Narrative to the WRIA 10/12 3-Year Watershed Implementation Priorities Project List

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Introduction

This narrative is a complement to the attached spreadsheet that contains capital projects and programs that can be initiated in the next three years, if funding were to become available. The 2008 3-year watershed implementation priorities list was updated from the 2007 3-year list, with input from project sponsors and the Technical Advisory Group (TAG), and review and approval by the Citizens Advisory Committee (CAC) of the Pierce County Lead Entity (WRIAs 10 and 12).

The 2008 3-year project list contains 28 habitat capital projects and 3 hatchery capital projects for a total of 31 capital projects. In addition, there are 18 non-capital programs (e.g., monitoring, education/outreach, stewardship, etc.).

2008 Update Process

The update process for the 2008 project list consisted of the following steps:

1. Delete projects that were funded in the 8th (2007) round that are not asking for additional funding.
2. Delete projects that have received funding from other sources, are no longer feasible, or have been replaced by more specific projects.
3. Solicit new projects that meet the following criteria: (1) project can be completed or initiated in the next 3 years; (2) project fits the lead entity strategy; and (3) project has a ready sponsor.
4. Review and fill out new 3-year project template from the Puget Sound Partnership (PSP) with updated project and budget information.
5. The CAC discussed, reviewed and approved the 3-year project list at its March 27 and April 10 meetings.

6. Submit approved 3-year project list and narrative to the PSP by April 18.

Next Steps for Project Sponsors and the TAG

7. Solicit project write-ups from sponsors (according to template in Appendix A) so that TAG can evaluate projects and assign to tier 1 or 2, based on technical criteria from the WRIA 10/12 lead entity strategy. Complete tiering by June 2008.

There was discussion at two meetings in 2007 about potential *sequencing and timing* of projects. This was not revisited in 2008; the focus will be on tiering the projects based on technical criteria (see #7 above). In summary, the CAC and TAG agreed that current conditions in the watershed do not warrant sequencing at this time. The projects don't lend themselves to sequencing per some of the TRT recommendations. There are no concerns about projects doing irreversible harm to the population (e.g., by opening up new habitat when productivity is too low). Also, there is no clear biological sequencing that is apparent. In the end, it was decided that the focus should be more on *prioritization* instead of sequencing at this time.

The CAC and TAG felt it was reasonable to establish priority tiers for the projects based on the technical criteria in the strategy (see Chapter 8), including (1) benefit to salmon, (2) certainty of success, and (3) "fit to strategy." The TAG applied the criteria to the 7 habitat projects on the 2008 list that are tiered; more projects will be ranked by June 2008. There was a maximum score of 26 points (benefit = 10 pts; certainty = 6 pts; fit to strategy = 10 pts). The scores of all TAG members were averaged and there was a natural break in the scores above and below 20 points. Three of the 7 projects were given a Tier 1 rating and the remaining four were given a Tier 2 rating. The CAC and TAG agreed to accept this scoring and the establishment of two tiers. The remaining 24 projects will be scored when more information is available and site visits can be made. These projects are identified as "unrated" or "new" in the 2008 3-year project list.

Changes from 2007 3-Year Project List

As noted above, projects were removed from last year's list that are now funded (from SRFB, PSAR or other sources), are no longer feasible, or have been replaced by more detailed project requests.

Seven projects from 2007 were removed from the 2008 list: (1) three projects were removed due to partial or full funding in 2007 (Puyallup River setback at Fennel Creek, Greenwater River ELJs, White River (countyline) acquisition and setback); (2) three projects are not feasible or a lower priority at this time (White/Puyallup confluence acquisition and setback, Terille property acquisition, Pierce County eelgrass restoration); and (3) one general project was replaced by specific project additions (marine nearshore pocket area restoration).

Seven new projects were added to the 2008 list: (1) three specific projects from the WRIA 11/12 nearshore assessment, funded by the SRFB (Chambers Bay

estuarine and riparian restoration, Sequalitchew Creek beach and riparian enhancement, Pocket beach enhancement/nourishment pilot: Sequalitchew to Solo Point); (2) two specific projects from the levee setback feasibility study, funded by the SRFB (Puyllup River setback levee at South Fork and Union Pacific sites); and (3) two new projects (Boise Creek fish passage, Upper Puyallup River land acquisition).

Responses to TRT June 2007 Comments

The first four items below address the bulleted and bold list of comments from page 3 of the 2007 TRT comments. The remaining items address other issues of importance in the TRT comments.

1. The acquisition of riverine and estuarine floodplain corridors remain a high priority in WRIA 10/12. The levee setback feasibility study draft report was completed in April 2008 and two projects from that study are new to the list (South Fork site – RM 17.8-18.4, and Union Pacific site in the estuary – RM 2.6-3.0). In addition the Transcanada setback levee on the White River (RM 8.4-8.8) remains on the list. Two other levee setback projects were funded for design, acquisition, or construction in 2007 (White River county-line – RM 5.2-6.2 and Puyallup River at Fennel Creek – RM 15.2-15.8). These levee setback projects are multi-year, high-cost efforts, but we will continue to emphasize their importance in restoring riverine processes and recovering salmon populations.

2. Restoration of flows in the diversion reach of the Lower White River is a priority of the WRIA 10/12 lead entity strategy. Since 2004, summer flows have increased significantly in this reach, helping to connect floodplains and off-channel habitat. The Department of Ecology is expected to make a decision on required instream flows for this reach in summer 2008. It is hoped that August low flows of at least 500 cfs can be maintained.

3. The Muckleshoot and Puyallup Tribes continue to implement a White River spring Chinook population restoration strategy. Annual adult returns of hatchery, acclimation pond, and natural spring Chinook are increasing and have reached greater than 1000 adults. More detail of efforts by the Muckleshoot and Puyallup tribes, WDFW, and Pierce County relative to targets and results (for abundance and productivity) from H-integration and AHA modeling for the White River and Puyallup River Chinook populations are presented below.

4. A prioritized Puyallup estuary ecosystem restoration action plan has not been adopted. However, there are several Commencement Bay and Puyallup estuary projects on the 3-year project list, most notably a new project at the Union Pacific site (identified in both the tribal catalogue and the draft levee setback feasibility study).

Other key issues:

5. Screening of the Electron dam hydroelectric project – This project remains a high priority in our strategy and it is on the 3-year project list. We have had

difficulties moving forward with PSE on this project, but there is a possibility that the Habitat Conservation Plan now underway may offer another opportunity to highlight this project. This is a project where we could also use some assistance from the Puget Sound Partnership and the Services.

6. Adoption of population recovery targets and H-integration – As noted above, work is ongoing with the tribes and WDFW on H-integration and the establishment of long-term goals (population targets). More detail is provided in the section below on H-integration priorities.

7. Estuary restoration – There are no explicit actions in the 3-year work plan to develop an estuary restoration action plan. There are, however, numerous projects in the estuary and marine nearshore focused on restoration of the Puyallup and Hylebos estuaries and Commencement Bay.

8. River floodplain restoration and the levee setback feasibility study – The draft levee setback feasibility was recently completed (April 2008). It contains an evaluation of 32 levee setback sites on the Puyallup, White and Carbon rivers. This will be used to prioritize potential future levee setback projects, based on three goals: (1) increasing floodplain connectivity and flood storage, (2) reestablishing short- and long-term geomorphic processes and function, and (3) maximizing aquatic habitat diversity and use. Two new projects on the 2008 3-year project list came from this study.

9. Adaptive management framework – We have not focused a lot of effort on this topic at the watershed level, in part because of an interest in nesting within the regional framework being developed by the Puget Sound Partnership. Once the regional framework is established and approved, we expect to develop watershed specific recommendations on monitoring and adaptive management.

10. Missing Components – To summarize from above, there are three components that are lacking in our work plan based on feedback from the TRT: (1) development of an estuary action plan, (2) a monitoring and adaptive management program, and (3) an approach for sequencing and timing of actions. We do not have a plan or one underway for the estuary as a whole. Instead, we have select projects that address site-specific estuary restoration activities. We expect to develop a monitoring and adaptive management approach, after approval of an approach at the regional Puget Sound level. Finally, sequencing of actions is planned in the form of project tiering, based on technical rankings. If a model approach to sequencing is made available, we are supportive of working with the new Regional Implementation Technical Team (RITT) to do this work.

Recovery Plan Overview and Watershed Priority Summary

The habitat protection and restoration plan submitted by Pierce County and the Co-Managers shows a good understanding of the actions needed to reduce the risk of extinction of Puyallup River Fall Chinook and White River Spring Chinook. The White River Spring Chinook is the only remaining early-run

population in the South/Central geographic region and should achieve low risk status over time to meet ESU recovery goals. The Puyallup River Fall Chinook population should improve from its current high risk status to meet the ESU recovery criteria.

The habitat component of the recovery plan is based on Ecosystem Diagnosis and Treatment (EDT) modeling. However, EDT is not the sole source of information we used to develop the plan. We relied upon information from the WRIA 10 and WRIA 12 limiting factors reports, the 1996 White River Spring Chinook Recovery Plan, TMDL reports for the White River, Puyallup River, and South Prairie Creek, Pierce County basin plans for various sub-watersheds, Pierce Conservation District culvert inventories, Puyallup Tribal fisheries reports, and numerous other studies. We incorporated information from these reports, along with the best professional judgment of scientists familiar with the watershed, into the EDT database. By doing so, we think we have produced a more holistic view of the watersheds, and have produced quantitative estimates of the Viable Salmonid Population (VSP) parameters of productivity, capacity, and life history diversity. A partial list of local watershed references used for developing the EDT analysis is provided at the end of the narrative.

Puyallup River Priorities

EDT modeling was used to provide estimates of VSP parameters for Puyallup River Fall Chinook. The results of our modeling show that productivity for Puyallup River Fall Chinook is 1.3 recruits per spawner, a capacity of about 4100 adults, and an average equilibrium abundance of about 1300 adults. The EDT Life History Diversity Index (DI) is reduced to 30% of the historical potential. If South Prairie Creek, the most productive tributary of the Puyallup River, is excluded from the analysis, the productivity of the mainstem is reduced to about 0.8 recruits per spawner and a capacity of about 3100. Clearly, South Prairie Creek maintains the productivity of Chinook in the system above replacement level, so protection of habitat in South Prairie Creek is a high priority strategy for the Puyallup watershed.

In addition, increasing productivity in the rest of the Puyallup system is also a high priority strategy. The EDT modeling indicates that the major causes of low productivity and capacity in the Puyallup system are the reduction of channel stability, habitat diversity (e.g., pools and off-channel rearing habitat), and key habitat quantity in the mainstem Puyallup and Carbon Rivers from the City of Orting downstream to the estuary. The Chinook life stages that are most greatly affected are pre-spawning adults, incubating eggs, and emergent fry. The primary environmental attributes that degrade channel stability, habitat diversity, and key habitat quantity for those life stages include increases in the channel gradient due to channel straightening, loss of off-channel habitat, loss of riparian habitat quality, and loss of large woody debris (LWD). These habitat degradations are all associated with levees and other hydromodifications that have reduced the river's access to its floodplain. Pierce County has adopted a strategy of levee setback projects and oxbow reconnections in the Puyallup and

Carbon Rivers to reconnect the floodplain and allow channel sinuosity and reduction of channel gradient, the creation of off-channel habitat, and improved large woody debris recruitment.

EDT scenario modeling corroborates our understanding of the benefits of levee setback projects. The type of actions, taken as a group, that produced the greatest increases in abundance for both Chinook and coho was levee setbacks. The same group produced the greatest increase in productivity for chinook.

Puyallup estuary, Commencement Bay, and marine nearshore habitat improvements will likely have a high benefit for Chinook. The EDT scenario modeling showed estuarine actions (as a group) produced the second highest increase in abundance for Chinook after levee setback projects (as a group).

Improving the diversion screens associated with the Electron Dam is also a high priority action for Puyallup River Fall Chinook. The mortality of smolts at the diversion screens is as much as 40% or higher. The EDT scenario modeling showed that improvement of the Electron Dam diversion screen was the top ranked action for Chinook population performance and second ranking action for combined Chinook and Coho population performance.

White River Priorities

EDT modeling was used to provide estimates of VSP parameters for White River Spring Chinook. The results of our modeling show that productivity for White River Spring Chinook is 1.4 recruits per spawner, a capacity of about 2600 adults, and an average equilibrium abundance of about 700 adults. The EDT Life History DI is reduced to 40% of the historical potential. The tributaries with the highest productivity include Boise Creek, Clearwater Creek, Greenwater River, Huckleberry Creek, and West Fork White River.

The EDT modeling indicates that the major causes of low productivity and capacity in the White River system are the flow modifications, reduction of channel stability, habitat diversity, and key habitat quantity in the mainstem White River from Mud Mountain Dam downstream to the estuary. A high sediment load is also a concern in Clearwater Creek and Greenwater River. The Chinook life stages that are most greatly affected are pre-spawning adults, incubating eggs, and emergent fry. The primary environmental attributes that degrade channel stability, habitat diversity, and key habitat quantity for those life stages include increases in the channel gradient due to channel straightening, loss of off-channel habitat, loss of riparian habitat quality, and loss of large woody debris. Flow modifications are related to the management of Mud Mountain Dam and the Puget Sound Energy (PSE) diversion of flow to Lake Tapps.

EDT scenario modeling of actions downstream of Mud Mountain Dam indicated that changes in flow management at Mud Mountain Dam and at the PSE diversion to simulate a more natural flow regime would be highly effective in

restoring productivity, abundance, and life history diversity. In addition, mainstem levee setback projects, estuary restoration projects, and Boise Creek riparian revegetation and LWD placement projects would provide substantial improvement in all VSP parameters. Modeled actions upstream of Mud Mountain Dam that showed high benefit to Chinook populations include projects on the Greenwater River and Huckleberry Creek that increase LWD, improve riparian conditions, and address sediment supply sources.

In addition to Chinook benefits, these scenarios showed substantial benefits to coho. Bull Trout and Steelhead were not included in our EDT modeling efforts; however, it is likely that these species would also benefit significantly from these actions.

Chambers-Clover Creek Priorities

The EDT analysis suggests that Chambers/Clover was, and still is, a highly productive watershed for coho. Historical production potential exceeded 12,000 with a productivity of about 36 recruits per spawner, the highest coho productivity of the four watersheds analyzed (Chambers-Clover, Puyallup, White, and Hylebos). Currently, the system supports about 700 adults with a productivity of about 7.8 recruits per spawner. High natural productivity of this system is related to the abundance of groundwater and the number of lakes and ponds able to be used by juvenile coho. However, life history DI has been reduced to 40% of historical levels. Top priorities for restoring environmental factors are habitat diversity and flow conditions in Steilacoom Lake, lower Clover Creek, and the Chambers Creek mainstem (among other reaches). Loss of habitat quantity has been severe in some areas related to flow changes. Furthermore, barriers to fish migration, either for adults or juveniles, exist in several areas. The most significant barriers include Shera's falls on Clover Creek, Breseman Forest dam on Spanaway Creek, and the dam at Morey Creek pond.

Questions exist about whether the Chambers-Clover Creek system historically supported Chinook due to its small size and not being directly associated with a large mainstem river. Based solely on EDT modeling results, VSP parameter values suggest that Chinook might have used the lower portions of the stream historically with a population abundance of over 2000 adults. Furthermore, modeling results indicate that under current conditions it may be able to support a small population of about 350 with a productivity of about 6.3 recruits per spawner. Currently, both marked and unmarked Chinook are trapped in Chambers Bay for use at the Garrison Springs Hatchery facility, and there are no plans to begin allowing Chinook passage above the trap. Other salmonid species are allowed above the Chambers Bay dam, including coho, chum, and steelhead. The top areas with both restoration and protection benefit for Chinook are mainstem Chambers Creek and Chambers Bay. The top ranked factor for restoration is habitat diversity, which relates to low levels of LWD and low riparian quality in some areas.

H-Integration Priorities

In addition to the role of habitat actions in salmon recovery, the EDT modeling results provided us insight into the role of hatcheries in the WRIA 10 system. First, the overall performance of Chinook in the Puyallup-White system appears to be exceptionally poor. It is likely that hatchery production in the system tends to produce an impression that Chinook performance is better than it actually is due to straying and the natural production that comes from those strays. It has become increasingly evident in recent years that significant straying is occurring within the system by hatchery fish. In the upper White River, supplementation with hatchery fish could be interpreted to mean that the runs back to that area are relatively healthy. Second, for the foreseeable future hatchery production should continue to be given a role in the Puyallup-White basin. This is vitally important in the White River system using supplementation fish from the White River hatchery. On the Puyallup River, it appears that hatchery production will also be important to help maintain natural production until more progress is made in habitat restoration. However, hatchery practices will need to be reformed to more directly address how hatchery fish can be used to effectively supplement natural production in this area. And finally, the results demonstrate that use of habitat measures alone, even conducted on a very extensive scale, is unlikely to achieve desired fish production levels in this basin in the near term.

In their critique of the draft Puyallup-White chapter, the TRT identified three primary concerns with the Puyallup-White Chinook Recovery Chapter.

- Failure to identify and adopt recovery goals. (The TRT identified planning targets for the Puyallup, but not for the White).
- Failure to integrate habitat, hatchery, and harvest management.
- Failure to develop an adaptive management plan.

An important element of Chinook recovery in the Puget Sound is the alignment and integration of recovery goals and actions in the management of hatchery, harvest, and habitat restoration programs. To better integrate the H's in the Puyallup/White watershed we have chosen to use the All H Analyzer (AHA) model, which allows managers to explore the implications of alternative ways of balancing the "H's" so that informed decisions can be made. The AHA model input data includes fish productivity, habitat capacity, harvest rate, hatchery brood stock information, and hatchery release numbers. By changing various parameters in different ways, managers are able to create scenarios that examine the interactive effects of hatchery, harvest, and habitat practices on salmon populations.

Puyallup River Fall Chinook: Participants in the H-Integration efforts include the Puyallup Tribe of Indians, WDFW, and Pierce County. So far, we have examined multiple H-integration scenarios using the AHA model. In addition, we have identified potential near-term goals and actions. Future work will include reaching agreements on both near-term and long-term goals and

actions, and assigning responsible parties for the actions. We will also document our assumptions, AHA model results, goals, actions, and presumed outcomes.

A brief description of the AHA modeling results for Puyallup River Fall Chinook is provided below:

- *Current Conditions:*
  - Habitat:
    - Productivity = 1.39
    - Capacity = 4,075
  - Harvest:
    - 50% harvest rate on Hatchery Origin Recruits (HORs)
    - 50% harvest rate on Natural Origin Recruits (NORs)
  - Hatchery:
    - 1110 adult local brood stock
    - 70% of HORs return to hatchery and 30% return to spawning grounds
    - Hatchery brood stock is approximately 4% NORs
    - Hatchery origin spawners is approximately 87%
- *Near-term goals:*
  - Habitat:
    - Productivity = 2.6
    - Capacity = 10,000
  - Harvest:
    - 35% harvest rate on NORs
    - 70% harvest rate on HORs
  - Hatchery:
    - 1470 adult local brood stock
    - 70% of HORs return to hatchery and 30% return to spawning grounds
    - Hatchery brood stock is approximately 20% NORs
    - Hatchery origin spawners is approximately 55%
- *Near-term actions:*
  - Habitat:
    - Conduct habitat improvements to achieve a habitat productivity of 2.6 and capacity of 10,000. Habitat improvements include levee setback projects on the middle and lower Puyallup River, estuary restoration, and protection and restoration of South Prairie Creek and the upper Puyallup River. In addition, fish passage improvements at the Electron Dam would be especially beneficial.
  - Harvest:
    - Implement a selective harvest in the Puyallup River and Commencement Bay to achieve a harvest rate of 35% on NORs and 75% on HORs.
  - Hatchery:
    - Construct fish racks on Voights Creek and South Prairie Creek to allow sorting and separating of HORs and NORs in those tributaries.
    - Limit the number of HORs above the Voights Creek Hatchery and South Prairie Creek to achieve the 55% hatchery origin spawners.

- Use adipose-present fish (presumptive NORs) at the Voights Creek Hatchery to achieve the goal of 20% natural-origin brood stock.

As different scenarios were analyzed, it became clear that the currently low natural productivity of the Puyallup system limited near-term recovery options. It was not until productivity was above about 3.0 that the number of NORs increased to the point that the Proportion of Natural Influence (PNI) was above 0.5. The PNI is a function of the proportion of natural spawners that are of hatchery origin (pHOS); as pHOS decreases, PNI increases. Presumably, when the PNI is above 0.5, then natural selection has a greater effect on the population than does domestication of the hatchery environment.

White River Spring Chinook: The H-integration effort for White River Spring Chinook is still in a preliminary stage. Participants have included the Puyallup Tribe of Indians, the Muckleshoot Indian Tribe, WDFW, and Pierce County. Early AHA scenario modeling has shown that, similar to the Puyallup system, the currently low natural productivity of the White River has drastically reduced the number of NORs, and limited near-term recovery options. It is likely that additional scenario modeling will show that actions to increase habitat productivity are critical to achieving a population with a PNI above 0.5. As yet, no near-term or long-term goals or actions have been identified. Future work will include reaching agreements on both near-term and long-term goals and actions, documenting our assumptions and results, and assigning responsible parties for completing identified actions.

A brief description of the AHA modeling results for White River Spring Chinook is provided below:

- *Current Conditions:*
  - Habitat:
    - Productivity = 1.4
    - Capacity = 2600
  - Harvest:
    - 20% harvest rate on Hatchery Origin Recruits (HORs)
    - 20% harvest rate on Natural Origin Recruits (NORs)
  - Hatchery:
    - About 300 adult local brood stock and 500 imported brood stock, (adjusted to achieve a release of about 1,200,000 smolts). Hatchery brood stock is approximately 2% NORs
    - 65% of HORs return to hatchery and 35% return to spawning grounds.
    - Hatchery origin spawners is approximately 62%
  - Population Composition
    - NOR Escapement of about 561, Hatchery origin Spawners (HoS) of about 1137, and a Total Escapement of about 1698.
    - A total harvest of about 582.
    - Hatchery broodstock of about 817, and a hatchery surplus of 331.
    - An average total runsize of about 2912.

- The Proportion of Natural Influence (PNI) is 0.03, indicating that selection in the hatchery is greater than selection in the natural environment.

The H-integration effort for White River Spring Chinook is still in a preliminary stage and no near-term goals or actions have been identified. Early AHA scenario modeling has shown that, similar to the Puyallup system, the currently low natural productivity of the White River has drastically reduced the number of NORs, and limited near-term recovery options. It is likely that additional scenario modeling will show that actions to increase habitat productivity are critical to achieving a population with a PNI above 0.5.

Narrative for Suites of Actions

The previous summary of watershed strategy and recovery priorities provides the context for the list of actions included in the attached spreadsheet, *Three-Year Watershed Implementation Priorities for WRIAs 10 and 12*. The projects have been grouped into suites of actions that address specific recovery priorities. Appendix A contains one example of project write-ups that were completed for the seven tiered projects. Similar write-ups will be completed in the next two months for most of the other projects on the 3-year project list.

Floodplain reconnection, levee setback, and riparian habitat improvements:

- Puyallup River Setback Levee at South Fork (RM 17.8-18.4))
- Calistoga Oxbow Culvert Replacement
- White River land acquisition – protection (PSE property near Buckley)
- TransCanada setback levee (White River – RM 8.4-8.8)
- East Hylebos Ravine Habitat Restoration
- West Hylebos acquisition
- Upper Puyallup River land acquisition

Estuary, Commencement Bay, and Nearshore restoration:

- Titlow Beach Pocket Estuary Restoration
- Puyallup River acquisition and setback levee (Union Pacific, RM 2.6-3.0)
- Chambers Bay estuarine and nearshore restoration
- Sequalitchew Creek beach and riparian enhancement
- Pocket beach enhancement/nourishment pilot: Sequalitchew to Solo Point
- Commencement Bay - Puget Creek Estuary Restoration
- Marine View Drive acquisition and nearshore restoration
- Hylebos Creek nearshore restoration
- Nearshore restoration (Hylebos estuary/mouth)
- Olympic View Resource Area (OVRA) Triangle - Commencement Bay
- Hylebos estuary (Hauff property) restoration
- Swan Creek restoration
- CHB – pollution hotline
- CHB - Bay Watcher

Protection and restoration of South Prairie Creek:

- South Prairie Creek/South Silver Springs Tributary Restoration - RM 3.7
- South Prairie Creek Acquisition (RM 0-8)

Protection and restoration of Boise Creek:

- Boise Creek Golf Course segment restoration
- Boise Creek fish passage project

Sediment load, LWD, and riparian condition in Upper White River tributaries:

- Upper White - Greenwater/Huckleberry Creek - road decommission
- White River Watershed Stewardship Program

Electron Dam diversion screen improvements:

- Installation of fish screens at Electron Dam Diversion

Chambers-Clover Creek barrier removal and restoration:

- Morey Pond (McChord Air Force Base) Fish Passage Improvements
- Puget Creek rearing pond
- Sequalitchew Creek Diversion and streamflow restoration

Programmatic habitat restoration and protection actions:

- Shoreline Program updates
- Greenwater LWD study
- Update regional Culvert Study
- Develop nearshore projects
- Technical Support to other jurisdictions
- Public Outreach/Communications - on specifics
- Create outreach function targeted at salmon recovery
- Create South Puget Sound regional organization

H-Integration and Adaptive Management:

- Smolt trapping – Puyallup River
- Smolt trapping - White River
- Smolt trapping – South Prairie Creek
- Smolt trapping – Chambers Creek
- Fish tagging for Chinook tracking
- Mud Mountain Dam mortality study
- Voights Creek Hatchery - Upgrade clarifier/abatement ponds
- Voights Creek Hatchery adult facilities
- Chambers Creek Adult Trap and Juvenile Acclimation Facility Improvements

Monitoring:

- Develop nearshore effectiveness monitoring plan

Partial List of References Specific to Pierce County Watersheds Used in Developing the Habitat Recovery Strategy

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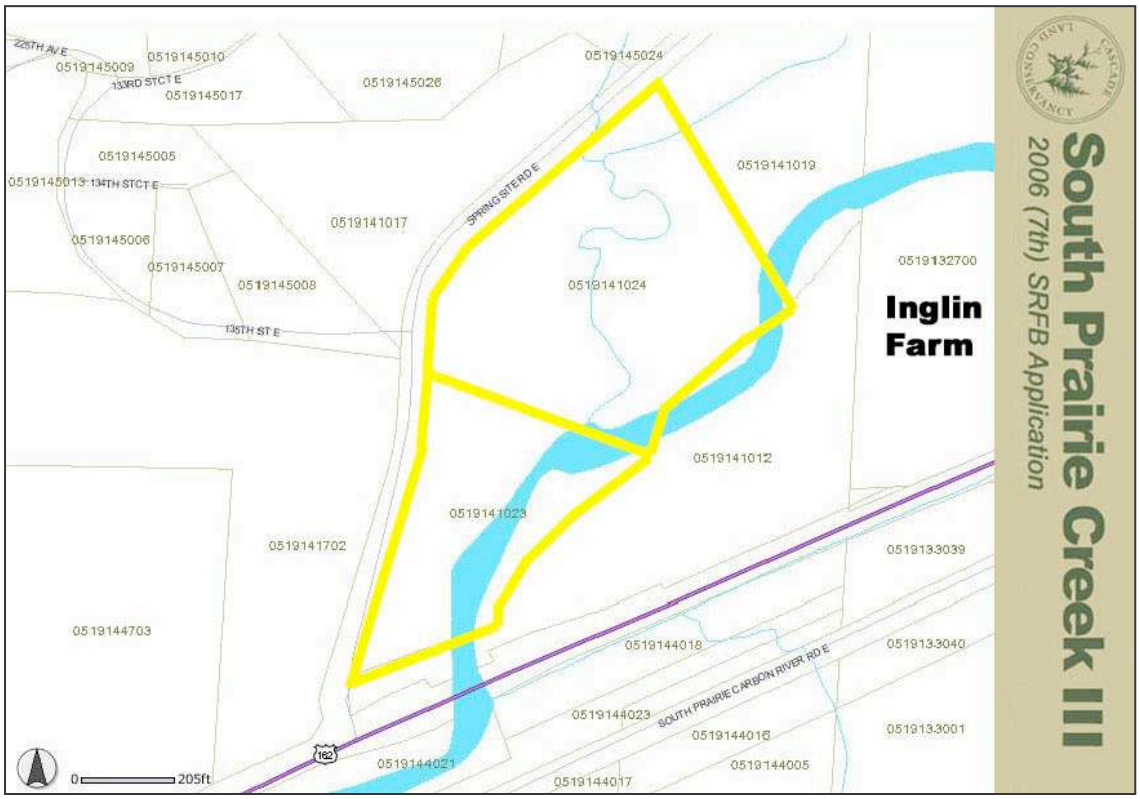
Appendix A

Example Project Write-up for Evaluation and Ranking

Action or Project Name (note: this may be a suite of actions)**:**	**South Prairie Creek and South Silver Springs Tributary Restoration – RM 3.7**
Tracking Number (EDT #, Basin Plan #, etc.)	**Action ID:** P-51 (from Phase 2 EDT Report) – Lower South Prairie Creek Stream Corridor Acquisition and Restoration
Basin (Puyallup, White, Hylebos, Chambers):	**Targeted geographic area:** Puyallup River Watershed **Targeted stream(s):** South Prairie Creek and tributary
Sponsor/Applicant:	Pierce County Water Programs
Contact Name and Information	Tom Nelson, 253-798-4672
Description of action(s) (provide general description – identify how action is intended to address the issue):	This project involves restoration of a 12.85-acre site along the mainstem of South Prairie Creek at RM 3.7, including an important cold-water tributary that flows through the site. The project includes removal of fill and a weir, control of invasive vegetation, placement of LWD and revegetation of the site. The project would benefit juvenile salmonids in terms of enhanced rearing habitat, high-flow refuge, and improved connectivity between the tributary and mainstem creek.
Issue (describe nature of problem; also list specific survival factors involved if possible):	The site has been in agricultural use for decades and is degraded from cattle and other livestock keeping and grazing, placement of a berm, weir and culvert for water storage, and loss of vegetation. Rearing habitat is degraded and connectivity with floodplain and tributary is compromised.
Project Goals & Objectives	The project goals and objectives are as follows: (1) reconnect floodplain and off-channel habitat with the creek and a key cool-water tributary (2) restore/enhance salmonid spawning and rearing habitat by adding large woody debris and enhancing off-channel habitats (3) restore riparian conditions (and vegetation) and control invasive plants along the river and floodplain
Known or likely cause of problem (source of problem):	Conversion of the property to agricultural uses impacted flow, juvenile migration, and riparian habitat conditions. Removal of fill, structures (weir, culvert) and revegetation will help restore habitat conditions.
Strategy for amelioration or correction (describe or define the overall strategy for correcting problem):	Removal of an earthen berm (fill), weir, and culvert; and installation of large woody debris and revegetation will improve currently degraded habitat conditions. This will improve connectivity and enhance off-channel rearing habitat.
Areas or sites for implementation (where the action will be implemented):	South Prairie Creek at RM 3.7, including cool-water tributary.
Benefit to Salmon (Briefly explain the benefit to salmon in the context of the Lead Entity strategy, including priority stocks and strategic priorities, see Figure 1):	South Prairie Creek, the primary tributary to the Carbon River, is the most important salmonid spawning area in the Puyallup watershed and is identified as a high priority in the Salmon Habitat Protection and Restoration Strategy for WRIAs 10 and 12. The Pierce County EDT Watershed Assessment ranks "Lower South Prairie Creek" (the location of this site) as follows: Chinook protection and restoration benefits

	(rank A and B, respectively), coho protection and restoration benefits (both ranked A). The EDT analysis states that the "South Prairie Creek subpopulation (of chinook salmon) was estimated to have the highest remaining productivity in the [Puyallup] basin."	
Certainty of Success. (Briefly explain the certainty of success in terms of willing landowners, permitting, feasibility, etc.):	Pierce County is currently seeking to acquire the 13 acre site as part of a 6th round SRFB grant. A site restoration design is also in the beginning stages and is expected to be completed in 2007. Restoration of this site could occur during 2008.	
Fit to Strategy	The WRIA 10/12 Lead Entity strategy for Salmon Habitat Protection and Restoration (2005) identifies floodplain reconnection, LWD placement, and channel stability as the priority for South Prairie Creek (Figure 1, p. 14).	
Sequencing/Timing Issues	.	
Has a similar or identical action been formally proposed (identify action name and agency submitting if known):	• 6th round SRFB grant for acquisition ($397,000) • 2006 Community Salmon Fund grant for site restoration design • 3-year Project List of Chinook Recovery Actions (2006)	
Technical feasibility (circle one): Methods well known – very feasible Methods partly known – some uncertainty Methods experimental – high uncertainty	Certainty of outcome (block one): Certain of achieving all aspects of goal Uncertain of achieving some aspects of goal Uncertain of achieving all aspects of goal	Community support (circle one): Broad support – well accepted Uncertain support – acceptance unknown Broad support unlikely – known conflicts
Approximate project cost: $450,000 for debris removal and site restoration	Describe nature of uncertainty: Acquisition still being finalized; full extent of restoration need not yet known, but natural site hydrology makes this an ideal site for restoration.	Proposed project partners: Pierce County Pierce Conservation District

Map/Figure/Schematic (including location map and photos, if appropriate)



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South Prairie Creek III
2006 (7th) SRFB Application
CASCADE LAND CONSERVANCY

Pierce County Lead Entity (WRIA 10/12) 2008 three-year Watershed Implementation Priorities Template — **04/18/08**

Puyallup/White River and Chambers/Clover Creek Watersheds

Project Name	Priority tier of project	Project Description	Likely Sponsor	Total Cost of first three years	Local share or other funding	Proposed SRFB (or grant) share	Source of funds	Limiting Factors	Habitat Type	Activity Type	Primary Species Benefiting	Secondary Species Benefiting	2009 Year 1 Scope	2009 Year 1 Cost	2010 Year 2 Scope	2010 Year 2 Cost	2011 Year 3 Scope	2011 Year 3 Cost	Likely End Date
Capital Projects																			
Habitat																			
Restoration																			
South Prairie Creek and South Silver Springs Tributary Restoration - RM 3.7	1	Restore 12.85-acre site, including a groundwater-fed wall based channel, mainstem South Prairie Creek, and riparian habitat to enhance spawning and rearing habitat	Pierce County Water Programs	$350,000	$275,000	$75,000	Pierce County SWM	1, 3, 5, 7	Instream, riparian, upland, wetland	Instream wetland, riparian, water quality improvement	coho	Chinook, steelhead, bull trout, chum, pink, cutthroat	Final design, permitting	$30,000	Construction	$320,000			2010
Installation of fish screens at Electron Dam Diversion	1	Install inclined floor screen structure on flume at the Electron Dam diversion to reduce juvenile mortality during outmigration	SPSSEG, Puyallup Tribe, PS Energy	$6,000,000	$5,000,000	$1,000,000	SPSSEG, Puyallup Tribe, PS Energy	7	Instream	Fish passage, fish screen	Chinook	Steelhead, bull trout, coho, pink, cutthroat	Conceptual design, scoping	$100,000	Design, permitting	$250,000	Construction	$5,650,000	2011
Calistoga Oxbow Culvert Replacement	2	Replace an undersized and damaged culvert along the Puyallup River (RM 18) and Calistoga Bridge near Orting to increase backwater rearing habitat and reconnect historic oxbows to the main river	Pierce County, Puyallup Tribe	$506,000	$66,000	$440,000	Pierce County, Puyallup Tribe	3, 7	instream, riparian, wetland	Fish passage, riparian, water quality	Chinook		Scoping	$10,000	Design	$70,000	Permitting, Construction	$416,000	2010
Titlow Beach Pocket Estuary Restoration	2	Replace culvert/tidegate through BNSF railroad to improve connectivity and fish passage between Titlow lagoon and Puget Sound, beach cleanup/ enhancement	SPSSEG, Metro Parks Tacoma	$700,000	$100,000	$400,000	SPSSEG, Metro Parks Tacoma, BNSF	2, 7	Nearshore embayment	Nearshore restoration	Chinook	coho, pink	Conceptual design	$50,000	Design, permitting	$75,000	Construction	$575,000	2010
Morey Pond (McChord Air Force Base) Fish Passage Improvements	2	Construct fish bypass around Morey Creek Pond dam at confluence with Clover Creek to facilitate fish passage upstream	Pierce County Water Programs, McChord AFB	$300,000	$220,000	$80,000	Pierce County, McChord	7	instream, riparian, wetland	Fish passage, riparian, water quality	Coho, cuthroat	chum, steelhead	Conceptual design	$10,000	Design, permitting	$40,000	Construction	$250,000	2010
Commencement Bay - Puget Creek Estuary Restoration	2	Remove contaminated sediment, sediment replacement, softening of rip-rap shoreline with gravel/cobble mix, restore eelgrass beds, restore sand lance spawning	Pierce County, WDNR, PCRS	$1,450,000	$150,000	$1,300,000	WDNR	2	Nearshore beaches	Nearshore restoration	Chinook	Chum, pink, coho	Remedial Investigation/ Feasibility Study	$ 150,000	Design, permitting	$ 75,000	Construction	$ 1,225,000	2013
Puget Creek Rearing Pond	Unrated	Off-channel pond for rearing of juveniles & adult aclimatization. Just before stream goes into underground fish ladder-this area has some salt water intrusion at high tide.	Puget Creek Restoration Society	$80,000	$20,000	$60,000	City of Tacoma, PCRS other grants, in-kind	2	instream	Instream wetland, riparian	Coho		Design, Permitting	$9,000	Construction	$71,000	Monitoring & maintenance	$2,000	2013 monitoring
Hylebos Creek Nearshore Restoration	Unrated	NRDA alernative site. Mitigation - Construction of 2 acre restoration area. Located on the Hylebos Creek - tidal influence	Port of Tacoma/ Tacoma	$1,000,000		N/A		2	Nearshore embayment	Riparian, instream wetland	Chinook	coho	Construction	$1,000,000	Monitoring	$5,000	Monitoring	$5,000	2013
Restoration - Hylebos Mouth	Unrated	Restoration of property owned by WSDOT. Revegetation of tidal mud flats to encourage development of marsh habitat	Friends of the Hylebos	$100,000	$25,000	$75,000	Currently seeking funds	2	Nearshore embayment	Revegetation	Chinook	coho	Design, permitting, Acquisition, construction	$90,000	Monitoring, maintenance	$5,000	Monitoring, maintenance	$5,000	2008 - construction 2010 - maintenance
Hauff Property restoration	Unrated	Off-channel habitat, evaluation of site conditions, clean up site of, revegetation - Priority area in the estuary. Mouth of Hylebos Creek	Friends of the Hylebos	$3,500,000	$2,000,000	$1,500,000	NRDA	2	Nearshore embayment	off-channel habitat creation, revegetation,	Chinook	coho	Scoping, design, permitting	$250,000	Construction	$2,725,000	Post-construction monitoring	$25,000	2014 - monitoring
Olympic View Triangle - Commencement Bay	Unrated	Tip of Foss and Middle waterways - salt marsh habitat - currently upland on DNR property- Eelgrass on bay side - Tim Goodman	WDNR	$900,000	$250,000 DNR, $40,000 Ecology; $500,000 NRDA		$500,000- NRDA, $19,500- Coastal Protection Fund	2	Nearshore embayment				Monitoring (Construction Completion in 2007)	$40,000	Monitoring, maintenance	$20,000	Monitoring, maintenance	$40,000	Construction Complete 2007
East Hylebos Ravine Habitat Restoration	Unrated	Extends the habitat restoration actions just north of the West Milton Nature Preserve (located on the east fork). Stream bank stabilization in the most productive area on the East Fork of the Hylebos.	Friends of the Hylebos	$750,000	$250,000	$500,000	Currently seeking funds	1,3	Instream, riparian, upland	Upland-wetland, sediment reduction	Chinook	coho	Scoping, design, permitting	50,000	Construction	685,000	Monitoring, maintenance	15,000	2014 - Monitoring
Swan Creek restoration channel geometry at Pioneer Way	Unrated	High potential for restoration according to modelling by EDT - Sediment detention pond upstream.	Unknown	$400,000	$60,000	$340,000	Unknown	1,3	Instream, riparian	Instream wetland, riparian	Coho	Chum			Design and Permitting	$ 50,000	Construction	$ 350,000	2010
TransCanada setback levee	Unrated	Levee setback and levee modification - Modify existing breaches and remove portions of levee on King County owned property to improve potential for overbank flow into existing side-channels	King County	$1,575,000	$1,175,000	$400,000	King County	1,3	Instream, riparian, wetland, upland	Instream wetland, riparian	Chinook	Steelhead, bull trout, coho, pink, cutthroat	Feasibility, Scoping, design	$200,000	Property acquisition, design, and permitting	$375,000	Construction, monitoring and maintenance	$1,000,000	2010
Upper White - Greenwater River/ Huckleberry Creek/West Fork White River	Unrated	Road decommissioning in floodplains (decommission roads can include full slope recontouring, outsloping, drainage structure removal, water-barring, road-bed ripping, revegetation, etc.) $20K/mile - as much as 100 miles. Access and travel management plan.	USFS, SPSSEG, Puyallup Tribe	$1,500,000	$225,000	$1,275,000	USFS/other grants	1,3	Riparian, wetland, upland	Instream wetland, riparian	Chinook, bull trout, steelhead	Coho, pink, cutthroat	Feasibility, NEPA	$100,000	Design - Phase 1	$100,000	Implement Phase 1, begin design Phase 2	$1,300,000	2015
Sequalitchew Creek Diversion and Streamflow Restoration	Unrated	Re-route the Fort Lewis water treatment diversion and refit flood control structures to return flows to Sequalitchew Creek	SPSSEG	$400,000	$200,000	$200,000	Fort Lewis	1, 3, 5, 6	Instream, riparian	Instream flow			Work with Fort Lewis to design retrofits to water treatment	$50,000	Design and permit	$50,000	Construct and Revegetation restored stream channel	$300,000	2010
Boise Creek Golf Course Segment Restoration	Unrated	Relocate/restore channel to historical course against south hillside.	PTF, PRP, King County, Enumclaw	$2,200,000	$330,000	$1,870,000	To Be Determined	1, 3, 5	Instream, riparian,	Instream, riparian	Chinook and Steelhead	coho, pink, chum, cutthroat	Survey, Design, Engineer	$150,000	Construction	$2,050,000			2010

Puyallup River Setback Levee at South Fork (RM 17.8-18.4)	New	Remove existing levee/construct setback levee along 0.6 miles of Puyallup River (left bank) to reconnect 45 floodplain acres, establishing natural riverine processes.	Pierce County Water Programs	$4,700,000	$3,130,000	$1,570,000	Pierce County SWM fee	1,3	Instream, riparian, upland, wetland	Instream wetland, riparian	Chinook	Steelhead, bull trout, coho, pink, cutthroat	Design, permitting	Costs covered by 2007 PSAR; local match	Permitting, Final Plans, Funding	$200,000	Construction	$4,500,000	2011				
Boise Creek fish passage project (above golf course) Design	New	Create fish passage project at the cascades above the golf course on Boise Creek.	King County, Puyallup Tribe	$550,000	$100,000	$450,000	To Be Determined	7	fish passage	fish passage	Chinook and Steelhead	coho, pink, chum, cutthroat trout	Feasibility, Scoping, and permit ready design	$100,000	Permitting and Construction	$450,000			2010				
Chambers Bay Estuarine and Riparian Enhancement	New	Enhance estuarine habitat structure within Chambers Bay. Restore marine riparian corridor in and around Chambers Bay.	SPSSEG	$360,000	$25,000	$306,000	SPSSEG	2	Nearshore embayment, Nearshore beaches	Nearshore Restoration	Chinook	coho, chum, pink and forage fish	Premiliinary design	$10,000	Permitting Implementation/ Construction	$300,000	Implmentation, monitoring and maintenance	$50,000	2012				
Sequalitchew Creek Beach and Riparian Restoration	New	Remove derelict creosote pilings and bulkhead structures, restore natural beach profile, remove invaisive plants and restore native, marine riparian corridor	SPSSEG	$350,000	$20,000	$297,500	SPSSEG	2	Nearshore Beaches	Nearshore Restoration	Chinook	coho, chum, pink and forage fish	Preliminary Design	$20,000	Permitting Implementation/ Construction	$200,000	Implmentation, monitoring and maintenance	$130,000	2012				
Pocket Beach Enhancement/Nourishment Pilot: Sequalitchew to Solo Point	New	Target existing pocket beaches persisting waterward of the BNSF rail line between Sequalithew Creek and Solo Point for sediment enhancement and marine riparian planting pilot projects	SPSSEG	$200,000	$20,000	$170,000	SPSSEG	2	Nearshore Beaches	Nearshore Restoration	Chinook	coho, chum, pink and forage fish	Preliminary Design	$20,000	Permitting,Implementation/Construction	$160,000	Implmentation, monitoring and maintenance	$20,000	2012				
Acquisition for future																							
Marine View Drive Acquisition and Nearshore restoration	Unrated	In Commencement Bay in front of Marine View Drive. Create intertidal habitat adjacent to the Trustee's area. Foss Log storage - $50K per acre	Port of Tacoma	$1,000,000			Port of Tacoma	2	Nearshore embayment	Nearshore Restoration	Chinook	coho, chum, pink and forage fish											
Puyallup River (Union Pacific) Setback Levee (RM 2.6-3.0)	New	Acquire up to 30 acres of floodplain and former intertidal habitat; construct setback levee and restore intertidal habitat in the transition zone for juvenile rearing	Pierce County, PTF, Port of Tacoma	$8,500,000	$3,900,000	$4,600,000	PC SWM, PRP, WSDOT, Port of Tacoma	2	freshwater-estuary/transition zone	levee setback and excavation	Chinook	chum, bull trout, steelhead, coho, pink	Acquisition	$4,500,000	Design and permit	$300,000	Construction	$3,700,000	2011				
Acquisition for protection																							
South Prairie Creek Acquisition (RM 0-8)	1	Protect 60-120 acres of instream and riparian habitat along South Prairie Creek, primary tributary to the Carbon River and the most important salmonid spawning area in the Puyallup watershed	Pierce Co. Water Programs, Cascade Land Conservancy	$800,000	$200,000	$600,000	Pierce County SWM fee, other sources	1, 3, 5	Instream, riparian, upland	Land protected/ acquired	Chinook	Steelhead, bull trout, chum, coho, pink, cutthroat	Acquisition	$400,000	Acquisition	$400,000			2010				
West Hylebos acquisition	Unrated	Completes the purchase, preservation, and restoration of the properties detailed in the recovery strategy. Project benefits coho and Chinook. It brings total of this restoration action to approx. 35 acres of the most productive	Friends of the Hylebos	$1,500,000	$500,000	$1,000,000	Multiple	1,3	Instream, riparian, upland	Land protected/ acquired			Property negotiations, Appraisals	Depends on property negotiations	Property negotiations, Appraisals, Purchases	Depends on property negotiations	Property negotiations, Appraisals, Purchases	Depends on property negotiations	2010				
White River land acquisition	Unrated	Acquire up to 300 acres along White River in the vicinity of Buckley - Land is currently owned by PSE - land is important for the preservation of bio-rich lands and riverine/ riparian habitat	Pierce Co. Water Programs; King County	$3,000,000	$1,500,000	$1,500,000	Pierce County SWM fee; KC CFT	3			Chinook	Steelhead, bull trout, chum, coho, pink, cutthroat	Acquistion (Pierce County - $400K; King County - $500K)	$900,000	Acquisition	$400,000	Acquisition	$1,700,000	2011				
Upper Puyallup River land acquisition	New	Acquire up to 800 acres along the north bank of Puyallup River in section 29 including the river and north side floodplain, including a mile of river frontage from the City of Orting to the entrance of Mt. Rainier National Park and a mile of lake frontage. Land is important for Chinook and other salmonid habitat; pristine riparian habitat and complex wetlands.	CLC	$4,000,000	$2,000,000	$2,000,000	TBD		Riparian, floodplain, mature forest, wetlands that drain in to the Lake		Chinook	Steelhead, bull trout, chum, coho, pink, cutthroat	Acquisition	$4,000,000	Acquisition	Anything not done in year 1	Acquisition	Anything not done in year 2	2011				
Hatchery																							
Voights Creek Hatchery Adult Facilities	Unrated	Demolish adult facilities; construct adult facilities consisting of holding/rearing units, fishway, sorting system with crowder, reuse water sump w/pumps, crowders, bird predation covers, and security fence with alarms	WDFW - RAC	$3,520,000	$505,000		WDFW		Hatchery project	Construct rearing facilities	Chinook		Scoping, design, permitting	$505,000	Construction	$1,508,000	Construction	$1,508,000	2010				
Voights Creek Hatchery Clarifier	Unrated	Construct 2 bay clarifier, provide cover for pollution abatement ponds, venturi/eductor system	WDFW - RAC	$896,800																			
Chambers Creek Adult Trap and Juvenile Acclimation Facility Improvements	Unrated	Rebuild ponds and intake, and install pollution abatement system (HSRG recommendations) to improve upstream passage for non-target wild stocks; improve acclaimation for smolts and adult holding for returning chinook; establish pollution abatement system for effluent;and improve screen to minimize impacts on wild stocks.	WDFW - Legislature - CTED (bridge component)	$3,200,000			CTED - $176,000						Design, permitting, construction	$1,600,000	Construction complete	$1,600,000			2010				
Other																							
Total Capital Need				$54,287,800	$21,996,000	$22,008,500																	
Non-Capital Programs																							
Harvest Management Support																							
Future Habitat Project Development																							

Greenwater LWD study	Unrated	Effectiveness monitoring of Greenwater LWD project and assessment for placement of several LWD structures (mostly jams) throughout Greenwater mainstem and some tributaries: LWD structure placement. $50K/jam * 20 jams.	SPSSEG	$200,000	$100,000	$100,000	SPSSEG, USFS	1,3					Gather baseline pre-construction data related to habitat quality and function of Greenwater system.	$50,000	Gather post-construction and change analysis data	$50,000	Perform assessment and feasilbity study for placement of additional ELJs	$100,000	2011				
Update regional Culvert Study	Unrated	Re-evaluate the system to check on work done since the original study was completed - function of those removed and make sure there are not any new ones.	Pierce Conservation District	$320,000	$70,000	$250,000	PCD	7					Review Existing Inventory; Staff up; Prioritize Reaches	$110,000	Conduct linventroy	$110,000	Conduct Inventory; Prepare Final Report	$100,000	2010				
Habitat Protection																							
Nearshore effectiveness monitoring	Unrated	Develop and implement a nearshore effectiveness monitoring plan for future restoration projects	SPSSEG	$300,000		$300,000	ESRP, DOE, DNR, WDFW						Develop monitoring plan to assess nearshore processes and response to restoration. Collect baseline data.	$150,000	Carry out monitoring and assessment actions.	$50,000	Carry out monitoring and assessment actions.	$50,000	Ongoing				
Watershed Plan Implementation & Coordination																							
Technical Support	Unrated	Provide access to state and local agency resources for better coordination and integration of plan components. Also to ensure the support of NOAA's TRT remains constant to help with the salmon recovery efforts.	Pierce County	$250,000	$100,000	$150,000	Pierce County						Scientific support	$85,000	Scientific support	$85,000	Scientific support	$80,000	Ongoing				
Develop Nearshore projects	Unrated	Use comparable benefits protocols for synchronized project selection - Using exisiting nearshore assessments develop protocols for nearshore project identification, development and priortization	SPSSEG	$10,000		$10,000	ESRP						Develop protocols for nearshore project identification, development and priortization	$10,000					Ongoing				
Create South Puget Sound Regional Organization	Unrated	Create South Puget Sound Regional Organization to develop, coordinate, and implement South Sound Salmon recovery plan	SPSSEG	$160,000		$160,000							Reach Agreement		Hire central coordinator to develop South Sound Salmon recovery plan	$80,000	Coordinate and monitor implement of the plan	$80,000	Ongoing				
Outreach & Education																							
Commuications/ Public outreach support	Unrated	Technical help to coordinate public education and outreach between the numerous agencies and organizations working in the watersheds. A significant effort would be placed in web-based access to actions, opportunities and goals.	Pierce County	$80,000			Pierce County						Public outreach	$30,000	Public outreach	$25,000	Public outreach	$25,000	Ongoing				
CHB - pollution hotline	Unrated	Consolidated cititzen/agency hotline for reporting potential toxic problems. Follow up and correction of issues/results from the calls.	Citizens for a Healthy Bay	$30,000	$15,000	$15,000	City/Tacoma Port/Tacoma Forest Fdn PSAT: PIE						Broaden education reach in Tacoma area	$5,000	Expand geographically to adjacent shores and waterways.	$10,000	Expand to South Sound waters and adjacent shorelines.	$15,000	Ongoing once at target geographic area				
CHB - Bay Watcher	Unrated	Weekly on the water patrols cover entire Commencement Bay shoreline. Also weekly foot patrol to specific hot spots or outfalls. - $20K per year.	Citizens for a Healthy Bay	$60,000	$40,000	$20,000	City/Tacoma Port/Tacoma Forest Fdn PSAT: PIE Bullitt Fdn						Expand Geographically to adjacent shores and waterways. Upgrade Patrol Boat.	$30,000	Expand geographically to adjacent shores/ waterways. Initiate on-the-water classroom eduction	$20,000	Bay Patrol coverage of South Sound. Expand education to South Sound area schools.	$10,000	Ongoing once at target geographic area				
Salmon Recovery Outreach	Unrated	Create Outreach Function targeted at Salmon Recovery	SPSSEG	$120,000	$120,000		SPSSEG, NFWF						Hire Ed and Outreach Coordinator and develop program	$60,000	Implement program	$30,000	Implement program	$30,000	Ongoing				
White River Watershed Stewardship Program	Unrated	Enforcement, education, engineering (according to Forest Plan) dos and don'ts on recreation in habitat areas. Providing aquatic conservation education services to Forest recreators along sensitive stream courses.	USFS	$90,000	$10,000	$80,000	USFS - Secure Rural Schools Initiative (Title II)						See details in project description	$30,000	See details in project description	$30,000	See details in project description	$30,000	Ongoing				
Instream Flow Protection																							
Habitat Project Monitoring																							
Stock Monitoring Support																							
Smolt trapping - Puyallup River	Unrated	Operate smolt trap on the Puyallup River - $150,000 per year - includes manning site	Puyallup Tribe	$450,000							Chinook	Steelhead, coho, chum, pink, cutthroat	Ongoing smolt trapping	$150,000	Ongoing	$150,000	Ongoing	$150,000	Ongoing				

Smolt trapping - White River	Unrated	Operate smolt trap on the White River - $150,000 per year - includes man on site (Initiate long-term screw trapping of White River)	Tribes (PTI, MIT)	$450,000							Chinook	Steelhead, coho, chum, pink, cutthroat	Install smolt trap	$150,000	Ongoing	$150,000	Ongoing	$150,000	Ongoing				
Smolt trapping - South Prairie Creek	Unrated	Operate smolt trap on South Prairie Creek - $150,000 per year - includes man on site	Tribes (PTI, MIT)	$450,000							Chinook	Steelhead, coho, chum, pink, cutthroat	Install smolt trap	$150,000	Ongoing	$150,000	Ongoing	$150,000	Ongoing				
Smolt trapping - Chambers Creek	New	Operate smolt trap on Chambers Creek - $150,000 per year - includes mannng site; monitoring also includes counting and identifying returning adult salmon	WDFW, CCWC	$450,000							Steelhead	Coho, chum, pink, cutthroat	Install smolt trap	$150,000	Ongoing	$150,000	Ongoing	$150,000	Ongoing				
Mud Mountain Dam mortality study	Unrated	Assess the survival of adult and juvenile fish through Mud Mountain dam	Corps of Engineers	$250,000																			
Fish tagging for Chinook Tracking	Unrated	Fish tagging to track Chinook - trapping and tagging salmonid smolts for monitoring distribution and habitat usage and timing (POST tag) adaptive management [Increase telemetry and hydro-acoustic tagging of chinook and steelhead in system]	Tribes	$90,000																			
Research																							
Other																							
Shoreline Program Updates	Unrated	Update Shoreline Management Programs - will allow early adoption of updated shoreline programs. Currently Pierce County jurisdicitons are not required to update until 2011.	Local Governments	$800,000																			
Total Non-Capital Need:				$4,560,000	$455,000	$1,085,000																	
Priority Projects and Programs Benefiting Non-Listed Species																							
Total Non-Listed Species Need:																							

2008 three-year Watershed Implementation Priorities Template: Addendum

Project Name	Partnership Goals					
	Human Health	Human Well-Being	Species/Food Web	Habitat	Water Quality	Water Flow
Capital Projects						
Habitat						
Hatchery						
Other						
Total Capital Need						
Non-Capital Programs						
Harvest Management Support						
Future Habitat Project						
Habitat Protection						
Watershed Plan Implementati						
Outreach & Education						
Instream Flow						
Habitat Project						
Stock Monitoring						
Research						
Other						
Total Non-Capital Need:						
Priority Projects and Programs Benefiting Non-Listed Species						
Total Non-Listed Species Need:						