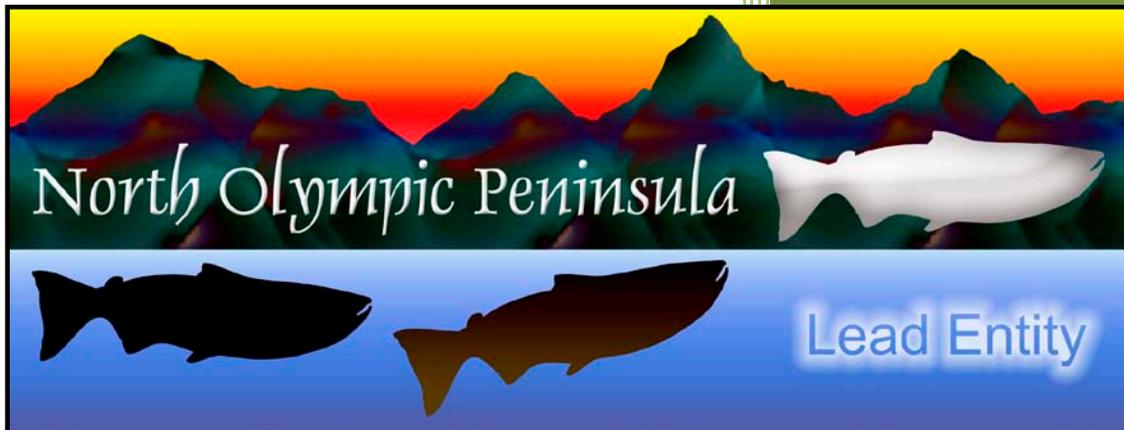


NOPL

Three Year Workplan Narrative 2009



MAY 2009



Lead Entity Group Members

Andy Brastad, Environmental Health Director, Clallam County

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

Scott Johns, Associate Planner, City of Port Angeles

Jim Medlen, Acting Sustainable Resources Coordinator, Makah Tribe

Frank Needham, Capital Projects Manager, City of Sequim

Larry Ward, Fisheries Biologist, Lower Elwha Klallam Tribe

Technical Review Group Members

Rebecca Benjamin, Executive Director, North Olympic Salmon Coalition

Michael Blanton, Watershed Steward, WA Dept. of Fish & Wildlife

Walt Blendermann, Retired, Puget Sound Anglers & City of Sequim

John Cambalik, Regional Liaison, Puget Sound Partnership

Pat Crain, Fisheries Biologist, Olympic National Park

Joe Holtrop, District Manager, Clallam Conservation District

Randy Johnson, Habitat Restoration Planner, Jamestown S’Klallam Tribe

Cathy Lear, Habitat Biologist, Clallam County

Mike McHenry, Fisheries Habitat Manager, Lower Elwha Klallam Tribe

Cynthia Rossi, Project Biologist, Makah Tribe

Byron Rot, Habitat Program Manager, Jamestown S’Klallam Tribe

Anne Shaffer, Marine Biologist, WA Department of Fish & Wildlife

Lead Entity Staff:

Cheryl Baumann, Coordinator

Eric Carlsen, Restoration Planner

Michele d'Hemecourt, Restoration Planner

Ron Kaufmann, HWS Data Base

Prepared By:

Sam Gibboney
ISE Consultants
PO Box 138
Port Townsend, WA 98368

Walter Pearson
Peapod research
5216 Jordan St.
Allendale, MI 49401

TABLE OF CONTENTS

INTRODUCTION	3
ACTIONS FOR THE NEXT THREE YEARS	4
STATUS, PACE, PRIORITIES, SEQUENCING, CHALLENGES AND SUCCESS FACTORS BY WATERSHED	4
DUNGENESS WATERSHED	4
ELWHA WATERSHED.....	7
WRIA 19.....	11
SIGNIFICANT CHANGES IN THE WORKPLAN FOR 2009	13
NEARSHORE SUMMARY	13
TABLE 1. COMPARISON OF CAPITAL PROJECTS IN 2009 AND 2008 WORK PLANS	15
TABLE 2. COMPARISON OF NON-CAPITAL PROJECTS IN 2009 & 2008 WORK PLANS	16
FINDINGS AND RECOMMENDATIONS FOR NEARSHORE AREAS WITH THE NOPLE AREA	17
FINDINGS.....	17
RECOMMENDATIONS FOR NEARSHORE MANAGEMENT AND RESTORATION:.....	20
TABLE B – RANKING OF HABITAT PROJECTS	113
TABLE C – RANKING OF NON-CAPITAL CONCEPTUAL PROJECTS	115
APPENDIX A	117
TABLE 1 - PROCESS FOR NOPLE DECISION MAKING SELECTED IN THE NOPLE 2008 WORKSHOPS	125
TABLE 2 - CONSTRAINTS AND PREFERENCES FROM NOPLE 2008 STRATEGY WORKSHOP	126
TABLE 3 - SCREENS FOR HABITAT CAPITAL PROJECTS FROM NOPLE 2008 STRATEGY WORKSHOPS.	128
TABLE 4 - CRITERIA AND WEIGHTS FOR HABITAT CAPITAL PROJECTS FROM NOPLE 2008 STRATEGY WORKSHOPS	129
TABLE 5 - CRITERIA AND WEIGHTS FOR NON-CAPITAL ACTIVITIES, PROGRAMS AND PROJECTS FROM NOPLE 2008 STRATEGY WORKSHOPS	130
TABLE 6 - UPDATED INFORMATION FOR WATERSHED PRIORITIES FROM NOPLE 2008 STRATEGY WORKSHOPS	131
TABLE 7 - CRITERIA AND WEIGHTS FOR WATERSHED PRIORITIES FROM NOPLE 2008 STRATEGY WORKSHOP	136
TABLE 8 - NORMALIZED WEIGHTED SCORES FOR EACH WATERSHED	137
APPENDIX B - RANKING SHEETS AND PROJECT MATRIX	141

INTRODUCTION

As part of its effort to assess the overall status of restoration in Puget Sound, the Puget Sound Partnership requested the North Olympic Peninsula Lead Entity to submit summaries on area watersheds. The Puget Sound Partnership seeks information on several questions to gauge the progress of the North Olympic Peninsula Lead Entity's efforts towards its stated goals and objectives. The questions on page 2 and 3 from the Puget Sound Partnership Guidance Memo have been slightly reordered into the following sequence:

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?
2. What is the overall or general status of implementation concerning:
 - a. Habitat
 - b. Harvest
 - c. Hydro
 - d. Hatcheries?
3. Are these actions "on pace", falling behind, or ahead of expectation?
4. What are the top priorities for salmon recovery in this watershed?
5. How are these priorities sequenced?
6. What is the status and trends in this watershed concerning salmon habitat?
7. What is the status and trends in this watershed concerning salmon populations?
8. What challenges require additional support or resources to address?
9. What is needed to be successful?
10. What significant changes have occurred in 2009 concerning strategy, approach or three-year goals?

This document provides narrative and other information addressing the ten questions above. For questions 2 through 9, the information provided is organized by the three North Olympic Peninsula Lead Entity watershed areas, Dungeness, Elwha, and WRIA 19. Where possible, grades were given for Habitat, Harvest, Hydro, and Hatcheries for each area. Questions 1 and 10 are addressed for the North Olympic area overall. With the completion of the North Olympic Peninsula Lead Entity supported and Salmon Recovery Board-funded nearshore assessments, what is needed in the nearshore has become clearer. A separate summary on the nearshore is included and more detail on the nearshore appears in the Appendix. The project matrix provided by the Puget Sound

Partnership was completed and will be presented separately. The overall conclusions and grades presented here update the report submitted in 2008 and were gained by interviews with the Technical Review Group members cognizant of activities in the specific areas.

ACTIONS FOR THE NEXT THREE YEARS

The actions and suites of actions for the next three years appear in the matrix for the 2009 Workplan submitted separately. Narrative briefly describing the actions appears there. The projects are ranked based on the Technical Review Group scores here by title in Table 1 for Capital Projects and in Table 2 for Non-Capital Projects.

STATUS, PACE, PRIORITIES, SEQUENCING, CHALLENGES AND SUCCESS FACTORS BY WATERSHED

This section addresses Questions 2 through 9 by NOBLE Area, Dungeness, Elwha, and WRIA 19. Where possible, grades have been given for the 4 H's (Habitat, Harvest, Hydro, and Hatcheries).

DUNGENESS WATERSHED

Habitat

Grade: B (for effort)

Lots done, but more to do

Water management in the Dungeness now provides more water during seasonal low flow periods than in previous years and is a major achievement for the Northwest and an example nationally.

Restoration of floodplain processes is being addressed. While many acquisitions have been done, some key ones remain to be accomplished. Habitat restoration in the estuary has not really begun, but planned projects appear in the Work Plan. Currently active restoration efforts include projects on invasive species and enhancement of in-channel complexity. Plans for upriver include placement of LWD.

The WRIA 18 Watershed Management Plan was incorporated into the Elwha and Dungeness Chapters of the Puget Sound Chinook Recovery Plan. Implementation of the

WRIA 18 Watershed Management Plan had lagged, but funding in 2008 enabled progress on setting stream flows in the Dungeness and establishing outreach and education programs for water conservation. Further funding to support watershed planning and funding and technical capability to discern appropriate water storage options is needed in order to fully implement the plan.

Harvest

Grade: C

Improved prospects over last year but fulfilling promise requires annex implementation.

Because both Dungeness and Elwha stocks of Chinook are tracked the same way by the harvest models, this discussion applies to both Dungeness and Elwha. Success regarding harvest depends on management of harvest in both the United States and Canadian waters. Harvest rates of Chinook within US waters south of Canadian waters have been managed to be below 10%. Alaskan and Canadian fisheries impact local Chinook stocks at harvest rates of about 40%.

This year, progress has been made on achieving international cooperation on harvest. A new Chinook Annex replaces the one expiring next year. Annexes are part of the International Pacific Salmon Treaty, originally signed in 1985, and are periodically updated. In the new Annex, Alaska and British Columbia agree to reduce impacts on Washington State Chinook stocks, and the US agrees to fund implementation of Canadian fleet reductions and increased supplementation of several key Puget Sound stocks. Although the successful negotiations are an important step, the agreement needs to be ratified. Congress has not yet allocated the necessary funds to support the agreement.

Hydro ***Not Applicable in the Dungeness***

Hatcheries

Grade: B+

There are two hatchery facilities on the Dungeness. First, the Dungeness Hatchery is an old one but has successfully supported the current supplementation program for

Chinook. The Hurd Creek Facility, satellite to Dungeness, is unique because of its use of high quality and constant temperature groundwater. The Hurd Creek Hatchery was home to the highly successful Dungeness Chinook captive brood program of 1995 – 2004. The captive brood program and the two facilities were a key to achieving targeted returns but natural productivity of the stock did not increase because other limiting factors appear to operate on the Dungeness. The Hurd Creek Hatchery also supports Elwha Chinook recovery as the early incubation facility.

Pace in the Dungeness

Because habitat acquisition to support the dike set back has taken longer than expected and cost more than anticipated, implementation of the dike set-back has lagged behind a bit. The funding obtained for the WRIA 18 Watershed Management Plan enabled water management planning to move forward.

Top priorities for salmon recovery in the Dungeness

Because the habitat in the upper Dungeness River is in good condition while that in the lower river is not, emphasis is on protection and restoration in the lower river, especially on restoring the function of the flood plain in the lower river. The top three priorities for Capital Projects (Table 1) in the Dungeness Watershed are the Lower Dungeness Dike Setback, the Lower Dungeness Channel Remeandering, and the Dungeness Engineered Log Jams. These three capital projects are also in the top five capital projects for the North Olympic Peninsula Lead Entity overall. Among the Non-Capital Projects (Table 2), the four specific to the Dungeness do not rank in the top ten.

Sequencing of priorities in the Dungeness

Emphasis is now on restoring flood plain function in the lower river. The estuary and nearshore will need attention in the near term.

Status and trends concerning salmon habitat in the Dungeness

During the development of the 2008 North Olympic Peninsula Lead Entity Strategy, the Technical Review Group reviewed and updated the status and trends in the watersheds. Status and trends concerning salmon habitat remain as presented in 2008 North Olympic Peninsula Lead Entity Three Year Workplan.

Status and trends concerning salmon populations in the Dungeness

Puget Sound Chinook salmon and Hood Canal-Strait of Juan de Fuca summer chum remain listed as threatened. Dungeness and Elwha Chinook stocks were forecast to have no harvestable excess for the 2008 directed fisheries (Point No Point Treaty Council and WDFW 2008). Terminal run size for Dungeness Chinook salmon ranged from about 1,000 to 1,500 from 2004 to 2006 but was 403 in 2007. Although some recovery of summer chum stocks above threshold was forecast for 2008, no terminal harvest of summer chum was planned in the NOPLE area in accordance with the co-manager's recovery plan. For the Dungeness and Elwha, only coho were forecast to have an abundance that would support directed fisheries in the terminal areas.

Challenges and keys to success in the Dungeness

Integration of the 4 H's is seen as key to success in the Dungeness Watershed as well as elsewhere in the North Olympic Peninsula Lead Entity area. The Dungeness has made progress but timing is important. The new Annex needs to be approved and funded so that the harvest aspect will keep pace with habitat restoration and protection. Further funding to support watershed planning and funding and technical capability to discern appropriate water storage options is needed in order to fully implement the plan.

ELWHA WATERSHED

Habitat

Grade: B+

Dam removal will happen sooner than expected

Dam removal is certain and re-scheduled for a start in 2011 instead of 2012. Funds from the Federal Economic Recovery Act enabled the National Park Service to accelerate its schedule. Certain components of dam removal have been underway including construction of two water treatment plants (one for municipal water supply and the other for industrial use) required before dam removal, a needed diversion channel, out planting of Chinook and continued logjam construction. Some significant pre-removal restoration has been accomplished in the lower Elwha River, including the construction

of more than 20 engineered log jams, but more in the middle reaches and tributaries is needed.

The National Park Service and United States Geological Survey have received funding to install a fish enumeration weir that will be a monitoring component of the adaptive management plan. The National Park Service has also awarded a contract for the construction of a greenhouse that will support the re-vegetation program associated with dam removal.

Concerning other species, the National Park Service and the United States Geological Survey will collaborate on a study of the interactions of bull trout and brook trout in the Elwha. Also, the Lower Elwha Klallam Tribe in cooperation with the United States Fish & Wildlife Service is conducting an evaluation of lamprey populations in the Elwha and other Strait rivers.

Water management plays a key role in the Elwha. Setting in-stream flows under the WRIA 18 Watershed Management Plan awaits assessments that will be made after dam removal.

Harvest

Grade: C

Improved prospects over last year but promise requires Annex implementation

The discussion above for Dungeness applies to the Elwha as well.

Hydro

Grade: B+

Dam removal more than on track

The National Park Service has made removal of the Elwha dam its highest priority for its construction budget and has been setting aside funds to begin the removal. Additional funding has enabled an accelerated start in 2011. Removal does not depend on a congressional earmark. Continued support for the National Park Service priority is needed to maintain momentum. Components of the removal regarding water supply are currently under construction.

Hatcheries

Grade: C-

Adequacy of present facilities questioned, some new facilities on the way.

Opinion is divided on the ability of the present Chinook facilities on the Elwha to support implementing the recovery plan for Elwha Chinook. All admit that the long standing facilities are designed for another time and purpose and do not fully function as needed for the tasks now faced. All call for attention to hatchery practices that could be dramatically improved to yield returns over the current return rates of less than 1%.

The Lower Elwha Klallam Tribe has received funding for construction of a new hatchery that will support recovery of non-Chinook species on the Elwha. The design phase is complete and the National Park Service is issuing a Request for Bids for construction. Construction is expected to take about 18 months with operations commencing in 2011. The new facility will support the culture of coho, chum, and steelhead and could support the culture of pink and sockeye.

Pace in the Elwha

The acceleration of dam removal is welcome news. The need for an adaptive management plan and associated monitoring activities has become more urgent but plan development is not keeping pace.

Top priorities for salmon recovery in the Elwha

Top priority for the Elwha is dam removal. Because the habitat in the upper Elwha River is in good condition while that in the lower river and estuary is not, emphasis is needed on protection and restoration in the lower river and estuary just before and after dam removal. The top three priorities for Capital Projects (Table 1) in the Elwha Watershed are restoring channel complexity with engineering log jams, removing passage barriers through culvert replacement, removal of hatchery outfall and berm, and estuarine restoration. Elwha engineered log jams ranks second overall in the North Olympic Peninsula Lead Entity's capital projects for 2009, and Elwha culvert replacement ranks, eighth. Among the 2009 Non-Capital Projects, the Elwha adaptive management plan and the Elwha conservation planning project rank first and fourth overall.

Sequencing of priorities in the Elwha

Sequencing in the Elwha focuses on dam removal first with attention to the lower river and estuary to follow.

Status and trends concerning salmon habitat in the Elwha

During the development of the 2008 North Olympic Peninsula Lead Entity Strategy, the Technical Review Group reviewed and updated the status and trends in the North Olympic watersheds. Status and trends concerning salmon habitat remain as presented in the 2008 North Olympic Peninsula Lead Entity's Three Year Workplan.

Status and trends concerning salmon populations in the Elwha

Puget Sound Chinook salmon and Hood Canal-Strait of Juan de Fuca summer chum remain listed as threatened. Dungeness and Elwha Chinook stocks were forecast to have no harvestable excess for the 2008 directed fisheries (Point No Point Treaty Council and WDFW 2008). Terminal run size for Elwha Chinook salmon declined from about 3,500 in 2004 to about 2,000 in 2006. Chinook terminal run size in the Elwha was about 1,000 in 2007. For the Dungeness and Elwha, only coho were forecast to have an abundance that would support directed fisheries in the terminal areas.

Challenges and keys to success in the Elwha Watershed

The recovery plan for Elwha chinook depends upon adaptive management, and the capacity for adaptive management on the Olympic Peninsula is not yet ready. Capacity building in terms of both money and trained people is needed. The physical resources to support mark and recapture operations are needed. A proper program design is also needed. With dam removal now certain and scheduled for 2011, now is the time for investments in both planning and implementing an adaptive management plan for the Elwha.

WRIA 19

Overall grade is still an “Incomplete”

WRIA 19 was given an Incomplete again this year because restoration remains in the planning phase. Although the WRIA 19 draft plan still awaits necessary scientific and key stakeholder review, the draft plan is reported to be close to becoming a “workable” plan. Progress in 2008 was made, in part, because the North Olympic Peninsula Lead Entity facilitated funding for development activities this year. The next working draft is scheduled for posting in mid-May and review by the North Olympic Peninsula Lead Entity Technical Review Group.

While the recovery plan is in development, some rivers have received thoughtfully-planned and well-implemented projects based on existing watershed analyses that have been accomplished. Restoration actions in two small watersheds, Deep Creek and East Twin, are nearly done. Restoration actions for barrier removal are nearly complete in the Salt Creek watershed. Larger watersheds, such as the Pysht, have much work still to do. Restoration planning for the Pysht estuary has progressed to the point where the 30% design engineering assessment now in progress is close to being ready for review.

Pace in the WRIA 19

As discussed above, progress in WRIA 19 planning is lagging although some restoration has been accomplished.

Top priorities for salmon recovery in the WRIA 19

Top priority for WRIA 19 is completion of the planning process. The top priorities for Capital Projects (Table 1) for WRIA 19 are Phase 2 of the Pysht estuary restoration (ranked 6 overall) and reconnection of the marsh at Salt Creek (ranked 15 overall). Among the NOPLÉ’s 2009 Non-Capital Projects (Table 2), WRIA 19 conservation planning ranked fourth overall.

Sequencing of priorities in WRIA 19

Sequencing awaits completion of the planning process.

Status and trends concerning salmon habitat in WRIA 19

During the development of the 2008 North Olympic Peninsula Lead Entity Strategy, the Technical Review Group reviewed and updated the status and trends in the North Olympic watersheds. Status and trends concerning salmon habitat remain as presented in the 2008 North Olympic Peninsula Lead Entity Three Year Workplan.

Status and trends concerning salmon populations in WRIA 19

Puget Sound Chinook salmon and Hood Canal-Strait of Juan de Fuca summer chum remain listed as threatened. Status and trends of salmon in the rivers west of the Elwha are “uncertain” (Point No Point Treaty Council and WDFW 2008). Forecasts of Hoko River chinook recruits were about 2,400 in 2007 and about 1,300 in 2008.

Challenges and Keys to Success in WRIA 19

There appear to be several challenges to completion of the WRIA 19 planning process. First, watershed analysis to identify the technical issues remains to be done in several watersheds. Second, the geographic area and diversity of limiting factors is large. Watersheds range from small, fairly intact ones to large ones with areas of substantial degradation. Third, agencies need to address escapement goals. Fourth, funding is needed to finish the planning process. Fifth, funding alone is not enough. Stakeholder involvement needs to be rejuvenated. Stakeholder aspirations need to part of the planning process, the plan, and the implementation, but stakeholder interest has waned. However, there are involved citizens who actively participate in watershed planning, attend visits to proposed restoration sites, and support and engage in recovery activities.

There are some long term concerns for WRIA 19. WRIA 19 stocks are primarily wild ones. However, what supplementation that exists may be threatened by budgets cuts. There have been some strong restoration efforts undertaken, but more strategic and robust efforts are needed. In particular, as land use diversifies in WRIA 19 with future land development, the challenge will be to have a long-term conservation strategy to protect key habitat and habitat-forming processes.

SIGNIFICANT CHANGES IN THE WORKPLAN FOR 2009

The North Olympic Peninsula Lead Entity expended substantial effort in 2008 on reviewing and updating its Strategy as well as its 3-Year and 10-Year Work Plans. The 2009 Workplan has no major departures from the North Olympic Peninsula Lead Entity's strategy or approach but some adjustment to the acceleration of Elwha dam removal. The rankings in the 2009 Work Plan remain similar to those in 2008 with the inclusion of 14 new projects (Table 1). Two of the new projects rank in the top ten overall. Four 2008 capital projects do not appear on the 2009 Work Plan either because they were funded or moved to the long-term work plan. There is more change among the 2009 non-capital projects compared to 2008 (Table 2). The Elwha Adaptive Management Plan rose to be first ranked in 2009 – a reflection of the accelerated pace of dam removal. Two new non-capital projects, WRIA 19 conservation planning and Elwha conservation planning, were in the top five non-capital projects. Three non-capital projects on the 2008 Work Plan do not appear in the 2009 Work Plan because they were funded or became restoration projects.

NEARSHORE SUMMARY

Assessments in the nearshore have been accomplished and reported (Shaffer et al. 2008) and are starting to lead to restoration actions. Nearshore restorations are planned at Dungeness and Elwha and are being designed for the Pysht. Restoration and protection actions in the nearshore have taken on an increased urgency. The recent assessments reveal that the nearshore from Elwha west are utilized by ESA-listed Chinook from the Columbia River as well as other areas. For the complete report by Shaffer et al. (2008), please see

<http://hws.ekosystem.us/SiteView.aspx?sid=180>

The key points are summarized here and more detail is provided by text in the Appendix that was taken directly from the report.

Key Points include the following:

- Nearshore has complex structure and dynamics.
- Sediment processes and drift cell structure influence habitat function.

- Nearshore water quality may be a limiting factor.
- ESA-Listed Puget Sound and Columbia River Chinook use NOPLÉ's nearshore.

REFERENCES

Point No Point Treaty Council and Washington Department of Fish and Wildlife. 2008. 2008 Management Framework Plan and Salmon Runs' Status for the Strait of Juan de Fuca Region. Joint Report. Manuscript, 14 pages with appendices.

Shaffer, A, T Ritchie, P Crain, M Beirne, and C Lear. 2008. Nearshore Function of the Central Strait of Juan De Fuca for Juvenile Fish, Including Puget Sound Chinook Salmon. Assessment Report to NOPLÉ and SRFB. 300 pages.

TABLE 1. COMPARISON OF CAPITAL PROJECTS IN 2009 AND 2008 WORKPLANS

2009 Project Number	2009 Project Name	2009 Score	2009 Rank	2008 Score	2008 Rank	Comments
35	Lower Dungeness Dikes Setback, Phase II	124.49	1	127.82	2	
16	Elwha ELJ's	124.28	2	120.15	3	
36	Lower Dungeness Channel Remeandering and ELJ Placement, Phase III	122.40	3	128.2	1	
29	Dungeness River Engineered Log Jams	122.26	4	Not in 2008	Not in 2008	This is a new project
47	Washington Harbor Tidal Flow Restoration Project	118.62	5	117.23	4	
9	Pysht Estuary Restoration (Phase I)	116.38	6	Not in 2008	Not in 2008	New for 2009, but feasibility funded through SRFB process in 2007
30	Dungeness River Corridor Protection: RM 0.8 to 12.0	115.19	7	115.65	6	
19	Elwha Culvert Replacement	114.82	8	109.5	11	
25	Morse Creek Remeander	111.38	9	110.16	10	
10	Final IMW Restoration Treatments	108.66	10	Not in 2008	Not in 2008	New for 2009, but this has been ongoing work.
17	Lower Elwha Hatchery Outfall and Berm Removal	108.29	11	98.13	22	
32	Dungeness Drift Cell Protection	108.17	12	113.36	8	
34	Dungeness Irrigation District Water Conservation Project	106.76	13	117	5	
37	North Sequim Bay Drift Cell Protection (Travis and Paradise Cove Spit Protection Project)	105.68	14	101.44	21	
14	Salt Creek Salt Marsh Reconnection	105.53	15	108.64	12	
45	Washington Harbor Drift Cell Protection	105.21	16	Not in 2008	Not in 2008	New for 2009, but feasibility funded through SRFB process in 2007
7	South Fork Pysht River Floodplain Restoration	105.16	17	Not in 2008	Not in 2008	New for 2009
33	Dungeness Irrigation Group Water Conservation Project	105.08	18	115.58	7	
1	Little Hoko River (RM 0-2.0) LWD Restoration	104.55	19	97.86	23	
46	Washington Harbor Habitat Protection Project	104.05	20	106.92	18	
15	Salt Creek Final Fish Passage Corrections Project	103.91	21	96.17	25	
11	Nearshore Restoration Strategy for Twin Rivers	103.75	22	Not in 2008	Not in 2008	New for 2009
42	Highland Irrigation District H-10 Lateral Piping	103.56	23	107.86	16	
43	Sequim Prairie Tri Irrigation Association SP-5 Lateral Piping	103.51	24	108.27	13	
44	Jimmycomelately Riparian Protection	103.33	25	107.99	15	
8	Pysht River Floodplain Acquisition (Phase I)	101.46	26	Not in 2008	Not in 2008	New for 2009
41	Meadowbrook Creek	100.98	27	94.01	27	
13	Salt Creek Habitat Protection	100.44	28	95.2	26	
18	Elwha River Estuary Restoration	100.04	29	110.71	9	
26	Morse Creek Property Acquisition	99.49	30	Not in 2008	Not in 2008	This is a new project, but it ties into 2009 Project #25, Morse Creek Remeander
31	Dungeness Riparian Reforestation	98.32	31	106.81	19	
48	Elwha River Native Steelhead Brood Development Project	97.98	32	Not in 2008	Not in 2008	New for 2009
28	Siebert Creek HWY 101 Fish Passage Restoration	97.39	33	Not in 2008	Not in 2008	This came from NOPL's 10-Year Plan Work Plan
5	Sekiu Mainstem (RM2-5) LWD Restoration	97.03	34	96.73	24	
12	Nelson Creek Fish Passage Barrier Removal Project	96.00	35	Not in 2008	Not in 2008	New for 2009
2	Hoko River – Emerson Flats LWD Supplementation	95.10	36	91.93	29	
38	Agnew Irrigation District Piping	94.98	37	105.98	20	
3	Lower Hoko River - Riparian Revegetation	94.68	38	86.22	35	This was Project #2 on the 2008 workplan, previously named "Hoko Phase II mainstem RM 1-7 Riparian Revegetation"
4	Hoko River/Hermans Creek – Instream LWD Supplementation	94.07	39	91.48	31	
6	Sekiu, Clallam Pysht Riparian Re-vegetation	91.09	40	89.48	32	
27	Siebert Creek Ecosystem Protection Phase II	87.96	41	Not in 2008	Not in 2008	New for 2009
22	Ediz Hook A Frame Site Shoreline Restoration	87.45	42	87.01	33	
39	McDonald Creek Diversion, Dam Removal and Ditch Lining	85.38	43	91.67	30	
23	Ediz Hook Beach Nourishment	84.45	44	Not in 2008	Not in 2008	New for 2009
20	Ennis Creek Habitat Restoration & Protection	78.99	45	86.94	34	
24	Port Angeles Waterfront Property Acquisition	68.66	46	Not in 2008	Not in 2008	New for 2009
21	Valley Creek Restoration	63.04	47	70.24	37	
40	Cassalery Creek Instream Flow Enhancement Project	62.95	48	Not in 2008	Not in 2008	New for 2009
None	Morse Creek (RM30-4.5) LWD restoration	Not in 2009	Not in 2009	108.14	14	Project moved to long-term workplan
None	Pitship Pocket Estuary Protection Project	Not in 2009	Not in 2009	107.74	17	Project moved to long-term workplan
None	Salt Creek LWD (RM 2.0-3.0)	Not in 2009	Not in 2009	92.8	28	SRFB funding approved 12/08
None	Tumwater Creek Resoration	Not in 2009	Not in 2009	80.11	36	Project moved from long-term workplan

TABLE 2. COMPARISON OF NON-CAPITAL PROJECTS IN 2009 & 2008 WORKPLAN

2009 Project Number	2009 Project Name	2009 Score	2009 Rank	2008 Score	2008 Rank	Comments
57	Elwha Watershed Adaptive Management Plan	96.29	1	83.94	5	
60	WRIA 19 Conservation Planning Project Narrative	89.20	2	Not in 2008	Not in 2008	New in 2009
49	Create Stable-funded Incentive Programs	88.50	3	78.5	14	
54	Elwha Conservation Planning Project Narrative	86.92	4	Not in 2008	Not in 2008	New in 2009
50	Clallam County Inventory Culverts	86.84	5	85.33	4	
67	Increase Recovery Capacity & Support NOPLA-wide	84.86	6	86.35	2	Project 56 in 2008
53	Clallam Watertype Inventory & Assessment	84.78	7	76.94	20	
70	Assess implementation of CAO,SMP & HPA ordinance	84.13	8	79.25	12	
66	12 River Channel Migration Zone Assessment	84.10	9	80.97	7	
76	Elwha River Salmon Enumeration Weir	83.74	10	Not in 2008	Not in 2008	New in 2009
71	NOPLA Area Wide increase compliance with ordinances & codes	83.59	11	79.18	13	
55	Elwha Nearshore Action Plan	83.53	12	Not in 2008	Not in 2008	New in 2009
72	NOPLA Area Wide update stormwater management program	81.76	13	85.89	3	
75	NOPLA Area wide Monitoring Program	81.12	14	87.97	1	
52	Clallam County Map Roadside Ditches	80.33	15	77.7	18	
73	NOPLA Area Wide update Shoreline Master Program (SMP)	78.87	16	79.37	11	
63	Dungeness River Habitat Resurvey	77.91	17	78.99	14	
64	Dungeness Improved Fisheries Enforcement	77.78	18	68.21	24	
59	Port Angeles Harbor Basin Program	77.24	19	Not in 2008	Not in 2008	New in 2009
51	Clallam County Salmonid Outreach Planner	76.72	20	77.94	17	Project 52 in 2008
74	NOPLA Area Adaptive Management Plan & Monitoring	76.42	21	75.83	21	
65	Jimmycomelately Creek & Dungeness River Habitat	76.36	22	78.02	16	
69	NOPLA area wide data base for habitat restoration, protection, & permitted activities	75.31	23	73.17	22	
58	Elwha Morse Management Team	74.15	24	79.52	9	
68	NOPLA – Area Wide Outreach Program	74.02	25	70.71	23	
56	Elwha River Nearshore Biodiversity Investigations	72.43	26	Not in 2008	Not in 2008	New in 2009
61	WRIA 19 Watershed Council	64.41	27	77.64	19	
62	Dungeness River Management Team	64.41	28	79.46	10	
None	Siebert Creek Highway 101 Fish Passage Restoration Phase 1 Conceptual Design	Not in 2009 Non-Capital	Not in 2009 Non-Capital	81.33	6	Now proposed as Restoration Project. Now project #28 on the 2009 Capital list, was #37 on the 2008 Non-capital list.
None	Clallam River Mouth Geomorphology Assessment	Not in 2009	Not in 2009	80.19	8	Funded previously
None	Update State of the Waters of Clallam County	Not in 2009	Not in 2009	62.92	25	Project 53 previously has been dropped

FINDINGS AND RECOMMENDATIONS FOR NEARSHORE AREAS WITH THE NOPLÉ AREA

The findings and recommendations provided below are taken directly from the Nearshore Assessment report available at:

<http://hws.ekosystem.us/SiteView.aspx?sid=180>

FINDINGS:

1. Nearshore has complex structure and dynamics.
 - a. Ecological function in the nearshore is complex, and genetic work reveals that there is a strong cross regional element to fish use of the Strait nearshore.
 - b. Ecological function in the nearshore has a very strong seasonal variation both within and across geomorphic habitat type;
 - c. Different geomorphic habitat types of the nearshore function differently, but the function appears complex. Statistical analysis reveals a significant difference in ecological function at the drift cell scale but not at lower resolution within Elwha and comparative drift cells. Nearshore restoration projects should therefore be based on restoration priorities that are defined at the drift cell scale if the intent is to restore ecosystem function.
 - d. Ecological function by geomorphic habitat type varies with site and so it is not possible to predict habitat function based solely on geomorphic habitat type. For example, though the main channel nearshore of both Twins and Salt Creek are important for wild coho, the Twins lower river and nearshore appears to function much differently than lower river's of Salt Creek for juvenile coho. Within specific drift cells it is important to understand how these specific habitats work, and how future restoration actions will affect this function. In particular Twins, Salt Creek, Pysht and

Elwha specific nearshore will require long term monitoring. The Elwha nearshore will require modeling of fish use physical processes to predict restoration response, and so priority.

2. Sediment processes and drift cell structure influence habitat function.
 - a. The majority of the Elwha drift cell, and in particular the embayed shoreline, bluff, and spit habitats, functions lower ecologically than comparative drift cells.
 - b. Despite lower ecological function, the Elwha nearshore, including the embayed, spit and bluff portion of the drift cell, support the highest density of juvenile salmon, and in particular Chinook salmon, than any other area in the study. This combination of low ecological function but high salmon use leads us to conclude that the restoration of the Elwha drift cell is a top priority for the central Strait.
 - c. The Elwha west estuary consists of 20% of the entire 80+acres of the Elwha estuary, but for the duration of this study supported upwards of 90% of salmon, and over 94% of Chinook salmon collected from the entire estuary. Sediment processes are theorized to dictate fish use of the east and west connected portions of the estuary. Sediment processes in the lower river of the Elwha are dynamic, and will be more so with dam removal. Given the fish's ability to discern available habitat it is therefore a priority to provide the most habitat possible for their use. The impounded portion of the west estuary, which comprises approximately 9% of the total estuary, had 40% of all fish collected, but none of the salmon.
3. Nearshore is used by Chinook.
 - a. ESA listed stocks of Puget Sound and Columbia River stocks of Chinook were documented to utilize the western Strait, including the Pysht, Crescent Bay, and Freshwater Bay shorelines.

- b. Management and recovery plans for these species need to reflect this distribution as soon as possible. Additional research defining more clearly this use is recommended.
4. Forage fish status and dynamics need attention.
- a. Documentation of surf smelt spawning along active feeder bluffs within the Dungeness drift cell. This discovery provides new insight into the unique nature of Strait high energy shorelines, and provide strong justification for revising management of feeder bluffs at regional, state, and national scale;
 - b. There appears to be a correlation between adult and juvenile smelt and spawn density. This indicates that observations of variability in spawning may have a functional base that should be further defined. This relationship may be useful for predicting forage fish spawning beaches;
 - c. The illusive nature of sand lance spawning combined with high sand lance juvenile and adult numbers bears additional monitoring and more detailed analysis. Fish use of shorelines and of kelp beds appears to have very high interannual and geographic variation. Use also appears to be related to variation in physical processes, including depth, and kelp density, of kelp bed habitat and life history.
5. Nearshore water quality may be a limiting factor.
- a. Water quality, and in particular temperature, may in fact be a limiting factor for the lower rivers and side channels of the nearshore central Strait. Nearshore areas with elevated temperatures (Pysht and Salt Creek) were documented to have shad, a warmer water non-native species that has annually has significant interactions with Columbia River salmon returns. The similarities in water quality trends in river and nearshore of Salt Creek and Twins indicate linkages between the two. More detailed assessment of nearshore water quality specific to habitat function for fish, and specifically linkages between freshwater and nearshore water quality/temperature would be very wise. In the absence

of this scale of assessment, rivers should be managed to preserve and restore healthy nearshore water quality, and in particular temperature. Increasing LWD and riparian corridors along the riverine and nearshore portions of watersheds, including the nearshore, and preventing shoreline development both in the river and shoreline, are recommended.

RECOMMENDATIONS FOR NEARSHORE MANAGEMENT AND RESTORATION:

1. Elwha drift cell is ecologically degraded, but heavily used by ESA listed salmon stocks, including a number of Columbia River stocks. Sediment is the dominant limiting factor of the Elwha drift cell. The river does provide a very much reduced sediment delivery to the nearshore, and work on sediment circulation within the Elwha nearshore indicate that shorelines proximal to the Elwha river mouth may be slightly less sediment starved than those further away. This theory is supported by documentation of surf smelt spawn only along the portion of the Elwha drift cell the beach immediately adjacent to the Elwha river mouth (Freshwater Bay). Restoration of the degraded Elwha drift cell, including the feeder bluffs and Ediz Hook is therefore a top priority. Restoration of feeder bluffs and Ediz Hook will require additional modeling of anticipated sediment processes to define actions appropriate to achieve the highest restoration response. This action is time sensitive and must occur prior to dam removal.
2. The Elwha west estuary is one of the highest functioning areas for ESA salmonid use in this study. Sediment dynamics in the overall Elwha estuary are dynamic, and will continue to be so thru dam removal. Estuaries are well known bottle necks for salmon recovery. Restoring the Elwha estuary is therefore a top priority to achieve ecosystem restoration intended with dam removals. At a minimum, short term restoration of fish use via dike revision for fish passage is a high priority for action prior to dam removal in order to provide fish the highest estuary habitat opportunity during and after dam removals;
3. Preservation of Elwha west estuary and shoreline, including conservation easement and acquisition of private properties of the west estuary and Freshwater Bay shoreline, is a high priority that should begin immediately. This work can happen independent of the dam removal timeline, but should begin

- immediately due to the increasing development along the shoreline, which is almost completely in private property status;
4. Crescent Bay and Salt Creek nearshore are some of the highest intact and ecologically functioning areas of nearshore in the study. Water quality, in particular temperature, is a concern for the Salt Creek nearshore. The Crescent Bay and lower Salt Creek are entirely privately owned, and so are at high risk for future degradation from development. Crescent Bay and Salt Creek nearshore are therefore a priority for acquisition and restoration. Forage fish use of Crescent Bay for migration appears very high. In particular sand lance use of Crescent Bay indicates spawning-additional long term monitoring of this area is recommended.
 5. The Twins nearshore appears to be function much differently for salmon than other nearshore areas of the central and western Strait. Understanding this function is critical for successful long term restoration and preservation of critical Twins salmon resources .is necessary to define fish use, and restoration needs of the Twins lower river. Continued long term monitoring of nearshore fish use of the Twins nearshore is needed.
 6. The Twins shoreline has extremely high diversity and richness, and supports well documented forage fish spawning. The nearshore Twins appears to be functioning differently for salmonids than others nearshore areas of the central and western Strait. This difference in function may be due to nearshore alterations of the lower rivers and shoreline that have resulted in shifts in nearshore habitat function. Given the Twin's importance for coho, steelhead, and cutthroat restoration actions of acquisition and restoration of Twins nearshore (both estuary and shoreline)are a high priority, as well as further detailed assessment to understand salmon use of this nearshore area;
 7. The similarities in water quality trends in river and nearshore of Salt Creek and Pysht indicate linkages between the watershed and nearshore water quality. More detailed assessment of nearshore water quality specific to habitat function for fish, and specifically linkages between freshwater and nearshore water quality/temperature would be very wise. In the absence of this scale of assessment, these rivers should be managed to preserve and restore healthy

- nearshore water quality, and in particular temperature. Increasing LWD and riparian corridors along the riverine and nearshore portions of watersheds, including the nearshore, and preventing shoreline development both in the river and shoreline, are recommended.
8. Fish use of kelp beds appears to have very high interannual variation. Use also appears to be related to habitat type and variation in physical processes of kelp bed habitat. Continued long term monitoring of nearshore fish use of Strait of Juan de Fuca kelp beds, to better understand nearshore use, interannual variation and restoration response to restoration actions;
 9. Feeder bluffs throughout the inland waters of Puget Sound need to be managed for forage fish spawning. State wide management of feeder bluffs needs to be revised immediately assess feeder bluff beaches for forage fish spawning, and sediment management associated with feeder bluffs needs to be expanded to include not only volume of material provided, but the rate at which bluffs feed to the nearshore;
 10. The feeder bluffs of the Dungeness drift cell are currently privately owned and at high risk of degradation. Their acquisition and preservation is a top priority;
 11. Juvenile Puget Sound Chinook and numerous listed stocks of Columbia river juvenile Chinook have been documented to use the central and western Strait nearshore. Recovery plans boundaries for these species need to be revised to formally include these geographic areas.

PROJECT NARRATIVES

No.	Project Description	Likely Sponsor(s)
Capital Projects		
Habitat		
1	<p>Little Hoko River (RM 0-2.0) LWD Restoration</p> <p><u>Project Description & Purpose</u></p> <p>The Little Hoko River has received extensive habitat restoration efforts between 1994 and 1998. Projects included cattle exclusion, planting of 20,000 native trees and shrubs, floodplain road abandonment, off-channel habitat development and restructuring of channel habitats using LWD. Monitoring has shown that the project has been successful in restoring channel and riparian habitat features. Additional LWD treatments have been identified to facilitate floodplain reconnection particularly in channel reaches that have incised from historic land use practices. This project would involve the addition of key pieces of LWD (~200) using a heavy lift helicopter.</p> <p><u>Benefit to Salmon</u></p> <p>The Little Hoko River provides spawning and rearing habitat for Chinook, coho, steelhead, chum and cutthroat trout. Chronic deficiencies in large wood have been identified for streams throughout WRIA 19 including the Little Hoko River. 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.</p> <p><u>Restoration of Ecosystem Functions</u></p> <p>This project builds on previous efforts to achieve watershed scale restoration. Additive LWD restoration supports multiple habitat</p>	LEKT

	<p>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 transfer to long term conservation ownership (state parks) in the watershed and well as commitments to long term monitoring by the LEKT and Makah.</p> <p><u>Certainty/Timing/Success</u></p> <p>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</p> <p><u>Partners</u></p> <p>LEKT and Makah, Washington State Parks</p>	
<p>2</p>	<p>Hoko River – Emerson Flats LWD Supplementation</p> <p>Other projects will restore spawning and rearing habitat in the Hoko Mainstem, approximately RM 6, which is known Chinook habitat.</p> <p><u>Why the Project is Needed (limiting factors addressed)?</u></p> <p>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><u>Benefit to Salmon</u></p> <p>This project will benefit Chinook as well as coho, chum, steelhead and cutthroat.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <p>Hoko River Fit To Strategy on www.Noplegroup.org</p> <ol style="list-style-type: none"> 1. The NOBLE 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 	<p>Makah</p>

	<p>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></p> <p>Makah as project sponsor</p>	
<p>3</p>	<p>Lower Hoko River - Riparian Revegetation</p> <p>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></p> <p>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></p> <p>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></p> <p>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</p>	<p>NOSC/ Makah</p>

	<p>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></p> <p>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></p> <p>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></p> <p>NOSC as project sponsor, Makah as sponsor</p>	
<p>4</p>	<p>Hoko River/Hermans Creek – Instream LWD Supplementation</p> <p>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 and cutthroat.</p>	<p>Makah</p>

<p>5</p>	<p>Sekiu Mainstem (RM2-5) LWD Restoration</p> <p>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>	<p>Makah</p>
<p>6</p>	<p>Sekiu, Clallam Pysht Riparian Re-vegetation</p> <p>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>	<p>Makah/ LEKT</p>
<p>7</p>	<p>South Fork Pysht River Floodplain Restoration</p> <p><u>Project Description & Purpose</u></p> <p>The South Fork Pysht River has received extensive habitat restoration efforts dating to 1994. These projects have been conducted at the reach scale and proponents have attempted to connect reach scale</p>	<p>LEKT</p>

	<p>restoration efforts in an effort to restore physical processes at the watershed scale. Projects completed to date include off-channel habitat development, restructuring of channel habitats using LWD and riparian reforestation. Monitoring has shown that these projects have been partially successful in restoring channel and riparian habitat features. Additional LWD treatments have been identified to facilitate floodplain reconnection particularly in channel reaches that have incised from historic land use practices and in the lower 0.5 miles which has had no restoration treatments to date. This project would involve the addition of key pieces of LWD (~200) using a heavy lift helicopter as well as the under-planting of conifers on terraces adjacent to the river. Riparian forests of the SF Pysht River are dominated by uniform stands of red alder with dense brush understories. We propose to underplant shade tolerant conifer species on low terrace features adjacent to the river. Site preparation and long term maintenance will be required to maintain these plantings over time.</p> <p><u>Benefit to Salmon</u></p> <p>The South Fork Pysht 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 South Fork Pysht and its largest tributary (Salmonberry 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> <p><u>Restoration of Ecosystem Functions</u></p> <p>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. Long term monitoring of the overall project is being conducted by the LEKT and</p>	
--	--	--

	<p>Merrill and Ring.</p> <p><u>Certainty/Timing/Success</u></p> <p>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</p> <p><u>Partners</u></p> <p>LEKT and Merrill & Ring</p>	
<p>8</p>	<p>Pysht River Floodplain Acquisition (Phase I)</p> <p>The WRIA 19 Limiting Factors Analysis (LFA), Pysht River Floodplain Report, and WSDOT Reach Analysis have all identified the lack of floodplain connection as a causal mechanism for many of the limiting factors (i.e. increased sediment loading, habitat simplification, and chronic bank erosion) plaguing the lower Pysht River mainstem.</p> <p>This project would permanently protect and “rehabilitate” (Roni et al. 2008) 21.59 acres of Pysht River floodplain and channel migration zone, as well as remove existing infrastructure currently contributing to decreased floodplain connectivity. This area is situated between RM 9.0 and 10.0, containing approximately 0.25 miles of the Pysht River, and occupying a critical transition zone of valley confinement.</p> <p>This project is intended to be Phase I of three project elements to be implemented over the next five years:</p> <p>Phase II will be to install 3-5 engineered log jams (ELJ) hard points (Montgomery 2005) adjacent to Highway 112, fixed roughness elements dispersed throughout the active floodplain, and 3-5 ELJs in the active mainstem of the Pysht River. The intent of the “hard points” associated to Highway 112 is to naturally retard any future lateral migration of the Pysht River that may cause structural damage to the highway road system. The fixed elements stationed in the active floodplain are intended to promote over-wintering habitat (where it currently exists in degraded condition) and increase</p>	<p>NOLT/ Makah/ LEKT</p>

	<p>sediment deposition during flood flows. Mainstem ELJs will be installed to improve floodplain connectivity and promote natural channel meander pattern.</p> <p>Phase III will include intensive riparian revegetation of the acquired land once channel response to phase II has been adequately evaluated. Channel response from phase II will dictate spatial distribution of both species and abundance of the replanting effort.</p> <p>This project embodies many of the objectives of the NOPL strategy and Puget Sound Partnership Action Agenda. It also adheres to the hierarchical strategy of prioritizing rehabilitation efforts (Roni et al. 2002) by protecting watershed-based processes and functions first, and then addressing instream physical habitat.</p>	
<p>9</p>	<p>Pysht Estuary Restoration (Phase I)</p> <p><u>Description and Purpose</u></p> <p>The Pysht Estuary Engineering Feasibility Study, funded by a 7th round SRFB grant, has been working to identify restoration opportunities in the Pysht River estuary, the second largest salt marsh estuary in the Strait of Juan de Fuca. The estuary is thought to have been modified by historic practices associated with the marine transport of logs that occurred from 1915-1975. These actions include dredging, road construction and the installation of driven log sheet piling. To date a technical review group has identified several restoration actions that have the potential to reconnect the lower river with its historic salt marsh. The first phase of this restoration action is the removal of a series of roads built over salt marsh habitats just to the west of the Pysht estuary sandspit. These roads were built to store logs prior to being rafted. Collectively they disconnect 15 acres of salt marsh. They are no longer being used and have been colonized by upland and non-native vegetation communities. This project would remove the road and restore connectivity to this portion of the salt marsh.</p> <p><u>Benefit to Salmon</u></p> <p>The Pysht River supports populations of Chinook, chum, and coho salmon as well as steelhead and cutthroat trout. Numerous species including juvenile lingcod, sculpin, starry flounder and forage fish have</p>	<p>LEKT/ Merrill and Ring/ Cascade Land Conservancy</p>

	<p>been found in unaffected portions of the estuary and salt marsh habitats. It is expected that recovering access to this portion of the historic salt marsh will provide suitable habitat for these species.</p> <p><u>Restoration of Ecosystem Function</u></p> <p>This project restores ecosystem function by directly recovering and reconnecting salt marsh habitat in the Pysht River estuary. This will result in increased interchange between the river and the salt marsh, particularly during floods. Increased interchange from tidal inundation will also occur allowing colonization by numerous biota. Increased access also restores tidal prism processes that result in self maintaining habitat formation.</p> <p><u>Capacity/Timing/Success</u></p> <p>This project represents the first or several potential large scale restoration actions planned in the Pysht River estuary. A conservation easement of the entire estuary has been negotiated. Engineering of the details of this project has not as yet been completed. This project has a high probability of success as it is similar to other estuary/salt marsh fill removal projects that have been completed in Puget Sound.</p> <p><u>Partners</u></p> <p>LEKT, Merrill and Ring, Cascade Land Conservancy, Washington Department of Fish and Wildlife</p>	
<p>10</p>	<p>Final IMW Restoration Treatments</p> <p><u>Project Description & Purpose</u></p> <p>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</p>	<p>LEKT</p>

	<p>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></p> <p>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> <p><u>Restoration of Ecosystem Functions</u></p> <p>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><u>Certainty/Timing/Success</u></p>	
--	---	--

	<p>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 an interagency science team chaired by the DOE.</p> <p><u>Partners</u></p> <p>LEKT, WDFW, DOE, WDNR, NOAA, SRFB</p>	
<p>11</p>	<p>Nearshore Restoration Strategy for Twin Rivers</p> <p><u>Project Description</u></p> <p>The project consists of 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><u>Limiting Factors, Benefit to Salmon, Project Success, Recovery Plans</u></p> <p><u>Timing & Other Key Information</u></p> <p>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</p>	<p>WDFW/ WDNR/ LEKT</p>

	<p>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 that occur near the East and West Twin Rivers and recommended the following list of restoration and acquisition 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 of the lower river on shoreline alterations combined with naturally occurring macroalgae blooms; 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 Tier 2 in the North Olympic Peninsula Lead Entity Group 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 LEKT 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>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>12</p>	<p>Nelson Creek Fish Passage Barrier Removal Project</p> <p>(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></p> <p>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></p> <p>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 steam could be opened to fish passage by this improvement project. (WRIA 19 LFA)</p> <p><u>Benefit to Salmon</u></p> <p>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></p> <p>Nelson Creek is in WRIA 19 where the watershed plan is under</p>	<p>CC/ WDNR</p>

	<p>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></p> <p>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></p> <p>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></p> <p>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></p> <p>Project costs are based on County experience with very similar salmon enhancement projects in the Joyce area.</p> <p><u>Other Key Information</u></p> <p>The County and WDNR will be working together on this project to provide match funding. It is anticipated that WDNR 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>13</p>	<p>Salt Creek Habitat Protection</p> <p><u>Project Description</u></p> <p>This project will permanently protect, by means of conservation easements and fee simple acquisition, 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 by Mike McHenry and Randall McCoy of the LEKT Fisheries. The Assessment identifies <u>conversion</u> 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 present conservation options such as conservation easements and fee simple purchase. The Land Trust will negotiate with willing landowners to acquire land by purchase and/or donation. Habitat protection in perpetuity will ensure that the best existing habitat for salmon is not converted to development.</p> <p>Project partners include landowners, CC, Cascade Land Conservancy, WDFW, and LEKT as a technical advisor on restoration opportunities on conserved lands.</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>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</p>	<p>NOLT</p>
-----------	---	-------------

	<p>recruitment.</p> <p><u>Benefits to Salmon</u></p> <p>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></p> <p>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></p> <p>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>Certainly of Project Success</u></p> <p>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></p> <p>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</p>	
--	---	--

	<p>best existing habitat and protecting those properties first.</p> <p><u>Cost Appropriateness</u></p> <p>Land values are low making now an opportune time to acquire the best existing habitat for salmon.</p>	
14	<p>Salt Creek Salt Marsh Reconnection</p> <p>Salt Creek estuary provides critical estuarine habitat to a number of critical stocks including Chinook, steelhead, and coho. The Salt Creek estuary is bisected by a 1000 foot long, 10 feet high and 50 foot wide earthen dike, which was installed in the early 1920's. The dike road, which provides access to actively managed private forest lands and residences, includes two 1 foot wide square wooden culverts that were installed when the dike was built (Figure 4). The culverts are failed, and undersized. They do allow extremely limited fish access but are largely passage barriers.</p> <p>The dike is completely on private property. The majority of the dike is owned by one landowner, who has applied to Family Forest Fish Passage Program for fish passage restoration. With the specific goals of 1) Improving fish access; 2) Decreasing mosquito populations and; 3) Possibly provide additional water storage during high flows. The project has tentatively been accepted for Wetland Reserve funding. The CCD, WDFW, and the landowner of the dike continue working together.</p> <p>The project provides fish passage to the west estuary. It will include finalizing design specifications (currently range from bottomless six foot culverts to a span), permitting, and project implementation. Community landowner issues are ongoing.</p>	CCD/ LEKT
15	<p>Salt Creek Final Fish Passage Corrections Project</p> <p><u>Description & Purpose</u></p> <p>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</p>	LEKT/ CCD/CC

	<p>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 F streams (Forest Practice Guidelines classification) with undersized culverts on a mix of ownerships including privately owned roads, county roads and Highway 112.</p> <p><u>Benefits to Salmon</u></p> <p>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></p> <p>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></p> <p>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 WSDOT may require time outside of the three-year window.</p> <p><u>Partners</u></p> <p>LEKT, CC, Washington Department of Transportation</p>	
--	---	--

<p>16</p>	<p>Elwha ELJ's</p> <p><u>Description & Purpose</u></p> <p>Removal of two hydroelectric dams on the Elwha River is scheduled for 2012 as authorized by the Elwha River Ecosystem and Fisheries Act (PL102-495). Complementary to this large scale ecosystem restoration project, efforts are being made to restore floodplain habitat conditions in the lower Elwha River prior to dam removal. These include removal of unnecessary flood control structures, addition of large wood in the form of engineered logjams, floodplain revegetation, and pre-project monitoring. Between 1999 and 2008, 26 engineered logjams were constructed between RM 1.0-2.5. An additional 35-50 ELJ sites have been identified to maximize habitat conditions prior to dam removal. Although partial funding has been obtained to construct these structures, additional funding is likely to reach target ELJ levels.</p> <p>The Elwha River supports highly imperiled populations of pacific salmon including listed populations of Chinook salmon, steelhead and bull trout.</p> <p><u>Benefit to Salmon</u></p> <p>The Elwha River provides spawning and rearing habitat for pink, coho, chum and Chinook salmon as well as steelhead, bull and cutthroat trout. Some of these populations are listed as threatened under the Endangered Species Act including Puget Sound Chinook, Puget Sound steelhead and bull trout. Others are not listed but considered unique and also critically threatened, including chum and pink salmon. Chronic deficiencies in large wood have been identified for the Elwha River as a result of historic land use and river management practices including channelization, floodplain logging, and snag retrieval. Construction of the dams has also greatly reduced the fluvial transport of large wood to the lower river. 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.</p> <p><u>Restoration of Ecosystem Functions</u></p> <p>This project builds on the initial efforts to restore severely degraded</p>	<p>LEKT</p>
------------------	--	-------------

	<p>habitats in Elwha River dating to 1999. LWD restoration using ELJ techniques 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. LWD restoration in the lower portions of the Elwha River is considered particularly important by members of the Technical Review Group as these habitats are currently supporting all spawning and rearing of anadromous fish in the drainage. This reach of the river has also been most impacted by the cumulative effects of dam construction and channelization.</p> <p><u>Certainty/Timing/Success</u></p> <p>This project utilizes techniques used, tested refined in the Elwha and several other large Olympic Peninsula watersheds over the last 15 years. The currently preferred architecture for ELJ's results in very large and stable gravity type structures that provide multiple benefits for multiple species. This proposal builds on previous treatments in that ELJ's are being structured throughout the lower river, in sequence and together to maximize effects. Engineering and permitting for this project has already been completed and costs are based on estimates derived from similar projects conducted in the last 5 years. Extensive monitoring of previously installed projects has occurred in cooperation with NOAA and USFWS.</p>	
<p>17</p>	<p>Lower Elwha Hatchery Outfall and Berm Removal</p> <p><u>Description and Purpose</u></p> <p>The Lower Elwha Klallam Tribal hatchery was constructed in the Elwha River floodplain in 1975 to mitigate losses of fish from two hydroelectric dams. A 2000' channel was constructed between the hatchery and the river to allow ingress and egress of fish to the facility. The channel was constructed as a straight ditch and spoils that were excavated from the floodplain were placed on both sides of the channel. This has resulted in a perpendicular dike across the Elwha Rivers floodplain. The current hatchery site is expected to be abandoned as a new facility will be built upstream beginning in 2009. This project proposes to fill the existing channel by removing berm deposits to reestablish native floodplain elevations. This project will</p>	<p>LEKT</p>

	<p>improve floodplain connectivity and allow historic floodplain channels to reactivate.</p> <p><u>Benefit to Salmon</u></p> <p>The Elwha River provides spawning and rearing habitat for pink, coho, chum and Chinook salmon as well as steelhead, bull and cutthroat trout. Some of these populations are listed as threatened under the Endangered Species Act including Puget Sound Chinook, Puget Sound steelhead and bull trout. Others are not listed but considered unique and also critically threatened, including chum and pink salmon. Chronic deficiencies in large wood have been identified for the Elwha River as a result of historic land use and river management practices including channelization, floodplain logging, and snag retrieval. Channelization has been particularly intensive on the lower river. The hatchery outfall berm and the west side estuary levee effectively narrow the river channel to approximately 1200' at the mouth. This, in combination with other channelization has eliminated historic distributaries in the estuary.</p> <p><u>Restoration of Ecosystem Functions</u></p> <p>Removal of the hatchery outfall berm immediately restores habitat forming processes in the lower river by allowing the river to access historic side-channels and overflow channels in the lower river and estuary. During floods the berm acts to divert flows away from Bosco Creek and the estuary toward the end of Elwha River road. This has reduced connectivity of the river to over 50 acres of historic lower river and estuary habitat.</p> <p><u>Certainty/Timing/Success</u></p> <p>This project has high certainty of success in that it involves only earth moving and revegetation. The existing berm will be removed using heavy equipment and soil from the berm will be placed into the outfall channel from which it was excavated in 1975. The goal will be to match existing floodplain elevations and to ensure reconnection with historic channels. Revegetation will be conducted using native deciduous and coniferous trees.</p>	
--	---	--

<p>18</p>	<p>Elwha River Estuary Restoration</p> <p>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>	<p>LEKT/ CC/ WDFW/ TNC</p>
<p>19</p>	<p>Elwha Culvert Replacement</p> <p>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 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>LEKT/ ONP</p>

<p>20</p>	<p>Ennis Creek Habitat Restoration & Protection</p> <p>1) Continue prior restoration, including addition of large woody debris and boulder placement on the approximately one-quarter mile of 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 Port Angeles 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.</p> <p>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</p>	<p>LEKT/ NOLT/WFC</p>
-----------	--	-----------------------

	<p>upheld by NOLT. 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>21</p>	<p>Valley Creek Restoration</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 system. 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>Valley Creek Restoration Committee/ City of Port Angeles/ NOSC</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>22</p>	<p>Ediz Hook A Frame Site Shoreline Restoration</p> <p><u>Description and Purpose</u></p> <p>The A-Frame was a log dump structure on Ediz Hook in Port Angeles Harbor that had its creosote pilings removed in 2007 by WDNR. However, other bank hardening and associated structures that could potentially have destabilized the shoreline and thus the city roadway were allowed to be removed. This resulted in large concrete pieces remaining at access road ends and piles/wooden bulkhead remaining in place. This proposal targets the removal of remaining structures in a fashion that promotes habitat forming processes and the nourishment of the inner beach through grading, replacement of beach material, and placement of soft armoring materials, such as logs with intact root wads. Beach restoration would include appropriate stabilization of the roadway in a manner acceptable to the City of Port Angeles.</p> <p><u>Benefit to Salmon</u></p> <p>This project will partially restore habitat forming process on 1200' of the inner harbor of Ediz Hook. The natural shoreline of Ediz Hook and Port Angeles has been extensively altered over the century to promote industrial development. The inner shoreline of Ediz Hook is less impacted than other sites and is known to support spawning of forage</p>	<p>LEKT/ WDNR/ City of Port Angeles</p>

	<p>fishes (smelt). Numerous other species are known to rear along Ediz Hook and large numbers of pink salmon have been recently captured in seine samples.</p> <p><u>Restoration of Ecosystem Function</u></p> <p>Full restoration of Ediz Hook is not currently possible because of disruptions to its sediment supply. The Ediz Hook drift cell has been severely impacted because of hardening of the bluffs to the west as well as the construction of dams on the Elwha River. These actions have greatly reduced sediment supplies to the drift cell and have forced large and expensive armoring projects by the ACOE. This project restores partially restores ecosystem functions by removing unnatural materials from the beach front, restoring natural beach geometry and by providing a source of wood and sediment to the inner portions of Ediz Hook. Removal of non-native plants and revegetation with native dune species will also be included as part of the project.</p> <p><u>Certainty/Timing/Success</u></p> <p>This proposal has a high certainty of success as it will use methods identical to those used on 1400' of property adjacent to the site. This area was successfully restored as a mitigation project in 2005. This project will be additive to the previous effort.</p> <p><u>Partners</u></p> <p>Washington Department of Natural Resources, LEKT, City of Port Angeles.</p>	
<p>23</p>	<p>Ediz Hook Beach Nourishment</p> <p>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, and Project #22.</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>“Loss of shoreline sediment from the armoring of the water line”; and</p>	<p>LEKT/ City of Port Angeles/ Port of Port Angeles/ WDNR</p>

	<p>“need for supplemental beach nourishment”</p> <p>(Salmon And Steelhead Habitat Limiting Factors Water Resource Inventory Area 18).</p> <p><u>Benefit to Salmon</u></p> <p>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></p> <p>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”.</p> <p>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></p> <p>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></p> <p>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></p> <p>The project should take two years total. In the first year, design and permitting will be completed.</p> <p><u>Cost Appropriateness</u></p> <p>The cost estimate is extrapolated from cost estimates in the Ediz Hook A-frame Site Shoreline Restoration, Project #22 on the Three Year Workplan Narrative 2008.</p> <p><u>Other Key Information</u></p> <p>Project Partners may include The LEKT, the City of Port Angeles, the Port of Port Angeles, & the Washington State Department of Natural Resources.</p>	
<p>24</p>	<p>Port Angeles Waterfront Property Acquisition</p> <p><u>Project Description</u></p> <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 0.3 miles 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.</p> <p><u>Location of project & stock status and trends</u></p> <p>From Salmon and Steelhead Limiting Factors for WRIA 18 (p. 44-45)</p> <p>“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).</p>	<p>NOLT/ City of Port Angeles/ Valley Creek Restoration Committee/ LEKT</p>

	<p>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).”</p> <p>From Salmon and Steelhead Limiting Factors, Estuarine (p.147)</p> <p>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.</p> <p>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).</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>LFA WRIA 18 - Habitat Loss, degraded nearshore and estuarine conditions.</p> <p>Port Angeles Shoreline Plan - “Public access to the water along Railroad Avenue is limited and uninviting – an important potential exists.” (p.2).</p> <p>Opportunities exist to enhance previous restoration efforts that would benefit multiple stocks after the property is purchased.</p>	
--	--	--

	<p><u>Benefits to Salmon</u></p> <p>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.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this project meet and how?</u></p> <p>Port Angeles Shoreline Rehabilitation Plan, 1982. “Reestablish shoreline edges” and “public access to the waterfront edge”. (p. 9)</p> <p>NOPLE Recovery Plan. Goals 2, 3, 4, 5</p> <p>Puget Sound Partnership – Harbor cleanup goals</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>This project will expand Valley Creek’s Estuary habitat and improve ecosystem function.</p> <p>Acquiring this property would fulfill NOBLE’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 of 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).</p> <p><u>Certainly of Project Success</u></p> <p>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 NOLT to keep the land undeveloped, make it available for restoration, and eventually make the resource available to the public for enjoyment and education.</p>	
--	--	--

	<p><u>Address Timing Needs and Sequencing Requirements</u></p> <p>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></p> <p>The property is on the market for \$2.7 million. 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>	
25	<p>Morse Creek Remeander</p> <p>This project will restore high quality main stem, side channel, and off-channel habitat historically used by all the imperiled Morse Creek salmonids and also by coastal cutthroat trout. Work will include 1) restoration of the 1939 stream channel, 2) reconnection of the stream with 9.3 acres of floodplain, and 3) construction of two or more substantial engineered log jams. Morse Creek is a medium-sized tributary to the Strait of Juan de Fuca. Much of the stream reach within the WDFW property (RM 1.2 to 1.7) is severely degraded by human impacts. It is channelized, confined, over-steepened, diked and depleted of large wood, resulting in severe channel simplification. The channel is extremely energetic, paved with large cobbles and boulders, and lacks complexity. Fish habitat conditions are extremely poor. The project is identified as a high priority for WRIA 18 and has received strong support to date with a funded and completed feasibility study and conceptual design, and funding of engineering which will be completed in spring 2009. Some construction funds have been secured but due to low funding availability in 2008, additional construction funds will be needed before project implementation in 2010.</p>	NOSC

	<p><u>Limiting Factors Addressed</u></p> <p>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></p> <p>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></p> <p>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></p> <p>Pink salmon, coho salmon, summer steelhead, sea-run cutthroat trout</p> <p><u>Habitat Status</u></p> <p>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</p>	
--	---	--

	<p>total surface area is classified as pool habitat.</p> <p><u>Ecosystem Restoration</u></p> <p>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></p> <p>This project is being conducted through a partnership with WDFW (landowner), NOSC (Project Lead), and a technical advisory group comprised of LEKT and JSKT and CC. Initial funding has been provided by the WWRP program and SRFB.</p>	
<p>26</p>	<p>Morse Creek Property Acquisition</p> <p>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, Project #25)</p> <p><u>Limiting Factors Addressed</u></p> <p>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>WDFW</p>

	<p><u>Stock Status and Trends</u></p> <p>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></p> <p>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></p> <p>Pink salmon, coho salmon, summer steelhead, sea-run cutthroat trout</p> <p><u>Habitat Status</u></p> <p>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></p> <p>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</p>	
--	---	--

	<p>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></p> <p>This project is being conducted through a partnership with WDFW (project lead) and NOSC (project support).</p>	
<p>27</p>	<p>Siebert Creek Ecosystem Protection Phase II</p> <p><u>Project Description</u></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. In 2002 an effort to protect the lower 2 miles of Siebert Creek was initiated by Pacific Woodrush and NOLT 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.</p> <p>The goal of Phase 2 is extend the riparian buffer another river mile on the west side of the creek. 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. Landowners on the east side of the creek have been contacted and are willing to have conservation easements put on their properties. Two marine feeder bluff properties will be protected with conservation easements in the project area. A total of 295 acres could be protected.</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>NOLT</p>

	<p><u>Area Description: (from SALMON AND STEELHEAD HABITAT LIMITING FACTORS FOR WATER RESOURCE INVENTORY AREA 18. p 42)</u></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></p> <p>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><u>Benefits to Salmon</u></p> <p>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></p> <p>Puget Sound Recovery Plan – Protect Existing Physical Habitat and Habitat Forming Processes</p>	
--	--	--

	<p>WRIA 18 Watershed Plan – Protect the best habitat for multiple stocks</p> <p>Siebert Creek Watershed Assessment - Protect intact ecological processes through conservation easements and property acquisitions.</p> <p>NOPLE Recovery Strategy – Protect the best and maintain ecosystem function</p> <p>Puget Sound Partnership – Protect habitat</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>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>Certainly of Project Success</u></p> <p>Landowners have expressed willingness. Successful funding will guarantee success and conclude Siebert Creek Ecosystem Protection Project, Phase 1 & Phase 2. 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></p> <p>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></p> <p>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>28</p>	<p>Siebert Creek HWY 101 Fish Passage Restoration</p> <p>Siebert Creek's anadromous length is approximately 10 miles, but fish passage is severely impaired at RM 2.4 by a box culvert on Hwy 101. This project is a conceptual bridge and site design to 10% engineering. Once the design is in place, then we can have this project placed on the WSDOT project list. The eventual goal is to replace the box culvert with a bridge to restore unimpeded fish passage to prime spawning and rearing habitat upstream for ESA listed steelhead, along with coho, and coastal Cutthroat. The project will address two limiting factors including fish passage and poor channel condition downstream created by the culvert. Siebert Creek headwaters in the Olympic National Park, and flows through State (WDNR) and private forestland before it reaches Hwy 101. Below Hwy 101, less than 10 landowners control Siebert Creek corridor. LEKT has placed numerous pieces of LWD below Old Olympic Hwy greatly improving habitat condition. Clallam County removed a fish passage culvert block in 1998 at Old Olympic Hwy. Habitat is in relatively good condition upriver of Hwy 101. The estuary is in superb condition.</p> <p>The Hwy 101 culvert outlet drops about 8 feet to a pool below. The Siebert Watershed Analysis called for the replacement of the culvert with a bridge (2004, Siebert Technical Advisory Group). The culvert is equipped with a sub-standard fishway that provides, at best, partial fish passage. This culvert is the last impediments to fish passage in Siebert Creek.</p>	<p>JSKT/ CC/ WSDOT</p>
<p>29</p>	<p>Dungeness River Engineered Log Jams</p> <p><u>Project Description</u></p> <p>Build ELJ'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 1.0. Work will be accomplished in a series of design and construction phases occurring from 2009 to</p>	<p>JSKT</p>

	<p>2019.</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>Dungeness River channel structure and complexity have been severely harmed by decades of extensive large wood removal projects. In 1982 significant removal of wood ceased, but the channel still needs stable log jams 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><u>Benefit to Salmon</u></p> <p>This project is required to return stable, complex salmonid spawning and rearing habitat to the mainstem Dungeness and lower Gray Wolf Rivers. Besides the immediate benefits provided by the ELJ'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.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <p>"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><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>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 log jams, the ecosystem processes of habitat formation and nutrient processing can resume at levels appropriate for salmon recovery.</p>	
--	--	--

	<p><u>Certainty of Project Success</u></p> <p>The JSKT has completed successful ELJ projects in the RM 5.2 to 6.0 reach, indicating a high certainty of success for future projects.</p> <p><u>Address Timing Needs & Sequencing Requirements</u></p> <p>Because of its large size and the numerous landowners involved, the project must be undertaken as a series of design and construction phases. The next two phases would target Chinook, Upper River pink and steelhead habitat in the lower Gray Wolf and upper Dungeness Rivers.</p> <p><u>Cost Appropriateness</u></p> <p>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>30</p>	<p>Dungeness River Corridor Protection: RM 0.8 to 12.0</p> <p><u>Project Description</u></p> <p>This project will protect many previously identified properties downstream of river mile (RM) 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></p> <p>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</p>	<p>JSKT/ NOLT/ WDFW</p>

	<p>remains. Downstream of RM 12 dikes, levees and other attempts to control the river have degraded vital habitat for adult and juvenile salmonids and harmed spawning habitat. In the diked and armored sections, the natural process of stream channel evolution, flood plain processes, and the transport of sediment are severely impaired. Relocating dikes and other infrastructure requires the purchase of affected properties or easements.</p> <p><u>Benefit to Salmon</u></p> <p>The project will permanently protect and/or enable restoration on approximately 160 acres of high quality riverine forest and areas needed for flood plain restoration projects. These acres will include about 4 miles of river channel.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <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."</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>Ecosystem functions are protected by 1) permanently protecting mature conifer/hardwood riverine forests and/or 2) enabling the restoration of flood plains along 4 miles of river.</p> <p><u>Certainty of Project Success</u></p> <p>Multiple target properties are currently on the market, so certainty of success appears high.</p> <p><u>Address Timing Needs & Sequencing Requirements</u></p> <p>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</p>	
--	--	--

	<p>protection and restoration opportunities are lost.</p> <p><u>Cost Appropriateness</u></p> <p>Sales price will be tied to fair market value as determined by an appraisal. Land prices are currently favorable.</p>	
31	<p>Dungeness Riparian Reforestation</p> <p>This is a long-term need. We have two years of funding, additional funding will be needed beginning in 2009. This directly implements a Limiting Factors Analysis Action Recommendation: restore functional riparian forest throughout the watershed.</p> <p>In the lower Dungeness River corridor (from the mouth to RM 10.5), approximately 20% of riverbank riparian vegetation has been removed or significantly denuded. Problem areas are the Mouth to Hurd Creek, downstream of RR Bridge, and Hwy 101 to May Rd. 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). Four of the above limiting factors are addressed by this project; this is a long-term investment in the river.</p> <p>The purpose of this project is to continue an information and outreach campaign to motivate riverside owners to protect or replant native riparian areas, to provide technical assistance and planting, and control noxious weeds as needed. We are collecting data on areas where noxious weeds were controlled and also replanted.</p>	<p>JSKT/CCD/CC Noxious Weed Board</p>
32	<p>Dungeness Drift Cell Protection</p> <p><u>Project Description</u></p> <p>Dungeness Bay provides approximately 5,200 acres of critical spit and estuarine habitat for a large variety of forage fish, waterfowl, shorebirds, wading birds, marine and freshwater mammals, crustaceans, shellfish and salmonids, including Puget Sound Chinook, Puget Sound steelhead, bull trout, Hood Canal/Strait of Juan de Fuca chum, and pink salmon. Dungeness Bay is wholly created by the fragile 5-mile long Dungeness Spit. The spit itself is entirely the</p>	<p>JSKT</p>

	<p>product of enormous sediment recruitment, originating primarily from the 8-1/2 mile drift cell to the west. This project will provide long-term protection for Dungeness Spit and Dungeness Bay through the purchase of conservation easements, fee-simple land parcels, and the relocation or decommission of structures and infrastructure along the entire Dungeness drift cell.</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>Although upland areas are being developed adjacent to the Dungeness drift cell, 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 Dungeness drift cell 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.</p> <p><u>Benefit to Salmon</u></p> <p>The project will permanently protect an enormous amount of 1) forage fish spawning habitat and 2) nearshore salmonid rearing and migration habitat, especially for Dungeness River bull trout, Chinook, pink, coho, and fall chum salmon, and summer chum originating in the Dungeness River, Jimmycomelately Creek and Discovery Bay.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <p>“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</p>	
--	--	--

	<p>2007, pg 84. "Restoration of the Sequim Bay (Jimmycomelately Creek empties into the head of Sequim Bay) shore will provide the best way to restore the estuarine-marine waters for the Jimmycomelately population." Summer Chum Salmon Recovery Plan – May 2007, pg 86. The project protects the above-reference habitat type.</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>The natural recruitment and transport of marine sediment is an elemental ecosystem function that creates and maintains complex shorelines features and associated habitat. The project is designed specifically to protect this ecosystem function.</p> <p><u>Certainty of Project Success</u></p> <p>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>Address Timing Needs & Sequencing Requirements</u> The project is not time-constrained, but should be undertaken soon, before shorelines impacts occur. There are no sequencing requirements, except that research and planning, design, and implementation will occur as phase 1, 2, and 3 projects.</p> <p><u>Cost Appropriateness</u></p> <p>Costs of easements and land purchases will be based on fair-market value appraisals.</p>	
33	<p>Dungeness Irrigation Group Water Conservation Project</p> <p>The Dungeness Irrigation Group Water Conservation Project is a comprehensive irrigation ditch-piping project that will result in anticipated in-river water savings of 2.5-3 cfs. Three major laterals in the Dungeness Group system and approximately 25 percent of the main canal have already been piped. This project will complete the piping of the entire Dungeness Group distribution system, resulting in</p>	Dungeness Irrigation Group/ CCD

	<p>complete elimination of conveyance losses, elimination of tailwater spills at the end of the system, and pollutants will no longer be able to enter the system. This project will benefit all salmon stocks that utilize the Dungeness River and its tributaries. Specifically, the project is aimed at increasing Dungeness River instream flow and habitat for the four ESA-listed species: Puget Sound Chinook, Hood Canal summer chum, Puget Sound steelhead, and bull trout. This project is a joint effort of the Dungeness Irrigation Group and the CCD.</p>	
34	<p>Dungeness Irrigation District Water Conservation Project</p> <p>The Dungeness Irrigation District Water Conservation Project is a comprehensive irrigation ditch-piping project that will result in anticipated in-river water savings of 3-4 cfs. The entire distribution system of the Dungeness District will be enclosed, resulting in complete elimination of conveyance losses, elimination of tailwater spills at the end of the system, and pollutants will no longer be able to enter the system. This project will benefit all salmon stocks that utilize the Dungeness River and its tributaries. Specifically, the project is aimed at increasing Dungeness River instream flow and habitat for the four ESA-listed species: Puget Sound Chinook, Hood Canal summer chum, Puget Sound steelhead, and bull trout. This project is a joint effort of the Dungeness Irrigation District and the CCD.</p>	Dungeness Irrigation District/ CCD
35	<p>Lower Dungeness Dikes Setback, Phase II</p> <p>Floodplain and river recovery in the lower 2.6 miles was ranked #1 by the DRMT and #2 in EDT. The lower river is straightened between two dikes, which cuts off relic meanders and a substantial area of floodplain (River mile 0.8-2.6). Two dimensional modeling has shown that floods greater than bankfull would occupy floodplain beyond the dikes on both sides of the river. Phase I funding was awarded for engineering and design. Phase II funding is needed for project construction. This project must be completed at the same time as the channel remeandering and ELJ placement project listed as phase III.</p>	CC/ ACOE/ JSKT

<p>36</p>	<p>Lower Dungeness Channel Remeandering and ELJ Placement, Phase III</p> <p>Floodplain and river recovery in the lower 2.6 miles was ranked #1 to 3 by the River Restoration Workgroup, and Phase II/III are a major first step to habitat recovery in the watershed (Dungeness River Restoration Workgroup and DRMT). This is a phased recovery plan. Phase I is for engineering and design. Phase II is dike setback; Phase II and III together account for four limiting factors: riparian condition (allow for riparian establishment and recovery), floodplain modifications (recover floodplain condition), channel condition (remeander the channel in this reach), and water quality (fine sediment deposition in the floodplain). The Bureau of Reclamation in their report "Physical processes, human impacts, and restoration issues of the lower Dungeness River," found that the riverbed has aggraded at multiple locations within the diked reach due to sediment deposition upstream of constrictions caused by dikes.</p> <p>Aggradation was found to be up to 8 ft. The purpose of Phase III is to strategically remeander the river and add wood to prevent channel avulsion into agricultural fields following the dike setback. Phase III construction would occur during or following Phase II construction.</p> <p>This is considered the most important project for habitat recovery in the Dungeness. Historically this was prime summer chum and lower Pink spawning habitat, and rearing migration, and feeding habitat for Chinook, bull trout and steelhead. Summer chum is practically extirpated in the Dungeness. Summer chum spawning habitat is entirely contained within the diked reaches; this project would help redress the poor habitat condition for this ESA species.</p>	<p>CC/ ACOE/ JSKT</p>
<p>37</p>	<p>North Sequim Bay Drift Cell Protection (Travis and Paradise Cove Spit Protection Project)</p> <p>Two phases: 1) Design Only & 2) Implementation.</p> <p>Travis and Paradise Cove Spits at the entrance to Sequim Bay will be permanently protected, along with the 3.3 miles of coastal feeder bluffs that support the spits. Protection will be accomplished using conservation easements, property purchases, and management</p>	<p>JSKT/ NOLT</p>

	<p>planning on state land. Protected habitat includes 3.3 miles of feeder bluff shoreline, 12,000 feet of spit shoreline, and 115 acres of marine shallow water habitat.</p> <p>The spits comprise over 12,000 linear feet of important spit habitat for many populations of juvenile salmonids and forage fish. They also directly create approximately 115 acres of shallow water habitat and are crucial to the integrity of Sequim Bay and Paradise Cove. The existence of these spits is entirely dependent upon the continued recruitment of sediment from feeder bluffs within their drift cells. 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>The project will permanently protect an enormous amount of 1) forage fish spawning habitat and 2) nearshore salmon rearing and migration habitat, especially for summer chum originating in Jimmycomelately Creek and Discovery Bay. “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. “Restoration of the Sequim Bay (Jimmycomelately Creek empties into the head of Sequim Bay) shore will provide the best way to restore the estuarine-marine waters for the Jimmycomelately population.” Summer Chum Salmon Recovery Plan – May 2007, pg 86. The project protects the above-reference habitat type.</p> <p>The natural recruitment and transport of marine sediment is an elemental ecosystem function that creates and maintains complex shorelines features and associated habitat. The project is designed specifically to protect this ecosystem function.</p> <p>Landowner willingness is the crucial factor in project success. Of the 3.3 miles of feeder bluff, 0.8 mile is state-owned. The remaining feeder bluff and the spits are owned by a total of approximately 30 owners. This number will increase as larger parcels are subdivided.</p>	
--	---	--

	<p>The difficulty of protection will increase as homes are built near the edge of the bluff. Certainty of success is at its high point now and will diminish over time. The project is not time-constrained, but should be undertaken soon, before shorelines impacts occur. There are no sequencing requirements, except that design and implementation will occur as phase 1 and phase 2 projects.</p> <p>Costs of easements and land purchases will be based on fair-market value appraisals.</p>	
<p>38</p>	<p>Agnew Irrigation District Piping</p> <p>The proposed project involves replacing approximately 8 miles of the Agnew Irrigation District A-18 and A-22 laterals with pipeline. The project will result in an estimated in-river water savings of 0.8 cfs. A secondary benefit of the project is to improve water quality by eliminating the pathway for contaminants that enter the irrigation system at these ditch locations. The ditches proposed for pipes tail into McDonnell and Agnew Creeks. This project will benefit all salmon stocks that utilize the Dungeness River and its tributaries. Specifically, the project is aimed at increasing Dungeness River instream flow and habitat for the four ESA-listed species: Puget Sound Chinook, Hood Canal summer chum, Puget Sound steelhead, and bull trout. This project is a joint effort of the Agnew Irrigation District and the CCD.</p>	<p>Agnew Irrigation District/ CCD</p>
<p>39</p>	<p>McDonald Creek Diversion, Dam Removal and Ditch Lining</p> <p>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. This project would discontinue using McDonald Creek to convey Agnew ditchwater and remove the possibility of attracting strays in to McDonald Creek from the Dungeness. This is an action recommendation in the LFA report.</p> <p>The project is to 1) remove the Agnew diversion dam just upriver of Hwy 101 and 2) to pipe the ditchwater into a pipe that follows alongside a county road. 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,</p>	<p>JSKT, Agnew Irrigation District, WDFW</p>

	<p>and downstream movement is either over a concrete spillway, or through a steep pipe. Both can potentially injure or kill fish.</p> <p>The best habitat in McDonald Creek is upstream of the diversion dam. The diversion dam, irrigation channel and spillway all occupy floodplain in a naturally moderately confined section of river. Removal of this infrastructure would provide opportunities for floodplain/riparian restoration and would also require WSDOT to design a wider opening when the Hwy 101 bridge at McDonald is replaced (directly downstream). At the request of Agnew Irrigation Ditch, a preliminary diversion dam/piping feasibility and cost estimate was completed by Bob Montgomery in 2004.</p> <p>This cost was inflation-adjusted per communication with Bob. Partners with JSKT would be Agnew Irrigation District, WDFW, and potentially WSDOT.</p>	
<p>40</p>	<p>Cassalery Creek Instream Flow Enhancement Project</p> <p>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 DOE 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, CC, Washington State Department of Fish and Wildlife, Washington State DOE, and the JSKT.</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-</p>	<p>SunLand Water District</p>

	<p>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> <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</p>	
--	---	--

	<p>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>41</p>	<p>Meadowbrook Creek</p> <p>The project focuses on restoring approximately 40 acres of wetland and salt marsh associated with Meadowbrook Creek and Dungeness Bay. The properties were purchased for conservation purposes but are in seriously degraded conditions with compacted soils from livestock, modified channels and drainage ditches, and noxious weeds (both knotweed and reed canary grass). Estuary that has been degraded or eliminated no longer serves as vital refuge for juvenile salmon. Truncated tributaries and riparian channels that have been artificially narrowed by bridges that constrict the channel have a devastating impact on salmon production. High velocities impede migration and scour redds. The fact that Meadowbrook Creek has lost its historic connectivity to the Dungeness River impedes salmon migration and also affects the quality of that creek for fish populations. Sediments and nutrients build up in streams that lack the ability to effectively flush due to loss of system connectivity.</p> <p>This is a high priority project as Meadowbrook Creek was historically connected to the Dungeness River, and from this historical perspective should be considered (and will be if connection is reestablished) a part of the Dungeness watershed.</p> <p>There are a number of phases to this project. Phase 1 includes feasibility of the overall design, which includes habitat restoration on the property east of Sequim-Dungeness way, reconnection of the Meadowbrook slough system with the Dungeness system. Phase 2 will involve the actual construction of these elements. A new phase 3 will begin to develop and explore landowner interest in protection/restoration effort along Meadowbrook Creek, upstream from the current project.</p> <p>The project is being proposed because of the benefits to fish and other wildlife. Restoring connectivity to the Dungeness, while also restoring estuary, will increase and enhance the availability of habitat for all</p>	<p>Ducks Unlimited</p>

	<p>stocks and species, which will increase overall productivity in this area. The overall project includes reestablishing this historic connection, and restoring estuary, thereby provides potential to impact all salmonid species and stock found in Meadowbrook Creek and the Dungeness River. Estuaries provide habitat for all species and stock at some point in their life cycle, including the ESA-listed priority salmon stock for the Dungeness Watershed. For example, Chinook in the Dungeness spend most of their first year in the estuary and near shore areas. (From Shared Strategy Watershed Profile: Dungeness). This proposal addresses the limiting factors outlined in NOPLÉ’s Salmon Recovery Strategy (2008) and include: poor riparian conditions of Meadowbrook Creek, flood-plain conditions of both Meadowbrook Creek and the Dungeness River-possible fish barriers, poor off stream and over wintering habitat, and overall watershed condition and water quality.</p> <p>This project has a high certainty of success. Because we are completing the feasibility portion as a first step, we will be able to determine the next appropriate steps toward completion. DU has also been completing this type of work throughout the Pacific Northwest for over 10 years and has the in house staff of biologists and engineers to complete such a project.</p> <p>Project can be implemented over the next two years. The feasibility study will be completed in 2009 as well as the design for the property on the east side of Sequim Dungeness Way. The actual restoration will most likely occur during 2010. Also during 2009 will begin phase 3, which will be developing landowner interest in protection/restoration effort along Meadowbrook Creek, upstream from the current project.</p> <p>The cost estimates are based on previous similar work completed by DU throughout the work in the Pacific Northwest. The permits costs are generally and unknown, but we have tried to account for that in the estimate.</p>	
<p>42</p>	<p>Highland Irrigation District H-10 Lateral Piping</p> <p>H10 Lateral: This project will result in anticipated in-river water savings of 1.1 cfs and elimination of tailwater to Bell Creek. One to two miles of open ditch will be either eliminated by installing a well or replaced with pipeline. This project will benefit all salmon stocks that</p>	<p>Highland Irrigation District/ CCD</p>

	<p>utilize the Dungeness River and its tributaries. Specifically, the project is aimed at increasing Dungeness River instream flow and habitat for the four ESA-listed species: Puget Sound Chinook, Hood Canal summer chum, Puget Sound steelhead, and bull trout. This project is identified as a high-priority project in the Dungeness River Agricultural Water Users Association Comprehensive Water Conservation Plan, the Dungeness River Comprehensive Irrigation District Management Plan. This project is a joint effort of the Highland Irrigation District and the CCD.</p>	
<p>43</p>	<p>Sequim Prairie Tri Irrigation Association SP-5 Lateral Piping</p> <p>SP-5 Lateral: This project will result in anticipated in-river water savings of 0.8 cfs. This project will benefit all salmon stocks that utilize the Dungeness River and its tributaries. Specifically, the project is aimed at increasing Dungeness River instream flow and habitat for the four ESA-listed species: Puget Sound Chinook, Hood Canal summer chum, Puget Sound steelhead, and bull trout. This project is identified as a high-priority project in the Dungeness River Agricultural Water Users Association Comprehensive Water Conservation Plan, and the Dungeness River Comprehensive Irrigation District Management Plan. This project is a joint effort of the Sequim Prairie-Tri Irrigation Association and the CCD.</p>	<p>Sequim Prairie Tri Irrigation Association/ CCD</p>
<p>44</p>	<p>Jimmycomelately Riparian Protection</p> <p><u>Project Description</u></p> <p>A ¾-mile length of riparian forest along Jimmycomelately (JCL) Creek will be permanently protected through the purchase of a conservation easement or fee-simple property from a single land owner. This is the only unprotected riparian property within the anadromous zone, and is the remaining major element for the restoration/protection of the lower watershed. Riparian forest and channel conditions on the property are excellent. All the JCL salmonids spawn and/or rear in this reach: HC/ESJDF summer chum and Puget Sound steelhead (both ESA-listed), coho, and cutthroat.</p> <p><u>Why the Project is Needed (limiting factors addressed)</u></p> <p>In the late 1990's, JCL summer chum salmon were nearly extirpated,</p>	<p>NOLT/ JSKT</p>

	<p>due in large part to habitat degradation. Stock supplementation activities have recovered the chum population to significant numbers. Extensive habitat restoration work was recently completed in the estuary, adjacent nearshore, and lower ½-mile of stream channel. Immediately upstream of the restored stream channel is this ¾-mile stretch of privately owned, forested channel containing excellent habitat, which will be permanently protected by the project. Upstream of the private forest, JCL Creek is protected within state and federal forest lands.</p> <p><u>Benefit to Salmon</u></p> <p>This project will permanently protect 0.75 miles of important, high quality spawning and rearing habitat for all the JCL salmonids. Restored habitat downstream will also benefit from the protection of this area.</p> <p><u>Which Salmon Recovery Plan/Watershed Analysis or Plan Objectives does this Project Meet & How?</u></p> <p>Summer Chum Salmon Recovery Plan, page 85 and 99: “Protection, restoration and maintenance of the Jimmycomelately and Salmon/Snow watersheds are of paramount importance.” The lower 1-2 miles of these watersheds must be restored and protected to effect and ensure recovery of the Strait population aggregate. “Protection of the freshwater reaches is the highest priority (for JCL Creek).”</p> <p><u>Illustrate how Project supports Restoration or Protection of Ecosystem Functions</u></p> <p>Ecosystem functions are protected by permanently protecting a mature conifer/hardwood riparian forest along 0.75 miles of stream channel. The protected corridor will extend at least 300-feet on either side (600-feet total) of the stream. No timber harvest, road building, or other development activities will be allowed to occur within this protected riparian forest. The project will link the currently protected stream reaches above and below the project site.</p> <p><u>Certainty of Project Success</u></p> <p>There is a single landowner, who appears willing, so certainty of</p>	
--	--	--

	<p>success appears high.</p> <p><u>Address Timing Needs & Sequencing Requirements</u></p> <p>Because the landowner appears willing, this project should proceed immediately. Otherwise there is a possibility that the property could be logged, sold, or developed.</p> <p><u>Cost Appropriateness</u></p> <p>Sales price will be tied to fair market value as determined by an appraisal. Land prices are currently favorable.</p>	
<p>45</p>	<p>Washington Harbor Drift Cell Protection</p> <p>Two phases: 1) Design Only & 2) Implementation.</p> <p>Washington Harbor is an approximately 154 acre estuarine embayment located adjacent to the entrance of Sequim Bay and is formed by two spits – Gibson and South. The spits will be permanently protected, along with the 1.85 miles of coastal feeder bluffs that support the spits. Protection will be accomplished using conservation easements and possibly property purchases. Protected habitat will include 1.85 miles of feeder bluff shoreline, 11,560 feet of spit shoreline, and 154 acres of estuarine habitat.</p> <p>The spits comprise about 11,560 linear feet of important spit habitat for many populations of juvenile salmonids and forage fish. They also directly create approximately 154 acres of estuarine habitat and are crucial to the integrity of Washington Harbor. The existence of these spits is entirely dependent upon the continued recruitment of sediment from feeder bluffs within their drift cells. 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>The project will permanently protect large amounts of 1) forage fish spawning habitat and 2) nearshore salmon rearing and migration habitat, especially for summer chum originating in Jimmycomelately</p>	<p>JSKT/NOSC</p>

	<p>Creek and Discovery Bay, and Dungeness River Chinook.</p> <p>“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.</p> <p>“Restoration of the Sequim Bay (Jimmycomelately Creek empties into the head of Sequim Bay) shore will provide the best way to restore the estuarine-marine waters for the Jimmycomelately population.” Summer Chum Salmon Recovery Plan – May 2007, pg 86. The project protects the above-reference habitat type.</p> <p>The natural recruitment and transport of marine sediment is an elemental ecosystem function that creates and maintains complex shorelines features and associated habitat. The project is designed specifically to protect this ecosystem function.</p> <p>Landowner willingness is the crucial factor in project success. The feeder bluffs and the spits are owned by a total of approximately 35 owners. This number will increase as larger parcels are subdivided. The difficulty of protection will increase 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>Since 1870 both spits have declined 12% in area. This suggests that impacts have occurred to the sediment supply that maintains the spits. Protective actions should occur immediately to prevent further impacts to the spits and associated estuarine habitat. There are no sequencing requirements, except that design and implementation will occur as phase 1 and phase 2 projects.</p> <p>Costs of easements and land purchases will be based on fair-market value appraisals.</p>	
<p>46</p>	<p>Washington Harbor Habitat Protection Project</p> <p>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</p>	<p>NOLT/ JSKT</p>

	<p>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 protect a 150 to 450-foot wide riparian buffer (approximately 75 acres) surrounding Washington Harbor. The bed of Washington Harbor is state owned.</p> <p><u>Limiting Factors Addressed</u></p> <ol style="list-style-type: none"> 1. "There is broad consensus that salmon require estuarine conditions that support production of prey organisms for juvenile out migrants 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) 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. <p>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><u>Stock Status and Trends</u></p> <p>The project addresses stock status and trends by maintaining expansive, important nearshore habitat for numerous salmonid populations and forage fish.</p>	
--	---	--

	<p><u>Listed Stocks</u></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>	
<p>47</p>	<p>Washington Harbor Tidal Flow Restoration Project</p> <p>The JSKT received funding for design only in 2009 and funding is still needed for construction.</p> <p>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. A 1,300-foot long roadway, equipped with two small culverts, crosses the estuary and disrupts tidal exchange to the northern 33 acres of Washington Harbor. This area historically provided the finest tidal marsh and eelgrass habitat within the estuary. The impact of the roadway appears to have destroyed the eelgrass beds. The mash remains intact, but the culverts impair fish access to this superb habitat. The project will provide unrestricted fish access and tidal exchange to the north end of Washington Harbor by removing the culverts and roadway fill and replacing them with an elevated causeway structure.</p> <p><u>Limiting Factors Addressed</u></p> <p>1. "There is broad consensus that salmon require estuarine conditions</p>	<p>JSKT/ City of Sequim</p>

	<p>that support production of prey organisms for juvenile out migrants 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.”</p> <p>2. “Intertidal water exchange to the north end of the 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 (Figure30). 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.”</p> <p>3. “In addition, approximately 10 12 acres of intertidal estuary in the north end of the bay were adversely affected by reduction of tidal flux and hypersalinity, which has also developed as a result of reduced tidal interchange.”</p> <p>4. LFA recommendation: “Restore unrestricted tidal flow and flushing to the north end of Washington Harbor.” (WRIA 18 LFA)</p> <p><u>Stock Status and Trends</u></p> <p>The project addresses stock status and trends by maintaining expansive, important nearshore habitat for numerous salmonid populations and forage fish.</p> <p><u>Listed Stocks</u></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 (20miles east).</p> <p>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>	
--	--	--

	<p><u>Other Stocks</u></p> <p>Non-listed stocks originating in nearby watersheds include coho and cutthroat from Jimmycomelately Creek and Discovery Bay, and Dungeness pinks, fall chum, coho, and cutthroat. A multitude of other Hood Canal and Puget Sound salmonids also likely utilize this habitat.</p> <p><u>Habitat Status</u></p> <p>The project restores formerly productive fish habitat. The Point No Point Treaty Council (PNPTC) Report, <i>“Historical Changes to Estuaries, Spits, and Associated Tidal Wetland Habitats in the Hood Canal and Strait of Juan de Fuca Regions of Washington State”</i> (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 the connectivity impact identified in the PNPTC report.</p> <p><u>Ecosystem Restoration</u></p> <p>The project addresses ecosystem processes by significantly restoring a major estuarine system with high value to fish, waterfowl, wading birds and shorebirds.</p> <p><u>Partnerships</u></p> <p>The project is envisioned as a partnership between the JSKT, WDFW, and the City of Sequim.</p>	
Hatchery		
48	<p>Elwha River Native Steelhead Brood Development Project</p> <p>Likely Sponsors: LEKT</p> <p>Funding Request: \$138,342</p> <p><u>Brief Description of Project</u></p> <p>An alternate winter steelhead broodstock is being developed for use in</p>	LEKT

	<p>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><u>Project Description</u></p> <p>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, USFWS, Northwest Indian Fisheries Commission, 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</p>	
--	--	--

	<p>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> <p><u>Project Need</u></p> <p>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><u>Significance to Hatchery Reform Implementation</u></p> <p>This project addresses a specific recommendation <i>from a Hatchery Scientific Review Group Regional Review</i>. Review of the Eastern Straits region by the Hatchery Scientific Review Group 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><u>Relevance to Salmon Recovery</u></p> <p>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><u>Proposed Starting and Ending Dates</u></p> <p>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><u>Certainty of Project Success</u></p> <p>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>	
--	---	--

Non-Capital Projects

49	<p>Create Stable-funded Incentive Programs</p> <p>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</p>	CC/CCD
----	---	--------

	ecosystem function. Project partners include CC, land trusts, willing private landowners, tribes, cities, state agencies, and local businesses.	
50	<p>Clallam County Inventory Culverts</p> <p>For stream crossings on roads within County jurisdiction, assess fish passage conditions and develop a prioritized list of fish passage improvement projects. Identified as a limiting factor and benefiting a multitude of stocks, improving fish passage provides access to habitat that is now inaccessible and presents an opportunity to regain lost function in the stream channel.</p> <p>The LEKT and thCounty have partnered to assess and replace inadequate stream crossings in the Salt Creek basin.</p>	CC
51	<p>Clallam County Salmonid Outreach Planner</p> <p>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.</p> <p>Partners include CC, cities, tribes, state agencies, CCD, NOSC, Clallam Marine Resources Committee, WSU Beachwatchers, and school districts.</p>	CC/CCD
52	<p>Clallam County Map Roadside Ditches</p> <p>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</p>	CC

	monitoring.	
53	<p>Clallam Watertype Inventory & Assessment</p> <p>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 NOBLE 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</p>	WFC

	<p>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>	
<p>54</p>	<p>Elwha Conservation Planning Project Narrative</p> <p>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). NOLT 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</p>	<p>NOLT/ LEKT/ CC</p>

	<p>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). 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 – <ul style="list-style-type: none"> “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, 	
--	---	--

	<p>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> <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, NOLT 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 NOLT'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. NOLT 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</p>	
--	--	--

	<p>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 LEKT is the major partner for this project and will provide GIS and technical review of prioritized habitat.</p>	
<p>55</p>	<p>Elwha Nearshore Action Plan</p> <p><u>Project Description</u></p> <p>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</u></p> <p><u>Timing & Other Key Information</u></p> <p>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/</p>	<p>WDFW/CC</p>

	<p>nearshore functional linkages. It is identified as a top priority in the NOPLÉ 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</p>	
--	--	--

	<p>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>56</p>	<p>Elwha River Nearshore Biodiversity Investigations</p> <p><u>Likely Sponsors</u></p> <p>NOAA Fisheries, USGS, LEKT, Battelle PNW Labs</p> <p>Funding Request: \$450,000</p> <p><u>Partnerships</u></p> <p>This project is an on-going partnership between NOAA Fisheries, USGS the LEKT and Battelle Pacific Northwest Laboratory.</p> <p><u>Brief Description of Project</u></p> <p>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</p>	<p>NOAA/ USGS/ LEKT</p>

	<p>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></p> <p>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> <p><u>Stock Status and Trends</u></p> <p>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></p> <p>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></p> <p>Non-listed stocks originating in nearby watersheds include coho and sea-run cutthroat, pink salmon. In addition, the nearshore is utilized</p>	
--	---	--

	<p>by a number of forage fish populations.</p> <p><u>Benefit to Salmon: Implementation of Key Action Area Work Plan:</u> 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 WRIAs 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></p> <p>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. 59 pp).</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></p> <p>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> 2009 to 2015</p>	
--	--	--

	<p><u>Cost Appropriateness</u></p> <p>Cost estimates are based upon expenses incurred in the past conducting similar assessments.</p>	
57	<p>Elwha Watershed Adaptive Management Plan</p> <p>The Elwha River Fish Restoration Plan (Ward et al, 2008), which was developed to support the Elwha River Fisheries and Ecosystem Restoration Act (PL 102-495), contains a detailed monitoring and adaptive management strategy.</p> <p>Monitoring the fish population and ecosystem response to the removal of the Elwha River dams and implementation of appropriate adaptive management actions are critical to achievement of the Act's goals. The strategy contains a suite of testable hypotheses which will provide information on each of the four Viable Salmonid Population parameters, guiding future management actions. In order to test these hypotheses, certain baseline information is needed prior to dam removal. Additionally, it will be necessary to mark hatchery and wild fish up to four years prior to dam removal through a variety of potential methods (PIT tags, CWT tags, etc.) in order to evaluate their response to conditions in the river during dam removal. Dam removal is currently scheduled to begin in 2012.</p>	LEKT
58	<p>Elwha Morse Management Team</p> <p>Support and develop capacity</p>	
59	<p>Port Angeles Harbor Basin Program</p> <p>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 Port Angeles Basin area together to talk about the future of the Port Angeles 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.</p>	NOPL/ Clallam Marine Resources Committee

	<p>Olympic Peninsula Lead Entity’s 3 year workplan that are in the Port Angeles 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><u>Why The Project is Needed</u></p> <p>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> <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.</p> <p>This program would improve nearshore habitat for Puget Sound Chinook and other salmonids using this migration corridor. , It will also</p>	
--	---	--

	<p>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</p>	
--	---	--

	<p>low for the benefits that'll be reaped now and into the future.</p> <p>The North Olympic Peninsula Lead Entity for Salmon and Clallam Marine Resources Committee would be the program sponsors.</p>	
<p>60</p>	<p>WRIA 19 Conservation Planning Project Narrative</p> <p>This non capital project will identify properties in WRIA 19 based the recommendations and system of prioritization set forth in the <i>WRIA 19 Salmonid Recovery Strategy (Draft)</i>. This project assesses 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: 1) achieve NOPLÉ's goal to implement salmon recovery plans to protect and restore fish habitat on the North Olympic Peninsula and 2) restore and maintain ecosystem function on the North Olympic Peninsula for the entire WRIA 19. The project achieves these goals through strategic planning and prioritization, which is intended to create the greatest ecological benefits for all 10 Geographic Units covering 385.2 square miles in WRIA 19. This project demonstrates one of the <i>WRIA 19 Salmonid Recovery Strategy's</i> key elements: "Recovery strategies are based upon protection, restoration, and/or rehabilitation of critical processes, inputs, and habitat conditions" (7.2). Further, "Protect and Maintain" is high on the Recovery Strategy's hierarchy of actions (7.3). This project also follows recommendations made by the Puget Sound Technical Recovery Team that suggest "protecting existing habitat and the ecological processes that create it is the most important action needed in the short-term to increase certainty of achieving plan outcomes" (Puget Sound Recovery Plan, page 354). Additionally the project addresses the Puget Sound Recovery Plan's number one principle for habitat protection: "Protect existing environmental functions in both urban and rural areas using the array of protection tools available" (357).</p> <p>"WRIA 19 contains 27 salmonid-bearing watersheds, comprising 19 distinct stocks (WDFW) and 5 ESUs (NMFS/FWS). Since none of these ESUs are listed, there are no ESU viability criteria for any of the stocks. There are relatively few individual landowners and a low human</p>	<p>NOLT / LEKT / Makah</p>

	<p>population density throughout most of the WRIA, which remains relatively undeveloped compared to other WRIAs closer to the metropolitan areas of Puget Sound. Population density increases around the towns of Clallam Bay, Joyce, and Neah Bay, and rural population density increases generally moving eastward toward Port Angeles, and along the lower mainstems of larger rivers in the WRIA. WRIA 19 as a whole has a good potential for protection and restoration of landscape processes to support long-term salmon survival” (7-1, <i>WRIA 19 Salmonid Restoration Plan- Draft</i>).</p> <p>Protection of land with the best existing salmon habitat and ecosystem function on private land (51.42% of WRIA 19 is privately owned) can only happen through voluntary conservation tools such as conservation easements. These limiting factors would be eliminated if lands were permanently protected:</p> <ol style="list-style-type: none"> 1. Floodplain development and alterations 2. Loss of large woody debris 3. Estuary and nearshore alterations 4. Degraded water quality and high stream temperatures 5. Barriers that block access to spawning and rearing habitat 6. Conversion of riparian forests to non-forest uses 7. Excess sedimentation, including fine sediment in spawning gravels 8. Degraded riparian conditions (e.g., conversion from conifer toardwoodominated riparian forests) 9. Stream channelization and bank armoring 10. Stream cleaning 11. Channel destabilization and channel incision 12. Loss of adequate quality and quantity of spawning gravel 13. Increased peak flows 14. Unauthorized water withdrawals and low flows <p>Salmon populations 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</p>	
--	--	--

	<p>recovery - 'protect the best and restore the rest'. This project benefits multiple stocks.</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 – Habitat: Protect Existing Physical Habitat & Habitat Forming Processes 2. Puget Sound Partnership – Protect Habitat 3. Salmonid and Steelhead Habitat Limiting Factors in the Western Strait of Juan De Fuca – protect channel migration zone and conifer riparian areas. 4. NOPL Recovery Strategy 2008 - implement salmon recovery plans to protect fish habitat & maintain ecosystem function. 5. WRIA 19 Salmonid Restoration Plan- <i>Draft</i> - Protect habitat <p>Acquiring properties with important habitat is often accomplished in an opportunistic way, as properties go up for sale. Though worthy, this approach does not reap the same ecological benefits as landscape scale conservation planning, which this project would accomplish. Further, this project will accomplish the planning necessary to follow the recommendations clearly set forth in the Salmonid and Steelhead Habitat Limiting Factors in the Western Strait of Juan De Fuca to protect ecosystem function critical for salmon:</p> <ol style="list-style-type: none"> 1. Protect the channel migration zone (floodplain) habitat. Floodplain development leads to a loss of riparian forest and loss of future LWD. It also increases sedimentation, channel instability, and water quality problems. 2. Protect conifer riparian areas. <p>With funding, NOLT has the organizational capacity to complete this project within 2 years, has in house GIS capability, and will rely on its project partners, LEKT and Makah, for technical review of priority habitats and GIS. This project will dovetail with NOLT's efforts to create a 100-year conservation plan for Clallam County by highlighting salmon and steelhead recovery. The Land Trust is now building a</p>	
--	--	--

	<p>constituency to support rapid implementation of conservation plans through partnerships and funding opportunities. This project will lead to voluntary conservation easements and land acquisition projects designed to 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 is a tool that has proven track record for protecting private land with important habitat and ecosystem function in perpetuity.</p> <p>Identifying restoration needs through assessments is the first step to recovery. Timing is ideal as the WRIA 19 Salmonid Restoration Plan and WRIA 19 Watershed Plan (both in draft form) are nearing completion. Specific watersheds assessments have already been completed on Salt Creek, the Pysht River, Deep Creek, and the West and East Twin Rivers. Land protection as a strategy for recovery is a recommendation in both drafts. 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. The next step in the overall recovery sequence for WRAI 19 habitat protection will be to acquire funding to acquire and protect identified parcels.</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 reports. Project partners are the LEKT and Makah whom will provide GIS and technical review of prioritized habitat.</p>	
<p>61</p>	<p>WRIA 19 Watershed Council</p> <p>Support and develop capacity.</p>	<p>CC</p>
<p>62</p>	<p>Dungeness River Management Team</p> <p>Support and develop capacity.</p>	<p>CC</p>

<p>63</p>	<p>Dungeness River Habitat Resurvey</p> <p>Baseline habitat monitoring is a basic need to understanding whether habitat conditions are improving or degrading. In 1993 JKST along with Steve Ralph and Jack Orsborn 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. 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. This survey will be GPS - based in order to create a habitat map of the river. The survey will encompass the full anadromous portion of the river, the Dungeness mouth to Gold Creek, and the Greywolf to Three Forks. This is the habitat for the 5 ESA list salmonids in the Dungeness.</p>	<p>JSKT</p>
<p>64</p>	<p>Dungeness Improved Fisheries Enforcement</p> <p>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.</p> <p>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>	<p>WDFW/ JSKT</p>
<p>65</p>	<p>Jimmycomelately Creek & Dungeness River Habitat</p> <p>Implementing conservation goals laid out in watershed recovery plans has resulted in about 300 acres of land conserved in acquisitions and easements by WDFW, CC, JSKT, and NOLT. There is a strong need for stewardship funding to assure that the conservation goals are met and</p>	<p>WDFW/ JSKT/ NOLT/ CC</p>

	<p>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>	
66	<p>12 River Channel Migration Zone Assessment</p> <p>CC has jurisdiction and authority to limit development within channel migration zones (CMZs) through Clallam County’s Critical Areas Ordinance. 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 modifications invariable follow floodplain development. CMZ mapping and delineation would occur for McDonald Creek, Siebert Creek, Morse Creek, Salt Creek, Lyre River, East and West Twin Rivers, Deep Creek, Pysht River, Clallam River, Hoko River and Sekiu River. Methodology would follow DOE guidelines where aerial photos can identify channel patterns, and follow WDNR Forest and Fish guidelines where mapping must occur on the ground.</p> <p>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. 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>JSKT/ LEKT/ Makah/ CC</p>
67	<p>Increase Recovery Capacity & Support NOPLE-wide</p> <p>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</p>	<p>NOPLE</p>

	which will quicken recovery efforts. This meets all objectives (I through ix) for non-capital projects.	
68	<p>NOPLE – Area Wide Outreach Program</p> <p>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-capital project objectives iii, iv, v, vi, vii and viii.</p>	NOPLE/WDFW
69	<p>NOPLE area wide data base for habitat restoration, protection, & permitted activities</p> <p>Work with neighboring jurisdictions to integrate Geographic information System and the Permit Tracking programs to CC/City of Port Angeles/City of Sequim understand and monitor the landscape-scale development patterns occurring in the Lead Entity’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.</p>	CC/ City of Port Angeles/ City of Sequim/ NOBLE
70	<p>Assess implementation of CAO, SMP & HPA ordinance.</p> <p>NOPLE Area Wide assess implementation of Critical Areas Ordinance, Shoreline Master Plan, Hydraulics Permit Act with ground truthing</p> <p>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 CC, cities, state agencies, tribes. The project can also be used as a tool to advance habitat protection and restoration.</p>	CC/ City of Port Angeles/ City of Sequim/ NOBLE
71	<p>NOPLE Area Wide increase compliance with ordinances & codes</p> <p>The City of Port Angeles has recently hired a Code Compliance Officer.</p>	CC/ City of Port Angeles/ City of Sequim/ NOBLE

	<p>At this time the position is only funded as a 40% position. Recent efforts to strengthen the Environmentally Sensitive Areas Protection Ordinance has been successful and the city plans further code amendments to further strengthen the ESA Protection Ordinances. 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 Department of Community Development 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.</p> <p>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>	
<p>72</p>	<p>NOPLE Area Wide update stormwater management program</p> <p>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, CCD, NOSC.</p>	<p>CC/ City of Port Angeles/ City of Sequim</p>
<p>73</p>	<p>NOPLE Area Wide update Shoreline Master Program (SMP)</p> <p>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</p>	<p>CC/ City of Port Angeles/ City of Sequim/ NOPLE</p>

	recovery plans; will help to advance habitat protection and restoration; and will affect shorelines across the county.	
74	<p>NOPLE Area Adaptive Management Plan & Monitoring</p> <p>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-Capitol program objectives I, ii, iii,iv,vi,vii, and ix.</p>	CC/ City of Port Angeles/ City of Sequim/ NOPLE
75	<p>NOPLE Area wide Monitoring Program</p> <p>This program will establish watershed- based programs to monitor for Viable Salmonid Populations parameters and will provide for intra-NOPLE 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></p> <p>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 	CC/ City of Port Angeles/ City of Sequim/ NOPLE

	<p>and expand assessments of impacts on VSP parameters and effectiveness of recovery measures.</p> <ul style="list-style-type: none"> • Help prepare for 2009 PST negotiations of a new Chinook annex to offer improved protection from non-southern U.S. harvest impacts. 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><u>Dungeness Chinook Biological Monitoring Project</u></p> <p>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.). • 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.). <p>Determine proportion of hatchery and wild origin coho salmon on spawning grounds.</p>	
--	--	--

	<ul style="list-style-type: none"> • 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>	
<p>76</p>	<p>Elwha River Salmon Enumeration Weir</p> <p><u>Likely Sponsors</u></p> <p>National Park Service, US Geologic Survey, NOAA Fisheries, US Fish and Wildlife Service, LEKT</p> <p><u>Funding Request:</u> \$610,000</p> <p><u>Partnerships</u></p> <p>This project will consist of a partnership between 4 federal agencies and the LEKT.</p> <p><u>Brief Description of Project</u></p> <p>Construct, install and maintain a floating weir in the Elwha River to allow the accurate enumeration of returning adult salmon to the watershed.</p> <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>National Park Service/ USGS/ NOAA/ USFWS/ LEKT/ WDFW</p>

	<p><u>Limiting Factors Addressed</u></p> <p>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></p> <p>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></p> <p>Puget Sound Chinook, Puget Sound steelhead, bull trout.</p> <p><u>Other Stocks</u></p> <p>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></p> <p>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></p> <p>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>Project Support of Restoration or Protection of Ecosystem Functions:</p> <ul style="list-style-type: none"> •1 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. 	
--	--	--

	<p>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.</p> <p>•2 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> <p><u>Certainty of Project Success</u></p> <p>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> 2009 to 2011</p> <p><u>Cost Appropriateness</u></p> <p>Cost estimates are based upon expenses incurred in similar weir construction and operation programs.</p>	
--	---	--

Acronym Key

Acronym	Full Name	Acronym	Full Name
ACOE	Army Corps of Engineers	NOSC	North Olympic Salmon Coalition
CC	Clallam County	ONP	Olympic National Park
CCD	Clallam Conservation District	Port PA	Port of Port Angeles
City of PA	City of Port Angeles	TNC	The Nearshore Conservation
DNR	WA Dept. of Natural Resources	WDFW	WA Dept. of Fish & Wildlife
Elwha	Lower Elwha Klallam Tribe	WDOT	WA Dept. of Transportation
JSKT	Jamestown S’Klallam Tribe	NOLT	North Olympic Land Trust
Makah	Makah Tribe		

TABLE B – RANKING OF HABITAT PROJECTS

Rank	Project	Wt Ave Score	Project No
1	Lower Dungeness Dikes Setback, Phase II	124.49	35
2	Elwha ELJ's	124.28	16
3	Lower Dungeness Channel Remeandering and ELJ Placement. Phase III	122.40	36
4	Dungeness River Engineered Log Jams	122.26	29
5	Washington Harbor Tidal Flow Restoration Project	118.62	47
6	Pysht Estuary Restoration (Phase I)	116.38	9
7	Dungeness River Corridor Protection: RM 0.8 to 12.0	115.19	30
8	Elwha Culvert Replacement	114.82	19
9	Morse Creek Remeander	111.38	25
10	Final IMW Restoration Treatments	108.66	10
11	Lower Elwha Hatchery Outfall and Berm Removal	108.29	17
12	Dungeness Drift Cell Protection	108.17	32
13	Dungeness Irrigation District Water Conservation Project	106.76	34
14	North Sequim Bay Drift Cell Protection (Travis and Paradise Cove Spit Protection Project)	105.68	37
15	Salt Creek Salt Marsh Reconnection	105.53	14
16	Washington Harbor Drift Cell Protection	105.21	45
17	South Fork Pysht River Floodplain Restoration	105.16	7
18	Dungeness Irrigation Group Water Con. Project	105.08	33
19	Little Hoko River (RM 0-2.0) LWD Restoration	104.55	1
20	Washington Harbor Habitat Protection Project	104.05	46
21	Salt Creek Final Fish Passage Corrections Project	103.91	15
22	Nearshore Restoration Strategy for Twin Rivers	103.75	11
23	Highland Irrigation District H-10 Lateral Piping	103.56	42
24	Sequim Prairie Tri Irrigation Association SP-5 Lateral Piping	103.51	43

25	Jimmycomelately Riparian Protection	103.33	44
26	Pysht River Floodplain Acquisition (Phase I)	101.46	8
27	Meadowbrook Creek	100.98	41
28	Salt Creek Habitat Protection	100.44	13
29	Elwha River Estuary Restoration	100.04	18
30	Morse Creek Property Acquisition	99.49	26
31	Dungeness Riparian Reforestation	98.32	31
32	Elwha River Native Steelhead Brood Development Project	97.98	48
33	Siebert Creek HWY 101 Fish Passage Restoration	97.39	28
34	Sekiu Mainstem (RM2-5) LWD Restoration	97.03	5
35	Nelson Creek Fish Passage Barrier Removal Project	96.00	12
36	Hoko River – Emerson Flats LWD Supplementation	95.10	2
37	Agnew Irrigation District Piping	94.98	38
38	Lower Hoko River - Riparian Revegetation	94.68	3
39	Hoko River/Hermans Creek – Instream LWD Supplementation	94.07	4
40	Sekiu, Clallam Pysht Riparian Re-vegetation	91.09	6
41	Siebert Creek Ecosystem Protection Phase II	87.96	27
42	Ediz Hook A Frame Site Shoreline Restoration	87.45	22
43	McDonald Creek Diversion, Dam Removal and Ditch Lining	85.38	39
44	Ediz Hook Beach Nourishment	84.45	23
45	Ennis Creek Habitat Restoration & Protection	78.99	20
46	Port Angeles Waterfront Property Acquisition	68.66	24
47	Valley Creek Restoration	63.04	21
48	Cassalery Creek Instream Flow Enhancement Project	62.95	40

TABLE C – RANKING OF NON-CAPITAL CONCEPTUAL PROJECTS

Rank	Project	Wt Ave	Project No.
1	Elwha Watershed Adaptive Management Plan	96.29	57
2	WRIA 19 Conservation Planning Project Narrative	89.20	60
3	Create Stable-funded Incentive Programs	88.50	49
4	Elwha Conservation Planning Project Narrative	86.92	54
5	Clallam County Inventory Culverts	86.84	50
6	Increase Recovery Capacity & Support NOPLÉ-wide	84.86	67
7	Clallam Watertype Inventory & Assessment	84.78	53
8	Assess implementation of CAO,SMP & HPA ordinance	84.13	70
9	12 River Channel Migration Zone Assessment	84.10	66
10	Elwha River Salmon Enumeration Weir	83.74	76
11	NOPLE Area Wide increase compliance with ordinances & codes	83.59	71
12	Elwha Nearshore Action Plan	83.53	55
13	NOPLE Area Wide update stormwater management program	81.76	72
14	NOPLE Area wide Monitoring Program	81.12	75
15	Clallam County Map Roadside Ditches	80.33	52
16	NOPLE Area Wide update Shoreline Master Program (SMP)	78.87	73

17	Dungeness River Habitat Resurvey	77.91	63
18	Dungeness Improved Fisheries Enforcement	77.78	64
19	Port Angeles Harbor Basin Program	77.24	59
20	Clallam County Salmonid Outreach Planner	76.72	51
21	NOPLÉ Area Adaptive Management Plan & Monitoring	76.42	74
22	Jimmycomelately Creek & Dungeness River Habitat	76.36	65
23	NOPLÉ area wide data base for habitat restoration, protection, & permitted activities	75.31	69
24	Elwha Morse Management Team	74.15	58
25	NOPLÉ – Area Wide Outreach Program	74.02	68
26	Elwha River Nearshore Biodiversity Investigations	72.43	56
27	WRIA 19 Watershed Council	64.41	61
28	Dungeness River Management Team	64.41	62

APPENDIX A

TECHNICAL NOTE

NOPLE Decision-Making Procedures with Screens, Criteria, and Weights

WH Pearson

16APR2008

PURPOSE OF THIS DOCUMENT

The geographic area and future scope of activities of the North Olympic Peninsula Lead Entity (NOPLE) has changed recently, and these changes have occasioned the updating of the NOPLE strategy. A portion of the updating in 2008 re-examined the NOPLE decision-making process and assessed what modifications are needed in light of these recent changes. This re-examination of the procedures occurred in a series of workshops on 20 and 21 FEB 2009 and 5MAR2008. This document briefly reviews the past NOPLE decision-making process and the state of the art in environmental decision making, offers an assessment of the critical questions that NOPLE needed to address concerning its decision making, and outlines workshop outcomes concerning the decision-making process including the agreed screens, criteria, and weights.

PAST NOPLE DECISION-MAKING PROCESS

The past NOPLE decision-making process focused on the ranking of projects for the restoration of fish habitat so that projects could be placed in a prioritized order in the 3-Year Work Plan and in the annual requests for funding. The past process included two stages: First, tiering of watersheds, and, second, ranking of projects for inclusion in the Work Plan. The NOPLE 2004 Strategy called for the independent watersheds to be assigned to tiers in the next version of the strategy. Further, the past watershed prioritization included WRIA 20 watersheds that are no longer within NOPLE's geographic area. The past NOPLE criteria for ranking took into account almost all the elements required in the salmon recovery statute (RCW 77.85.005, 77.85.130). However, many of the past NOPLE criteria combined three or more elements. Only three of the ten elements in the statute appeared to be directly and explicitly expressed in the past NOPLE procedures.

BACKGROUND ON FORMAL DECISION MAKING

Formal decision making processes have been the subject of operations research for decades with applications in medicine, defense, finance, corporate management, transportation, energy, research planning, and the management of natural resources and the environment (Belton and Stewart 2002). The techniques range from simple ones that can be accomplished a laptop computer to sophisticated analysis models that require substantial computing power, a GIS database, and specialized (often proprietary and expensive) software. A few examples of state-of-the-art decision making procedures applied to watersheds include:

- A geomorphologic-based procedure used by the Zuni Tribe in the American Southwest to rank watersheds for restoration (Gellis et al. 2001).
- A decision optimization framework coupled to adaptive management for deactivating roads in British Columbia (Allison et al. 2004)
- A multivariate scheme to identify river reaches for protection and restoration in the Ozarks (Radwell and Kwak 2005)
- A spatial decision support tool for forest management planning implemented with an advanced model on a GIS in British Columbia (Mathey et al. 2008).

In addition, Linkov et al. (2006) compares several current procedures for formal decision-making and how they may be coupled to adaptive management to address environmental management issues. Smith and Jones (2007) have reviewed the utility of historic data for setting watershed-level conservation goals. Although NOPLE may eventually need such sophisticated decision tools in the future, its present needs were more modest but still urgent. NOPLE needed a simple, transparent, useable system that is flexible to adapt to changing circumstances without a complete re-visit but rigorous and systematic enough to make informed decisions among alternatives.

DECISIONS THAT NOPLE NEEDS TO MAKE

In the course of its efforts, NOPLE needs to make decisions concerning the following questions:

- What non-capital activities are needed?

- What habitat projects are needed?
- What priorities are to be given to activities and projects (RCW 77.85.005)?
- How will project priorities take into account logical sequencing (RCW 77.85.005)?

In addition, the NOBLE 2004 strategy called for two decisions in the next strategy update. First, assignment of independent watersheds to tiers was needed. Second, for the nearshore, some ranking of priorities and concepts was needed. Eventually, NOBLE will probably need to make decisions concerning other options or alternative approaches.

OPTIONS AND CRITICAL QUESTIONS

NOPLE had three options for the 2008 Strategy: First, retain the existing tiering and ranking procedures as is. Second, modify the existing tiering and ranking procedures. Third, adopt the proposed new procedure and develop new screens, criteria, and weights. In deciding on these options in the 5MAR workshop, members of NOBLE's Lead Entity Group (LEG) and Technical Review Group (TRG) addressed the following critical questions:

- Does NOBLE retain the tiering step?
- If so, then does NOBLE retain the existing procedure for tiering?
- If so, do the tier assignments need to be redone in light of scope changes and the call in 2004 Strategy to revisit assignments in next version of the strategy?
- If not, is the proposed procedure (or with some modification) acceptable?
- If so, what modifications are required to proposed screens? To proposed criteria?

The outcomes of the 5MAR Workshop were to adopt the proposed procedure and to develop new single-factor screens and criteria. Separate sets of screens, criteria and weights were developed for non-capital activities and for habitat capital projects.

THE DECISION-MAKING PROCESS

Elements considered in the selection of the current decision-making process included the following:

- Method is proven and widely accepted.
- Method does not rely on sophisticated or proprietary software that would be opaque and expensive.
- Method is transparent: All components, operations, and data are completely open to inspection.
- Procedure is user-friendly, readily understood, and can be accomplished by non-technical stakeholders with spreadsheet software and modest computer.
- Procedure enables the group to develop screens, criteria, and weighting.
- Procedure is flexible enough to be applied to make a number of different kinds of decisions beyond the ranking of projects.

The selected procedure is based on multiple criteria decision-making analysis or aid (MCDA), a long-standing and widely-used procedure (Belton and Stewart 2002; Pohekar and Ramachandran 2004). The proposed procedure includes the Weighted Sum Method (WSM) for numerical ranking of options. WSM is one of the simplest and most widely-used approaches although it is being supplanted by sophisticated software packages. The past NOPLE procedure for ranking used an approach similar to WSM for ranking but the method for tiering was not clear. The selected procedure can be accomplished by non-technical people with a spreadsheet on a laptop or even by hand if necessary. The ranking does still require review of information and documents before scoring as is the long-standing NOPLE practice.

The steps in the procedure are outlined in Table 1 (pg 53). A variety of approaches to arriving at the list of constraints, preferences, and criteria were discussed at the March 5, 2008 Workshop. Consensus was used to arrive at the screens and criteria. Statistical averaging of weighting by LEG and TECHNICAL REVIEW GROUP members was used to arrive at criteria weights. Some criteria were reserved for use by the LEG.

CONSTRAINTS, PREFERENCES, SCREENS AND CRITERIA

The constraints and preferences were developed in the workshop on February 21, 2008 and appear in Table 2 (pg 54). These constraints and preferences were used to develop screens and criteria. Screens are either questions that can be answered yes/no or are questions that enable a reviewer to sort proposals into one of several mutually exclusive

categories. The final screens in Table 3 (pg 55) were developed from the constraints listed during the workshop on February 21, 2008 and modified during the March 5, 2008 workshop.

The final criteria developed at the workshops appear in Table 4 (pg 56) for habitat projects and Table 5 (pg 57) for non-capital activities. General rules governing construction of decision making criteria included the following:

- Criteria should be as independent as possible and mutually exclusive
- Criteria should be single factors or of one dimension so that scorers do not need to evaluate more than one aspect of the issues at a time
- All the criteria should be written to be scored in the same direction (e.g. if 5 is best, a high cost is scored as 1 not 5)
- The number of criteria should be from about 6 to about 12.

The criteria on Tables 4 and 5 (pgs 56 & 57) were developed from the requirements of the Statute (77.85), the previous NOPLÉ criteria, and the values and principles expressed at the workshops on February 20 and 21 2008. The weights also appear in Tables 4 and 5.

UPDATED WATERSHED PRIORTIES

The past approach to watershed priorities was to assign watersheds to one of four tiers of priorities based on information about the status and trends of stocks, the historic and current productivity and watershed size. The NOPLÉ 2008 Strategy Workshops updated the approach to watershed prioritization. As requested, the TECHNICAL REVIEW GROUP reviewed and updated the data for the watershed priorities (Table 6, pgs 58-60). This review and update enabled the separate assessment of the independent watersheds. Criteria and weights for the watershed priorities were developed and applied Table 7 (pg 61). The TECHNICAL REVIEW GROUP scored the watersheds against the criteria in Table 7 based on the information in Table 6. The results were normalized to give scores with 5 being the highest and appear in Table 8 (pg 62 & 63).

RANKING OF PROJECTS AND ACTIVITIES

Capital projects for habitat protection and restoration will be screened using the screens in Table 3 and then scored under each criterion in Table 4. Scoring will be 0 to 5 with 5 being best. A score of zero will be used if the project does not address the criterion at all. Criterion 1 for watershed priorities will be scored based on the priority of the watershed given in Table 8. If the project encompasses more than one watershed, the score taken from Table 8 will be that for the highest ranked watershed in the project. For each criterion the scores will be weighted by multiplying the score by the weight. The weighted scores are averaged and summed to give the overall average weight score for each project. These scores are then used to rank the projects. Non-capital activities will be scored using the same process as that for the habitat capital projects but using the criteria and weights in Table 5.

REFERENCES

- Allison, C, RC Sidle, and D Tait. 2004. Applications of decision analysis to forest road deactivation in unstable terrain. *Environmental Management* 33: 173-185.
- Belton, V and TJ Stewart. 2002. Multiple Criteria Decision Analysis. Kluwer Academic Publishers, Boston, MA, 372pp.
- Hermans, C, J Erickson, T Noordewier, A Sheldon, and M Kline. 2007. Collaborative environmental planning in river management: An application of multicriteria decision analysis in the White River Watershed in Vermont. *Journal of Environmental Management* 84: 534-546.
- Gellis, AC, A Cheama, and SM Lailo. 2001. Developing a geomorphic approach for ranking watersheds for rehabilitation, Zuni Indian Reservation, New Mexico. *Geomorphology* 37: 105-134 (abstract)
- Linkov, I., FK Satterstrom, G Kiker, C Batchelor, T Bridges, and E Ferguson. 2006. *Environmental International* 32: 1072-1093.
- Mathey, A-H, E Krcmar, S Dragicevic, and I Vertinsky. 2008. An object-oriented cellular automata model for forest planning problems. *Ecological Modeling* 212: 359-371.

Pohekar, SD and M. Ramachandran. 2004. Application of multi-criteria decision making to sustainable energy planning – A review. *Renewable and Sustainable Energy Reviews* 8: 365-381.

Radwell, AJ and T Kwak. 2005. Assessing ecological integrity of Ozark rivers to determine suitability for protective status. *Environmental Management* 35: 799-810.

Smith, KL and ML Jones. 2007. When is historic data sufficient for making watershed – level stream fish management and conservation decisions. *Environmental Monitoring and Assessment* 135: 291-311.

TABLE 1
PROCESS FOR NOPLE DECISION MAKING SELECTED IN THE NOPLE 2008
WORKSHOPS

Step Number	Step
1	Assemble evaluation team (LEG and TRG)
2	Develop strawman criteria
3	Weight criteria
4	Obtain mean of weights and standard deviation
5	Re-iterate weighting if necessary
6	Finalize criteria and weighting
7	Identify constraints and preferences for screens
8	Develop list of items (options, programs, activities, or projects) to be scored
9	Apply screens to items
10	Score items against criteria
11	Calculate weighted scores by multiplying score by weight
12	Use sum of weighted scores for all criteria to rank items

TABLE 2
CONSTRAINTS AND PREFERENCES FROM NOPLE 2008 STRATEGY WORKSHOP

Factor or Element	Constraint or Preference	In Process Proposed as	Comments/Questions
Recovery Plans	Constraint	Screen	
All stocks need attention	Preference	Decision criterion	Long standing NOPLE principle
Within schedule/deadlines	Constraint	Screen	
Jurisdictions and Boundaries	Constraint	Screen	Is project within NOPLE area and scope?
Geographic equity	Constraint or Preference?	Screen	Tiering and LEG considerations
Capacity	Constraint	Sequencing screen	Undertake when capacity is built
Landowner Willingness	Constraint	Screen	If no willing landowner, perhaps request design only
Credibility	Preference	Decision Criterion	Needs definition
Social/Political Considerations	Preference	LEG screen	Duty of LEG
Creativity/Imagination	Preference	Not proposed	Handle in Adaptive Management
Funding ceiling	Constraint	Secondary Screen	If over ceiling, request phasing

Match requirement	Constraint	Screen but with exceptions	Consider exception for some types of projects, e.g. feasibility assessments
Sequencing	Constraint	Screen and Decision Criteria	
Social Acceptance	Constraint	Not proposed	Lump with Social/Political Considerations
External drivers	Constraint	Not proposed	Handle in Adaptive Management
Environmental constraints	Constraint	Not proposed	Handle in Adaptive Management
State of Knowledge	Constraint	Not proposed	Handle in Adaptive Management
Scientific Uncertainty	Constraint	Not proposed	Handle in Adaptive Management

TABLE 3
SCREENS FOR HABITAT CAPITAL PROJECTS FROM NOPLE 2008 STRATEGY
WORKSHOPS

ID	Screen	Comments/Questions
1	Is the project within NOPLE area or scope of approved regional plan?	
2	Is there a Landowner Acknowledgement? (Not required for an assessment or design study)	
3	Is the project in a proper place in sequence of recovery actions?	If not, return for appropriate sequencing
4	Has the project considered other H management strategies?	If not, return for documentation of consideration
5	Has the project considered PSP ecosystem recovery objectives?	If not, return for documentation of consideration
6	Does the project have match or in kind funding? (Not required if an assessment or design study)	
7	Is the project request below the funding request limit?	If over ceiling, return for appropriate phasing

TABLE 4
CRITERIA AND WEIGHTS FOR HABITAT CAPITAL PROJECTS FROM NOPLE
2008 STRATEGY WORKSHOPS

ID	Criteria for Ranking	MEAN Weight	SD
1	Watershed Priority	3.40	1.897
2	Addresses limiting factor	3.70	1.252
3	Addresses stock status and trends	2.44	1.130
4	Benefits a listed stock covered by recovery or implementation plan	3.40	1.174
5	Benefits other stocks	2.40	0.843
6	Protects high-quality fish habitat	3.20	1.398
7	Restores formerly productive habitat	3.30	1.160
8	Supports restoration of ecosystem functions	2.70	0.823
9	Likelihood of success based proposer's past success in implementation	1.50	0.850
10	Likelihood of success based on approach	2.65	1.203
11	Reasonableness of cost and budget	1.70	0.483
12	Extent of match, in-kind, or other external funding	LEG Responsibility	
13	Extent of Partnerships	LEG Responsibility	
14	Socio-Political Considerations	LEG Responsibility	

TABLE 5
CRITERIA AND WEIGHTS FOR NON-CAPITAL ACTIVITIES, PROGRAMS AND PROJECTS FROM NOPLE 2008 STRATEGY WORKSHOPS

ID	Criteria for Ranking	MEAN Weight	SD
1	Advances robust harvestable stocks	3.69	1.18
2	Advances implementation of recovery plans	3.15	1.21
3	Advances habitat protection and restoration	3.92	0.76
4	Advances recovery of ecosystem function	3.46	1.05
5	Advances ecosystem awareness	2.42	1.15
6	Advances integration	1.38	0.65
7	Fulfills requirements from external entities	2.12	1.63
8	Advances multi-agency funding strategy	1.62	0.96
9	Has large spatial-temporal scale of effects	2.65	0.69

TABLE 6
UPDATED INFORMATION FOR WATERSHED PRIORITIES FROM NOPL 2008
STRATEGY WORKSHOPS

Weights for weighted scores appear in Table 7
 The weighted scores were normalized so that the highest score was 5

WRIA	System	List of Stocks Historically	List of Stocks Critical or Extirpated	Historic Productivity	Current Productivity	Number of Stocks Historically	Number of Stocks Critical or Extirpated	Weighted Score	Normalized Score (5 is best)
17	Nearshore	co, ch, fc, sc, ws,ss, ep,p, bt,ct, so		5	3	11		35	4.27
17	17.0277	unknown	unknown	1	1	1	1	6	0.73
17	17.0284	unknown	unknown	1	1	1	1	6	0.73
17	17.0295	unknown	unknown	1	1	1	1	6	0.73
17	17.0296	unknown	unknown	1	1	1	1	6	0.73
17	17.0297	unknown	unknown	1	1	1	1	6	0.73
17	17.0300	unknown	unknown	1	1	1	1	6	0.73
17	Chicken Coop Creek	co, (ws), ct (fc)	co, (ws), ct (fc)	2	1	2	1	10	1.22
17	Dean Creek	co, (ws), ct (fc)	co, (ws), ct (fc)	2	1	2	1	10	1.22
17	Jimmy-comelately Creek	co, ws, sc, ct	co, ws, sc, ct	4	3	4	2	21	2.56
17	Johnson Creek	co, (ws), ct (fc)	co, (ws), ct (fc)	2	1	2	1	10	1.22

WRIA	System	List of Stocks Historically	List of Stocks Critical or Extirpated	Historic Productivity	Current Productivity	Number of Stocks Historically	Number of Stocks Critical or Extirpated	Weighted Score	Normalized Score (5 is best)
18	Bell Creek	co,ws,ct, (fc), (bt)	co,ws,ct, (fc), (bt)	1	1	3	2	11	1.34
18	Cassalery Creek	co, (ws), ct (fc)	co, (ws), ct (fc)	1	1	2	1	8	0.98
18	18.0017 (Cooper Creek)	co, (ws), ct (fc)	co, (ws), ct (fc)	1	1	3	1	10	1.22
18	18.0159	unknown	unknown	1	1	1	1	6	0.73
18	Agnew Creek (18.0172)	unknown	unknown	1	1	1	1	6	0.73
18	Bagley Creek	co, ws, ct (fc)	co, ws, ct (fc)	1	1	3	2	11	1.34
18	Dry Creek	co, ws, ct (fc)	co, ws, ct (fc)	1	1	3	2	11	1.34
18	Dungeness River	co, ch, fc, sc,ep, p, bt, ct, ws, ss	ch, sc, ep, p, bt,ss, ws	5	2	10	7	39	4.76
18	Elwha River	co, ch, fc, (sc),ep, p, bt, ct, ws, ss, so	ch, (sc), fc, ep, p, bt,ss, ws, so	5	1	11	8	41	5.00
18	Ennis Creek	co, ws, ct, fc, bt	co, ws, fc, bt	3	1	5	4	21	2.56
18	Gierin Creek	co, (ws), ct (fc)	co, (ws), ct (fc)	1	1	2	1	8	0.98
18	Lees Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59

WRIA	System	List of Stocks Historically	List of Stocks Critical or Extirpated	Historic Productivity	Current Productivity	Number of Stocks Historically	Number of Stocks Critical or Extirpated	Weighted Score	Normalized Score (5 is best)
18	Meadowbrook Creek	co,ws,ct, (fc), (bt)	co,ws,ct, (fc), (bt)	2	1	3	2	13	1.59
18	Morse Creek	co, ch, fc, (sc), p, bt, ct, ws, ss	co, ch, fc, (sc), p, bt, ct, ws, ss	4	1	8	7	32	3.90
18	Peabody Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59
18	Siebert Creek	co, ws, ct, fc	co, ws, ct, fc	3	2	4	2	18	2.20
18	Tumwater Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59
18	Valley Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59
19	Nearshore	co, ch, fc, sc, ws,ss, ep,p, bt,ct		5	3	10		33	4.02
19	Colville Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59
19	19.0005							0	0.00
19	19.0006							0	0.00
19	19.0018							0	0.00
19	19.0019							0	0.00
19	19.0080							0	0.00
19	19.0081							0	0.00
19	Bullman Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	2	13	1.59

WRIA	System	List of Stocks Historically	List of Stocks Critical or Extirpated	Historic Productivity	Current Productivity	Number of Stocks Historically	Number of Stocks Critical or Extirpated	Weighted Score	Normalized Score (5 is best)
19	Clallam River	co,ws,ct,fc, ch	fc, ch	4.5	2	5	2	23	2.80
19	Deep Creek	co,ws,ct,fc	ch	3.5	2	4	1	18	2.20
19	East Twin River	co,ws,ct,fc	ws	3	2	4	2	18	2.20
19	Falls Creek	unknown	unknown	1	1	1	1	6	0.73
19	Field Creek	co,ws,ct,(fc),	co,ws,ct,(fc),	2	1	3	2	13	1.59
19	Hoko River	co,ws,ct,fc, ch	fc, ch	5	2	5	2	24	2.93
19	Jim Creek	co,ws,ct,(fc),	co,ws,ct,(fc),	3	2	3	1	15	1.83
19	Joe Creek	co,ws,ct,(fc),	co,ws,ct,(fc),	2	1	3	1	12	1.46
19	Lyre River	co,ws,ct,fc, ss,(ch), (p)	fc, ss,ws	5	2	5	3	25	3.05
19	Murdock Creek	co,ws,ct,(fc),	co,ws,ct,(fc),	2	1	3	1	12	1.46
19	Olsen Creek	co,ws,ct,(fc),	co,ws,ct,(fc),	1	1	3	1	10	1.22
19	Pysht River	co,ws,ct,fc, ch	fc, ch, ct	5	2	5	2	24	2.93
19	Sail River	co,ws,ct,(fc),	co,ws,ct,(fc),	3	1	3	1	14	1.71
19	Salt Creek	co,ws,ct,fc, ch	fc, ws, ch	4	2	5	3	23	2.80

WRIA	System	List of Stocks Historically	List of Stocks Critical or Extirpated	Historic Productivity	Current Productivity	Number of Stocks Historically	Number of Stocks Critical or Extirpated	Weighted Score	Normalized Score (5 is best)
19	Whiskey Creek	co,ws,ct, (fc),	co,ws,ct, (fc),	2	1	3	3	14	1.71
19	West Twin River	co,ws,ct, fc	fc, ws	3	2	4	2	18	2.20

Abbreviation Key	
Abbreviation	Full Name
bt	Bull trout
Ch	Chinook
Co	Coho
Ct	Cutthroat
Ep	Early pink
Fc	Fall chum
P	Pink
Sc	Summer chum
SD	Standard Deviation
So	Sockeye
Ss	Summer steelhead
ws	Winter steelhead

TABLE 7
CRITERIA AND WEIGHTS FOR WATERSHED PRIORITIES FROM NOPLE 2008
STRATEGY WORKSHOP

Assignment Criteria	Weight
Historic Productivity	2
Current Productivity	1
Number of Populations Historically	2
Number of Critical, Extirpated Stocks	1

TABLE 8 NORMALIZED WEIGHTED SCORES FOR EACH WATERSHED

This list is sorted from highest to lowest priority

WRIA	System	Normalized Score (5 is Best)
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

WRIA	System	Normalized Score (5 is Best)
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
19	Butler Creek (19.0112)	1.59
19	Field Creek	1.59
19	Joe Creek	1.46

WRIA	System	Normalized Score (5 is Best)
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

WRIA	System	Normalized Score (5 is Best)
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

APPENDIX B

RANKING SHEETS AND PROJECT MATRIX

NOPLE 2009
For Ranking Capital Projects Only

NS = No Score Given
 COV = Coefficient of Variation (Standard deviation/Mean as %)

ID	Criteria for Ranking Project 1	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	ns	5	4	5	3	4	4.17	3.70	15.42	18.0665437
3	Addresses stock status and trends	4	ns	5	4	5	3	4	4.17	2.44	10.19	18.0665437
4	Benefits a listed stock covered by recovery or implementation plan	0	ns	5	3	2	0	2	2.00	3.40	6.80	94.8683298
5	Benefits other stocks	4	ns	5	4	5	3	4	4.17	2.40	10.00	18.0665437
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.903339
7	Restores formerly productive habitat	5	ns	5	4	4	3	4	4.17	3.30	13.75	18.0665437
8	Supports restoration of ecosystem functions	5	ns	5	3	4	3	4	4.00	2.70	10.80	22.3606798
9	Likelihood of success based proposer's past success in implementation	5	ns	5	5	5	5	4	4.83	1.50	7.25	8.44651635
10	Likelihood of success based on approach	4	ns	5	4	5	4	4	4.33	2.65	11.48	11.9168718
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.493	1.965	4.35727273	3.44818182	3.893	2.53909091	3.26636364	Overall		104.55	
COV (%)		49.1939817	69.4512004	29.6943345	30.1320362	37.3523916	61.8570949	33.8493406	Overall		94.59	

ID	Criteria for Ranking Project 2	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	4	4	4	5	2	4	3.86	3.70	14.27	23.3264736
3	Addresses stock status and trends	4	3	4	4	5	3	4	3.86	2.44	9.43	17.8905886
4	Benefits a listed stock covered by recovery or implementation plan	0	3	4	3	3	0	2	2.14	3.40	7.29	73.434274
5	Benefits other stocks	4	3	4	4	5	2	4	3.71	2.40	8.91	25.6089543
6	Protects high-quality fish habitat	ns	2	4	3	ns	0	2	2.20	3.20	7.04	67.4199862
7	Restores formerly productive habitat	4	3	4	4	4	3	4	3.71	3.30	12.26	13.1371164
8	Supports restoration of ecosystem functions	4	3	4	3	4	2	4	3.43	2.70	9.26	22.9482106
9	Likelihood of success based proposer's past success in implementation	3	2	3	4	5	3	4	3.43	1.50	5.14	28.4637521
10	Likelihood of success based on approach	4	3	4	3	5	3	4	3.71	2.65	9.84	20.3519332
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.093	2.72090909	3.53909091	3.26636364	3.993	1.99363636	3.26636364	Overall		95.10	
COV (%)		46.874985	28.8174872	26.5185135	27.7644465	33.5421212	59.0616326	33.8493406	Overall		85.14	

ID	Criteria for Ranking Project 3	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	4	4	4	5	2	4	3.86	3.70	14.27	23.3264736
3	Addresses stock status and trends	3	2	4	4	5	0	4	3.14	2.44	7.68	53.3324724
4	Benefits a listed stock covered by recovery or implementation plan	0	3	4	3	3	0	2	2.14	3.40	7.29	73.434274
5	Benefits other stocks	4	4	4	4	5	2	4	3.86	2.40	9.26	23.3264736
6	Protects high-quality fish habitat	ns	1	4	3	ns	0	2	2.00	3.20	6.40	79.0569415
7	Restores formerly productive habitat	3	5	4	4	4	2	4	3.71	3.30	12.26	25.6089543
8	Supports restoration of ecosystem functions	3	4	4	5	4	1	4	3.57	2.70	9.64	35.6277046
9	Likelihood of success based proposer's past success in implementation	4	4	3	5	5	3	4	4.00	1.50	6.00	20.4124145
10	Likelihood of success based on approach	2	5	4	5	5	2	4	3.86	2.65	10.22	34.8751775
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.693	3.26636364	3.53909091	3.72090909	3.993	1.44818182	3.26636364	Overall		94.68	
COV (%)		49.6075462	43.5385415	26.5185135	32.1246232	33.5421212	77.250028	33.8493406	Overall		84.72	

ID	Criteria for Ranking Project 4	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	3	4	4	4	5	2	4	3.71	3.70	13.74	25.6089543
3	Addresses stock status and trends	3	3	4	3	5	3	4	3.57	2.44	8.73	22.0302822
4	Benefits a listed stock covered by recovery or implementation plan	0	3	4	3	2	0	2	2.00	3.40	6.80	76.3762616
5	Benefits other stocks	4	5	4	3	5	2	4	3.86	2.40	9.26	27.7159806
6	Protects high-quality fish habitat	ns	2	4	3	ns	0	2	2.20	3.20	7.04	67.4199862
7	Restores formerly productive habitat	3	4	4	4	4	3	3	3.57	3.30	11.79	14.9666295
8	Supports restoration of ecosystem functions	3	4	4	3	4	2	4	3.43	2.70	9.26	22.9482106
9	Likelihood of success based proposer's past success in implementation	3	4	3	4	5	3	4	3.71	1.50	5.57	20.3519332
10	Likelihood of success based on approach	3	4	4	4	5	3	4	3.86	2.65	10.22	17.8905886
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.593	3.35727273	3.53909091	3.17545455	3.893	1.99363636	3.17545455	Overall		94.07	
COV (%)		45.1732928	33.4358794	26.5185135	27.5731404	37.3523916	59.0616326	34.0141922	Overall		84.11	

ID	Criteria for Ranking Project 5	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	3.40	9.11	0
2	Addresses limiting factor	4	4	4	4	5	4	4	4.14	3.70	15.33	9.12328038
3	Addresses stock status and trends	3	3	4	4	5	4	4	3.86	2.44	9.43	17.8905886
4	Benefits a listed stock covered by recovery or implementation plan	0	3	4	3	3	0	2	2.14	3.40	7.29	73.434274
5	Benefits other stocks	4	5	4	4	5	4	4	4.29	2.40	10.29	11.3855009
6	Protects high-quality fish habitat	ns	2	4	3	ns	0	2	2.20	3.20	7.04	67.4199862
7	Restores formerly productive habitat	3	4	4	4	4	3	3	3.57	3.30	11.79	14.9666295
8	Supports restoration of ecosystem functions	3	4	4	4	4	3	4	3.71	2.70	10.03	13.1371164
9	Likelihood of success based proposer's past success in implementation	2	4	3	4	5	4	4	3.71	1.50	5.57	25.6089543
10	Likelihood of success based on approach	2	3	4	4	5	4	3	3.57	2.65	9.46	27.325202
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.468	3.24363636	3.51636364	3.42545455	3.968	2.69818182	3.06181818	Overall		97.03	
COV (%)		51.024463	34.3987769	27.2319017	27.8657871	34.3623681	59.8759018	34.3483046	Overall		87.92	

ID	Criteria for Ranking Project 6	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	4	4	4	5	2	3	3.71	3.70	13.74	25.6089543
3	Addresses stock status and trends	3	2	4	4	5	0	3	3.00	2.44	7.33	54.4331054
4	Benefits a listed stock covered by recovery or implementation plan	0	3	4	3	3	0	2	2.14	3.40	7.29	73.434274
5	Benefits other stocks	4	4	4	4	5	3	3	3.86	2.40	9.26	17.8905886
6	Protects high-quality fish habitat	ns	1	4	4	ns	0	2	2.20	3.20	7.04	81.3115628
7	Restores formerly productive habitat	3	5	4	4	4	2	3	3.57	3.30	11.79	27.325202
8	Supports restoration of ecosystem functions	3	4	4	5	3	1	3	3.29	2.70	8.87	38.1520191
9	Likelihood of success based proposer's past success in implementation	3	4	3	5	5	3	4	3.86	1.50	5.79	23.3264736
10	Likelihood of success based on approach	3	2	4	3	5	2	3	3.14	2.65	8.33	34.0150672
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.693	2.99363636	3.53909091	3.63	3.893	1.53909091	2.72090909	Overall		91.09	
COV (%)		46.4164872	44.8219698	26.5185135	30.970608	35.3351463	78.3141072	28.8174872	Overall		81.13	

ID	Criteria for Ranking Project 7	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	ns	5	4	5	3	4	4.17	3.70	15.42	18.0665437
3	Addresses stock status and trends	4	ns	5	5	5	3	4	4.33	2.44	10.59	18.8422288
4	Benefits a listed stock covered by recovery or implementation plan	0	ns	4	3	3	0	2	2.00	3.40	6.80	83.6660027
5	Benefits other stocks	4	ns	5	5	5	3	4	4.33	2.40	10.40	18.8422288
6	Protects high-quality fish habitat	ns	ns	5	4	ns	0	2	2.75	3.20	8.80	80.6311194
7	Restores formerly productive habitat	4	ns	5	5	4	2	3	3.83	3.30	12.65	30.4968312
8	Supports restoration of ecosystem functions	4	ns	5	4	4	3	4	4.00	2.70	10.80	15.8113883
9	Likelihood of success based proposer's past success in implementation	4	ns	5	5	5	5	4	4.67	1.50	7.00	11.0656667
10	Likelihood of success based on approach	3	ns	5	4	5	4	4	4.17	2.65	11.04	18.0665437
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.093	1.965	4.35727273	3.90272727	3.993	2.44818182	3.17545455	Overall		105.16	
COV (%)		46.874985	69.4512004	29.6943345	31.4244386	33.5421212	64.1375015	34.0141922	Overall		95.20	

ID	Criteria for Ranking Project 8	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.93	2.93	2.93	2.93	2.93	2.93	2.93	2.93	3.40	9.96	0
2	Addresses limiting factor	4	4	5	4	5	2	3	3.86	3.70	14.27	27.7159806
3	Addresses stock status and trends	4	2	5	4	5	0	3	3.29	2.44	8.03	54.7665033
4	Benefits a listed stock covered by recovery or implementation plan	0	0	4	3	2	0	2	1.57	3.40	5.34	102.98573
5	Benefits other stocks	3	5	5	5	5	2	4	4.14	2.40	9.94	29.3272433
6	Protects high-quality fish habitat	3	5	5	4	5	3	4	4.14	3.20	13.26	21.7177513
7	Restores formerly productive habitat	3	4	5	5	ns	2	3	3.67	3.30	12.10	33.028913
8	Supports restoration of ecosystem functions	4	4	5	5	4	1	4	3.86	2.70	10.41	34.8751775
9	Likelihood of success based proposer's past success in implementation	4	4	5	4	5	3	4	4.14	1.50	6.21	16.6567549
10	Likelihood of success based on approach	3	4	5	4	5	2	4	3.86	2.65	10.22	27.7159806
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.90272727	3.26636364	4.35727273	3.81181818	3.993	1.72090909	3.17545455	Overall		101.46	
COV (%)		44.7865523	49.5779654	29.6943345	30.7683255	37.4676721	63.676481	30.9616161	Overall		91.50	

ID	Criteria for Ranking Project 9	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	3.40	13.67	0
2	Addresses limiting factor	5	ns	5	4	5	3	4	4.33	3.70	16.03	18.8422288
3	Addresses stock status and trends	4	ns	5	4	5	2	4	4.00	2.44	9.78	27.3861279
4	Benefits a listed stock covered by recovery or implementation plan	0	ns	4	3	4	0	3	2.33	3.40	7.93	79.7956574
5	Benefits other stocks	5	ns	5	5	5	4	4	4.67	2.40	11.20	11.0656667
6	Protects high-quality fish habitat	ns	ns	5	4	ns	0	3	3.00	3.20	9.60	72.00823
7	Restores formerly productive habitat	5	ns	5	5	5	4	4	4.67	3.30	15.40	11.0656667
8	Supports restoration of ecosystem functions	4	ns	5	5	5	3	4	4.33	2.70	11.70	18.8422288
9	Likelihood of success based proposer's past success in implementation	5	ns	5	4	5	5	4	4.67	1.50	7.00	11.0656667
10	Likelihood of success based on approach	5	ns	5	4	5	5	4	4.67	2.65	12.37	11.0656667
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.802	2.51	4.45636364	3.91090909	4.402	2.82	3.54727273	Overall		116.38	
COV (%)		47.7060884	85.0781864	27.2155843	29.0561041	28.7193085	65.0822743	26.3636564	Overall		102.71	

ID	Criteria for Ranking Project 10	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.20	3.40	7.48	0
2	Addresses limiting factor	4	ns	5	4	5	4	4	4.33	3.70	16.03	11.9168718
3	Addresses stock status and trends	5	ns	5	4	5	4	4	4.50	2.44	11.00	12.1716124
4	Benefits a listed stock covered by recovery or implementation plan	4	ns	4	3	3	0	2	2.67	3.40	9.07	56.457949
5	Benefits other stocks	5	ns	5	4	5	3	4	4.33	2.40	10.40	18.8422288
6	Protects high-quality fish habitat	ns	ns	5	4	ns	0	2	2.75	3.20	8.80	80.6311194
7	Restores formerly productive habitat	4	ns	5	4	4	4	4	4.17	3.30	13.75	9.79795897
8	Supports restoration of ecosystem functions	4	ns	5	4	4	4	4	4.17	2.70	11.25	9.79795897
9	Likelihood of success based proposer's past success in implementation	5	ns	5	5	5	5	4	4.83	1.50	7.25	8.44651635
10	Likelihood of success based on approach	4	ns	5	4	5	5	4	4.50	2.65	11.93	12.1716124
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.82	1.6	4.29090909	3.56363636	3.92	2.92727273	3.2	Overall		108.66	
COV (%)		33.7009055	53.0330086	32.3840827	30.9252703	36.2528234	63.5273479	35.9035165	Overall		101.18	

ID	Criteria for Ranking Project 11	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	3.40	13.67	0
2	Addresses limiting factor	4	4	5	4	5	1	4	3.86	3.70	14.27	34.8751775
3	Addresses stock status and trends	4	2	5	3	5	0	4	3.29	2.44	8.03	54.7665033
4	Benefits a listed stock covered by recovery or implementation plan	4	3	5	4	4	1	3	3.43	3.40	11.66	37.1121923
5	Benefits other stocks	4	3	5	4	5	1	4	3.71	2.40	8.91	37.1573763
6	Protects high-quality fish habitat	ns	1	5	3	ns	0	2	2.20	3.20	7.04	87.4335639
7	Restores formerly productive habitat	4	4	5	4	5	0	4	3.71	3.30	12.26	45.8859748
8	Supports restoration of ecosystem functions	5	5	5	4	4	1	4	4.00	2.70	10.80	35.3553391
9	Likelihood of success based proposer's past success in implementation	4	2	5	4	5	2	4	3.71	1.50	5.57	33.749863
10	Likelihood of success based on approach	3	4	5	4	5	1	4	3.71	2.65	9.84	37.1573763
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.702	3.00181818	4.54727273	3.54727273	4.302	1.09272727	3.45636364	Overall		103.75	
COV (%)		28.6331146	44.7443558	26.6681933	26.3636564	29.0829569	104.445738	29.9967212	Overall		90.09	

ID	Criteria for Ranking Project 12	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.40	10.37	0
2	Addresses limiting factor	3	3	5	5	5	2	3	3.71	3.70	13.74	33.749863
3	Addresses stock status and trends	4	2	5	4	5	3	4	3.86	2.44	9.43	27.7159806
4	Benefits a listed stock covered by recovery or implementation plan	0	0	4	3	2	0	2	1.57	3.40	5.34	102.98573
5	Benefits other stocks	3	2	5	4	3	2	4	3.29	2.40	7.89	33.8646998
6	Protects high-quality fish habitat	ns	1	4	3	ns	0	2	2.00	3.20	6.40	79.0569415
7	Restores formerly productive habitat	3	3	5	5	4	3	4	3.86	3.30	12.73	23.3264736
8	Supports restoration of ecosystem functions	4	3	5	3	3	3	4	3.57	2.70	9.64	22.0302822
9	Likelihood of success based proposer's past success in implementation	4	4	5	5	5	4	4	4.43	1.50	6.64	12.0698625
10	Likelihood of success based on approach	5	4	5	5	5	4	4	4.57	2.65	12.11	11.6926793
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.005	2.36818182	4.27727273	3.73181818	3.605	2.27727273	3.18636364	Overall		96.00	
COV (%)		49.6105103	54.4236419	29.6253031	34.0130575	39.6004189	62.4986404	33.831108	Overall		85.63	

ID	Criteria for Ranking Project 13	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	3.40	13.67	0
2	Addresses limiting factor	4	4	3	5	5	3	3	3.86	3.70	14.27	23.3264736
3	Addresses stock status and trends	3	2	2	4	5	3	4	3.29	2.44	8.03	33.8646998
4	Benefits a listed stock covered by recovery or implementation plan	0	3	2	4	3	0	2	2.00	3.40	6.80	76.3762616
5	Benefits other stocks	4	3	4	5	5	3	4	4.00	2.40	9.60	20.4124145
6	Protects high-quality fish habitat	4	5	4	5	5	5	4	4.57	3.20	14.63	11.6926793
7	Restores formerly productive habitat	ns	3	3	5	ns	0	2	2.60	3.30	8.58	69.8688543
8	Supports restoration of ecosystem functions	0	4	3	5	ns	4	3	3.17	2.70	8.55	54.3916239
9	Likelihood of success based proposer's past success in implementation	4	3	1	5	5	3	4	3.57	1.50	5.36	39.1237353
10	Likelihood of success based on approach	4	3	1	5	5	4	4	3.71	2.65	9.84	37.1573763
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.802	3.18363636	2.54727273	4.36545455	4.22444444	2.72909091	3.18363636	Overall		101.03	
COV (%)		62.5525908	33.9314033	47.736133	27.6135572	32.9996256	61.5688739	33.9314033	Overall		87.36	

ID	Criteria for Ranking Project 14	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	3.40	13.67	0
2	Addresses limiting factor	3	4	5	5	3	4	4	4.00	3.70	14.80	20.4124145
3	Addresses stock status and trends	3	3	5	4	4	4	4	3.86	2.44	9.43	17.8905886
4	Benefits a listed stock covered by recovery or implementation plan	0	3	5	4	4	4	3	3.29	3.40	11.17	48.8042268
5	Benefits other stocks	3	4	5	4	5	3	4	4.00	2.40	9.60	20.4124145
6	Protects high-quality fish habitat	ns	1	4	3	ns	0	3	2.20	3.20	7.04	74.6894397
7	Restores formerly productive habitat	3	4	5	4	3	4	3	3.71	3.30	12.26	20.3519332
8	Supports restoration of ecosystem functions	3	4	5	3	3	4	3	3.57	2.70	9.64	22.0302822
9	Likelihood of success based proposer's past success in implementation	4	2	5	5	4	5	4	4.14	1.50	6.21	25.8045337
10	Likelihood of success based on approach	3	4	5	5	3	5	3	4.00	2.65	10.60	25
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.702	3.09272727	4.45636364	3.82	3.402	3.45636364	3.27454545	Overall		106.12	
COV (%)		46.409601	39.529218	27.2155843	30.5778885	31.6350945	45.5159266	27.6728708	Overall		92.45	

ID	Criteria for Ranking Project 15	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.80	3.40	9.52	0
2	Addresses limiting factor	3	ns	5	5	5	3	4	4.17	3.70	15.42	23.5966099
3	Addresses stock status and trends	3	ns	5	4	5	3	4	4.00	2.44	9.78	22.3606798
4	Benefits a listed stock covered by recovery or implementation plan	0	ns	4	4	3	0	2	2.17	3.40	7.37	84.6852858
5	Benefits other stocks	4	ns	5	4	5	3	4	4.17	2.40	10.00	18.0665437
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.9033339
7	Restores formerly productive habitat	3	ns	5	5	4	3	4	4.00	3.30	13.20	22.3606798
8	Supports restoration of ecosystem functions	4	ns	5	5	4	3	4	4.17	2.70	11.25	18.0665437
9	Likelihood of success based proposer's past success in implementation	4	ns	5	5	5	5	4	4.67	1.50	7.00	11.0656667
10	Likelihood of success based on approach	3	ns	5	5	5	4	4	4.33	2.65	11.48	18.8422288
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.78	1.9	4.25454545	3.98181818	3.98	2.52727273	3.25454545	Overall		103.91	
COV (%)		47.2914812	66.9890635	30.3990073	32.1974476	33.9542185	62.037586	34.114826	Overall		94.39	

ID	Criteria for Ranking Project 16	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	5	5	5	5	5	5	5	5.00	3.40	17.00	0
2	Addresses limiting factor	5	ns	5	5	5	4	3	4.50	3.70	16.65	18.592445
3	Addresses stock status and trends	5	ns	5	5	5	3	3	4.33	2.44	10.59	23.8337437
4	Benefits a listed stock covered by recovery or implementation plan	5	ns	5	4	5	4	4	4.50	3.40	15.30	12.1716124
5	Benefits other stocks	4	ns	5	5	5	3	4	4.33	2.40	10.40	18.8422288
6	Protects high-quality fish habitat	ns	ns	4	4	ns	0	2	2.50	3.20	8.00	76.5941686
7	Restores formerly productive habitat	4	ns	5	4	4	4	4	4.17	3.30	13.75	9.79795897
8	Supports restoration of ecosystem functions	5	ns	5	4	5	4	4	4.50	2.70	12.15	12.1716124
9	Likelihood of success based proposer's past success in implementation	5	ns	5	5	5	5	4	4.83	1.50	7.25	8.44651635
10	Likelihood of success based on approach	4	ns	4	5	5	4	4	4.33	2.65	11.48	11.9168718
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		4.3	3	4.45454545	4.27272727	4.5	3.36363636	3.45454545	Overall		124.28	
COV (%)		29.1085013	94.2809042	27.2431781	27.8715283	28.2065671	46.577535	32.6570359	Overall		107.28	

ID	Criteria for Ranking Project 17	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	5	5	5	5	5	5	5	5.00	3.40	17.00	0
2	Addresses limiting factor	5	ns	5	3	5	0	4	3.67	3.70	13.57	53.6286589
3	Addresses stock status and trends	3	ns	5	4	5	2	3	3.67	2.44	8.96	33.028913
4	Benefits a listed stock covered by recovery or implementation plan	3	ns	5	4	5	0	4	3.50	3.40	11.90	53.4522484
5	Benefits other stocks	3	ns	5	4	5	0	4	3.50	2.40	8.40	53.4522484
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.903339
7	Restores formerly productive habitat	3	ns	5	4	5	1	4	3.67	3.30	12.10	41.0603265
8	Supports restoration of ecosystem functions	5	ns	5	3	5	2	4	4.00	2.70	10.80	31.6227766
9	Likelihood of success based proposer's past success in implementation	5	ns	5	5	5	2	4	4.33	1.50	6.50	27.9475417
10	Likelihood of success based on approach	3	ns	5	4	5	2	4	3.83	2.65	10.16	30.4968312
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.6	3	4.54545455	3.63636364	4.6	1.36363636	3.54545455	Overall		108.29	
COV (%)		37.4971421	94.2809042	26.6983146	30.8017857	27.4980666	110.111055	31.819676	Overall		91.29	

ID	Criteria for Ranking Project 18	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	5	5	5	5	5	5	5	5.00	3.40	17.00	0
2	Addresses limiting factor		2	5	3	5	2	3	3.33	3.70	12.33	40.9878031
3	Addresses stock status and trends		2	5	3	5	2	3	3.33	2.44	8.15	40.9878031
4	Benefits a listed stock covered by recovery or implementation plan		3	5	3	5	4	3	3.83	3.40	13.03	25.6484891
5	Benefits other stocks		4	5	3	5	2	3	3.67	2.40	8.80	33.028913
6	Protects high-quality fish habitat		3	4	3	ns	0	3	2.60	3.20	8.32	58.3298111
7	Restores formerly productive habitat		1	5	3	4	ns	2	3.00	3.30	9.90	52.7046277
8	Supports restoration of ecosystem functions		3	5	3	4	1	3	3.17	2.70	8.55	41.973478
9	Likelihood of success based proposer's past success in implementation		1	5	3	4	2	4	3.17	1.50	4.75	46.4829519
10	Likelihood of success based on approach		1	5	3	4	2	2	2.83	2.65	7.51	51.9515345
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3	2.36363636	4.54545455	3	4.2	2.1	2.90909091	Overall		100.04	
COV (%)		94.2809042	57.6153333	26.6983146	29.8142397	29.2683951	69.0065559	35.9035165	Overall		83.04	

ID	Criteria for Ranking Project 19	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	5	5	5	5	5	5	5	5.00	3.40	17.00	0
2	Addresses limiting factor	4	ns	5	5	5	1	4	4.00	3.70	14.80	38.7298335
3	Addresses stock status and trends	4	ns	5	5	5	2	4	4.17	2.44	10.19	28.0570847
4	Benefits a listed stock covered by recovery or implementation plan	4	ns	5	4	5	2	4	4.00	3.40	13.60	27.3861279
5	Benefits other stocks	5	ns	5	5	5	2	3	4.17	2.40	10.00	31.8998433
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.903339
7	Restores formerly productive habitat	3	ns	5	5	5	2	3	3.83	3.30	12.65	34.6737427
8	Supports restoration of ecosystem functions	3	ns	5	4	4	2	3	3.50	2.70	9.45	29.9659671
9	Likelihood of success based proposer's past success in implementation	4	ns	5	5	5	4	4	4.50	1.50	6.75	12.1716124
10	Likelihood of success based on approach	3	ns	5	5	5	4	4	4.33	2.65	11.48	18.8422288
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.6	3	4.54545455	4.27272727	4.5	2.27272727	3.36363636	Overall		114.82	
COV (%)		32.6052164	94.2809042	26.6983146	29.7720326	28.2065671	65.5316717	33.2992277	Overall		97.82	

ID	Criteria for Ranking Project 20	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	3.40	8.70	0
2	Addresses limiting factor	4	1	3	4	3	2	4	3.00	3.70	11.10	38.4900179
3	Addresses stock status and trends	3	1	3	4	2	2	4	2.71	2.44	6.63	40.9941103
4	Benefits a listed stock covered by recovery or implementation plan	2	1	3	3	2	1	3	2.14	3.40	7.29	41.9876525
5	Benefits other stocks	3	2	3	4	2	1	3	2.57	2.40	6.17	37.9516695
6	Protects high-quality fish habitat	ns	2	3	3	ns	1	3	2.40	3.20	7.68	37.2677996
7	Restores formerly productive habitat	3	2	3	4	2	2	3	2.71	3.30	8.96	27.8500138
8	Supports restoration of ecosystem functions	3	2	3	4	2	2	4	2.86	2.70	7.71	31.4907394
9	Likelihood of success based proposer's past success in implementation	3	1	3	5	3	3	4	3.14	1.50	4.71	38.6586389
10	Likelihood of success based on approach	2	2	3	5	3	3	4	3.14	2.65	8.33	34.0150672
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.656	1.59636364	2.77818182	3.59636364	2.256	1.86909091	3.23272727	Overall		78.99	
COV (%)		30.7678098	37.1731374	21.7533597	32.0449223	28.2602336	41.8722062	28.6830323	Overall		70.29	

ID	Criteria for Ranking Project 21	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	3.40	5.41	0
2	Addresses limiting factor	3	4	1	4	3	1	3	2.71	3.70	10.04	46.1840231
3	Addresses stock status and trends	2	3	1	3	2	1	4	2.29	2.44	5.59	48.680506
4	Benefits a listed stock covered by recovery or implementation plan	0	1	1	3	2	0	2	1.29	3.40	4.37	86.5431218
5	Benefits other stocks	3	3	1	4	2	1	3	2.43	2.40	5.83	46.689729
6	Protects high-quality fish habitat	ns	1	1	3	ns	0	2	1.40	3.20	4.48	81.4411018
7	Restores formerly productive habitat	3	5	1	4	2	1	3	2.71	3.30	8.96	55.1167652
8	Supports restoration of ecosystem functions	3	3	1	3	1	1	3	2.14	2.70	5.79	49.8887652
9	Likelihood of success based proposer's past success in implementation	3	3	1	4	3	1	4	2.71	1.50	4.07	46.1840231
10	Likelihood of success based on approach	2	4	1	4	3	1	3	2.57	2.65	6.81	49.482923
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.159	2.69	1.05363636	3.14454545	2.059	0.87181818	2.69	Overall		63.04	
COV (%)		48.6159541	51.1486879	16.8835947	32.9847653	36.6792375	53.3998417	35.1315867	Overall		57.64	

ID	Criteria for Ranking Project 22	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	3	ns	4	4	3	0	3	2.83	3.70	10.48	51.9515345
3	Addresses stock status and trends	2	ns	4	4	4	0	3	2.83	2.44	6.93	56.5440698
4	Benefits a listed stock covered by recovery or implementation plan	2	ns	4	3	4	1	3	2.83	3.40	9.63	41.2604186
5	Benefits other stocks	2	ns	4	4	4	1	3	3.00	2.40	7.20	42.1637021
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.903339
7	Restores formerly productive habitat	2	ns	4	4	4	1	3	3.00	3.30	9.90	42.1637021
8	Supports restoration of ecosystem functions	3	ns	2	3	3	1	3	2.50	2.70	6.75	33.4664011
9	Likelihood of success based proposer's past success in implementation	4	ns	2	4	4	1	4	3.17	1.50	4.75	41.973478
10	Likelihood of success based on approach	4	ns	3	4	4	1	3	3.17	2.65	8.39	36.9172167
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.727	2.635	3.29727273	3.47909091	3.527	1.02454545	2.93363636	Overall		87.45	
COV (%)		40.2958786	87.7510123	34.0982996	27.4012613	28.0925754	114.185607	29.6471212	Overall		72.93	

ID	Criteria for Ranking Project 23	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	3	ns	2	4	3	0	3	2.50	3.70	9.25	55.136195
3	Addresses stock status and trends	2	ns	4	4	4	0	3	2.83	2.44	6.93	56.5440698
4	Benefits a listed stock covered by recovery or implementation plan	2	ns	4	3	4	1	3	2.83	3.40	9.63	41.2604186
5	Benefits other stocks	4	ns	4	4	4	1	3	3.33	2.40	8.00	36.3318042
6	Protects high-quality fish habitat	ns	ns	4	3	ns	0	2	2.25	3.20	7.20	75.903339
7	Restores formerly productive habitat	3	ns	4	4	4	1	3	3.17	3.30	10.45	36.9172167
8	Supports restoration of ecosystem functions	1	ns	2	3	3	1	2	2.00	2.70	5.40	44.7213595
9	Likelihood of success based proposer's past success in implementation	4	ns	2	4	4	1	4	3.17	1.50	4.75	41.973478
10	Likelihood of success based on approach	2	ns	2	4	3	1	3	2.50	2.65	6.63	41.9523539
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.627	2.635	3.02454545	3.47909091	3.427	1.02454545	2.84272727	Overall		84.45	
COV (%)		46.1382209	87.7510123	39.9585377	27.4012613	28.8369579	114.185607	32.1269229	Overall		69.93	

ID	Criteria for Ranking Project 24	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	2	2	1	3	3	0	3	2.00	3.70	7.40	57.7350269
3	Addresses stock status and trends	2	1	1	3	3	0	3	1.86	2.44	4.54	65.4223119
4	Benefits a listed stock covered by recovery or implementation plan	2	1	1	4	3	1	3	2.14	3.40	7.29	56.699337
5	Benefits other stocks	3	2	1	3	3	1	3	2.29	2.40	5.49	41.6145507
6	Protects high-quality fish habitat	2	2	1	3	3	0	2	1.86	3.20	5.94	57.5639598
7	Restores formerly productive habitat	3	1	1	3	ns	0	2	1.67	3.30	5.50	72.6636085
8	Supports restoration of ecosystem functions	3	2	1	3	4	0	2	2.14	2.70	5.79	62.7753195
9	Likelihood of success based proposer's past success in implementation	4	2	1	4	3	1	4	2.71	1.50	4.07	50.846936
10	Likelihood of success based on approach	3	2	1	4	3	1	3	2.43	2.65	6.44	46.689729
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.66090909	1.84272727	1.29727273	3.20636364	3.027	0.84272727	2.75181818	Overall		68.66	
COV (%)		36.3355239	51.1405537	76.0011427	28.1461001	28.302369	147.355605	34.3507624	Overall		54.15	

ID	Criteria for Ranking Project 25	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.90	3.40	13.26	0
2	Addresses limiting factor	4	5	4	5	5	3	3	4.14	3.70	15.33	21.7177513
3	Addresses stock status and trends	4	3	4	5	5	2	3	3.71	2.44	9.08	29.9572345
4	Benefits a listed stock covered by recovery or implementation plan	3	3	4	5	4	1	4	3.43	3.40	11.66	37.1121923
5	Benefits other stocks	5	5	4	5	5	2	3	4.14	2.40	9.94	29.3272433
6	Protects high-quality fish habitat	ns	3	3	4	ns	0	2	2.40	3.20	7.68	63.1906287
7	Restores formerly productive habitat	4	4	4	5	5	4	4	4.29	3.30	14.14	11.3855009
8	Supports restoration of ecosystem functions	4	4	4	5	4	4	3	4.00	2.70	10.80	14.4337567
9	Likelihood of success based proposer's past success in implementation	4	4	4	5	5	4	4	4.29	1.50	6.43	11.3855009
10	Likelihood of success based on approach	4	4	4	5	5	4	4	4.29	2.65	11.36	11.3855009
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.69	3.62727273	3.62727273	4.44545455	4.29	2.62727273	3.17272727	Overall		111.38	
COV (%)		28.6360955	30.8005673	25.3900917	27.3914148	29.2476551	56.8159347	30.6911435	Overall		98.12	

ID	Criteria for Ranking Project 26	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.90	3.40	13.26	0
2	Addresses limiting factor	3	4	4	5	5	0	3	3.43	3.70	12.69	50.1156071
3	Addresses stock status and trends	3	2	4	5	5	0	3	3.14	2.44	7.68	56.4076075
4	Benefits a listed stock covered by recovery or implementation plan	3	3	4	5	4	0	4	3.29	3.40	11.17	48.8042268
5	Benefits other stocks	3	4	4	5	5	0	3	3.43	2.40	8.23	50.1156071
6	Protects high-quality fish habitat	2	3	3	4	5	1	3	3.00	3.20	9.60	43.0331483
7	Restores formerly productive habitat	3	3	4	5	ns	0	3	3.00	3.30	9.90	55.7773351
8	Supports restoration of ecosystem functions	3	5	4	5	4	0	3	3.43	2.70	9.26	50.1156071
9	Likelihood of success based proposer's past success in implementation	3	4	4	5	5	2	4	3.86	1.50	5.79	27.7159806
10	Likelihood of success based on approach	3	4	4	5	5	2	4	3.86	2.65	10.22	27.7159806
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.80909091	3.35454545	3.62727273	4.44545455	4.29	0.9	3.17272727	Overall		99.49	
COV (%)		26.1816098	33.2318282	25.3900917	27.3914148	29.2476551	141.85717	27.2628236	Overall		86.23	

ID	Criteria for Ranking Project 27	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.20	3.40	7.48	0
2	Addresses limiting factor	4	3	3	5	5	0	3	3.29	3.70	12.16	51.8711019
3	Addresses stock status and trends	3	2	2	5	5	0	3	2.86	2.44	6.98	62.0483682
4	Benefits a listed stock covered by recovery or implementation plan	2	2	2	5	3	1	3	2.57	3.40	8.74	49.482923
5	Benefits other stocks	3	3	2	5	5	1	3	3.14	2.40	7.54	46.5770489
6	Protects high-quality fish habitat	3	3	3	4	5	3	4	3.57	3.20	11.43	22.0302822
7	Restores formerly productive habitat	ns	2	3	5	ns	0	2	2.40	3.30	7.92	75.6912589
8	Supports restoration of ecosystem functions	ns	4	3	5	ns	1	4	3.40	2.70	9.18	44.6051497
9	Likelihood of success based proposer's past success in implementation	3	4	1	5	5	3	4	3.57	1.50	5.36	39.1237353
10	Likelihood of success based on approach	3	4	1	5	5	3	4	3.57	2.65	9.46	39.1237353
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.68888889	2.74545455	2.10909091	4.29090909	4.02222222	1.38181818	3.01818182	Overall		87.96	
COV (%)		31.5811716	36.291149	39.4107912	32.3840827	38.5515028	88.1480749	32.5245421	Overall		80.48	

ID	Criteria for Ranking Project 28	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.20	3.40	7.48	0
2	Addresses limiting factor	ns	4	4	4	5	2	3	3.67	3.70	13.57	28.1671516
3	Addresses stock status and trends	ns	4	4	4	5	2	3	3.67	2.44	8.96	28.1671516
4	Benefits a listed stock covered by recovery or implementation plan	ns	4	4	5	3	1	3	3.33	3.40	11.33	40.9878031
5	Benefits other stocks	ns	3	4	5	5	2	3	3.67	2.40	8.80	33.028913
6	Protects high-quality fish habitat	ns	1	3	3	ns	0	3	2.00	3.20	6.40	70.7106781
7	Restores formerly productive habitat	ns	5	4	4	5	2	3	3.83	3.30	12.65	30.4968312
8	Supports restoration of ecosystem functions	ns	4	4	3	5	2	4	3.67	2.70	9.90	28.1671516
9	Likelihood of success based proposer's past success in implementation	ns	3	4	5	5	3	4	4.00	1.50	6.00	22.3606798
10	Likelihood of success based on approach	ns		4	5	4	3	4	4.00	2.65	10.60	17.6776695
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		1.6	3.12	3.47272727	3.74545455	4.02	1.83636364	3.01818182	Overall		97.39	
COV (%)		53.0330086	43.3923804	29.0564124	35.3470066	36.3672177	47.9252923	28.9532888	Overall		89.91	

ID	Criteria for Ranking Project 29	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	ns	4	5	5	5	4	4	4.50	3.70	16.65	12.1716124
3	Addresses stock status and trends	ns	3	5	5	5	4	3	4.17	2.44	10.19	23.5966099
4	Benefits a listed stock covered by recovery or implementation plan	ns	5	5	5	5	5	4	4.83	3.40	16.43	8.44651635
5	Benefits other stocks	ns	5	3	5	5	3	3	4.00	2.40	9.60	27.3861279
6	Protects high-quality fish habitat	ns	2	3	4	ns	3	2	2.80	3.20	8.96	29.8807152
7	Restores formerly productive habitat	ns	4	4	5	4	4	4	4.17	3.30	13.75	9.79795897
8	Supports restoration of ecosystem functions	ns	4	4	5	5	4	4	4.33	2.70	11.70	11.9168718
9	Likelihood of success based proposer's past success in implementation	ns	4	3	5	5	5	4	4.33	1.50	6.50	18.8422288
10	Likelihood of success based on approach	ns	4	3	5	5	4	3	4.00	2.65	10.60	22.3606798
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.88	3.70545455	3.70545455	4.52363636	4.476	3.79636364	3.34181818	Overall		122.26	
COV (%)		92.3167187	33.7321884	33.7321884	26.6756305	28.1732146	30.173326	32.5226246	Overall		106.08	

ID	Criteria for Ranking Project 30	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	ns	4	4	4	5	2	4	3.83	3.70	14.18	25.6484891
3	Addresses stock status and trends	ns	2	4	4	5	2	3	3.33	2.44	8.15	36.3318042
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	5	5	5	5	4	4.50	3.40	15.30	18.592445
5	Benefits other stocks	ns	4	4	5	5	3	3	4.00	2.40	9.60	22.3606798
6	Protects high-quality fish habitat	ns	5	4	4	5	4	2	4.00	3.20	12.80	27.3861279
7	Restores formerly productive habitat	ns	4	5	4	ns	0	4	3.40	3.30	11.22	57.3340844
8	Supports restoration of ecosystem functions	ns	4	5	5	4	0	4	3.67	2.70	9.90	50.7790547
9	Likelihood of success based proposer's past success in implementation	ns	4	3	5	5	3	4	4.00	1.50	6.00	22.3606798
10	Likelihood of success based on approach	ns	4	4	5	5	2	3	3.83	2.65	10.16	30.4968312
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.88	3.61454545	3.97818182	4.25090909	4.476	2.43272727	3.34181818	Overall		115.19	
COV (%)		92.3167187	32.6684606	29.2848575	27.7199566	28.1732146	70.6712483	32.5226246	Overall		99.01	

ID	Criteria for Ranking Project 31	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	ns	3	3	5	5	1	4	3.50	3.70	12.95	43.3307168
3	Addresses stock status and trends	ns	1	3	5	5	0	3	2.83	2.44	6.93	72.043816
4	Benefits a listed stock covered by recovery or implementation plan	ns	2	4	5	5	4	3	3.83	3.40	13.03	30.4968312
5	Benefits other stocks	ns	3	4	5	5	1	3	3.50	2.40	8.40	43.3307168
6	Protects high-quality fish habitat	ns	1	2	4	ns	0	2	1.80	3.20	5.76	82.4022054
7	Restores formerly productive habitat	ns	3	3	5	3	0	3	2.83	3.30	9.35	56.5440698
8	Supports restoration of ecosystem functions	ns	3	3	5	3	2	3	3.17	2.70	8.55	31.048171
9	Likelihood of success based proposer's past success in implementation	ns	4	3	5	4	3	4	3.83	1.50	5.75	19.6375475
10	Likelihood of success based on approach	ns	4	3	5	4	3	3	3.67	2.65	9.72	22.2680886
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.88	2.70545455	3.06909091	4.52363636	3.976	1.79636364	3.06909091	Overall		98.32	
COV (%)		92.3167187	48.3956832	32.6563155	26.6756305	33.0828058	93.4185853	32.6563155	Overall		82.14	

ID	Criteria for Ranking Project 32	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	ns	3	5	5	5	0	4	3.67	3.70	13.57	53.6286589
3	Addresses stock status and trends	ns	1	5	4	5	0	3	3.00	2.44	7.33	69.9205899
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	5	5	5	2	3	3.83	3.40	13.03	34.6737427
5	Benefits other stocks	ns	4	5	5	5	1	3	3.83	2.40	9.20	41.7934429
6	Protects high-quality fish habitat	ns	5	5	5	5	5	4	4.83	3.20	15.47	8.44651635
7	Restores formerly productive habitat	ns	1	5	4	ns	0	2	2.40	3.30	7.92	86.401839
8	Supports restoration of ecosystem functions	ns	5	5	4	ns	0	4	3.60	2.70	9.72	57.601226
9	Likelihood of success based proposer's past success in implementation	ns	3	5	5	5	2	4	4.00	1.50	6.00	31.6227766
10	Likelihood of success based on approach	ns	2	5	5	5	2	3	3.67	2.65	9.72	41.0603265
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.635	2.93363636	4.57	4.29727273	4.47444444	1.57	3.20636364	Overall		108.17	
COV (%)		87.7510123	52.3265878	26.3483137	27.6330765	29.6147466	110.540296	31.412433	Overall		93.66	

ID	Criteria for Ranking Project 33	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	4	2	5	5	2	4	3.71	3.70	13.74	33.749863
3	Addresses stock status and trends	4	2	2	4	5	3	3	3.29	2.44	8.03	33.8646998
4	Benefits a listed stock covered by recovery or implementation plan	4	4	2	5	4	4	4	3.86	3.40	13.11	23.3264736
5	Benefits other stocks	4	5	2	5	5	1	3	3.57	2.40	8.57	45.3137212
6	Protects high-quality fish habitat	ns	3	2	5	ns	0	3	2.60	3.20	8.32	69.8688543
7	Restores formerly productive habitat	ns	3	2	4	4	1	3	2.83	3.30	9.35	41.2604186
8	Supports restoration of ecosystem functions	4	3	2	4	4	2	4	3.29	2.70	8.87	28.9492527
9	Likelihood of success based proposer's past success in implementation	5	4	2	5	5	4	4	4.14	1.50	6.21	25.8045337
10	Likelihood of success based on approach	5	4	2	5	5	4	4	4.14	2.65	10.98	25.8045337
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.97333333	3.43272727	2.16	4.34181818	4.276	2.43272727	3.43272727	Overall		105.08	
COV (%)		30.268382	34.5152089	42.2693045	27.534703	28.9754171	65.715598	29.1863887	Overall		88.89	

ID	Criteria for Ranking Project 34	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	4	2	5	5	2	4	3.71	3.70	13.74	33.749863
3	Addresses stock status and trends	4	2	2	5	5	3	3	3.43	2.44	8.38	37.1121923
4	Benefits a listed stock covered by recovery or implementation plan	4	4	2	5	5	4	4	4.00	3.40	13.60	25
5	Benefits other stocks	4	5	2	5	5	1	3	3.57	2.40	8.57	45.3137212
6	Protects high-quality fish habitat	ns	3	2	4	ns	0	3	2.40	3.20	7.68	63.1906287
7	Restores formerly productive habitat	ns	4	2	5	4	1	3	3.17	3.30	10.45	46.4829519
8	Supports restoration of ecosystem functions	4	3	2	5	4	2	4	3.43	2.70	9.26	33.0718914
9	Likelihood of success based proposer's past success in implementation	5	4	2	5	5	4	4	4.14	1.50	6.21	25.8045337
10	Likelihood of success based on approach	5	4	2	5	5	4	4	4.14	2.65	10.98	25.8045337
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.97333333	3.52363636	2.16	4.52363636	4.376	2.43272727	3.43272727	Overall		106.76	
COV (%)		30.268382	33.6769441	42.2693045	26.6756305	28.6676397	65.715598	29.1863887	Overall		90.58	

ID	Criteria for Ranking Project 35	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	ns	5	4	5	5	5	4	4.67	3.70	17.27	11.0656667
3	Addresses stock status and trends	ns	3	4	5	5	5	4	4.33	2.44	10.59	18.8422288
4	Benefits a listed stock covered by recovery or implementation plan	ns	4	4	5	5	4	4	4.33	3.40	14.73	11.9168718
5	Benefits other stocks	ns	5	4	5	5	3	3	4.17	2.40	10.00	23.5966099
6	Protects high-quality fish habitat	ns	2	4	4	ns	4	3	3.40	3.20	10.88	26.3066821
7	Restores formerly productive habitat	ns	5	4	5	5	2	3	4.00	3.30	13.20	31.6227766
8	Supports restoration of ecosystem functions	ns	4	4	5	5	4	4	4.33	2.70	11.70	11.9168718
9	Likelihood of success based proposer's past success in implementation	ns	4	4	5	5	5	4	4.50	1.50	6.75	12.1716124
10	Likelihood of success based on approach	ns	4	4	5	5	4	4	4.33	2.65	11.48	11.9168718
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.88	3.79636364	3.79636364	4.52363636	4.576	3.79636364	3.52363636	Overall		124.49	
COV (%)		92.3167187	34.4669238	25.1573125	26.6756305	27.5074325	34.4669238	28.4951216	Overall		108.31	

ID	Criteria for Ranking Project 36	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	ns	4	4	5	5	5	3	4.33	3.70	16.03	18.8422288
3	Addresses stock status and trends	ns	3	4	5	5	5	4	4.33	2.44	10.59	18.8422288
4	Benefits a listed stock covered by recovery or implementation plan	ns	4	4	5	5	4	4	4.33	3.40	14.73	11.9168718
5	Benefits other stocks	ns	5	4	5	5	3	3	4.17	2.40	10.00	23.5966099
6	Protects high-quality fish habitat	ns	2	4	4	ns	4	2	3.20	3.20	10.24	34.2326598
7	Restores formerly productive habitat	ns	4	4	5	5	4	3	4.17	3.30	13.75	18.0665437
8	Supports restoration of ecosystem functions	ns	4	4	5	5	ns	4	4.40	2.70	11.88	12.4482399
9	Likelihood of success based proposer's past success in implementation	ns	4	3	5	5	4	4	4.17	1.50	6.25	18.0665437
10	Likelihood of success based on approach	ns	4	3	5	5	5	3	4.17	2.65	11.04	23.5966099
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.88	3.61454545	3.61454545	4.52363636	4.576	3.976	3.25090909	Overall		122.40	
COV (%)		92.3167187	32.6684606	27.5874135	26.6756305	27.5074325	30.8852937	32.8506941	Overall		106.22	

ID	Criteria for Ranking Project 37	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	ns	3	4	5	5	2	4	3.83	3.70	14.18	30.4968312
3	Addresses stock status and trends	ns	1	4	4	5	2	3	3.17	2.44	7.74	46.4829519
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	4	5	5	2	3	3.67	3.40	12.47	33.028913
5	Benefits other stocks	ns	4	4	5	5	2	3	3.83	2.40	9.20	30.4968312
6	Protects high-quality fish habitat	ns	5	4	5	5	1	4	4.00	3.20	12.80	38.7298335
7	Restores formerly productive habitat	ns	1	4	4	ns	2	2	2.60	3.30	8.58	51.6015687
8	Supports restoration of ecosystem functions	ns	5	4	4	ns	1	4	3.60	2.70	9.72	42.1270858
9	Likelihood of success based proposer's past success in implementation	ns	3	2	5	5	3	4	3.67	1.50	5.50	33.028913
10	Likelihood of success based on approach	ns	2	4	5	5	2	3	3.50	2.65	9.28	39.3829964
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.635	2.93363636	3.57	4.29727273	4.47444444	2.02454545	3.20636364	Overall		105.68	
COV (%)		87.7510123	52.3265878	29.4304329	27.6330765	29.6147466	47.2383306	31.412433	Overall		91.17	

ID	Criteria for Ranking Project 38	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	3	2	5	5	2	4	3.57	3.70	13.21	35.6277046
3	Addresses stock status and trends	3	2	2	4	5	1	3	2.86	2.44	6.98	47.0814896
4	Benefits a listed stock covered by recovery or implementation plan	3	3	2	4	4	2	3	3.00	3.40	10.20	27.2165527
5	Benefits other stocks	4	3	2	5	5	1	3	3.29	2.40	7.89	45.5312408
6	Protects high-quality fish habitat	ns	1	2	4	ns	0	3	2.00	3.20	6.40	79.0569415
7	Restores formerly productive habitat	ns	2	2	5	3	0	3	2.50	3.30	8.25	65.7267069
8	Supports restoration of ecosystem functions	4	2	2	4	3	2	4	3.00	2.70	8.10	33.3333333
9	Likelihood of success based proposer's past success in implementation	5	4	2	5	5	4	4	4.14	1.50	6.21	25.8045337
10	Likelihood of success based on approach	5	2	2	5	5	3	4	3.71	2.65	9.84	37.1573763
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.75111111	2.52363636	2.16	4.25090909	4.076	1.88727273	3.34181818	Overall		94.98	
COV (%)		34.0096414	46.213185	42.2693045	27.7199566	33.2389647	81.1884413	29.6417609	Overall		78.79	

ID	Criteria for Ranking Project 39	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.32	2.32	2.32	2.32	2.32	2.32	2.32	2.32	3.40	7.89	0
2	Addresses limiting factor	ns	4	2	5	5	2	4	3.67	3.70	13.57	37.2616391
3	Addresses stock status and trends	ns	3	2	4	5	1	3	3.00	2.44	7.33	47.1404521
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	2	4	3	2	3	2.83	3.40	9.63	26.5684466
5	Benefits other stocks	ns	3	2	4	4	1	3	2.83	2.40	6.80	41.2604186
6	Protects high-quality fish habitat	ns	3	2	4	ns	0	3	2.40	3.20	7.68	63.1906287
7	Restores formerly productive habitat	ns	4	2	4	3	0	3	2.67	3.30	8.80	56.457949
8	Supports restoration of ecosystem functions	ns	4	2	3	3	2	3	2.83	2.70	7.65	26.5684466
9	Likelihood of success based proposer's past success in implementation	ns	4	2	3	5	4	4	3.67	1.50	5.50	28.1671516
10	Likelihood of success based on approach	ns	4	2	3	5	3	3	3.33	2.65	8.83	30.9838668
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		1.66	3.21090909	1.93818182	3.39272727	3.632	1.66545455	2.93818182	Overall		85.38	
COV (%)		56.2277681	29.501427	16.8009136	31.971434	38.3580469	73.2219491	27.2710052	Overall		77.50	

ID	Criteria for Ranking Project 40	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	3.40	3.33	0
2	Addresses limiting factor	4	1	1	5	3	2	3	2.71	3.70	10.04	55.1167652
3	Addresses stock status and trends	2	1	1	4	3	1	3	2.14	2.44	5.24	56.699337
4	Benefits a listed stock covered by recovery or implementation plan	1	1	1	5	2	0	2	1.71	3.40	5.83	93.5414347
5	Benefits other stocks	3	2	1	5	4	1	3	2.71	2.40	6.51	55.1167652
6	Protects high-quality fish habitat	ns	1	1	4	ns	0	2	1.60	3.20	5.12	94.7859431
7	Restores formerly productive habitat	ns	2	1	5	3	0	2	2.17	3.30	7.15	79.4954504
8	Supports restoration of ecosystem functions	2	2	1	4	3	2	2	2.29	2.70	6.17	41.6145507
9	Likelihood of success based proposer's past success in implementation	2	2	1	4	4	3	4	2.86	1.50	4.29	42.5245027
10	Likelihood of success based on approach	2	2	1	5	4	3	3	2.86	2.65	7.57	47.0814896
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		1.99777778	1.45272727	0.99818182	3.90727273	2.798	1.27090909	2.36181818	Overall		62.95	
COV (%)		50.1817099	36.0704698	0.60412109	38.8359389	40.701496	86.8845227	39.2655736	Overall		59.62	

ID	Criteria for Ranking Project 41	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	3	4	5	5	2	4	3.86	3.70	14.27	27.7159806
3	Addresses stock status and trends	4	2	4	4	5	2	3	3.43	2.44	8.38	33.0718914
4	Benefits a listed stock covered by recovery or implementation plan	4	4	4	5	5	0	3	3.57	3.40	12.14	48.1109828
5	Benefits other stocks	4	3	4	5	5	2	3	3.71	2.40	8.91	29.9572345
6	Protects high-quality fish habitat	ns	1	4	3	ns	0	2	2.00	3.20	6.40	79.0569415
7	Restores formerly productive habitat	3	3	4	4	4	2	3	3.29	3.30	10.84	23.0065331
8	Supports restoration of ecosystem functions	3	3	4	4	4	ns	3	3.50	2.70	9.45	15.6492159
9	Likelihood of success based proposer's past success in implementation	3	2	4	5	4	3	3	3.43	1.50	5.14	28.4637521
10	Likelihood of success based on approach	4	1	4	5	4	3	3	3.43	2.65	9.09	37.1121923
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.476	2.52363636	3.79636364	4.16	4.176	1.976	2.97818182	Overall		102.51	
COV (%)		30.0688195	49.4943663	25.1573125	29.7300478	29.0749093	72.7757115	32.0174832	Overall		86.33	

ID	Criteria for Ranking Project 42	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	3	2	5	5	4	4	3.86	3.70	14.27	27.7159806
3	Addresses stock status and trends	4	2	2	4	5	3	3	3.29	2.44	8.03	33.8646998
4	Benefits a listed stock covered by recovery or implementation plan	4	3	2	5	4	5	3	3.71	3.40	12.63	29.9572345
5	Benefits other stocks	4	3	2	5	5	2	2	3.29	2.40	7.89	42.0039906
6	Protects high-quality fish habitat	ns	1	2	3	ns	4	3	2.60	3.20	8.32	43.852901
7	Restores formerly productive habitat	ns	2	2	4	3	1	3	2.50	3.30	8.25	41.9523539
8	Supports restoration of ecosystem functions	4	2	2	4	4	4	4	3.43	2.70	9.26	28.4637521
9	Likelihood of success based proposer's past success in implementation	5	4	2	5	5	5	4	4.29	1.50	6.43	25.9629365
10	Likelihood of success based on approach	5	2	2	5	5	5	4	4.00	2.65	10.60	35.3553391
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.97333333	2.52363636	2.16	4.16	4.176	3.52363636	3.25090909	Overall		103.56	
COV (%)		30.268382	46.213185	42.2693045	29.7300478	31.1894025	44.0403006	32.8506941	Overall		87.37	

ID	Criteria for Ranking Project 43	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.76	4.76	4.76	4.76	4.76	4.76	4.76	4.76	3.40	16.18	0
2	Addresses limiting factor	4	3	2	5	5	4	4	3.86	3.70	14.27	27.7159806
3	Addresses stock status and trends	4	2	2	4	5	3	3	3.29	2.44	8.03	33.8646998
4	Benefits a listed stock covered by recovery or implementation plan	4	3	2	5	4	5	3	3.71	3.40	12.63	29.9572345
5	Benefits other stocks	4	3	2	5	5	2	3	3.43	2.40	8.23	37.1121923
6	Protects high-quality fish habitat	ns	1	2	3	ns	4	3	2.60	3.20	8.32	43.852901
7	Restores formerly productive habitat	ns	2	2	4	3	1	3	2.50	3.30	8.25	41.9523539
8	Supports restoration of ecosystem functions	4	2	2	4	3	4	4	3.29	2.70	8.87	28.9492527
9	Likelihood of success based proposer's past success in implementation	5	4	2	5	5	5	4	4.29	1.50	6.43	25.9629365
10	Likelihood of success based on approach	5	2	2	5	5	5	4	4.00	2.65	10.60	35.3553391
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.97333333	2.52363636	2.16	4.16	4.076	3.52363636	3.34181818	Overall		103.51	
COV (%)		30.268382	46.213185	42.2693045	29.7300478	33.2389647	44.0403006	29.6417609	Overall		87.33	

ID	Criteria for Ranking Project 44	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	3.40	8.70	0
2	Addresses limiting factor	ns	3	4	4	5	2	4	3.67	3.70	13.57	28.1671516
3	Addresses stock status and trends	ns	3	4	4	5	2	3	3.50	2.44	8.56	29.9659671
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	4	4	5	3	4	3.83	3.40	13.03	19.6375475
5	Benefits other stocks	ns	3	4	4	5	2	3	3.50	2.40	8.40	29.9659671
6	Protects high-quality fish habitat	ns	5	4	4	5	3	4	4.17	3.20	13.33	18.0665437
7	Restores formerly productive habitat	ns	3	4	4	ns	0	2	2.60	3.30	8.58	64.3584636
8	Supports restoration of ecosystem functions	ns	3	4	4	ns	3	4	3.60	2.70	9.72	15.2145155
9	Likelihood of success based proposer's past success in implementation	ns	5	2	5	5	4	4	4.17	1.50	6.25	28.0570847
10	Likelihood of success based on approach	ns	5	2	5	5	5	4	4.33	2.65	11.48	27.9475417
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		1.78	3.32363636	3.23272727	3.77818182	4.28444444	2.50545455	3.23272727	Overall		103.33	
COV (%)		61.9711561	36.9004291	34.7199108	29.6301357	34.3678947	54.2922383	31.8448469	Overall		94.62	

ID	Criteria for Ranking Project 45	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	ns	3	4	5	5	2	4	3.83	3.70	14.18	30.4968312
3	Addresses stock status and trends	ns	1	4	4	5	2	3	3.17	2.44	7.74	46.4829519
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	4	5	5	2	3	3.67	3.40	12.47	33.028913
5	Benefits other stocks	ns	4	4	5	5	2	3	3.83	2.40	9.20	30.4968312
6	Protects high-quality fish habitat	ns	5	4	3	5	3	4	4.00	3.20	12.80	22.3606798
7	Restores formerly productive habitat	ns	1	4	4	ns	0	2	2.20	3.30	7.26	81.3115628
8	Supports restoration of ecosystem functions	ns	5	4	4	ns	0	4	3.40	2.70	9.18	57.3340844
9	Likelihood of success based proposer's past success in implementation	ns	3	4	5	5	3	4	4.00	1.50	6.00	22.3606798
10	Likelihood of success based on approach	ns	2	4	5	5	4	3	3.83	2.65	10.16	30.4968312
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.635	2.93363636	3.75181818	4.11545455	4.47444444	2.11545455	3.20636364	Overall		105.21	
COV (%)		87.7510123	52.3265878	24.421817	29.6864234	29.6147466	66.8620048	31.412433	Overall		90.69	

ID	Criteria for Ranking Project 46	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	ns	2	4	5	5	2	4	3.67	3.70	13.57	37.2616391
3	Addresses stock status and trends	ns	2	4	4	5	2	3	3.33	2.44	8.15	36.3318042
4	Benefits a listed stock covered by recovery or implementation plan	ns	3	4	5	5	2	3	3.67	3.40	12.47	33.028913
5	Benefits other stocks	ns	4	4	5	5	2	3	3.83	2.40	9.20	30.4968312
6	Protects high-quality fish habitat	ns	5	4	4	5	3	4	4.17	3.20	13.33	18.0665437
7	Restores formerly productive habitat	ns	1	4	4	ns	0	2	2.20	3.30	7.26	81.3115628
8	Supports restoration of ecosystem functions	ns	4	4	4	ns	0	4	3.20	2.70	8.64	55.9016994
9	Likelihood of success based proposer's past success in implementation	ns	3	2	5	5	3	4	3.67	1.50	5.50	33.028913
10	Likelihood of success based on approach	ns	3	2	5	5	4	3	3.67	2.65	9.72	33.028913
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.635	2.93363636	3.38818182	4.20636364	4.47444444	2.11545455	3.20636364	Overall		104.05	
COV (%)		87.7510123	45.1763411	33.5937198	27.7289709	29.6147466	66.8620048	31.412433	Overall		89.53	

ID	Criteria for Ranking Project 47	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	4.27	4.27	4.27	4.27	4.27	4.27	4.27	4.27	3.40	14.52	0
2	Addresses limiting factor	ns	4	4	5	5	4	4	4.33	3.70	16.03	11.9168718
3	Addresses stock status and trends	ns	3	4	4	5	4	3	3.83	2.44	9.37	19.6375475
4	Benefits a listed stock covered by recovery or implementation plan	ns	4	4	5	5	3	3	4.00	3.40	13.60	22.3606798
5	Benefits other stocks	ns	5	4	5	5	2	3	4.00	2.40	9.60	31.6227766
6	Protects high-quality fish habitat	ns	1	4	5	ns	0	3	2.60	3.20	8.32	79.7555437
7	Restores formerly productive habitat	ns	5	4	5	5	4	4	4.50	3.30	14.85	12.1716124
8	Supports restoration of ecosystem functions	ns	5	4	4	5	4	4	4.33	2.70	11.70	11.9168718
9	Likelihood of success based proposer's past success in implementation	ns	5	4	5	5	5	4	4.67	1.50	7.00	11.0656667
10	Likelihood of success based on approach	ns	5	4	5	5	5	3	4.50	2.65	11.93	18.592445
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		2.635	3.84272727	3.75181818	4.38818182	4.527	3.29727273	3.29727273	Overall		118.62	
COV (%)		87.7510123	40.1473035	24.421817	27.3607619	27.8400234	49.5015627	28.1917842	Overall		104.10	

ID	Criteria for Ranking Project 48	Score 0 to 5 with 5 being best							Avg	Wt	Avg Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 6	Reviewer 7				
1	Watershed Priority	5	5	5	5	5	5	5	5.00	3.40	17.00	0
2	Addresses limiting factor	5	ns	ns	5	5	0	4	3.80	3.70	14.06	57.0512721
3	Addresses stock status and trends	5	ns	ns	4	5	2	4	4.00	2.44	9.78	30.6186218
4	Benefits a listed stock covered by recovery or implementation plan	5	ns	ns	4	5	2	4	4.00	3.40	13.60	30.6186218
5	Benefits other stocks	2	ns	ns	3	ns	0	3	2.00	2.40	4.80	70.7106781
6	Protects high-quality fish habitat	ns	ns	ns	3	ns	0	2	1.67	3.20	5.33	91.6515139
7	Restores formerly productive habitat	ns	ns	ns	3	ns	0	2	1.67	3.30	5.50	91.6515139
8	Supports restoration of ecosystem functions	4	ns	ns	5	ns	0	4	3.25	2.70	8.78	68.2263318
9	Likelihood of success based proposer's past success in implementation	4	ns	ns	5	5	3	4	4.20	1.50	6.30	19.9204768
10	Likelihood of success based on approach	4	ns	ns	5	5	3	4	4.20	2.65	11.13	19.9204768
11	Reasonableness of cost and budget	1	1	1	1	1	1	1	1.00	1.70	1.70	0
Mean		3.88888889	3	3	3.90909091	4.42857143	1.45454545	3.36363636	Overall		97.98	
COV (%)		37.3619909	94.2809042	94.2809042	33.2647573	34.1387266	116.525212	35.8554031	Overall		80.98	

NOPLE 2009

For Ranking NON-Capital Projects Only

NS = No Score Given

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

ID	Criteria for Ranking Project 49	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	2	5	5	3	3.40	3.69	12.55	44.605
2	Advances implementation of recovery plans	4	3	4	5	5	3	4.00	3.15	12.62	22.361
3	Advances habitat protection and restoration	4	3	4	5	5	3	4.00	3.92	15.69	22.361
4	Advances recovery of ecosystem function	4	2	4	5	5	3	3.83	3.46	13.27	30.497
5	Advances ecosystem awareness	3	0	4	3	5	3	3.00	2.42	7.27	55.777
6	Advances integration	3	1	4	4	4	2	3.00	1.38	4.15	42.164
7	Fulfills requirements from external entities	3	ns	4	3	4	2	3.20	2.12	6.77	26.146
8	Advances mult-agency funding strategy	3	2	2	4	5	3	3.17	1.62	5.12	36.917
9	Has large spatial-temporal scale of effects	4	3	5	5	5	3	4.17	2.65	11.06	23.597
	Mean	3.5	2	3.666667	4.333333	4.777778	2.777778	Overall		88.50	
	COV (%)	15.27207	53.45225	27.27273	19.9852	9.229365	15.87451	Overall			

ID	Criteria for Ranking Project 50	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	4	3	3	4	4	4	3.67	3.69	13.54	14.084
2	Advances implementation of recovery plans	3	4	3	4	5	4	3.83	3.15	12.09	19.638
3	Advances habitat protection and restoration	ns	3	3	5	5	4	4.00	3.92	15.69	25
4	Advances recovery of ecosystem function	3	4	3	5	4	4	3.83	3.46	13.27	19.638
5	Advances ecosystem awareness	3	0	3	4	3	3	2.67	2.42	6.46	51.235
6	Advances integration	4	1	3	3	2	3	2.67	1.38	3.69	38.73
7	Fulfills requirements from external entities	4	ns	3	3	4	4	3.60	2.12	7.62	15.215
8	Advances mult-agency funding strategy	2	2	4	3	1	4	2.67	1.62	4.31	45.415
9	Has large spatial-temporal scale of effects	3	3	4	4	5	4	3.83	2.65	10.17	19.638
	Mean	3.25	2.5	3.222222	3.888889	3.666667	3.777778	Overall		86.84	
	COV (%)	21.75713	56.56854	13.68492	20.10178	38.56946	11.67243	Overall			

ID	Criteria for Ranking Project 51	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	1	2	3	4	3	2.60	3.69	9.60	43.853
2	Advances implementation of recovery plans	3	2	2	4	4	3	3.00	3.15	9.46	29.814
3	Advances habitat protection and restoration	3	2	2	5	5	3	3.33	3.92	13.08	40.988
4	Advances recovery of ecosystem function	2	1	2	4	4	3	2.67	3.46	9.23	45.415
5	Advances ecosystem awareness	4	5	3	5	5	4	4.33	2.42	10.50	18.842
6	Advances integration	3	2	3	5	4	3	3.33	1.38	4.62	30.984
7	Fulfills requirements from external entities	3	ns	3	4	2	2	2.80	2.12	5.92	29.881
8	Advances mult-agency funding strategy	2	3	3	3	3	3	2.83	1.62	4.58	14.409
9	Has large spatial-temporal scale of effects	4	2	3	5	5	3	3.67	2.65	9.73	33.029
	Mean	3	2.25	2.555556	4.222222	4	3	Overall		76.72	
	COV (%)	25.19763	56.96622	20.62355	19.73684	25	16.66667	Overall			

ID	Criteria for Ranking Project 52	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	3	3	4	4	3.20	3.69	11.82	26.146
2	Advances implementation of recovery plans	4	2	3	3	5	4	3.50	3.15	11.04	29.966
3	Advances habitat protection and restoration	3	2	3	3	5	4	3.33	3.92	13.08	30.984
4	Advances recovery of ecosystem function	4	3	3	3	4	4	3.50	3.46	12.12	15.649
5	Advances ecosystem awareness	3	0	3	3	3	3	2.50	2.42	6.06	48.99
6	Advances integration	4	1	3	4	2	3	2.83	1.38	3.92	41.26
7	Fulfills requirements from external entities	4	ns	3	3	2	4	3.20	2.12	6.77	26.146
8	Advances mult-agency funding strategy	3	1	3	3	1	4	2.50	1.62	4.04	48.99
9	Has large spatial-temporal scale of effects	4	3	5	5	5	4	4.33	2.65	11.50	18.842
	Mean	3.625	1.75	3.222222	3.333333	3.444444	3.777778	Overall		80.33	
	COV (%)	14.27722	59.14848	20.68966	21.2132	43.81638	11.67243	Overall			

ID	Criteria for Ranking Project 53	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	1	4	4	4	4	3.40	3.69	12.55	39.46
2	Advances implementation of recovery plans	2	1	4	5	5	4	3.50	3.15	11.04	46.948
3	Advances habitat protection and restoration	4	1	4	5	5	4	3.83	3.92	15.04	38.399
4	Advances recovery of ecosystem function	3	1	4	5	4	4	3.50	3.46	12.12	39.383
5	Advances ecosystem awareness	4	1	4	4	3	3	3.17	2.42	7.67	36.917
6	Advances integration	4	1	4	4	3	3	3.17	1.38	4.38	36.917
7	Fulfills requirements from external entities	3	1	4	4	4	4	3.33	2.12	7.05	36.332
8	Advances mult-agency funding strategy	2	1	4	4	1	4	2.67	1.62	4.31	56.458
9	Has large spatial-temporal scale of effects	4	1	5	5	5	4	4.00	2.65	10.62	38.73
	Mean	3.25	1	4.111111	4.444444	3.777778	3.777778	Overall		84.78	
	COV (%)	27.27401	0	8.108108	11.85854	34.45698	11.67243	Overall			

ID	Criteria for Ranking Project 54	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	4	3	5	4	3.60	3.69	13.29	31.672
2	Advances implementation of recovery plans	5	2	3	4	5	4	3.83	3.15	12.09	30.497
3	Advances habitat protection and restoration	4	3	3	5	5	4	4.00	3.92	15.69	22.361
4	Advances recovery of ecosystem function	2	2	3	4	5	4	3.33	3.46	11.54	36.332
5	Advances ecosystem awareness	4	0	3	4	5	4	3.33	2.42	8.08	52.536
6	Advances integration	4	2	3	3	4	3	3.17	1.38	4.38	23.772
7	Fulfills requirements from external entities	4	ns	3	3	4	4	3.60	2.12	7.62	15.215
8	Advances mult-agency funding strategy	2	3	3	3	5	4	3.33	1.62	5.38	30.984
9	Has large spatial-temporal scale of effects	4	2	3	4	3	4	3.33	2.65	8.85	24.495
	Mean	3.625	2	3.111111	3.666667	4.555556	3.888889	Overall		86.92	
	COV (%)	29.25959	46.291	10.71429	19.28473	15.94719	8.571429	Overall			

ID	Criteria for Ranking Project 55	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	4	3	4	4	3.40	3.69	12.55	26.307
2	Advances implementation of recovery plans	4	2	4	3	4	4	3.50	3.15	11.04	23.905
3	Advances habitat protection and restoration	4	2	4	4	5	4	3.83	3.92	15.04	25.648
4	Advances recovery of ecosystem function	2	2	4	4	5	4	3.50	3.46	12.12	34.993
5	Advances ecosystem awareness	4	2	4	3	4	3	3.33	2.42	8.08	24.495
6	Advances integration	4	1	4	4	3	3	3.17	1.38	4.38	36.917
7	Fulfills requirements from external entities	3	ns	4	3	4	4	3.60	2.12	7.62	15.215
8	Advances mult-agency funding strategy	2	1	4	3	2	4	2.67	1.62	4.31	45.415
9	Has large spatial-temporal scale of effects	2	2	4	4	3	4	3.17	2.65	8.40	31.048
	Mean	3.125	1.75	4	3.444444	3.777778	3.777778	Overall		83.53	
	COV (%)	31.713	26.452	0	15.30134	25.72479	11.67243	Overall			

ID	Criteria for Ranking Project 56	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	3	1	3	5	3	3.00	3.69	11.08	47.14
2	Advances implementation of recovery plans	3	3	1	3	5	3	3.00	3.15	9.46	42.164
3	Advances habitat protection and restoration	ns	2	1	3	5	3	2.80	3.92	10.98	52.973
4	Advances recovery of ecosystem function	3	3	1	3	5	3	3.00	3.46	10.38	42.164
5	Advances ecosystem awareness	5	2	1	5	4	4	3.50	2.42	8.48	46.948
6	Advances integration	3	3	1	3	3	3	2.67	1.38	3.69	30.619
7	Fulfills requirements from external entities	4	ns	1	3	4	3	3.00	2.12	6.35	40.825
8	Advances mult-agency funding strategy	2	4	1	3	2	3	2.50	1.62	4.04	41.952
9	Has large spatial-temporal scale of effects	3	3	1	4	3	4	3.00	2.65	7.96	36.515
	Mean	3.285714	2.875	1	3.333333	4	3.222222	Overall		72.43	
	COV (%)	28.94925	22.29113	0	21.2132	27.95085	13.68492	Overall			

ID	Criteria for Ranking Project 57	Score 0 to 5 with 5 being best					AVG	Wt	AVG Wt	COV (%)	
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5					Reviewer 7
1	Advances robust harvestable stocks	4	ns	5	3	5	4	4.20	3.69	15.51	19.92
2	Advances implementation of recovery plans	5	ns	5	4	5	4	4.60	3.15	14.51	11.907
3	Advances habitat protection and restoration	ns	ns	4	3	5	4	4.00	3.92	15.69	20.412
4	Advances recovery of ecosystem function	3	ns	4	3	5	4	3.80	3.46	13.15	22.017
5	Advances ecosystem awareness	4	ns	2	5	4	3	3.60	2.42	8.72	31.672
6	Advances integration	4	ns	5	3	3	3	3.60	1.38	4.98	24.845
7	Fulfills requirements from external entities	4	ns	ns	3	4	4	3.75	2.12	7.93	13.333
8	Advances mult-agency funding strategy	3	ns	3	4	2	4	3.20	1.62	5.17	26.146
9	Has large spatial-temporal scale of effects	5	ns	4	4	3	4	4.00	2.65	10.62	17.678
	Mean	4	#DIV/0!	4	3.555556	4	3.777778	Overall		96.29	
	COV (%)	18.89822		26.72612	20.43234	27.95085	11.67243	Overall			

ID	Criteria for Ranking Project 58	Score 0 to 5 with 5 being best					AVG	Wt	AVG Wt	COV (%)	
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5					Reviewer 7
1	Advances robust harvestable stocks	ns	2	1	4	5	4	3.20	3.69	11.82	51.349
2	Advances implementation of recovery plans	2	3	1	4	5	4	3.17	3.15	9.99	46.483
3	Advances habitat protection and restoration	2	2	1	4	5	4	3.00	3.92	11.77	51.64
4	Advances recovery of ecosystem function	2	3	1	4	5	4	3.17	3.46	10.96	46.483
5	Advances ecosystem awareness	2	5	1	4	4	4	3.33	2.42	8.08	45.166
6	Advances integration	2	4	1	3	4	3	2.83	1.38	3.92	41.26
7	Fulfills requirements from external entities	2	ns	1	3	2	4	2.40	2.12	5.08	47.507
8	Advances mult-agency funding strategy	2	3	1	3	4	4	2.83	1.62	4.58	41.26
9	Has large spatial-temporal scale of effects	2	3	1	4	4	4	3.00	2.65	7.96	42.164
	Mean	2	3.125	1	3.666667	4.222222	3.888889	Overall		74.15	
	COV (%)	0	31.713	0	13.63636	23.01692	8.571429	Overall			

ID	Criteria for Ranking Project 59	Score 0 to 5 with 5 being best					AVG	Wt	AVG Wt	COV (%)	
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5					Reviewer 7
1	Advances robust harvestable stocks	3	3	1	3	5	4	3.17	3.69	11.69	41.973
2	Advances implementation of recovery plans	4	4	1	4	5	4	3.67	3.15	11.56	37.262
3	Advances habitat protection and restoration	3	3	1	3	5	4	3.17	3.92	12.42	41.973
4	Advances recovery of ecosystem function	2	3	1	5	5	4	3.33	3.46	11.54	48.99
5	Advances ecosystem awareness	3	4	1	4	5	4	3.50	2.42	8.48	39.383
6	Advances integration	2	3	1	4	4	2	2.67	1.38	3.69	45.415
7	Fulfills requirements from external entities	3	ns	1	3	4	3	2.80	2.12	5.92	39.123
8	Advances mult-agency funding strategy	2	4	1	3	5	3	3.00	1.62	4.85	47.14
9	Has large spatial-temporal scale of effects	2	2	1	4	3	4	2.67	2.65	7.08	45.415
	Mean	2.666667	3.25	1	3.666667	4.555556	3.555556	Overall		77.24	
	COV (%)	26.5165	21.75713	0	19.28473	15.94719	20.43234	Overall			

ID	Criteria for Ranking Project 60	Score 0 to 5 with 5 being best					AVG	Wt	AVG Wt	COV (%)	
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5					Reviewer 7
1	Advances robust harvestable stocks	ns	2	2	4	5	4	3.40	3.69	12.55	39.46
2	Advances implementation of recovery plans	4	3	2	5	5	4	3.83	3.15	12.09	30.497
3	Advances habitat protection and restoration	4	3	3	5	5	4	4.00	3.92	15.69	22.361
4	Advances recovery of ecosystem function	4	2	3	4	5	4	3.67	3.46	12.69	28.167
5	Advances ecosystem awareness	4	2	3	5	5	4	3.83	2.42	9.29	30.497
6	Advances integration	4	3	3	4	4	3	3.50	1.38	4.85	15.649
7	Fulfills requirements from external entities	3	ns	2	4	4	4	3.40	2.12	7.19	26.307
8	Advances mult-agency funding strategy	3	2	2	3	5	4	3.17	1.62	5.12	36.917
9	Has large spatial-temporal scale of effects	4	3	2	5	4	4	3.67	2.65	9.73	28.167
	Mean	3.75	2.5	2.444444	4.333333	4.666667	3.888889	Overall		89.20	
	COV (%)	12.34427	21.3809	21.56098	16.31785	10.71429	8.571429	Overall			

ID	Criteria for Ranking Project 61	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	2	2	1	3	5	ns	2.60	3.69	9.60	58.33
2	Advances implementation of recovery plans	2	3	1	3	5	ns	2.80	3.15	8.83	52.973
3	Advances habitat protection and restoration	2	3	1	3	5	ns	2.80	3.92	10.98	52.973
4	Advances recovery of ecosystem function	2	2	1	3	5	ns	2.60	3.46	9.00	58.33
5	Advances ecosystem awareness	2	4	1	3	4	ns	2.80	2.42	6.78	46.566
6	Advances integration	2	4	1	3	4	ns	2.80	1.38	3.88	46.566
7	Fulfills requirements from external entities	2	ns	1	3	2	ns	2.00	2.12	4.23	40.825
8	Advances mult-agency funding strategy	2	3	1	3	4	ns	2.60	1.62	4.20	43.853
9	Has large spatial-temporal scale of effects	2	3	1	3	4	ns	2.60	2.65	6.90	43.853
Mean		2	3	1	3	4.222222	ns	Overall		64.41	
COV (%)		0	25.19763	0	0	23.01692	ns	Overall			

ID	Criteria for Ranking Project 62	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	2	2	1	3	5	ns	2.60	3.69	9.60	58.33
2	Advances implementation of recovery plans	2	3	1	3	5	ns	2.80	3.15	8.83	52.973
3	Advances habitat protection and restoration	2	3	1	3	5	ns	2.80	3.92	10.98	52.973
4	Advances recovery of ecosystem function	2	2	1	3	5	ns	2.60	3.46	9.00	58.33
5	Advances ecosystem awareness	2	4	1	3	4	ns	2.80	2.42	6.78	46.566
6	Advances integration	2	4	1	3	4	ns	2.80	1.38	3.88	46.566
7	Fulfills requirements from external entities	2	ns	1	3	2	ns	2.00	2.12	4.23	40.825
8	Advances mult-agency funding strategy	2	3	1	3	4	ns	2.60	1.62	4.20	43.853
9	Has large spatial-temporal scale of effects	2	3	1	3	4	ns	2.60	2.65	6.90	43.853
Mean		2	3	1	3	4.222222	ns	Overall		64.41	
COV (%)		0	25.19763	0	0	23.01692	ns	Overall			

ID	Criteria for Ranking Project 63	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	4	2	3	4	4	3.40	3.69	12.55	26.307
2	Advances implementation of recovery plans	ns	3	2	4	5	4	3.60	3.15	11.35	31.672
3	Advances habitat protection and restoration	ns	3	2	3	5	4	3.40	3.92	13.34	33.535
4	Advances recovery of ecosystem function	ns	4	2	3	4	4	3.40	3.46	11.77	26.307
5	Advances ecosystem awareness	ns	4	2	4	3	4	3.40	2.42	8.24	26.307
6	Advances integration	ns	2	2	3	2	3	2.40	1.38	3.32	22.822
7	Fulfills requirements from external entities	ns	ns	2	3	3	3	2.75	2.12	5.82	18.182
8	Advances mult-agency funding strategy	ns	2	2	3	1	3	2.20	1.62	3.55	38.03
9	Has large spatial-temporal scale of effects	ns	2	2	5	2	4	3.00	2.65	7.96	47.14
Mean		#DIV/0!	3	2	3.444444	3.222222	3.666667	Overall		77.91	
COV (%)		#DIV/0!	30.86067	0	21.09145	43.27552	13.63636	Overall			

ID	Criteria for Ranking Project 64	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	4	3	4	5	4	4.00	3.69	14.77	17.678
2	Advances implementation of recovery plans	ns	3	2	3	5	4	3.40	3.15	10.72	33.535
3	Advances habitat protection and restoration	ns	1	2	5	5	2	3.00	3.92	11.77	62.361
4	Advances recovery of ecosystem function	ns	1	2	3	5	3	2.80	3.46	9.69	52.973
5	Advances ecosystem awareness	ns	0	2	3	4	4	2.60	2.42	6.30	64.358
6	Advances integration	ns	2	3	5	2	4	3.20	1.38	4.43	40.745
7	Fulfills requirements from external entities	ns	ns	2	5	5	4	4.00	2.12	8.46	35.355
8	Advances mult-agency funding strategy	ns	2	2	4	2	3	2.60	1.62	4.20	34.401
9	Has large spatial-temporal scale of effects	ns	2	2	4	2	4	2.80	2.65	7.43	39.123
Mean		#DIV/0!	1.875	2.222222	4	3.888889	3.555556	Overall		77.78	
COV (%)		#DIV/0!	66.47592	19.84313	21.65064	37.36199	20.43234	Overall			

ID	Criteria for Ranking Project 65	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	3	2	3	5	3	3.20	3.69	11.82	34.233
2	Advances implementation of recovery plans	ns	2	2	3	5	3	3.00	3.15	9.46	40.825
3	Advances habitat protection and restoration	ns	3	2	4	5	3	3.40	3.92	13.34	33.535
4	Advances recovery of ecosystem function	ns	3	2	3	5	3	3.20	3.46	11.08	34.233
5	Advances ecosystem awareness	ns	0	2	4	5	3	2.80	2.42	6.78	68.698
6	Advances integration	ns	3	2	3	3	3	2.80	1.38	3.88	15.972
7	Fulfills requirements from external entities	ns	ns	2	4	4	3	3.25	2.12	6.88	29.459
8	Advances mult-agency funding strategy	ns	4	2	3	4	3	3.20	1.62	5.17	26.146
9	Has large spatial-temporal scale of effects	ns	3	2	4	3	3	3.00	2.65	7.96	23.57
Mean		#DIV/0!	2.625	2	3.444444	4.333333	3	Overall		76.36	
COV (%)		#DIV/0!	45.24705	0	15.30134	19.9852	0	Overall			

ID	Criteria for Ranking Project 66	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	3	2	3	5	4	3.40	3.69	12.55	33.535
2	Advances implementation of recovery plans	ns	3	2	3	5	4	3.40	3.15	10.72	33.535
3	Advances habitat protection and restoration	ns	3	2	4	5	4	3.60	3.92	14.12	31.672
4	Advances recovery of ecosystem function	ns	4	2	3	5	4	3.60	3.46	12.46	31.672
5	Advances ecosystem awareness	ns	0	2	5	4	4	3.00	2.42	7.27	66.667
6	Advances integration	ns	2	2	4	4	4	3.20	1.38	4.43	34.233
7	Fulfills requirements from external entities	ns	ns	2	3	5	4	3.50	2.12	7.40	36.886
8	Advances mult-agency funding strategy	ns	3	2	3	2	4	2.80	1.62	4.52	29.881
9	Has large spatial-temporal scale of effects	ns	4	2	5	5	4	4.00	2.65	10.62	30.619
Mean		#DIV/0!	2.75	2	3.666667	4.444444	4	Overall		84.10	
COV (%)		#DIV/0!	46.60872	0	23.61887	22.81036	0	Overall			

ID	Criteria for Ranking Project 67	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	2	3	2	3	5	3	3.00	3.69	11.08	36.515
2	Advances implementation of recovery plans	4	4	2	4	5	4	3.83	3.15	12.09	25.648
3	Advances habitat protection and restoration	4	3	2	5	5	4	3.83	3.92	15.04	30.497
4	Advances recovery of ecosystem function	3	3	2	4	5	4	3.50	3.46	12.12	29.966
5	Advances ecosystem awareness	3	2	2	5	4	4	3.33	2.42	8.08	36.332
6	Advances integration	3	4	2	4	4	2	3.17	1.38	4.38	31.048
7	Fulfills requirements from external entities	4	ns	2	4	2	3	3.00	2.12	6.35	33.333
8	Advances mult-agency funding strategy	3	4	2	3	4	3	3.17	1.62	5.12	23.772
9	Has large spatial-temporal scale of effects	4	4	2	5	5	4	4.00	2.65	10.62	27.386
Mean		3.333333	3.375	2	4.111111	4.333333	3.444444	Overall		84.86	
COV (%)		21.2132	22.04515	0	19.0152	23.07692	21.09145	Overall			

ID	Criteria for Ranking Project 68	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	2	3	4	3	2.80	3.69	10.34	29.881
2	Advances implementation of recovery plans	2	2	2	4	4	3	2.83	3.15	8.94	34.701
3	Advances habitat protection and restoration	3	2	2	4	5	3	3.17	3.92	12.42	36.917
4	Advances recovery of ecosystem function	3	2	2	3	4	3	2.83	3.46	9.81	26.568
5	Advances ecosystem awareness	4	5	2	3	5	3	3.67	2.42	8.88	33.029
6	Advances integration	4	3	2	3	4	3	3.17	1.38	4.38	23.772
7	Fulfills requirements from external entities	3	ns	2	4	2	3	2.80	2.12	5.92	29.881
8	Advances mult-agency funding strategy	2	2	2	3	3	3	2.50	1.62	4.04	21.909
9	Has large spatial-temporal scale of effects	4	3	2	4	5	3	3.50	2.65	9.29	29.966
Mean		3.125	2.625	2	3.444444	4	3	Overall		74.02	
COV (%)		26.70473	40.4061	0	15.30134	25	0	Overall			

ID	Criteria for Ranking Project 69	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	1	2	3	5	3	2.80	3.69	10.34	52.973
2	Advances implementation of recovery plans	3	2	2	4	5	3	3.17	3.15	9.99	36.917
3	Advances habitat protection and restoration	4	1	2	4	5	3	3.17	3.92	12.42	46.483
4	Advances recovery of ecosystem function	4	1	2	3	5	3	3.00	3.46	10.38	47.14
5	Advances ecosystem awareness	4	2	2	3	4	3	3.00	2.42	7.27	29.814
6	Advances integration	3	4	2	3	4	3	3.17	1.38	4.38	23.772
7	Fulfills requirements from external entities	3	ns	2	4	5	3	3.40	2.12	7.19	33.535
8	Advances mult-agency funding strategy	2	3	2	3	2	3	2.50	1.62	4.04	21.909
9	Has large spatial-temporal scale of effects	4	3	2	4	5	3	3.50	2.65	9.29	29.966
	Mean	3.375	2.125	2	3.444444	4.444444	3	Overall		75.31	
	COV (%)	22.04515	52.98784	0	15.30134	22.81036	0	Overall			

ID	Criteria for Ranking Project 70	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	2	4	5	4	3.40	3.69	12.55	39.46
2	Advances implementation of recovery plans	3	2	2	5	5	4	3.50	3.15	11.04	39.383
3	Advances habitat protection and restoration	3	2	2	5	5	4	3.50	3.92	13.73	39.383
4	Advances recovery of ecosystem function	4	1	2	4	5	4	3.33	3.46	11.54	45.166
5	Advances ecosystem awareness	4	2	2	5	4	4	3.50	2.42	8.48	34.993
6	Advances integration	4	3	2	5	4	3	3.50	1.38	4.85	29.966
7	Fulfills requirements from external entities	3	ns	2	4	5	3	3.40	2.12	7.19	33.535
8	Advances mult-agency funding strategy	3	3	2	4	2	3	2.83	1.62	4.58	26.568
9	Has large spatial-temporal scale of effects	4	3	2	5	5	4	3.83	2.65	10.17	30.497
	Mean	3.5	2.25	2	4.555556	4.444444	3.666667	Overall		84.13	
	COV (%)	15.27207	31.42697	0	11.56931	22.81036	13.63636	Overall			

ID	Criteria for Ranking Project 71	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	ns	2	2	4	5	4	3.40	3.69	12.55	39.46
2	Advances implementation of recovery plans	2	2	2	5	5	4	3.33	3.15	10.51	45.166
3	Advances habitat protection and restoration	4	3	2	5	5	4	3.83	3.92	15.04	30.497
4	Advances recovery of ecosystem function	3	2	2	4	5	4	3.33	3.46	11.54	36.332
5	Advances ecosystem awareness	4	1	2	5	4	4	3.33	2.42	8.08	45.166
6	Advances integration	2	2	2	5	4	2	2.83	1.38	3.92	46.912
7	Fulfills requirements from external entities	2	ns	2	4	5	4	3.40	2.12	7.19	39.46
8	Advances mult-agency funding strategy	2	3	2	4	2	4	2.83	1.62	4.58	34.701
9	Has large spatial-temporal scale of effects	4	3	2	5	5	4	3.83	2.65	10.17	30.497
	Mean	2.875	2.25	2	4.555556	4.444444	3.777778	Overall		83.59	
	COV (%)	34.47065	31.42697	0	11.56931	22.81036	17.64706	Overall			

ID	Criteria for Ranking Project 72	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	4	3	2	3	5	4	3.50	3.69	12.92	29.966
2	Advances implementation of recovery plans	4	2	2	3	5	4	3.33	3.15	10.51	36.332
3	Advances habitat protection and restoration	4	2	2	4	5	4	3.50	3.92	13.73	34.993
4	Advances recovery of ecosystem function	4	3	2	3	5	4	3.50	3.46	12.12	29.966
5	Advances ecosystem awareness	2	1	2	3	4	4	2.67	2.42	6.46	45.415
6	Advances integration	3	2	2	4	4	2	2.83	1.38	3.92	34.701
7	Fulfills requirements from external entities	4	ns	2	3	5	4	3.60	2.12	7.62	31.672
8	Advances mult-agency funding strategy	2	3	2	3	2	4	2.67	1.62	4.31	30.619
9	Has large spatial-temporal scale of effects	4	3	2	5	5	4	3.83	2.65	10.17	30.497
	Mean	3.444444	2.375	2	3.444444	4.444444	3.777778	Overall		81.76	
	COV (%)	25.60404	31.32732	0	21.09145	22.81036	17.64706	Overall			

ID	Criteria for Ranking Project 73	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	2	2	2	4	5	4	3.17	3.69	11.69	41.973
2	Advances implementation of recovery plans	2	2	2	4	5	4	3.17	3.15	9.99	41.973
3	Advances habitat protection and restoration	2	4	2	5	5	4	3.67	3.92	14.38	37.262
4	Advances recovery of ecosystem function	2	2	2	4	5	4	3.17	3.46	10.96	41.973
5	Advances ecosystem awareness	2	1	2	4	4	4	2.83	2.42	6.87	46.912
6	Advances integration	2	2	2	5	4	2	2.83	1.38	3.92	46.912
7	Fulfills requirements from external entities	2	ns	2	4	5	4	3.40	2.12	7.19	39.46
8	Advances mult-agency funding strategy	2	3	2	4	2	4	2.83	1.62	4.58	34.701
9	Has large spatial-temporal scale of effects	2	3	2	5	5	4	3.50	2.65	9.29	39.383
Mean		2	2.375	2	4.333333	4.444444	3.777778	Overall		78.87	
COV (%)		0	38.5737	0	11.53846	22.81036	17.64706	Overall			

ID	Criteria for Ranking Project 74	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	2	2	2	4	5	3	3.00	3.69	11.08	42.164
2	Advances implementation of recovery plans	2	4	2	5	5	3	3.50	3.15	11.04	39.383
3	Advances habitat protection and restoration	2	2	2	5	5	3	3.17	3.92	12.42	46.483
4	Advances recovery of ecosystem function	2	2	2	5	5	3	3.17	3.46	10.96	46.483
5	Advances ecosystem awareness	2	3	2	4	4	3	3.00	2.42	7.27	29.814
6	Advances integration	2	3	2	5	3	3	3.00	1.38	4.15	36.515
7	Fulfills requirements from external entities	2	ns	2	4	4	3	3.00	2.12	6.35	33.333
8	Advances mult-agency funding strategy	2	3	2	4	2	3	2.67	1.62	4.31	30.619
9	Has large spatial-temporal scale of effects	2	3	2	5	5	3	3.33	2.65	8.85	40.988
Mean		2	2.75	2	4.555556	4.222222	3	Overall		76.42	
COV (%)		0	25.71297	0	11.56931	25.88463	0	Overall			

ID	Criteria for Ranking Project 75	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	4	3	2	4	5	ns	3.60	3.69	13.29	31.672
2	Advances implementation of recovery plans	4	3	2	5	5	ns	3.80	3.15	11.98	34.312
3	Advances habitat protection and restoration	3	1	2	5	5	ns	3.20	3.92	12.55	55.902
4	Advances recovery of ecosystem function	3	1	2	5	5	ns	3.20	3.46	11.08	55.902
5	Advances ecosystem awareness	4	3	2	4	4	ns	3.40	2.42	8.24	26.307
6	Advances integration	3	1	2	5	3	ns	2.80	1.38	3.88	52.973
7	Fulfills requirements from external entities	3	ns	2	4	4	ns	3.25	2.12	6.88	29.459
8	Advances mult-agency funding strategy	2	3	2	4	2	ns	2.60	1.62	4.20	34.401
9	Has large spatial-temporal scale of effects	2	3	2	5	5	ns	3.40	2.65	9.02	44.605
Mean		3.111111	2.25	2	4.555556	4.222222	ns	Overall		81.12	
COV (%)		25.12723	46.00437	0	11.56931	25.88463	ns	Overall			

ID	Criteria for Ranking Project 76	Score 0 to 5 with 5 being best						AVG	Wt	AVG Wt	COV (%)
		Reviewer 1	Reviewer 2	Reviewer 3	Reviewer 4	Reviewer 5	Reviewer 7				
1	Advances robust harvestable stocks	4	4	2	4	5	4	3.83	3.69	14.15	25.648
2	Advances implementation of recovery plans	5	3	2	4	5	4	3.83	3.15	12.09	30.497
3	Advances habitat protection and restoration	ns	1	2	5	5	4	3.40	3.92	13.34	53.429
4	Advances recovery of ecosystem function	3	1	2	4	5	4	3.17	3.46	10.96	46.483
5	Advances ecosystem awareness	3	1	2	5	4	4	3.17	2.42	7.67	46.483
6	Advances integration	4	2	2	4	3	4	3.17	1.38	4.38	31.048
7	Fulfills requirements from external entities	3	ns	2	5	4	4	3.60	2.12	7.62	31.672
8	Advances mult-agency funding strategy	2	4	3	4	2	4	3.17	1.62	5.12	31.048
9	Has large spatial-temporal scale of effects	2	2	4	4	3	4	3.17	2.65	8.40	31.048
Mean		3.25	2.25	2.333333	4.333333	4	4	Overall		83.74	
COV (%)		31.84918	56.96622	30.30458	11.53846	27.95085	0	Overall			

No.	Project Type	Plan Category	Project Name	Project Information and How it Relates to the Recovery Plan									Project Planning							Project Cost and Sponsor							
				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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)			
Capital Projects Habitat																											
1	Restoration	Capital	Little Hoko (RM 0.0-2.0) LWD Restoration	Little Hoko River (RM 0.0-2.0) to install 200 pieces of large woody debris by helicopter.	2	LWD, Side Channel, riparian	WRIA 19 Recovery Plan, chapter 8	Riparian/Floodplain	Instream Habitats, Riparian	30 ac riparian 3 miles of channel treated with LWD	Coho	Steelhead, cutthroat, chum, Chinook	Conceptual								Construction	\$350,000	2012	LEKT	\$350,000	\$50,000	SRFB
2	Restoration	Capital	Hoko River-Emerson Flats LWD Supplementation	This project will restore spawning and rearing habitat in the Hoko Mainstem	3	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 ELJ Installation	\$400,000	LWD Purchase and ELJ Installation	\$300,000						2010	Makah	\$700,000	\$105,000	unknown
3	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.	3	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						2010	NOSC & Makah	\$255,000	\$38,250	unknown
4	Restoration	Capital	Hoko River/ Hermans Creek - Instream LWD Supplementation	The placement of LWD to Herman Ck along with LWD placement within the month as it enters Hoko.	3	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			
5	Restoration	Capital	Sekiu Mainstem (RM 2-5) LWD Restoration	The placement of LWD in the Sekiu River	3	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			
6	Restoration	Capital	Sekiu, Clallam, Pysht Riparian Re-vegetation	Restore the riparian zone along the rivers to improve water quality and restore CMZ habitat and function.	3	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	2011	Makah & LEKT	\$255,000	\$10,000	SRFB			
7	Restoration	Capital	South Fork Pysht Floodplain Restoration	Lower SF Pysht River (RM 0.0-3.0) to restore 30 acres of riparian forest and install 500 pieces of large woody debris by helicopter.	2	LWD, Side Channel, riparian	WRIA 19 Recovery Plan, chapter 8	Riparian/Floodplain	Instream Habitats, Riparian	30 ac riparian 3 miles of channel treated with LWD	Coho	Steelhead, cutthroat, chum, Chinook	Conceptual	Permitting & Construction	\$250,000	Construction	\$250,000	Construction	\$250,000	2012	LEKT	\$750,000	\$50,000	SRFB			
8	Acquisition for Restoration	Capital	Pysht River Floodplain Acquisition (Phase I)	Acquisition and Removal of infrastructure within 21.59 acres of active floodplain and channel migration zone of the Pysht river.	2	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	Conceptual	Acquisition	\$125,000	Infrastructure removal	\$55,000					2010	Makah, LEKT, NOLT	\$180,000	\$27,000	SRFB	
9	Restoration	Capital	Pysht Estuary Restoration (Phase I)	Initiate restoration actions in the Pysht estuary by removing log bays to reconnect 15 acres of historic salt marsh	1	Disconnection of historic salt marsh	Pysht Estuary Engineering Feasibility Analysis	Estuary	Habitat Connectivity	15 acres of historic salt marsh	Chinook	Steelhead, cutthroat, chum, Coho	30% Design underway			Final Engineering/Permitting	\$250,000	Construction	\$1,000,000	2012	LEKT, M&R & CLC	\$1,250,000	\$150,000	PSAR			
10	Restoration	Capital	Final IMW Restoration Treatments	Complete LWD Restoration in portions of IMW Watersheds (Sadie Creek, East Twin)	1	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			
11	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.	2	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				2010	WDFW, WDNR & LEKT	\$520,000	\$78,000	SRFB		
12	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	3	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			
13	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.	2	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			
14	Restoration	Capital	Salt Creek Salt Marsh Reconnection	Removal of 2 failed pipes and replace with bridge	1	High Development Potential / Conversion, Barriers to fish passage, Estuary area degradation.	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	Open up 30 acres of estuary habitat with no barrier	Salt Creek Coho	Salt Creek Winter Steelhead, Mid-Strait Cutthroat Trout, Chinook, & Chum	30% Design underway	Outreach		Design & permitting	\$50,000	Construction	\$240,000	2011	CCD & LEKT	\$290,000	\$43,500	SRFB			

No.	Project Type	Plan Category	Project Name	Project Information and How it Relates to the Recovery Plan										Project Planning							Project Cost and Sponsor				
				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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)	
15	Restoration	Capital	Salt Creek Final Fish Passage Corrections Project	Removal of about 13 barrier pipes in Salt Creek	2	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			Design & permitting	\$200,000	Construction	\$3,000,000	2012	LEKT, CCD & CC	\$3,200,000	\$480,000	SRFB	
16	Restoration	Capital	Elwha ELJ's	Construct 20 additional ELJ's in the lower Elwha River prior to dam removal in 2012	1	LWD, Side Channel, floodplain channelization	Elwha Fish Recovery Plan, chapter 8	Riparian/Floodplain	Instream Habitats, Riparian	20 new ELJs to bring total to 50 installed prior to dam removal	Coho	Steelhead, cutthroat, chum, Chinook	design and permitting completed			Construction	\$500,000	Construction	\$500,000	2012	LEKT	\$1,000,000	\$50,000	SRFB	
17	Restoration	Capital	Lower Elwha Hatchery Outfall and Berm Removal	Remove 1400' of existing hatchery outfall which represents a perpendicular dike across the floodplain	1	Floodplain and estuary restoration	Elwha Fish Recovery Plan, chapter 8	Riparian/Floodplain	Floodplain/Estuary restoration	Restore physical processes in floodplain and estuary including connectivity with historic side-channels and distributary habitat	Chinook	Coho, chum, pink, steelhead, bull trout	Permitting completed	design	\$100,000	Construction	\$500,000	Construction	\$500,000	2012	LEKT	\$500,000	\$75,000	SRFB	
18	Restoration	Capital	Elwha River Estuary Restoration	Project will build on short term fish passage restoration of west levee currently underway.	2	Floodplain and estuary restoration	Elwha Fish Recovery Plan, chapter 8	Riparian/Floodplain	Floodplain/Estuary restoration	Restore physical processes in floodplain and estuary including connectivity with historic side-channels and distributary habitat	Chinook	Coho, chum, pink, steelhead, bull trout	Conceptual	Design & Permitting	\$210,000	Implementation	\$1,040,000	Implementation	\$70,000	2012	LEKT, CC, WDFW & TNC	\$1,320,000	\$198,000	SRFB	
19	Restoration	Capital	Elwha Culvert Replacement	Project will restore Bull trout and anadromous salmonid refugia in the Elwha Watershed	1	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	
20	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.	3	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	2011	WFC, LEKT & NOLT	\$150,000	\$20,000	PA Mitigation and other
21	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.	3	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 & NOSC	\$1,554,100	\$135,000	unknown	
22	Restoration	Capital	Ediz Hook A Frame Site Shoreline Restoration	Remove bank hardening, restore shoreline slope, vegetation as well as LWD and gravel supplementation 1200' of Ediz Hook	3	Nearshore hardening	WRIA 18 LFA	Nearshore	Nearshore Restoration	Restore shoreline morphology, remove hardened structures, beach nourishment and dune revegetation along 1,000 feet of shoreline and 1.5 acres	Forage fish	Pink, Chum, Chinook, Coho, and Steelhead	Conceptual	design and permitting	\$150,000	Construction	\$250,000	Construction	\$250,000	2012	LEKT, WDNR & COPA	\$650,000	\$100,000	PSAR	
23	Restoration	Capital	Ediz Hook Beach Nourishment	This project will restore & maintain the inner spit on Ediz Hook	3	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	
24	Acquisition for Restoration	Capital	Port Angeles Waterfront Property Acquisition	Acquire a 2 acre waterfront property at Oak Street for public beach/estuary restoration	3	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					2009	NOLT, COPA, LEKT & VCRC	\$2,500,000	\$500,000	unknown	
25	Restoration	Capital	Morse Creek Remeander	Reconnect Morse Creek with its historic floodplain to restore habitat complexity and stability.	1	Riparian, floodplain, spawning and rearing habitat	WRIA 18 LFA p 5&6	Instream, Riparian	Habitat complexity, flow reduction, floodplain reconnection	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 60% expected 100% early 2009, permitting docs under development, portion of construction funds secured	Permitting	\$20,000	Construction	\$400,000	revegetation (underplanting deciduous forest with conifer)	\$15,000	2009	NOSC	\$1,300,000	\$200,000	SRFB	

No.	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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)	
26	Acquisition for Restoration	Capital	Morse Creek Property Acquisition	Acquire 2 lots in Morse Creek floodplain.	2	Riparian, floodplain, spawning and rearing habitat	WRIA 18 LFA p 586	Instream, Riparian	Habitat complexity, flow reduction, floodplain reconnection	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 2009					2009	WDFW	\$950,000	\$142,500	SRFB
27	Acquisition for Protection	Capital	Siebert Creek Ecosystem Protection Phase II	Acquire 1 property and 5 conservation easements make conservation in lower Siebert Creek continuous. Protect feeder bluffs.	3	Degraded channel condition in some reaches	Siebert Creek Watershed Assessment, p. 6	Riparian, Marine bluff	Habitat complexity, flow reduction, floodplain reconnection	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	\$2,000,000	Riparian conservation easements	\$765,000	marine bluff conservation easements	\$680,000	2012	NOLT	\$3,445,000	\$1,000,000	SRFB, PSAR	
28	Restoration	Capital	Siebert Creek HWY 101 Fish Passage Restoration	Replace box culvert on HWY 101 that is fish barrier with a bridge to open up about 7.5 miles of spawning & rearing habitat.	3	Riparian, floodplain, spawning and rearing habitat	Siebert Creek Watershed Analysis	Instream, Riparian	Fish passage	Open up 7.5 miles of habitat	Coho	Fall chum, winter steelhead, cutthroat	Conceptual			Design	\$250,000	Permitting	\$100,000	2012	CC, JSKT & WSDOT	\$6,000,000	\$1,000,000	SRFB	
29	Restoration	Capital	Dungeness River Engineered Log Jams	Build ELJ's in Dungeness River from river mile (RM) 2.7 to 18.8 and in the Gray Wolf River from RM 0.0 to 1.0.	1	Channel structure and complexity	WRIA 18 LFA page 105, Puget Sound Recovery Plan pg 324	Instream	Large wood recovery	Build approximately 120 stable log jams in 20 miles of mainstem river.	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	RM 5.2 to 6.0 ELJ's are complete.	Gray Wolf RM 0.0 to 1.0 design-only.	\$120,000	Gray Wolf RM 0.0 to 1.0 ELJ construction	\$800,000	Dungeness RM 12.0 to 18.8 design-only.	\$200,000	2019	JSKT	\$11,000,000	\$1,650,000	SRFB	
30	Acquisition for Protection	Capital	Dungeness River Corridor Protection: RM 0.8 to 12.0	This project will protect high quality riverine forest habitat and properties needed for flood plain restoration projects on the Dungeness River downstream of river mile (RM) 12.0 through the purchase of property and conservation easements. 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.	1	Channel Structure and Complexity Floodplain Connectivity & Function Riparian Areas & LWD Recruitment Water Quality	WRIA 18 LFA	Riparian	Acquisition	160 Acres, 4 miles of river channel.	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Conceptual			2010 purchases	\$1,500,000	2011 purchases	\$2,000,000	2018	JSKT, NOLT & WDFW	\$9,000,000	\$1,350,000	SRFB, Nat. Coastal Wetlands Cons., ESRP, ALEA	
31	Restoration	Capital	Dungeness Riparian Reforestation	This project will restore the riparian zone along the Dungeness Mainstem.	2	Degraded water quality and high stream temperature, and Degraded riparian conditions	WRIA 18 LFA page 105, Puget Sound Recovery Plan pg 324	Riparian	Instream Habitats, Riparian	15 acres of Revegetation	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Conceptual	Landowner contracts & Planting	\$50,000	Landowner contracts & Planting	\$50,000	2012	CCD, JSKT, CC & NWB	\$150,000	\$20,000	SRFB			
32	Acquisition for Protection	Capital	Dungeness Drift Cell Protection	Permanently protect 10 miles of coastal feeder bluffs in the Dungeness Drift Cell	1	1. Ecosystem links between upland and Nearshore habitats. 2. Reduced sediment input from feeder bluffs to Nearshore area. 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.	WRIA 17 LFA, WRIA 18 LFA	Nearshore	Acquisition	Permanently protect 10 miles of coastal feeder bluffs	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Research and planning phase has been funded.	Design-only project	\$150,000	Purchase of easements, property, relocation of structures	\$5,000,000	2014	JSKT	\$5,500,000	\$825,000	SRFB, ESRP, NCWC & EPA			
33	Acquisition for Restoration	Capital	Dungeness Irrigation Group Water Conservation Project	The Dungeness Irrigation Group Water Conservation Project is a comprehensive irrigation ditch-piping project that will result in anticipated in-river water savings of 2.5-3 cfs.	2	Low instream flows	Draft WRIA 18 Dungeness/Eiwha/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	conserve 2.5-3 cfs	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Feasibility completed, preliminary design completed	Final design	\$30,000	Construction	\$3,500,000		2010	CCD & DIG	\$3,530,000	\$529,500	SRFB		
34	Acquisition for Protection	Capital	Dungeness Irrigation District Water Conservation Project	The Dungeness Irrigation District Water Conservation Project is a comprehensive irrigation ditch-piping project that will result in anticipated in-river water savings of 3-4 cfs.	1	Low instream flows	Draft WRIA 18 Dungeness/Eiwha/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	conserve 3-4 cfs	PS Chinook	Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Feasibility completed, preliminary design completed	Final design, construction	\$600,000	construction	\$3,000,000	construction	\$1,000,000	2011	CCD & DID	\$4,600,000	\$690,000	SRFB	

No.	Project Type	Plan Category	Project Name	Project Information and How it Relates to the Recovery Plan										Project Planning							Project Cost and Sponsor			
				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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)
35	Restoration	Capital	Lower Dungeness Dikes Setback, Phase II	Floodplain and river recovery in the lower 2.6 miles was ranked #1 by the DRMT and #2 in EDT. The lower river is straightened between two dikes, which cuts off relic meanders and a substantial area of floodplain (River mile 0.8-2.6). Two dimensional modeling has shown that floods greater than bankfull would occupy floodplain beyond the dikes on both sides of the river. Phase I funding was awarded for engineering and design. Phase II funding is needed for project construction. This project must be completed at the same time as the channel re-meandering and ELJ placement project listed as phase III	1	Channel Confinement	Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors, and the Recommended Restoration Projects for the Dungeness	Riparian	Dike Setback	1.8 mi of river restored	Chinook	Chum; Bull Trout; Steelhead	Feasibility completed, preliminary design completed	Final design, construction	\$500,000	Construction	\$5,000,000	Construction	\$2,000,000	2012	CC, ACOE, JSKT	\$7,500,000	\$2,500,000	SRFB
36	Restoration	Capital	Lower Dungeness Channel Re-meandering & ELJ Placement, Phase III	Floodplain and river recovery in the lower 2.6 miles was ranked #1 by the DRMT and #2 in EDT. The lower river is straightened between two dikes, which cuts off relic meanders and a substantial area of floodplain (River mile 0.8-2.6). Two dimensional modeling has shown that floods greater than bankfull would occupy floodplain beyond the dikes on both sides of the river. Phase I funding was awarded for engineering and design. Phase II funding is needed for project construction. This project must be completed at the same time as the channel re-meandering and ELJ placement project listed as phase II	1	Channel Confinement	Draft WRIA 18 Dungeness/Elwha/Morse Steelhead Limiting Factors	Riparian	Dike Setback	1.8 mi of river restored	Chinook	Chum; Bull Trout; Steelhead	Feasibility completed, preliminary design completed	Final design, construction	\$300,000	Construction	\$1,200,000	Construction	\$675,000	2012	CC, ACOE, JSKT	\$2,175,000	\$375,000	SRFB
37	Acquisition for Protection	Capital	North Sequim Bay Drift Cell Protection (Travis and Paradise Cove Spit Protection Project)	Permanently protect the Travis and Paradise Cove Spits and the coastal feeder bluffs within their drift cells. Will use management plans, conservation easements, and land purchases.	1	1. Ecosystem links between upland and Nearshore habitats. 2. Reduced sediment input from feeder bluffs to Nearshore area. 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.	WRIA 17 LFA, WRIA 18 LFA	Nearshore	Acquisition design only	Protection of 3.3 miles of coastal feeder bluff, 12,000 feet of spit habitat, and 115 acres of marine shallow water habitat	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Bull trout, Puget Sound steelhead & Chinook	Conceptual	Project Design & development of Management Plans	\$130,000			Land Acquisition	\$1,000,000	2013	JSKT & NOLT	\$1,130,000	\$169,500	SRFB, ESRP, National Coastal Wetlands Conservation
38	Acquisition for Restoration	Capital	Agnew Irrigation District Piping	Replace approximately 8 miles of the Agnew Irrigation District A-18 and A-22 laterals with pipeline. resulting in instream savings of 0.8 cfs. Ditches proposed for pipes tail into McDonnell and Agnew Creeks.	3	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	conserve 0.8 cfs	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Puget Sound steelhead & Chinook, summer chum, Coho, fall chum, pink, bull trout	Feasibility completed, preliminary design completed	Final design, construction	\$500,000					2009	CCD & AID	\$500,000	\$75,000	SRFB
39	Restoration	Capital	McDonald Creek Diversion, Dam Removal and Ditch Lining	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. This project will discontinue using McDonald Creek to convey Agnew ditchwater and remove the possibility of attracting strays into McDonald Creek from the Dungeness.	3	low instream flows	WRIA 18 LFA	Instream habitat, Riparian	instream flow	conserve +/- 0.8 cfs	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Puget Sound steelhead & Chinook, summer chum, Coho, fall chum, pink, bull trout	Conceptual	Design & permitting	\$100,000		Construction	\$600,000	2011	JSKT, AID, WDFW & CCD	\$700,000	\$105,000	SRFB	
40	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.	3	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 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			2010	SWD	\$100,000	\$15,000	unknown
41	Restoration	Capital	Meadowbrook Creek	Restore 40 acres of estuary at Meadowbrook creek. Reconnect Meadowbrook to Dungeness system, Riparian planting along Meadowbrook (upstream)	2	Water quality, LWD, Lack of riparian habitat	Recovery Plan, Chapter 3	Estuary, Riparian	Fish Passage	250 ft of channel, approximately 40 acres floodplain habitat	Chinook	Coho, Winter Steelhead	Feasibility nearing completion, design on Dungeness Habitat property nearly complete	Permitting & Construction	\$150,000	Construction	\$100,000			2010	DU	\$330,000	\$80,000	NAWCA

No.	Project Type	Plan Category	Project Name	Project Information and How it Relates to the Recovery Plan									Project Planning							Project Cost and Sponsor						
				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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)		
42	Restoration	Capital	Highland Irrigation District H-10 Lateral Piping	H10 Lateral: This project will result in anticipated in-river water savings of 1.1 cfs and elimination of tailwater to Bell Creek.	2	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	conserve 1.1 cfs	PS Chinook	Puget Sound Chinook, Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Feasibility completed, preliminary design completed	Final design, construction	\$200,000						2009	CCD & HID	\$200,000	\$30,000	SRFB	
43	Acquisition for Protection	Capital	Sequim Prairie Tri Irrigation Association SP-5 Lateral Piping	SP-5 Lateral: This project will result in anticipated in-river water savings of 0.8 cfs.	2	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	conserve 0.8 cfs	PS Chinook	Puget Sound Chinook, Puget Sound steelhead, summer chum, Coho, fall chum, pink, bull trout	Feasibility completed, design completed	Final design, construction	\$450,000						2009	SPTIA & CCD	\$450,000	\$67,500	SRFB	
44	Acquisition for Protection	Capital	Jimmycomelately Riparian Protection	Purchase a ¼-mile length of riparian forest along Jimmycomelately (JCL) Creek (conservation easement or fee-simple).	2	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	
45	Acquisition for Protection	Capital	Washington Harbor Drift Cell Protection	Washington Harbor is a 154 acre estuarine embayment located adjacent to the entrance of Sequim Bay and is formed by two spits - Gibson and South. The spits will be permanently protected, along with the 1.85 miles of coastal feeder bluffs that support the spits. Protection will be accomplished using conservation easements and possibly property purchases.	1	1. Ecosystem links between upland and Nearshore habitats. 2. Reduced sediment input from feeder bluffs to Nearshore area. 3. Loss of riparian vegetation that provides shade to the upper beach.	WRIA 17 LFA, WRIA 18 LFA	Nearshore	Acquisition	1.85 miles of feeder bluff shoreline, 11,560 feet of spit shoreline, and 154 acres of estuarine habitat	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Bull trout, Puget Sound steelhead & Chinook	Conceptual				Design-only	\$130,000		Implementation	\$1,250,000	2013	NOSC & JSKT	\$1,380,000	\$207,000	SRFB, PSAR
46	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.	2	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	2011	NOLT & JSKT	\$1,020,000	\$153,000	SRFB
47	Restoration	Capital	Washington Harbor Tidal Flow Restoration Project	Restore unimpeded fish access & habitat forming processes	1	Ecosystem links between upland and Nearshore habitats. Shade minimizes desiccation of baitfish eggs that are laid in high intertidal gravels and sands. beach, resulting in loss of the shallow, Nearshore migration corridors for salmonids that provide protection from predation.	WRIA 18 LFA	Instream flow, Nearshore	Nearshore habitat, riparian, fish passage	33 ac of tidal exchange	Hood Canal/Eastern Strait of Juan de Fuca summer chum	Bull trout, Puget Sound steelhead & Chinook	30% Design				Final design & permitting	\$200,000		construction	\$750,000	2012	JSKT & COS	\$950,000	\$142,500	SRFB, PSAR
Hatchery																										
48	Hatchery	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	2	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
Harvest																										
Hydropower																										
Other																										
Total Capital Need																										
															\$10,057,500		\$28,664,400		\$26,852,200				\$87,339,100	\$14,490,000		
Non-Capital Programs																										
Harvest Management Support																										

No.	Project Type	Plan Category	Project Information and How it Relates to the Recovery Plan										Project Planning							Project Cost and Sponsor					
			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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)	
64	Harvest Management Support	Non-Capital	Dungeness Improved Fisheries Enforcement	Enforcement is under-staffed. Two additional officers are needed for effective enforcement of enclosures, and to ensure orderly fisheries.	2	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																									
50	Future Habitat Project Development	Non-Capital	Clallam County Inventory Culverts	Assess fish passage conditions for stream crossings on County roads	1	Improved fish passage	Recovery Plans & LFA	Instream Riparian	Fish Passage	Improved fish passage	All ESA Salmon species	All other salmon species	Conceptual			Planning & Design	\$50,000		Field data mapping & collection & data entry.	\$250,000	2012	CC	\$300,000	\$45,000	PSAR, SRFB
54	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	1	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 and Fall Chum, Upper and Lower Pink, Summer and 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	2011	NOLT, LEKT & CC	\$69,000	\$13,500	Makah & CC	
55	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).	2	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	
59	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.	2	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) ; 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	2011	NOPL & MRC	\$60,000	\$9,000	SRFB, PSAR	
63	Future Habitat Project Development	Non-Capital	Dungeness River Habitat Resurvey	Understand baseline habitat conditions, since the lower 10 miles of the river have been restored. Assess trends in habitat conditions, and identify areas of concern.	2	Baseline habitat monitoring is a basic need for understanding whether habitat conditions are degrading or improving.	Recovery Plans & LFA	Riparian	Understanding of the baseline conditions	Create a habitat map for the Dungeness River.	All ESA Salmon species	All other salmon species	Conceptual	Planning	\$50,000	Field study	\$100,000	Field study	\$100,000	On-going	JSKT	\$250,000	\$37,500	SRFB	
67	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.	1	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																									
49	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.	1	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	
52	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.	2	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	2011	CC	\$75,000	\$11,250	SRFB, PSAR	
53	Habitat Protection	Non-Capital	Clallam Watertype Inventory and Assessment	Correct and update the water type maps, which has many errors, and could result in under-protection of 40-60% of the fish-bearing streams, if not corrected.	1	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 contacts, fieldwork, data collection		\$120,000	Assessment, field work, data entry, interactive mapping	\$200,000	2011	WFC	\$370,000	\$75,000	SRFB, PSAR		
69	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	3	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	
70	Habitat Protection	Non-Capital	Assess implementation of CAO, SMP & HPA ordinance.	Ground truth survey to gauge effectiveness of regulations designed to protect habitat.	1	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		2010	NOPL, CC, COPA & COS	\$100,000	\$15,000	PSAR/Other		
71	Habitat Protection	Non-Capital	NOPL Area Wide Increase compliance with ordinances & codes	Help increase compliance through active enforcement & inspection at all stages of development.	2	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	
72	Habitat Protection	Non-Capital	NOPL area wide update stormwater management program	Support efforts by Clallam Co. & City of PA to reduce stormwater runoff.	2	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	

No.	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)	2009 Activity to be funded	2009 Estimated Cost	2010 Activity to be funded	2010 Estimated Cost	2011 Activity to be funded	2011 Estimated	Likely End Date	Likely Sponsor	Total Cost of Project	Local share or other funding	Source of funds (PSAR, SRFB, other)	
	Priority Projects and Programs Benefiting Non-Listed Species																								
	Total Non-Listed Species Need:																								