its application? To what extent does the proposed work address and overcome obstacles to awareness?	2.81
6	Advances integration	This criterion derives from NOPLE's objective of advancing the integrations of the four H's: Habitat, Harvest, Hatcheries, and Hydropower. To what extent does the proposed work acknowledge the influence of the other H's on the work and the potential influence of the work on the other H's?	2.05
7	Fulfills requirements of external agencies	This criterion derives from NOPLE's objective to network with other entities and agencies. To what extent does the proposed work recognize and coordinate with the efforts and requirements of agencies? To what extent does the proposed work contribute to the knowledge and databases at the regional and state levels?	1.71
8	Advances multi-agency funding strategy	This criterion derives from NOPLE's objective of diversifying the funding base. To what extent will the proposed work be eligible and competitive for Non-SRFB funding?	1.81
9	Has large spatial-temporal scale of effects	This criterion derives from NOPLE's objective to support non-capital projects that benefit salmon recovery on a NOPLE-wide or regional basis. To what extent does the proposed work aid salmon recovery to a broad degree in time and space?	3.38
10	<i>Likelihood of success based proposer's past success in implementation</i>	<i>This criterion is a standard one in project selection and management. What is the probability that the project sponsor will succeed with the proposed work given their previous experience and current expertise and capability with the type of work proposed?</i>	1.92
11	<i>Likelihood of success based on approach</i>	<i>This criterion is a standard one in project selection and management. Is the approach appropriate to the work proposed? What is the probability of success of the proposed approach?</i>	3.10
12	<i>Reasonableness of cost and budget</i>	<i>This criterion is a standard one in project selection and management. Do the scope of work, overall estimated cost, and budget align? Are the budget items and costs reasonable given the scope of work?</i>	2.69

2012 Work Plan Template

Project Type	Project Information and How it Relates to the Recovery Plan											Project Planning							Project Cost and Sponsor				
	Plan Category	Project Name	Project Description (brief description)	Priority tier of project	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary, river delta, nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated Cost	2015 Activity to be funded	2015 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
Capital Projects																							
Habitat Restoration																							
Acquisition for Restoration																							
Acquisition for Protection																							
Hatchery																							
Harvest																							
Hydropower																							
Other																							
Total Capital Need																							
Non-Capital Programs																							
Harvest Management Support																							
Future Habitat Project Development																							

2012 Work Plan Template																							
Project Information and How it Relates to the Recovery Plan												Project Planning							Project Cost and Sponsor				
Project Type	Plan Category	Project Name	Project Description (brief description)	Priority tier of project	Limiting Factors	Document Reference for limiting factor (Recovery Plan, Chapter 3 - Habitat Protection)	Habitat Type (HWS items - i.e. riparian, estuary, river delta, nearshore, etc.)	Activity Type (HWS items - i.e. fish passage, instream flow, sediment reduction, etc.)	Project Performance (restore 30 acres of floodplain)	Primary Species Benefiting	Secondary Species Benefiting	Current Project Status (Conceptual, Feasibility completed, land acquisition completed, design completed, permitting completed, construction completed)	2013 Activity to be funded	2013 Estimated Cost	2014 Activity to be funded	2014 Estimated Cost	2015 Activity to be funded	2015 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
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:																							

**Puget Sound Partnership,
Salmon Recovery Council Work Group,
and Recovery Implementation Technical Team (RITT)**

2012 Three Year Work Plan Review

for the

North Olympic Peninsula – Elwha – Dungeness Watershed

**Puget Sound Partnership and Recovery Implementation Technical Team
2012 Three Year Work Plan Review
North Olympic Peninsula – Elwha – Dungeness Watershed**

Introduction

The 2012 Three-Year Work Plan Update is the seventh year of implementation since the Recovery Plan was submitted to NOAA/NMFS in 2005. The Puget Sound Partnership, as the regional organization for salmon recovery, along with the Salmon Recovery Council Work Group and the Recovery Implementation Technical Team (RITT), as the NOAA-appointed regional technical team for salmon recovery, perform an assessment of the development and review of these work Plan s in order to be as effective as possible in the coming years. These work plan s are intended to provide a road map for implementation of the salmon recovery plans and to help establish a recovery trajectory for three years of implementation.

The feedback below is intended to assist the watershed recovery plan implementation team as it continues to address actions and implementation of their salmon recovery plan. The feedback is also used by the Recovery Council Work Group, the Puget Sound Partnership and the RITT to inform the continued development and implementation of the regional work plan. This includes advancing on issues such as adaptive management, all H integration, and capacity within the watershed teams. The feedback will also stimulate further discussion of recovery objectives to determine what the best investments are for salmon recovery over the next three years.

Guidance for the 2012 work plan update reviews

Factors to be considered by the RITT in performing its technical review of the Update included:

- 1) *Consistency question*: Are the suites of actions and top priorities identified in the watershed's three-year work plan consistent with the hypotheses and strategies identified in the Recovery Plan (Volume I and II of the Recovery Plan, NOAA supplement)?
- 2) *Pace/Status question*: Is implementation of the salmon recovery plan on-track for achieving the 10-year goal(s)? If not, why and what are the key priorities to move forward?
- 3) *Sequence/Timing question*: Is the sequencing and timing of actions appropriate for the current stage of implementation?
- 4) *Next big challenge question*: Does the three-year work plan reflect any new challenges or adaptive management needs that have arisen over the past year?

Watersheds were also provided with the following four questions, answers to which the Recovery Council Work Group and the Partnership ecosystem recovery coordinators assessed in performing their policy review of the three-year work plan:

- 1) *Consistency question*: Are the suites of actions and top priorities identified in the watershed's three-year work plan consistent with the needs identified in the Recovery Chapter (Volume I and II of the Recovery Plan, NOAA supplement)? Are the suites of actions and top priorities identified in the watershed's three-year work plan consistent with the Action Agenda?
- 2) *Pace/Status question*: Is implementation of salmon recovery on-track for achieving the 10-year goals?

- 3) *What is needed question:* 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?
- 4) *Next big challenge question:* Does the three-year work plan reflect any new challenges or adaptive management needs that have arisen over the past year either within the watershed or across the region?

Review

The following review consists of four components:

1. *a regional technical review that identifies and discusses technical topics of regional concern*
2. *a watershed-specific technical review focusing on the specific above-mentioned technical questions and the work being done in the watershed as reflected by the three year work plan*
3. *a regional policy review that identifies and discusses policy topics of regional concern*
4. *a watershed-specific policy review focusing on the specific above-mentioned policy questions and the work being done in the watershed as reflected by the three year work plan. These four components are the complete work plan review.*

I. Puget Sound Recovery Implementation Technical Team Review

The RITT reviewed each of the fourteen individual watershed chapter's salmon recovery three-year work plan updates in May-July 2012. The RITT evaluated each individual watershed according to the four questions provided above. In the review, the RITT identified a common set of regional review comments for technical feedback that are applicable to all fourteen watersheds, as well as watershed specific feedback using the four questions. The regional technical review and watershed specific technical review comments are included below.

Regional Technical Review: 2012 Three-Year Work Plans – Common Themes

Adaptive Management and Monitoring

One of the biggest challenges for implementing the Puget Sound Salmon Recovery Plan is developing and implementing a useful and applicable approach to adaptive management, both at the watershed level and for Puget Sound as a whole. The NOAA supplement to the recovery plan identified this as one critical missing piece of the plan as originally submitted. Since then, several watershed groups have made good progress towards developing adaptive management and monitoring plans. Meanwhile, the RITT has now completed a general framework for developing watershed adaptive management plans, with the goal of retaining the individual characteristics of each one while also providing a uniform way to evaluate each chapter's progress in order to understand and adapt the progress of salmon recovery across the entire region.

While adaptive management rests on a solid technical basis associated with monitoring data, it will not be possible to implement without strong policy-level leadership, support, and participation. Later this year the RITT will begin working with all watershed groups on the first

parts of deploying the framework that establishes the technical basis. We anticipate that this work will use, and not duplicate or repeat, the work that has already been underway in many watersheds to develop monitoring and adaptive management plans and to revise the recovery plans based on new information. We also anticipate that, assuming the necessary policy-level leadership, this work will lead to broader participation by all parties necessary for salmon recovery, such as fishery resource managers, land use regulators, and restoration project proponents. This broad participation will be necessary for the ultimate success of adaptive management, and we hope that all relevant parties will participate in the early technical stages as well as the later ones that will require policy-level commitments.

We also anticipate that the framework for monitoring will provide a place to include information that may currently be collected in isolation by diverse groups (for example, spawner abundance and hatchery versus wild composition surveys, juvenile abundance monitoring, land cover surveys, fish presence surveys, habitat quality and quantity surveys, etc.). In this way, all relevant monitoring information should become part of the knowledge base of all participants in watershed recovery plan implementation and the subsequent adaptive management of implementation.

H integration

The Puget Sound Salmon Recovery Plan states clearly that actions in Habitat, Hatchery, and Harvest management (the “Hs”) must be coordinated towards recovery of Puget Sound Chinook salmon. While actions are taking place in all these areas, the current three-year work plans do not yet reflect the coordination these actions that we have always felt is necessary. Most watershed groups have expressed frustration that all necessary participants are not working with them to effectively integrate the Hs. We agree, and we share this frustration. As we’ve stated numerous times in the past, it is not possible for the RITT to adequately evaluate these three-year work plans unless they include all significant actions in all the Hs.

We continue to urge the Recovery Council, whose members include all of the key parties in salmon recovery, to provide clear policy direction that all H’s must work together for salmon recovery to progress. We believe that both effectiveness and efficiency of management and recovery dollars will be increased if habitat restoration, habitat protection, harvest management, and hatchery management (including hatchery “reform”) are all part of the same salmon recovery plan.

Part of H-integration is assuring that all parties have a common understanding of the status of the salmon resource as well as what actions are needed to move that resource to recovered status. The understanding of what to do is embodied in the watershed recovery chapters. The understanding of the status and trends of the resource is comprised of the population VSP information, such as time series of spawning escapement, juvenile outmigrant numbers, and recruits per spawner. Some the three-year work plans we reviewed included this information, and we recommend that it be included in all watershed three-year work plans. One benefit we see in this is that the process of gathering basic status and trends information often results in improving the lines of communication between watershed recovery groups and fishery

resource managers.

We note that there is some ambiguity as to what kind of information and plans for harvest and hatchery management should be provided for watershed areas where there are no spawning areas for one of the 22 Puget Sound Chinook populations. In general, harvest management actions should be included in three-year work plans for those populations that spawn within a watershed. Therefore, there would be no harvest management discussion for watersheds with no spawning populations. Likewise, discussions of hatchery management actions will generally be included for plans that release fish or take eggs within a watershed. We do note, however, that all watersheds have some hatchery production, including releases into freshwater and/or netpen rearing. Hatchery fish are present in most suitable accessible freshwater and marine habitats in all watersheds and the hatchery actions for these plans should be discussed in the watershed where juvenile fish are released. Therefore, actions to assess the presence and impacts of hatchery fish should be considered and discussed in the watershed where the assessment and impacts are occurring. This means that all watershed plans potentially should be considering actions directed at hatchery fish as part of their discussion and three-year work plans.

Emerging Topics

Importance of nearshore marine and migration corridors to all PS Chinook populations

There is yet to be a consolidation of the local salmon recovery plans in a manner which extends protection and restoration to all populations which transit through nearshore marine and migratory corridor areas. The RITT considers this an emerging topic of concern on a region-wide basis.

Scientists have historically realized the importance of migration corridors to anadromous species during those life history stages when the species moves from one habitat to another. For Chinook salmon, such pathways exist in nearshore marine environments within Puget Sound, as well as in the San Juan Islands, and Georgia and Juan de Fuca straits. These pathways are known to be utilized/followed by multiple (mixed) populations from natal basins into and through nearshore marine areas. These areas include critical habitats for juvenile feeding and rearing, where first summer growth is an important aspect of survival to adult, and also to returning adults. Recent research confirms the importance of these corridors (Fresh and Beamer 2012 draft¹; Morley et al 2012², Toft et al 2007³). In particular, researchers are beginning to document the specific changes and impacts that occur as a result of shoreline armoring and modifications (such as overwater structures), to the ecological structure and foodwebs at these sites.

Each watershed has some portion of nearshore marine habitat to contend with in their Salmon Recovery Plans, but they are managed in considerably different manners dependent on local circumstances and resources. The local watersheds are not particularly knowledgeable regarding distant populations that may rear in their nearshore areas, nor the significance of protection of their nearshore habitats areas to fish populations that are non-natal. New genetic analyses have given us the ability to distinguish genetic makeup of populations in these zones of mixing. Prior

insight about population aggregations in non-natal areas was limited to recovery of coded-wire tags from hatchery populations; this gave us a somewhat limited perspective and required that we consider hatchery fish migrate identically to wild populations. In some cases, the genetic analyses shed new light on transboundary population migrations as well.

Watersheds not on pace: slowing recovery, loss of option

Implementation of the plans continues to not be on pace with the needs of recovery. This slower pace of implementation will have a compounding impact on the ability to recover. Understanding the status of recovery in terms of what changes to the strategies and actions in the plans will be critical in reducing the level of uncertainty associated with recovery.

Formal update of the Recovery Plans

The RITT has completed six years of work-plan reviews based partly on a series of key questions and also with comparison to recovery plan chapters submitted by watershed that posit hypotheses about watershed functions and responses to treatment. Since implementation began in 2005 many of the watersheds have matured in their approaches and are pursuing directions and actions that are not consistent with their original plans and hypotheses. In many ways this is adaptive management in action. However, the RITT is increasingly less reliant on individual chapters and hypotheses therein and is turning to the history of work plan reviews and information gathered from PSP staff and direct, but infrequent, liaison with watershed groups and lead entities. Recovery plans are not regulatory decisions by NOAA but satisfy their obligation under the ESA §4(f) to identify conservation and survival actions for listed species. The RITT recognizes that the process of public comment on the 2005 draft PS Chinook Plan (Plan) and response (2007 Supplement) was lengthy and complex. We also observe that some chapters in the Plan likely do not require updates. However, many chapters should be updated and NOAA should consider provision of formal guidance for these updates. It may be possible, and preferable, that chapter updates can be handled as an informal process but it may also require a public comment process. Regardless, the current plan does not represent the activities and actions that were originally proposed for certain watersheds and does not allow the RITT to uniformly consider hypotheses in evaluations of Plan implementation.

Protection of Ecosystem Functions and Habitat

Protection of existing well-functioning intact habitat is an essential component of salmon recovery in Puget Sound. Adequate protection of salmon habitat in Puget Sound continues to be an issue in all watersheds and continued degradation is noted throughout the area. While habitat restoration is relatively easy to implement by watersheds, given funding, protection of existing habitat is reliant on local regulations and their enforcement. Several of the watersheds have documented the continued degradation and loss of forest cover and riparian buffers within the Urban Growth Boundary. These concerns have been documented by habitat change analyses that were completed in central Puget Sound (see as an example: Vanderhoof, J. (2011) WRIA 8 Technical Memorandum 2011-01 - Lake Washington/Cedar/Sammamish Watershed (WRIA8) Land Cover Change Analysis. King County Water and Land Resources Division, Department of Natural Resources, 84 pp.). One of the original premises of the Puget Sound Chinook Recovery

plan approved by NOAA was that there would not be a continued degradation of habitat but that habitat conditions throughout Puget Sound would improve with the implementation of the Recovery Plans. Some watersheds have noted that the current rate of habitat loss may be offsetting any gains they are making through restoration projects.

The restoration of habitat can be implemented by a variety of funding sources available to the watershed groups. However, many local, state, and federal regulatory polices also impact salmon habitat, for example, the Shoreline Management Act (SMA), Growth Management Act (GMA), state Hydraulic Permit Approvals (HPA), NOAA's reviews of federal actions under Section 7 of the ESA, and the Army Corps of Engineers' revised levee vegetation management policy. These current regulations must be effective in the protection and maintenance of the current biological integrity of these areas or the implementation of projects may not be sufficient to recover Puget Sound Chinook.

The RITT and the Puget Sound Recovery Council has been briefed on the SMA, GMA, and HPA plan as well as other regulatory plans in order to better understand how practical implementation of habitat protection could be better incorporated into salmon recovery. While these plans all include some consideration of environmental protection needs, they also require regulators to balance a number of other societal benefits, such as economic development and access to the shoreline and navigable waters. Alone none of these acts are sufficiently integrated with the Puget Sound Salmon Recovery Plan for us to be able to provide specific guidance regarding how habitat protection should be implemented to support salmon recovery. Therefore, while some of our watershed-specific comments suggest ways that individual watershed groups could better integrate habitat protection into their recovery plan implementation, we also recognize that much of the solution to this problem lies in revising the underlying planning processes. We suggest that the Recovery Council, the watershed groups, and the RITT should work together to develop ways to provide the technical input for integrating, to a greater extent, actions that promote salmon recovery into these local and regional decisions and regulations affecting salmon habitat.

Climate Change and Ocean Acidification

Climate change and ocean acidification is expected to affect the environmental and ecological processes that, in turn, control the quality and quantity of habitats for Pacific salmon. This cascade of changes is the subject of global and regional research, modeling, and planning efforts. For the Recovery Council, RITT, Puget Sound Partnership, watershed groups, and other salmon recovery entities, climate change is likely to become an increasingly important issue when considering restoration actions. Specific watershed-scale planning regarding the effects of climate change and ocean acidification on salmon and their habitats will require additional study. However, current empirical data clearly demonstrate increased air temperatures in the Pacific Northwest during the 20th century, and regional climate models predict that this trend will continue. Increasing air temperatures will result in changes to watershed hydrology such as the magnitude and timing of peak and base flows. In addition to changes in watershed hydrology, it is anticipated that climate change will result in changes to ocean acidity, salinity, biodiversity, temperature, currents and coastal circulation, as well as sea level. Salmon production is intimately linked with these variables.

As ecosystem processes and functions respond to climate change and ocean acidification, salmon recovery strategies will need to adapt to these changing environmental conditions. The Puget Sound Salmon Recovery Plan and accompanying NOAA Supplement both indicate that climate change impacts and the associated ocean acidification on salmon need to be considered in evaluating recovery. The NOAA Supplement identifies climate change as one of several “specific technical and policy issues for regional adaptive management and monitoring.” The RITT will work with the Puget Sound Partnership, and other stakeholders to incorporate considerations of climate change and ocean acidification into the adaptive management plans.

For a comprehensive listing of resources regarding climate change impacts, preparation, and adaptation, see the Washington Department of Ecology and Fish and Wildlife websites:
http://www.ecy.wa.gov/climatechange/ipa_resources.htm
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Watershed Specific Technical Review: North Olympic Peninsula-Elwha-Dungeness Watershed

The North Olympic Peninsula Lead Entity (NOPLE) is tasked with understanding and integrating a complex set of interdependent salmon recovery elements that address, primarily, the independent populations of Dungeness and Elwha Chinook and complementary actions to address Hood Canal summer chum salmon that are under the purview of the Hood Canal Coordinating Council Lead Entity. Within this watershed program are several premiere salmon recovery and science efforts that are ongoing and administered through long-standing programs that are well-represented on the NOPLE technical advisory group through its members.

This work plan presents a continuation and a modest revision from the 2011 report, when more substantial changes were made to the watershed's entire ranked work plan, originally produced in 2008. Compared with the 2008 version, only minor revisions were made to the overall salmon recovery strategy, while there were changes and a few new project criteria added to the overall scoring process. What is most noteworthy is the apparent cooperation with the Elwha Restoration project activities and the inclusion of the NOPLE staff and supporters in the Elwha Restoration planning and implementation. This year marked the removal of the Elwha Dams and the beginning of long-anticipated restoration actions.

This work plan presents a policy to conduct a major work plan revision every three years, allowing this work plan to be used in 2011, 2012 and 2013, before another major review in 2014. We observe, however, that each year, new projects are recruited and added, scored, and the list of projects re-prioritized with criteria and weightings that are evolving and may now represent a convergence and agreement on approach by the NOPLE and advisory groups. With distinct changes occurring each year it is not clear what changes would come from a major revision. From a work plan perspective these changes are evident. However, the reason(s) for changes in approach, priority, etc. should be the improved potential to address hypotheses about physical and biological processes established in the Recovery Plan chapter.

Last year we commented that development of a project evaluation and scoring system was a hallmark of the NOPLE's work. While not described in detail in the work plan narrative, RITT members have followed the development and recognize the rigor and potential value of this approach. Project scoring and ranking with the detailed system developed by the NOPLE may work with adaptive management frameworks being developed and implemented by the RITT and PSP through Open Standards, but revisions may need to be considered as the NOPLE program is implemented and possibly prior to 2014. If there is any continuing concern, it is that the work patterns and products of the NOPLE anticipate and integrate with Open Standards and the ongoing, but near-final framework for Monitoring and Adaptive Management (M&AM).

The 2012 3-year plan is similar to last year's with new projects on the list and an increased emphasis on work in the Elwha River watershed. As well, we note integration of habitat protection through the Lead Entity staff's efforts to inform the larger work group of opportunities to contribute technical input related to salmon recovery to public processes in the areas of land

use, land development and shoreline management. The narrative continues to be an improvement over previous years because it provides substantial project details in actual project descriptions, including species and, to some degree, the life stages and specific populations that may benefit. However, the general benefits to salmonids do not appear to be focused on Chinook as much as they could be. For example, the scoring weight for any ESA-listed stock is not much more than “other stocks” (3.33 and 3.0, respectively). The overall program remains focused on capital projects and sequencing of actions that are dominated by practical opportunities with recognition of complex, long-standing ecological challenges (e.g. Dungeness River stream flow) that are continued work through the multi-faceted efforts of the watershed team.

RITT Questions:

1) Consistency question: 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)?

WRIA 18 (Elwha/Dungeness)

The work plan, while revised, may be building more from prior year’s work plans rather than from foundational hypotheses in the Recovery Plan Chapter. Put another way, the linkage between hypotheses and goals in the Recovery Plan chapter and project prioritization continues to be necessary and useful as a technical foundation. The suite of capital and non-capital projects that continue from prior planning and have been added to this year generally address the hypotheses inherent to EDT analyses for the Dungeness and the distinct and somewhat integrated planning effort for the Elwha. Reference for this statement is the NOPL response to Shared Strategy Development Questions (2005) that provide a concise summary of hypotheses and actions. As mentioned earlier, salmon recovery efforts in the Elwha are nested within the planning area and largely driven by Elwha River Fish Restoration Plan (NOAA Technical Memorandum NMFS-NWFSC-90, 2008). The development of restoration work and plans for the Elwha was conducted over several years without the Lead Entity contributing as a partner in the effort. For 2012, it appears that NOPL has become fully engaged in the Elwha River ecosystem recovery efforts and pursuits of funding. This increases integration of habitat actions.

WRIA 19 (Lyre/Hoko)

Because this WRIA is geographically and biologically outside of the PS Chinook ESU efforts, planning and actions in the PS Chinook Recovery Plan are beyond the focus of our review and comment. Continuing projects address acquisition for protection to improve channel structure and riparian conditions. Ongoing restoration and acquisition work continues in this area, particularly in the Pysht and Salt Creek areas, as well as recovery plan and conservation plan development. Some recovery actions occur in the nearshore and estuarine areas of WRIA 19, which have demonstrated use by PS Chinook. Most of the projects listed for WRIA 19 are

instream projects. To be sure, there will be some ecosystem process-related benefits to estuarine and nearshore areas, but it is not clear that these would contribute to recovery of PS Chinook to the extent that on-going and technically sophisticated project work in, for example, the Dungeness River and Elwha River systems would. Still, it is not without reason that improvements in estuarine and nearshore conditions in this area are utilized and of benefit to early marine life histories of Elwha and Dungeness Chinook conducting complex life histories and nearshore migrations. Programmatically, the efforts and funding expended here must be carefully balanced with priority needs for core independent Chinook populations, which are the focus of this review.

The RITT has commented on other work plans regarding work on species other than Chinook. Certainly, we realize that diversity of species and the geography of the habitats utilized by PS Chinook do not necessarily correspond with local efforts and judgments to conserve and restore habitats for other fish species. However, the limitations of the RITT are that we must comment based on the approach, limiting factors, hypotheses, and other elements presented in the Chapters that comprise the PS Chinook Recovery Plan approved by NOAA in 2005 and supplemented in 2007.

Steelhead Recovery

Steelhead recovery poses another major challenge in the types and locations of projects being considered in the North Olympic Peninsula watersheds. However, in this review we are focusing on the chapter developed for the Chinook recovery plan and cannot evaluate projects in freshwater habitats that are specific to steelhead and that have little or no direct benefits to PS Chinook.

2) Pace/Status question: *Is implementation of the salmon recovery plan on-track for achieving the 10-year goal(s)? If not, Why and what are the key priorities to move forward?*

Restoration actions in the Elwha watershed are the preeminent effort in the planning area and can reasonably be considered to be on track for the 10-year plan. Removal of the Elwha dams (2011-2013) and has been designed, planned, and fashioned by recovery planning efforts that stand separate but aligned with lead entity efforts. For 2012, this work plan provides a substantial improvement over previous years in description of projects and progress of projects that are under the Elwha Dam Removal project. This occurs primarily due to the overlap of staff scientists who serve to inform both teams. The expectation and opportunity is that in out years there can be complementary project work and further integration of efforts.

The 2012 narrative reports substantial progress in the lower Dungeness for a series of long-standing, well-partnered efforts. However, it remains to be seen if the instream flow issues that limit instream survival of PS Chinook will be effective. To that end, the NOPL is encouraged to remain engaged in any and all efforts to improve flows and to monitor the implementation of any agreements reached. The RITT recognizes that NOPL staff cannot participate in all local

planning efforts and negotiations, but fundamental controls on habitat and production exerted by streamflow are unavoidably of great import to one of two independent populations in the Straits MPG.

Progress for other watersheds in the planning area is much less certain. This is recognized in the work plan narrative in part because of the indistinct nature of planning goals and in part due to the practical consequences of reduced and decreasing funding for implementation. The workplan narrative states that projects may not be, for many reasons, on trajectory and that most remain in the conceptual or design phase with some progress towards completion. The pace of restoration is not likely on track for the ten-year goals due to funding and logistic constraints that all other lead entities in Puget Sound face.

Generally, the priorities for proposed projects seem to be in line with the 10-year recovery goals. Most of the proposed or ongoing projects in the Dungeness also address the measurable objectives set out in the 10-year goals. Overall, the potential challenge to meeting the 10-year goal is a broad focus of capital projects on salmonids in general, activities outside the PS Chinook ESU domain, and the rapid inclusion of high-cost work in the Elwha system, which may affect project development in other watersheds.

3) Sequence/Timing question: *Is the sequence and timing of actions appropriate for the current stage of implementation?*

Our comments on sequencing remain largely unchanged from 2011. Namely, the sequence and timing of the projects for the Elwha and Dungeness are distinct. The Elwha is guided by a comprehensive, heavily funding program developed by a multi-disciplinary team and time-certain events. New projects in the Elwha are displacing earlier priorities in other watersheds and there is some concern by some evaluators that nearshore actions for the Elwha may be premature (Capital Project 2100).

In contrast, the efforts in the Dungeness are driven by long-standing, but well understood constraints on channel form and floodplain function at lower elevations. While the prioritization approach for Dungeness projects is transparent and well documented, the potential biological response of Chinook may be some years out when improvements in flow and rearing habitats at middle elevations can be improved and effectively advanced in priority. This may become increasingly important as a scoring element as tools and consideration of climate change and instream flow management issues increase.

As previously stated, work outside the PS Chinook ESU cannot be commented on except to note that the sequence and timing for these projects may not be appropriate for the sequence and timing of projects that stand to benefit watersheds identified to support independent populations of PS Chinook.

4) Next Big challenges question: *Does the three-year work plan/program reflect any new challenges or adaptive management needs that have arisen over the past year?*

The RITT is encouraged that NOPLE recognizes the value of non-capital efforts to participate in instream flow processes, shoreline planning efforts, and other land use actions. This has been identified as a regional issue, with the simple logic being that we, collectively, cannot hope to recover PS Chinook if habitat loss and degradation outpaces the gains made through active and passive restoration efforts. Water conservation in the Dungeness and reasonable resolution of instream flows are critical, particularly considering the small spawning population that remains. The Elwha Dam is the dominant effort in the region and represents a project of national interest and import. The removal of the Elwha dams brings with it an increased effort on restoring lower Elwha River floodplain and estuarine habitats, and while these have efforts and associated monitoring elements have been developed for some time (2007), the pace of implementation and adaptation is expected to be measured and careful. A significant benefit of the Elwha program is to inform monitoring and adaptive management efforts in the planning area – to the extent that research-level methods and approach can be adopted or adapted and applied by NOPLE to other projects. Additionally, the inclusion of NOPLE as a more prominent partner and leader in the Elwha efforts may serve to emphasize work on core independent populations. Completing and implementing an adaptive management plan and strategy that directly identifies key uncertainties and how to use existing and new knowledge to make effective decisions to recover salmon is key to effective conservation and restoration efforts. Efforts to do this are underway in several watersheds through general understanding within and between groups of restoration practitioners and through potential application of the RITT common framework in collaboration with PSP staff. This remains a priority; the Common Framework for monitoring and adaptive management has undergone external review and will soon be complete and available to aid watershed efforts. From these tools and through Open Standards, watershed groups such as NOPLE can begin the steps to complete and implement an adaptive management plan and strategy that directly identifies goals/targets, monitoring plans, key uncertainties needing assessment and how to use existing and the newly gained knowledge to make effective, sequenced decisions about salmon recovery actions.

As in 2011, tracking of harvest on both the Elwha and Dungeness Chinook populations continues to be an issue with there being no good current estimates of harvest impacts on either population. In 2008, and continuing in 2011, the watershed demonstrated a thorough understanding of adjustments in fisheries to consider ESA listed Chinook from Puget Sound and the challenges that continue with tag sampling in Canadian waters and the effects of local (Straits) commercial and sport harvest on naturally-spawned Chinook. The lack of a coded-wire tagged hatchery indicator stock is the main problem for assessing harvest in pre-terminal areas (which are considered to be the major portion of the harvest on these stocks) and should be addressed in the hatchery management plan. This is especially important for the Elwha with the rapid provision of access to spawning habitat after dam removal and with the potential for artificial production to supplement early recolonization and production in the Elwha.

The challenge of H-integration is again recognized in the work plan narrative and is described in some detail. Significant issues resulting from the lack of communication and integration among those working on the various elements of habitat, harvest, hatchery and hydro are recognized and are common throughout other watersheds. The RITT recognizes that the pace and potential for

integration of the H's is a challenge rooted in historical management approaches. Changes in production from habitat restoration efforts ultimately must be considered along with positive or negative effects of artificial production (e.g. hatchery outplantings) if the incremental effects of restoration are to be understood and used in adaptive management and project justification. Improvements in communication and information sharing through policy and the lead entity process are appropriately described and progress on these issues can be expected in the future, particularly as increasingly all parties contributing to salmon recovery in these watersheds establish common ground.

II. Policy Review Comments

The Recovery Council Work Group is an interdisciplinary policy team including members from each of the Council's caucus groups (tribal, federal, state, watershed, environmental, and agriculture/business). The team developed both general comments on common themes across the region's watersheds, as well as significant improvements and issues needing advancement that are watershed specific. General and watershed specific policy comments follow below.

Regional Policy Review: 2012 Three-Year Work Plan – Common Themes

It has been thirteen years since the listing of Puget Sound Chinook. Although considerable advances are underway towards recovery, significant challenges remain. The following highlights some of these key challenges.

The region wants to again recognize the significant amount of thought, time, and energy that each of the watershed groups put into updating their specific three-year work plans – they continue to be more sophisticated and are critical to the work of implementing recovery. The region continues to look for ways to improve the structure of the work plans to support stronger consistency across the watershed groups and help them be more useful for the multiple purposes they fulfill.

The region is continuing efforts to advance a coordinated implementation of the recovery plans at the watershed and regional scales and recognizes the need for support within all watersheds to do this work. The finalization of a common framework for monitoring and adaptive management forms the structure for future improvements and adaptation of the Salmon Recovery Plan. In October 2012, the Puget Sound Salmon Recovery Council plans to hold a forum to discuss progress of the overall salmon recovery program. By hearing directly from each watershed on their specific issues and challenges, the Recovery Council hopes to enhance support for and coordination of recovery efforts across the region.

Focus on Salmon Recovery

Salmon recovery implementers continue to be pulled in many directions by other mandates. The Puget Sound Partnership and the Policy Work Group recognize that implementation of salmon recovery actions remains a high priority in the context of the broader Sound-wide recovery efforts. Maintaining a focus on the priorities in the salmon recovery plan, as described in each watershed chapter, will be increasingly challenging as salmon recovery efforts compete in

funding and time with other environmental and social programs, and will require a continued investment of time, resources and support. Work to develop, and then implement, the monitoring and adaptive management plans in each of the fourteen watershed chapter areas is one critical priority for the next few years. Other critical priorities that require a focus on salmon recovery are the items described below: multi-level relationships and discussions, monitoring and adaptive management, capacity support, habitat protection, and consistent funding.

Continue to Support Multi-Level Relationships and Discussions

Decisions that affect salmon recovery are made at the federal, state, and regional scales and are often in need of reconciliation at the watershed level. The region remains committed to supporting difficult conversations that are relevant to salmon recovery in order to find common ground and common solutions. These types of decisions include issues around land use such as the agricultural buffers and critical areas ordinances, the management decisions around harvest, hatchery, habitat protection, and habitat restoration and the need to integrate these decisions, as well as the scale of review of information on the status of recovery efforts across the Puget Sound such as in the Action Agenda and with the population allocation across the region.

Monitoring and Adaptive Management

The region recognizes the Skagit, San Juan, and Hood Canal watershed groups for their assistance in the development of a common framework for monitoring and adaptive management by being willing to use their recovery plans to advance the framework. The use of the common framework to develop monitoring and adaptive management plans in each of the fourteen watershed chapter areas will improve our collective ability to better understand, track, adapt, and respond to new information around the implementation of the recovery plan. The work to develop these monitoring and adaptive management plans, as well as to implement them, has taken longer than anticipated and will require a substantial additional investment of time and effort starting now from scientists and policy makers around the region. Success in this effort will depend on participation from all resource managers and decision makers in each of the watershed chapter areas related to salmon recovery and an integration of the management across harvest, hatchery, habitat protection, and habitat restoration. This includes the co-managers on harvest and hatchery issues, tribes, local governments, state and federal agencies, business and agricultural interests on habitat restoration and habitat protection issues, as well as the relevant non-profit implementers. It will be important for the region, alongside the watershed chapter areas, to enhance the participation of these entities in order to create viable structures that can hold the results of the monitoring and adaptive management effort. The region recognizes the capacity limitations and is committed to supporting this effort to build collaborations.

In addition to the critically needed structure discussed above, the region also recognizes the importance of finding funds to implement the monitoring information identified through the development of the plans. As a region, we already know that we will need to fund watershed-scale habitat status and trends monitoring on a consistent basis across the whole basin. Additional needs will be highlighted as the plans are completed.

Capacity for Implementation of the Recovery Plan

Salmon recovery must remain a priority and focus of the Puget Sound region and efforts around

Puget Sound recovery. The salmon recovery community, and lead entities in particular, report increases in responsibilities and decreases in overall capacity to meet these responsibilities. Lead entity programs have been successful at leveraging in-kind support from citizens and from technical experts but more support is needed. While the level of funding and political support for salmon recovery varies widely by watershed, increased financial and political support is needed across all watersheds.

Lead entities represent one piece of the overall human infrastructure required for successful implementation of the Salmon Recovery Plan. Capacity and focus of work towards salmon recovery at the local, regional, state and federal levels, as well as other supporting groups (project sponsors, private resource managers, etc.), will have a significant impact on the ability to implement the Plan and the success of recovery efforts region-wide. The region recognizes the critical importance of building support at multiple levels in order to provide assurance that the actions associated with salmon recovery will be implemented and sustainable over time despite shifts in political will and funding.

Protecting Ecosystem Functions

Protecting habitat is recognized in the region as one of the most important near-term steps to protecting the health of Puget Sound. Despite some of the most protective laws in the nation, the assumption in the Salmon Recovery Plan that habitat will not be lost is clearly wrong. This is supported by the Implementation Status prepared by M. Judge for NMFS/NOAA (2011) and the Puget Sound Tribes Treaties Rights at Risk Paper (2011). Watershed groups will need to support the alignment and strengthening of regulations and policies directing land use, development, and water use in order to stop the continued loss of habitat. The Puget Sound Action Agenda strategic initiatives include a particular emphasis on habitat and should be oriented towards the needs around salmon recovery.

With numerous assessments and strategic conversations happening within the salmon recovery watershed entities, salmon recovery programs are often key contributors of technical information to land use policy processes such as Shoreline Master Program updates, floodplain management discussions, and Critical Areas Ordinances. In particular, watershed groups continue to be a clearinghouse of information and a center point of expertise on watershed ecosystem functions. Watershed groups, and in particular Lead Entities, engage to varying degrees in the land use policy decision-making process based on a variety of factors. The land use plans, policies, and regulations need to be implemented in a way that supports salmon recovery rather than undermines the effort. Incorporating salmon recovery is one element but it is more important to ensure consistency with salmon recovery needs. The opportunity to do this is now since decisions are being made on local shoreline master programs and in response to the FEMA Biological Opinion, which will set the stage for the next many years on what, where, and how habitat is protected. These opportunities need to be leveraged or will be lost.

At the same time, multiple interests must be balanced: boater safety in rivers, the continued use of productive agricultural lands, balance between wilderness and restoration areas, use of tidelands for shellfish production, protection of the public from flood waters, the need to accommodate growth, and the willingness of landowners to allow restoration activities on private

property are all considerations that the watershed groups must face when implementing the Salmon Recovery Plan. Recent efforts such as the Snohomish Sustainable Lands Strategy and the King County Flood District's use of funds to support the local Conservation District and central Puget Sound watersheds' salmon projects and staff are examples of how these interests are being balanced towards salmon recovery.

Consistent, Stable Funding

Consistent, stable, funding sources for capital and programmatic actions related to salmon recovery continues to be absent. This lack of sufficient funding is compounded by the increase in complexity in actions needed to recover salmon. According to a report prepared for the Governor's Salmon Recovery Office (GSRO) by Evergreen Funding Consultants, habitat-related capital needs in Puget Sound total \$1.467 billion and non-capital programs needs are estimated at \$242 million (Canty, 2011). The Puget Sound region remains significantly below this amount.

Funding for salmon recovery comes from a variety of sources, although local, state (including Puget Sound Acquisition and Restoration funds), and federal funding represent a majority of funding in Puget Sound. Funding is needed not only for capital actions but also for the critical work of education and outreach, land use management, hatchery and harvest, and monitoring of implementation efforts.

Certain emerging funding strategies show promise to help diversity sources, from mitigation programs to cooperative agreements. Examples include the Hood Canal In-Lieu Fee Program and the Watershed Investment District championed by some of the more urban watersheds.

Watershed Specific Policy Review: North Olympic Peninsula–Elwha-Dungeness Watershed

Significant Improvements

- Overall, the highest-priority actions are moving forward in the North Olympic Peninsulas watershed.
- Removal of the Elwha dams is ahead of schedule. This is a complex, multi-scale, and multi-stakeholder ecosystem restoration project of national significance. The lead entity is increasingly contributing to this project, including funding for engineered log jams in the lower river, the re-vegetation of dewatered reservoirs at Lake Mills and Lake Aldwell, and the Elwha Weir Project. These projects should advance habitat restoration and monitoring priorities for salmon recovery in the context of the larger ecosystem restoration effort.
- Dungeness in-stream flow rule and negotiated agreements are advancing, which should make strides towards addressing a limiting factor identified in the salmon recovery plan.
- The watershed should be commended for a cross-watershed partnership with the Hood Canal Lead Entity to advance the Washington Harbor project, which will benefit Puget Sound Chinook and Hood Canal summer chum populations.

Issues Needing Advancement

- Despite progress, most high-priority actions are on a slow trajectory, resulting from a combination of complex projects requiring detailed design, long-term negotiations,

and/or large amounts of funding. The process of forming and evaluating design or policy alternatives is dependent upon the mandate of the responsible agency or project sponsor and can be particularly involved for certain projects.

- With high-priority projects moving slowly, it is important to invest project development capacity strategically across the watershed and to maintain focus on projects of highest priority in the recovery plan.
- Development of a coordinated Monitoring and Adaptive Management strategy across multiple existing plans will serve to integrate efforts across the North Olympic Peninsula.
- The watershed has made strides towards describing the status hatchery and harvest elements, but a more robust integration of hatchery and harvest management with habitat actions could advance understanding, highlight areas for cooperative adaptation of recovery plans, and advance overall salmon recovery goals.