Puget Sound Partnership
and Recovery Implementation Technical Team (RITT)

2013 Three Year Work Plan Review

for

WRIAs 13 & 14

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Overview

The 2013 Three-Year Work Plan Update is the eighth year of implementation since the Recovery Plan was submitted to NOAA/NMFS in 2005. The Puget Sound Partnership, as the regional organization for salmon recovery, along with the Recovery Implementation Technical Team (RITT), as the regional technical team for salmon recovery, perform an assessment of the development and review of these work Plans in order to be as effective as possible in the coming years. These work plans are intended to provide a road map for implementation of the salmon recovery plans and to help establish a recovery trajectory for three years of implementation. *Given that watershed chapter areas are focusing efforts on development of monitoring and adaptive management (M&AM) plans over the next two years, the 3YWP process has been significantly scaled down for 2013. It is anticipated that the M&AM work will eventually replace much, if not all, of this process.*

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

Guidance for the 2013 work plan update reviews

Watersheds were asked to respond to the following questions:

I. Context:

1. Provide a brief overview of the characteristics of your Chinook Salmon Recovery area. Describe the process for developing your 3YWP narrative and project/activity list. Who are the stakeholders involved and what are their roles? Are harvest and hatchery managers involved in your planning group or have they had an opportunity to comment or consult on your 3YWP?

II. Background/Planning/Logic of the Recovery Chapter:

1. What are the recovery goals for your watershed for Chinook salmon? Include information on both population goals (VSP parameters) and habitat goals.
2. What is the current strategy to accomplish the recovery goals and what assumption(s) is this strategy based on?
3. What new knowledge or information has changed your strategy, assumptions or hypotheses since your recovery chapter was written?
4. How is the sequencing and timing of actions or projects done in such a way as to implement the strategy as effectively as possible?

III. Plan and Gaps:

1. What are the obstacles or barriers for implementing monitoring and adaptive management? Where could you use support for development of your M&AM plans?
2. Considering all actions affecting salmon recovery in the watershed, is the Chinook salmon resource likely to be closer to, or further from, the recovery goals ten years from now as it is today?

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

I. Consistency:

1. Is the plan's current strategy either substantially the same as documented in the Recovery Plan (Volume I and II of the Puget Sound Chinook Recovery Plan plus NOAA supplement) or well supported by additional data and analysis?
2. Is the sequence of actions identified in the 3YWP consistent with the current hypotheses and strategies?

II. Sequence/Timing:

1. Are actions sequenced and timed appropriately for the current stage of implementation?

Review Process

The following review consists of the following components:

1. a regional technical review that identifies and discusses technical topics of regional concern
2. a watershed-specific technical review focusing on the specific above-mentioned technical questions and the work being done in the watershed as reflected by the three year work plan
3. a watershed-specific recovery plan consistency review of projects submitted to the SRFB for funding

Puget Sound Recovery Implementation Technical Team Review

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

Regional Technical Review: Common Themes

We Are Not On Pace to Meet Recovery Goals

Our review of the progress, challenges, and opportunities for salmon recovery compiled in the three-year work plans and supporting documents indicates that progress towards Chinook salmon recovery across the region has been uneven and, on the whole, implementation of salmon recovery plans is failing to meet the pace identified in the 10 yr work plans. This slower pace, which has been a common theme since we began reviewing progress, is having a compounding impact that ultimately lessens our ability to recover Chinook salmon in the ESU. The work plans and project proposals document that the cost of implementing projects and protecting habitat continues to grow, yet the resources to do the work have not kept pace. At the same time, Chinook salmon populations in the ESU are declining. The gap between current status, recovery goals, and what it will take to get to recovery goals is growing even larger. In the last decade, nine of the 22 Chinook salmon populations continued to decline and these declines included populations in four of the five regions of Puget Sound (PSP 2012). Based on our review, the region needs to make progress on the issues below to reverse this trend.

Identify and Learn From What Is Working and What Is Not

The partners in the Puget Sound Salmon Recovery Plan lack a coordinated system for tracking progress, detailing accountability, and making decisions to improve salmon recovery strategies and actions based on information of the effectiveness of what has been implemented. The National Marine Fisheries Service (NMFS) in adopting the Puget Sound Chinook Salmon Recovery Plan identified the lack of monitoring and adaptive management plans as a critical piece that needed to be added (NMFS 2006). The monitoring and adaptive management that is occurring exists as a patchwork of different programs at local and regional scales based on the regulatory needs of different authorities, local priorities, the availability of different sources of funding and technical expertise, and often uses different scientific approaches. At the local scale, this work focuses primarily on site-specific monitoring of habitat restoration projects and salmon. In some watersheds, it also includes monitoring and adaptive management frameworks.

To address this issue the RITT has developed a framework to support the development of systematic, coordinated monitoring and decision making. The framework provides a single classification of different salmon habitats synthesized from many scientific publications to promote sharing of information among different projects; it identifies and defines suites of pressures and stressors acting on salmon and salmon ecosystems; it promotes a transparent approach that illustrates how different recovery strategies are expected to reduce pressures; it

describes logical sequences of actions and outcomes; it identifies measurable objectives for the outcomes, the sources of uncertainty associated with them, and indicators to judge progress towards meeting salmon recovery goals. The use of this consistent approach across watersheds will provide more powerful information to decision makers while still retaining the individual characteristics and priorities of the individual watershed recovery plans. For example, this approach provides a means to test similar assumptions across multiple watersheds and connect local and regional scale monitoring information to track progress across the region.

With the support of the Puget Sound Partnership, fourteen individual watershed recovery groups are applying the framework by translating sixteen recovery plans into that format and using it to assess monitoring needs and priorities. They plan on completing an initial assessment using the Framework by mid-2014. The purpose is to help salmon recovery planners in different watersheds consistently describe assumptions stated in their watershed recovery plans and to incorporate new information to evaluate these assumptions. For watersheds that have not yet developed monitoring and adaptive management plans, these assessments are expected to form the technical basis from which watersheds will be able to develop or refine individual monitoring and adaptive management plans. All watersheds are considering three basic questions to set monitoring priorities:

1) Will the information gathered from monitoring efforts affect future decisions regarding land, water, and resource management and Chinook salmon recovery?
2) Where and to what degree is there uncertainty, and how will this uncertainty affect decision making by resource managers? and
3) How will the uncertainty be reduced or resolved over time through successful implementation of the Monitoring and Adaptive Management Plan?

Making this system work will not be possible without strong policy-level leadership, support, and participation. This approach will support broader participation by all parties necessary for salmon recovery, which was lacking in the development of the existing Plan. We anticipate that further engagement of policy makers will be needed to identify the short-term and long-term measurable objectives for habitat restoration and protection, hatchery management, and harvest, as well as better integration of the different management sectors ("H"-Integration) within and across watersheds. This broad, active participation will be necessary for success.

Finally, no policy body or agency appears to have assumed responsibility for transparently documenting and integrating changes to salmon recovery plans. Changes in some strategies, such as for harvest and hatcheries, are documented in ESA consultations with the National Marine Fisheries Service, but changes in most habitat strategies in the Watersheds Recovery Plans are not. We anticipate that the updating of Watershed Plans using the framework will meet this need. It will also provide a mechanism and process to include information that is currently being collected by diverse groups. In this way, all relevant monitoring information should become part of the knowledge base of all participants in watershed recovery plan implementation and the subsequent adaptive management of implementation.

Protection of Ecosystem Functions and Habitat

Protection of existing marine and freshwater habitats is essential for salmon recovery in Puget Sound. Protection, as used here, means the conservation of habitat and the functions it provides through passive actions (e.g. habitat acquisition) and the application of land use regulatory measures. Adequate protection of salmon habitat in Puget Sound continues to be an issue in all watersheds. Our reviews noted that the continued degradation of habitat is a concern throughout the region. Some watersheds continue to lose forest cover and riparian functions within the Urban Growth Boundary (Pierce 2011, Vanderhoof *et al*. 2011).

Habitat improvements or acquisition are easier to implement by individual watershed groups, given funding, but meaningful protection of existing habitat quality relies on local regulations and their enforcement. One of the premises of the Puget Sound Chinook Recovery Plan approved by NOAA in 2005 was that habitats throughout Puget Sound would improve with the implementation of watershed strategies in the Plan and not continue to degrade. The plan identified a variety of regulatory tools that afforded protection. These included the Shoreline Management Act (SMA), Growth Management Act (GMA), Critical Area Ordinances (CAO), state Hydraulic Permit Approvals (HPA), NMFS's reviews of federal actions under Section 7 of the ESA, and other federal actions (i.e. the Army Corps of Engineers' levee vegetation management policy and others). Despite this, some watersheds noted that the current rate of habitat loss may be offsetting any gains the salmon recovery groups are making through restoration projects. The effectiveness of these regulatory processes is not documented in any cumulative, comprehensive manner. However, these regulatory actions must be effective in protecting and maintaining the current biological integrity of these areas or the implementation of projects alone will not recover Puget Sound Chinook salmon.

We note with interest that the Salmon Recovery Council did not ask for a policy review of progress in the 2013 three-year work plans. We repeat our recommendation from last year that Salmon Recovery Council (SRC), responsible agencies, watershed groups, and the RITT and other experts need to develop ways to provide technical input for integrating to a much greater extent the actions that promote salmon recovery within these local and regional decisions and regulations affecting salmon habitat. Alone none of these processes are sufficiently integrated with the Puget Sound Salmon Recovery Plan for the RITT or the SRC to provide specific guidance regarding how habitat protection should be implemented to support salmon recovery. Therefore, although some of the RITT's watershed-specific comments suggest ways that individual watershed groups could better integrate habitat protection into their recovery plan implementation, we also recognize that much of the solution to this problem lies in revising the underlying planning processes, which is not a scientific enterprise.

References:

Fresh, K.. and E. Beamer. 2012 (draft manuscript). Juvenile salmon and forage fish presence and abundance in shoreline habitats of the San Juan Islands, 2008-2009: Map applications for selected fish species.

National Marine Fisheries Service. 2006. Recovery Plan for the Puget Sound Chinook Salmon (*Oncorhynchus tshawytscha*). National Marine Fisheries Service, Northwest Region. Seattle, WA.

Pierce, K. 2011. Final Report on High Resolution Change Detection Project. Washington Department of Fish and Wildlife, Olympia, WA. Available at: http://wdfw.wa.gov/publications/01454/wdfw01454.pdf

Puget Sound Partnership. 2012. State of the Sound: A Biennual Report on the Recovery of Puget Sound.Tacoma, Washington. Available at: http://www.psp.wa.gov/sos.php

Vanderhoof, J., S. Stolnack, K. Rauscher, and K. Higgins. 2011. Lake Washington/ Cedar/ Sammamish Watershed (WRIA 8) Land Cover Change Analysis. Prepared for WRIA8 Technical Committee by King County Water and Land Resources Division, Department of Natural Resources and Parks. Seattle, Washington. Available at: http://www.govlink.org/watersheds/8/reports/W8LandcoverChangeReport7-19-2011.pdf

H Integration

In their 2003 guidance to the local watersheds, the Puget Sound Technical Recovery Team (TRT) identified the need for an integrated All-H strategy to recover Puget Sound Chinook salmon. This message was emphasized again in the Puget Sound Salmon Recovery Plan (2005) and the NOAA supplement (2006): all of these documents clearly state that actions in Habitat, Hatchery, and Harvest management (the "Hs") must be coordinated towards recovery of Puget Sound Chinook salmon. H-Integration is defined as a coordinated combination of actions among all H-Sectors - harvest, hatchery, and habitat – that together work to achieve the goal of recovering self-sustaining, harvestable salmon runs.

Although actions are taking place in all three of these "Hs" the three-year work plans do not yet reflect a coordination or integration of the "Hs. The goal of the H-Integration process within a watershed, which the RITT included under adaptive management, should be to develop integrated strategies and suites of actions among all the H-sectors that are consistent with predictions of moving salmon populations towards short, moderate, and long-term recovery goals. The overall objective of H-Integration is to summarize how the H's work together, identify actions within each H, predict the outcomes and identify performance measures in terms of VSP, track progress on the implementation of actions, and report progress on performance measures.

Six steps have been identified with the intent of advancing H-Integration with the watersheds. These six steps were developed to meet the overall goals and objectives identified above and include:

1) Identify the people that need to participate and how to involve them.
2) Gain a common understanding of how the system works—habitat conditions and fish populations this includes: habitat conditions and priority limiting factors, harvest rates, hatchery management, fish population status (e.g. VSP parameters), and community needs.
3) Agree upon common goals and a set of outcomes across the H-sectors that describe what will be achieved related to those goals in measurable terms.
4) Examine, evaluate and select a suite of complementary actions across the H-s to achieve the outcomes and determine what evaluation tools to use.
5) Document rationale, implementation steps (specific complementary actions in hatcheries, harvest, and habitat), expected outcomes (including effects on VSP), and benchmarks.
6) Build and implement a Verification, Effectiveness and Accountability system. Implement actions, monitor results, prepare annual performance reports, and adjust over time.

A couple of watersheds have expressed some frustration that all the necessary participants are not consistently participating to integrate the Hs effectively or that neither side has the capability to make changes to the others processes that drive the management of all the individual "Hs". Under this situation it is not possible to evaluate the three-year work plans or the progress towards recovery adequately unless the watersheds include significant details of the actions in all of the H's as well as how they could be integrated. Part of H-integration is assuring that all parties have a common understanding of the status of the salmon resource (All –Hs) as well as what actions are needed to move that resource to a recovered status. The understanding of the status and trends of Chinook salmon depends on information on the populations' viability characteristics, such as time series of spawning escapement, juvenile outmigrant numbers, and recruits per spawner. Some three-year work plans include this information; most do not. We recommend that watershed planning groups include this information in all watershed three-year work plans. One benefit is that the process of gathering basic status-and-trend information often results in improving communication between watershed recovery planners, fishery resource managers, and other management sectors. Likewise, it is just as important to have clearly defined habitat goals that are understood by fishery resource managers and others.

The RITT continues to urge the Salmon Recovery Council, whose members include the key parties in salmon recovery, to provide clear policy direction that all H's must work together through the adaptive management process outlined in the "Framework" for salmon recovery to progress. We believe that both effectiveness and efficiency of management and recovery dollars will be increased if habitat restoration, habitat protection, harvest management, and hatchery management (including hatchery "reform") are all part of the same salmon recovery plan.

Importance of Nearshore Marine Ecosystems to All PS Chinook Populations

Salmon recovery plans focus on issues for salmon in freshwater and estuarine habitats. With newer information regarding Chinook salmon use of nearshore habitats we recognize an emerging regional priority of increased emphasis on nearshore protection and restoration. The nearshore is an important migration corridor to and from freshwater and marine ecosystems (Fresh and Beamer 2012; Morley et al. 2012, Toft et al. 2007). These are the habitats that are crucial during the transition from freshwater to marine Chinook salmon life stages. For example, growth during a juvenile's first summer in the nearshore is an important determinant of its overall survival to returning as an adult and an essential element in estimates of population viability parameters such as productivity. What we must recognize is that our knowledge of early marine migrant life histories and requirements in the nearshore environments of Puget Sound is limited, particularly in regards to viability of individual populations, and is only broadly conceptualized in life cycle models of Chinook life history and viability.

Recovery planning for Chinook salmon on an individual watershed basis has focused on efforts to reduce ecosystem pressures and improve ecosystem processes for distinct natal populations in their freshwater and estuarine habitats. However, each salmon watershed is uniquely connected to nearshore marine habitats. Chinook recovery actions are challenged by the differences in approach that are apparent between those "watersheds" with natal and non-natal populations of Puget Sound Chinook salmon. For example, the San Juan and Island watersheds and their landscapes consist almost entirely of nearshore habitats which are utilized by migratory juvenile

and adult Chinook salmon originating in other watersheds. Similarly, the South Puget Sound and West Sound watersheds provide extensive habitats for the southernmost independent populations of Puget Sound Chinook salmon, i.e., originating in Nisqually and Puyallup/White rivers. Other non-Puget Sound salmon populations, including Canadian ones, have also been found throughout the Puget Sound nearshore environments. Designing nearshore strategies for salmon recovery and integrating them with freshwater and estuarine strategies has to address several key challenges:

1) Nearshore habitats are likely to be shared by salmon populations which originate from multiple watersheds.
2) Nearshore ecosystem processes occur at broader geographic scales than the individual watershed scale that comprises the freshwater ecosystem processes.
3) Scientific approaches and tools for nearshore protection and recovery have emphasized broader ecosystem objectives rather than objectives specific to salmon recovery (e.g., protection of forage fish spawning sites, multispecies focus, extent and density of eelgrass beds, nearshore riparian vegetation, shoreline armoring, etc.).

Thus research (e.g., assessments and learning) and monitoring (e.g., status and trends, effectiveness of implemented projects, etc.) of salmonid populations in nearshore marine habitats is likely to exceed the management scale and scope of any individual watershed. The research questions and projects need to be designed over larger (subregional and/or regional) scales. A variety of tools exist which may help integrate marine and watershed (i.e., freshwater) ecosystem planning. Genetic tools now allow researchers to estimate the proportions of individual salmon populations present in specific habitats at different times. Conceptual and qualitative models can link general nearshore ecosystem processes and pressures with their importance for salmonid use. Combined with well-designed monitoring and research programs, information regarding specific Chinook salmon populations may be gained in specific nearshore areas and/or habitats. Thus, increasing our knowledge of Chinook salmon life histories in marine environments is essential. This will require coordination and collaboration between individual watersheds, and ultimately this knowledge will be integrated and complement recovery efforts in freshwater ecosystems to achieve, in particular, a more comprehensive understanding of the diversity and spatial distribution of Puget Sound Chinook salmon populations, as well as, abundance and productivity parameters.

Resources:

Fresh, K.. and E. Beamer. 2012. Juvenile salmon and forage fish presence and abundance in shoreline habitats of the San Juan Islands, 2008-2009: Map applications for selected fish species. (http://www.skagitcoop.org/documents/Beamer_Fresh_2012_Final.pdf)

Morley, S. A., J. D. Toft, and K.M. Hanson. 2012. Ecological effects of shoreline armoring on intertidal habitats of a Puget Sound urban estuary. Estuaries and Coasts 35:774-784.

Toft, J.D., J.R. Cordell, C.A. Simenstad, and L.A Stamatiou. 2012. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound. North American Journal of Fisheries Management 27: 465-480.

Developing Recovery Projects and Social Capital

The *Puget Sound Salmon Recovery Plan* (2005) noted that strategic approaches to develop proposals for restoration and protection were needed in some watersheds; however, lack of public support would hinder implementation of those projects. The Plan identified the need to build public support using incentives and education. In the last eight years, most watersheds have developed technical processes for identifying priority projects based on their hypothesized benefits to salmon. Each year, the RITT has reviewed the projects proposed for implementation and noted that in some cases opportunities associated with landowner willingness and/or participation have constrained choices identified by scientific analyses. This sometimes drove actual prioritization, sequencing, and implementation of projects, which clouds the transparency of how projects were chosen, prioritized, and sequenced. Watershed recovery planners make the best choices they can in their local areas, but the region has made little progress in implementing and testing strategies for building public support.

The RITT suspects that in local areas where recovery planners are balancing the demands to implement the most effective projects with the need to build more public support, the choices of suites of projects may represent the tradeoff between the long-term effectiveness of salmon recovery by building social capital and short term effectiveness of selecting projects that may not be the most effective. Awareness of the importance of social capital strategies in conservation is increasing (e.g. Pretty and Smith 2004, Mandarano 2007). These kinds of decisions at the watershed level, however, are being made on an ad hoc basis without consideration for their wider application or knowledge of what has worked in other places. The benefits are hard to quantify.

The RITT notes that the region has a significant opportunity to address both the overarching strategy to build public support in the Plan and the uncertainty of project selection at the local level by incorporating specific, intentional adaptive strategies to build social capita through the choice and implementation of restoration projects. Monitoring the results across the Puget Sound region could provide significant opportunities to learn and improve salmon recovery actions. The strategy and design of this would likely be different than for monitoring biological strategies. As described by Anderson et al. (2003), this might be an appropriate problem for "evolutionary problem solving" rather the more typical active or adaptive management approaches. In evolutionary problem solving, learning occurs when managers share the results of adapting many, independent prototype actions (e.g. explicit decision to build social capital through project implementation). The focus is on innovation (trying different approaches), diffusion (documenting the results and sharing them so others can try them), and adaptation. Monitoring of success is essential, but the strategy might rely less on statistical analysis and monitoring standardized variables and more on narrative sharing of experiences.

<u>Resources</u>:

Anderson, J.L., R. W. Hilborn, R.T. Lackey, and D. Ludwig. 2003. Watershed restoration – adaptive decision making in the face of uncertainty. Pages 203-332 in Strategies for Restoring River Ecosystems: Sources of Variability and Uncertainty in Natural and Managed Systems (R.C. Wissmar and P.A. Bisson, eds.). American Fisheries Society, Bethesda.

Mandarano, L. A. 2009. Social network analysis of social capital in collaborative planning. Society & Natural Resources 22:245-260.

Pretty, J., and D. Smith. 2004. Social capital in biodiversity conservation and management. Conservation Biology 18:631-638.

Watershed Specific Technical Review: WRIAs 13 & 14

[not available due to incomplete three year workplan submission]

PSAR and SRFB Project Consistency Review

Review of Regular Round Projects for WRIAs 13&14:

WRIA 13:
This year, the WRIA 13 Salmon Habitat Recovery Committee had enough funds to fully fund their project list, using a combination of SRFB and PSAR capital funds. Each of the projects has been under development for several years, under the direct oversight and direction of the Lead Entity committee. In 2010, the WRIA 13 and WRIA 14 TAG's created the Juvenile Salmonid Nearshore Project Selection Tool (Tool). Integrating existing assessments, studies and the repository of knowledge the TAG represents, the Tool provides guidance on where the highest priority sites exist for both protection and restoration activities within the entire nearshore of both LE areas. Even with the fine sieve the Tool created, much of the nearshore continued to be a high priority for both actions. Therefore, the TAG gathered to overlay existing projects, parcel size, and the first iteration of a plan that protects sediment sources such as bluff-backed beaches and restores pocket estuaries. The work the TAG has undertaken was funded by the 2007-2009 and 2009-2011 PSAR capacity funds, which were concentrated on the creation of the GIS tool and additionally into the creation of MOA's with each TAG member organization to fund the time and travel of that TAG member. This new tool gives the LE and the sponsors a parcel-by-parcel look at areas that are of the highest benefit for juveniles in WRIA 14. Previously, all nearshore habitat had been classified as high priority, limiting effective prioritization. Using this new tool, the highest priority can be easily identified for the entire WRIA (and surrounding WRIA) for either restoration or acquisition and the Committee can then decide what areas are the most important to strategically focus on first. The sponsors can then focus their outreach efforts to those parcels and the ones surrounding them, working diligently to garner landowner support for these important projects.

Little Fishtrap Estuary Acquisition: This project site has been a high priority area for both conservation and restoration since before 2004. In 2006, it was proposed for restoration (06-2219R). The original spit orientation and function was modified in the early 1940's when the landowners filled in the historical stream and side channel. This modification changed the littoral sediment drift along the spit and pocket estuary and sediment instead began to fill in the estuary while starving down-drift forage fish beaches. This first project was highlighted as a "wow" project by the SRFB Review Panel but the project did not proceed as the adjacent landowners (where no restoration was taking place, the existing landowners sought their support

only) did not support the project. In the fall of 2012, the landowner passed away and his heirs contacted Capitol Land Trust (CLT) with an interest in selling and conserving the property. The Lead Entity was apprised of the situation and fully supported CLT in an application for PSAR large capital funds, Thurston County Conservation Futures funds, SRFB funds, etc. While this project (13-1265) did not score in the allocation with PSAR at $70 million, it remains a priority project for WRIA 13 and South Sound. To date, the project has received $473,114 from WRIA 13 and a minimum commitment of $305,000 from TC Conservation Futures. Once the property is purchased, funds will be raised to complete the restoration of the estuary and spit. The project (as both conservation and restoration) has been represented on every South Sound 3-year-work-plan update since we began creating them in 2007.

Burfoot Park Bulkhead Removal: Beginning in 2004, the Lead Entities in both 13 and 14 began to focus on bulkhead removals. To garner support, give private landowners something to see, build experience with local contractors and the project sponsor, both LE's decided to begin first with publically owned bulkhead removals. By leading by example, the first projects were in Thurston County, at Frye Cove County Park. Since that time, we have identified and removed bulkheads in Priest Point Park, on WDFW property in Case Inlet, a bulkhead on Squaxin Island, two private residences / communities, and another bulkhead is planned on Hammersley Inlet. Work with the Thurston County Parks board on the Burfoot bulkhead began in 2008 and with the help and support of the Squaxin Island Tribe and the TC Commissioners, the bulkhead is funded and will go to construction in 2014. Another private bulkhead removal on Eld Inlet is under development, with another funded. Preliminary designs for this project are complete and were provided from the 2009 SRFB project development grant (09-1567P).
The overall project area has been rated as high priority- protect for forage fish spawning and high priority- restore for sediment source restoration according to the Chinook Recovery Plan for South Sound. The document also notes that the entire area is a Critical Faunal Area and notes that Burfoot Park is relatively intact. In addition, in the PSNERP- Nearshore Protection & Restoration Strategy, the current and historical shoreform types are listed as a bluff backed beach (which exists at Burfoot). The Beach strategy for the site is Restore.

Frank's Tidelands Design and Assessment: The impedance for this project came from extensive assessment work completed by the Squaxin Island Tribe with the cooperation and funding from the Budd Inlet Council of Governments, with funding passed through WSU Extension, beginning in 2007. In Budd Inlet, the Tribe broke the nearshore into catchment basins and from that, developed an action plan that lead to targeted project identification, the Budd Inlet Landscape Analysis. They identified several hundred individual projects, then presented them at the South Sound Salmon Symposium and asked the participants to assist in ranking them. This site was highly ranked for a variety of reasons. In December, 2012, DNR removed creosote and overwater structures as the first stages of this project.

The restoration is located in a priority habitat area as identified by the Juvenile Salmonid Nearshore Project Selection Tool (NPST) model. Beneficial habitat types found in the unit include: submerged vegetation, located in a SSHIAP embayment, proximity to a Tier 1 salmon stream (Deschutes). One priority salmonid bearing stream empties into the proposed area. The site is also within proximity to a non-salmonid bearing stream. Franks Tidelands is identified as a high priority pocket estuary/embayment. Stressors identified include riparian loss, shoreline

armoring, railroad and overwater structures (since removed). The site represents the northern end of a 1.1 mile nearshore priority area associated with the west side of lower Budd Inlet. Multi-year beach seining has been conducted by the Squaxin Island Tribe just south of the site within West Bay. This unit is hypothesized to provide high quality foraging opportunities for salmon out-migrating from natal streams located in the lower Inlet. It is also hypothesized that the non-salmon steams adjacent to the site provide low energy refugia opportunities for juvenile salmonids particularly juvenile Chinook migrating to the site from outside of South Puget Sound. Previous design work on site, completed via the WRIA 13 Project Development Grant (09-1567P), produced concept designs to the 30% level. This grant will take those designs to complete and then funding will be sought for the project.

WRIA 14:

Oakland Bay Estuary Conservation, Phase III: This project is a top priority project for all of South Sound and was identified specifically in the Action Agenda update that this area submitted to PSP. In 2005, the Lead Entity identified five large, intact parcels within Oakland Bay to protect, this site being one of those parcels. Since that time, we have protected four of the five – only this parcel remains. The project site is identified in the following documents: WRIA 14 3-Year Work Plan; "Strategies for Nearshore Protection and Restoration in Puget Sound" PSNERP Technical Report No. 2012-01; "Chinook & Bull Trout Recovery Approach for the South Puget Sound Nearshore" South Puget Sound Salmon Recovery Group, 2005; "WRIA 14 Watershed Management Plan, Kennedy – Goldsborough Watershed" Final Draft, 2006.

Johns Creek LWD and Riparian Restoration: This project was initiated through the WRIA 14 3-Year Workplan Project Development grant (09-1568), designing to the preliminary design stages for this project. The Squaxin Island Tribe's EDT Analysis of Habitat Potential and Restoration Options for Coho in South Puget Sound Streams recommends these actions in this reach of Johns Creek. This study was completed in 2004 and it lists the addition of large wood (>10 cm diameter) throughout the watershed under the 5-year scenario and continued addition of large wood as well as riparian restoration throughout the mainstem under the 25-year scenario. The Salmon Habitat Protection and Restoration Plan for Water Resource Inventory Area 14 also lists these actions as high priority habitat projects. This plan calls for restoration and preservation of the riparian corridor to provide shade, stabilize streambanks and recruit LWD. This plan also suggests increasing LWD key piece abundance to encourage pool formation.

Edgewater Beach Nearshore Project: This project is a flagship bulkhead removal for South Sound. Rare is the opportunity to remove over 800 contiguous feet of bulkhead on any property, particularly on private property. This bulkhead was identified in the very first 3-YWP as a priority and is rated as a high priority for restoration within the NPST for its benefit to forage fish, and presence of a feeder bluff. It is likely to also receive funding from ESRP as the project rates highly for that process as well as within the PSNERP *Strategies for Nearshore Protection and Restoration in Puget Sound* report.

Knotweed Assessment in Mill and Goldsborough Creeks: This project is the next iteration, following up on a riparian assessment Mason Conservation District conducted 2008-2011 with DOE Centennial funding that identified priority sites in WRIA 14, and SRFB project (11-1557) to design and implement five restoration plans. The LE has worked extensively in

Goldsborough, developing an Action Plan in 2007 for that watershed and then taking a step-wise approach to implementing the components of that plan. In Mill creek, little is known and there are many water quality issues that the TAG would like to begin to address.

Collier Boat Ramp and Jetty Removal: The project helps fulfill two Puget Sound Partnership ecosystem recovery targets. The first target addresses removal of shoreline armoring. The boat launch is not acting as armoring; however, we interpret the Partnership goal, at least partly, to mean addressing sediment input and transport issues. The second goal is designed to increase the spawning biomass of the Squaxin Pass stock by 880 tons by 2020. This is the only project that has been identified that could meaningfully address this goal.
The Puget Sound Nearshore Ecosystem Restoration Project's (PSNERP) *Strategies for Nearshore Protection and Restoration in Puget Sound* report provides a recommendation of *Restore High* for the drift cell. The report calls out the unit as being "notably large and complex" with only moderate sediment supply degradation and assigns the unit a degradation grouping of D13. Notably the PSNERP document states the drift cell has a moderate amount of stressors but lists no threat from jetty influence.

WRIA 14 Culvert Assessment: The rationale for this project comes from success. The WRIA 14 culvert inventory was completed back in 2003 and the list of the top 20 culvert projects has been completed or is in process. In the ten years that has passed since its publication, the passability of culverts has changed, primarily degraded in most instances due to changes in watershed composition or development. Individuals out in the streams doing various works have noted barriers where previously there were none or to a lesser degree. This project intends to bring together a stakeholder group comprised of the TAG and watershed partners to determine the best path forward to determine the current status of culverts within the WRIA.

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