

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

2012 Three Year Work Plan Review

for the

North Olympic Peninsula – Elwha – Dungeness Watershed

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

Introduction

The 2012 Three-Year Work Plan Update is the seventh year of implementation since the Recovery Plan was submitted to NOAA/NMFS in 2005. The Puget Sound Partnership, as the regional organization for salmon recovery, along with the Salmon Recovery Council Work Group and the Recovery Implementation Technical Team (RITT), as the NOAA-appointed regional technical team for salmon recovery, perform an assessment of the development and review of these work 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.

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

Guidance for the 2012 work plan update reviews

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

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

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

- 1) *Consistency question*: Are the suites of actions and top priorities identified in the watershed's three-year work plan consistent with the needs identified in the Recovery Chapter (Volume I and II of the Recovery Plan, NOAA supplement)? Are the suites of

actions and top priorities identified in the watershed's three-year work plan consistent with the Action Agenda?

- 2) *Pace/Status question*: Is implementation of salmon recovery on-track for achieving the 10-year goals?
- 3) *What is needed question*: What type of support is needed to help support this watershed in achieving its recovery chapter goals? Are there any changes needed in the suites of actions to achieve the watershed's recovery chapter goals?
- 4) *Next big challenge question*: Does the three-year work plan reflect any new challenges or adaptive management needs that have arisen over the past year either within the watershed or across the region?

Review

The following review consists of four components:

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

I. Puget Sound Recovery Implementation Technical Team Review

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

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

Adaptive Management and Monitoring

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

While adaptive management rests on a solid technical basis associated with monitoring data, it will not be possible to implement without strong policy-level leadership, support, and participation. Later this year the RITT will begin working with all watershed groups on the first parts of deploying the framework that establishes the technical basis. We anticipate that this work will use, and not duplicate or repeat, the work that has already been underway in many watersheds to develop monitoring and adaptive management plans and to revise the recovery plans based on new information. We also anticipate that, assuming the necessary policy-level leadership, this work will lead to broader participation by all parties necessary for salmon recovery, such as fishery resource managers, land use regulators, and restoration project proponents. This broad participation will be necessary for the ultimate success of adaptive management, and we hope that all relevant parties will participate in the early technical stages as well as the later ones that will require policy-level commitments.

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

H integration

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

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

Part of H-integration is assuring that all parties have a common understanding of the status of the salmon resource as well as what actions are needed to move that resource to recovered status. The understanding of what to do is embodied in the watershed recovery chapters. The understanding of the status and trends of the resource is comprised of the population VSP information, such as time series of spawning escapement, juvenile outmigrant numbers, and recruits per spawner. Some the three-year work plans we reviewed included this information,

and we recommend that it be included in all watershed three-year work plans. One benefit we see in this is that the process of gathering basic status and trends information often results in improving the lines of communication between watershed recovery groups and fishery resource managers.

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

Emerging Topics

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

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

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

Each watershed has some portion of nearshore marine habitat to contend with in their Salmon Recovery Plans, but they are managed in considerably different manners dependent on local circumstances and resources. The local watersheds are not particularly knowledgeable regarding distant populations that may rear in their nearshore areas, nor the significance of protection of

their nearshore habitats areas to fish populations that are non-natal. New genetic analyses have given us the ability to distinguish genetic makeup of populations in these zones of mixing. Prior insight about population aggregations in non-natal areas was limited to recovery of coded-wire tags from hatchery populations; this gave us a somewhat limited perspective and required that we consider hatchery fish migrate identically to wild populations. In some cases, the genetic analyses shed new light on transboundary population migrations as well.

Watersheds not on pace: slowing recovery, loss of option

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

Formal update of the Recovery Plans

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

Protection of Ecosystem Functions and Habitat

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

Natural Resources, 84 pp.). One of the original premises of the Puget Sound Chinook Recovery plan approved by NOAA was that there would not be a continued degradation of habitat but that habitat conditions throughout Puget Sound would improve with the implementation of the Recovery Plans. Some watersheds have noted that the current rate of habitat loss may be offsetting any gains they are making through restoration projects.

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

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

Climate Change and Ocean Acidification

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

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

For a comprehensive listing of resources regarding climate change impacts, preparation, and adaptation, see the Washington Department of Ecology and Fish and Wildlife websites:

http://www.ecy.wa.gov/climatechange/ipa_resources.htm

http://wdfw.wa.gov/conservation/climate_change/

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.

Lawler, J.J. and M. Mathias. 2007. Climate change and the future of biodiversity in Washington. Report prepared for the Washington Biodiversity Council.

<http://www.biodiversity.wa.gov/documents/WA-Climate-BiodiversityReport.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.

National Wildlife Federation. 2009. Setting the stage: Ideas for safeguarding Washington’s fish and wildlife in an era of climate change.

http://wdfw.wa.gov/wlm/cwcs/nwf_climatechange09.pdf

Toft, J.D., J.R. Cordell, C.A. Simenstad, and L.A. Stamatou. 2012. Fish distribution, abundance, and behavior along city shoreline types in Puget Sound. *N.Am.J.Fish. Mgmt.* 27: (2), 465-480.

University of Washington Climate Impacts Group. 2009. The Washington climate change impacts assessment: Evaluating Washington's future in a changing climate.

<http://ceses.washington.edu/cig/res/ia/waccia.shtml>

University of Washington Climate Impacts Group. 2010. Hydrologic climate change scenarios for the Pacific Northwest Columbia River basin and coastal drainages.

<http://www.hydro.washington.edu/2860/>

Watershed Specific Technical Review: North Olympic Peninsula-Elwha-Dungeness Watershed

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

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

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

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

The 2012 3-year plan is similar to last year's with new projects on the list and an increased emphasis on work in the Elwha River watershed. As well, we note integration of habitat protection through the Lead Entity staff's efforts to inform the larger work group of opportunities to contribute technical input related to salmon recovery to public processes in the areas of land use, land development and shoreline management. The narrative continues to be an improvement over previous years because it provides substantial project details in actual project descriptions, including species and, to some degree, the life stages and specific populations that

may benefit. However, the general benefits to salmonids do not appear to be focused on Chinook as much as they could be. For example, the scoring weight for any ESA-listed stock is not much more than “other stocks” (3.33 and 3.0, respectively). The overall program remains focused on capital projects and sequencing of actions that are dominated by practical opportunities with recognition of complex, long-standing ecological challenges (e.g. Dungeness River stream flow) that are continued work through the multi-faceted efforts of the watershed team.

RITT Questions:

1) Consistency question: Are the suites of Actions and top priorities identified in the watershed’s three year work plan/program consistent with the hypotheses and strategies identified in the Recovery Plan (Volume I and II of the Recovery Plan, NOAA supplement)?

WRIA 18 (Elwha/Dungeness)

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

WRIA 19 (Lyre/Hoko)

Because this WRIA is geographically and biologically outside of the PS Chinook ESU efforts, some planning and actions in this three-year work plan are beyond the focus of our review and comment. Continuing projects address acquisition for protection to improve channel structure and riparian conditions. Ongoing restoration and acquisition work continues in this area, particularly in the Pysht and Salt Creek areas, as well as recovery plan and conservation plan development. Some recovery actions occur in the nearshore and estuarine areas of WRIA 19, which have demonstrated use by PS Chinook. Most of the projects listed for WRIA 19 are instream projects. To be sure, there will be some ecosystem process-related benefits to estuarine and nearshore areas, but it is not clear that these would contribute to recovery of PS Chinook to the extent that on-going and technically sophisticated project work in, for example, the Dungeness River and Elwha River systems would. Still, it is not without reason that improvements in estuarine and nearshore conditions in this area are utilized and of benefit to

early marine life histories of Elwha and Dungeness Chinook conducting complex life histories and nearshore migrations. Programmatically, the efforts and funding expended here must be carefully balanced with priority needs for core independent Chinook populations, which are the focus of this review.

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

Steelhead Recovery

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

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

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

The 2012 narrative reports substantial progress in the lower Dungeness for a series of long-standing, well-partnered efforts. However, it remains to be seen if the instream flow issues that limit instream survival of PS Chinook will be effective. To that end, the NOPL is encouraged to remain engaged in any and all efforts to improve flows and to monitor the implementation of any agreements reached. The RITT recognizes that NOPL staff cannot participate in all local planning efforts and negotiations, but fundamental controls on habitat and production exerted by streamflow are unavoidably of great import to one of two independent populations in the Straits MPG.

Progress for other watersheds in the planning area is much less certain. This is recognized in the work plan narrative in part because of the indistinct nature of planning goals and in part due to the practical consequences of reduced and decreasing funding for implementation. The work

plan narrative states that projects may not be, for many reasons, on trajectory and that most remain in the conceptual or design phase with some progress towards completion. The pace of restoration is not likely on track for the ten-year goals due to funding and logistic constraints that all other lead entities in Puget Sound face.

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

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

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

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

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

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

The RITT is encouraged that NOPL recognizes the value of non-capital efforts to participate in instream flow processes, shoreline planning efforts, and other land use actions. This has been identified as a regional issue, with the simple logic being that we, collectively, cannot hope to recover PS Chinook if habitat loss and degradation outpaces the gains made through active and passive restoration efforts. Water conservation in the Dungeness and reasonable resolution of instream flows are critical, particularly considering the small spawning population that remains.

The Elwha Dam is the dominant effort in the region and represents a project of national interest and import. The removal of the Elwha dams brings with it an increased effort on restoring lower Elwha River floodplain and estuarine habitats, and while these have efforts and associated monitoring elements have been developed for some time (2007), the pace of implementation and adaptation is expected to be measured and careful. A significant benefit of the Elwha program is to inform monitoring and adaptive management efforts in the planning area – to the extent that research-level methods and approach can be adopted or adapted and applied by NOBLE to other projects. Additionally, the inclusion of NOBLE as a more prominent partner and leader in the Elwha efforts may serve to emphasize work on core independent populations. Completing and implementing an adaptive management plan and strategy that directly identifies key uncertainties and how to use existing and new knowledge to make effective decisions to recover salmon is key to effective conservation and restoration efforts. Efforts to do this are underway in several watersheds through general understanding within and between groups of restoration practitioners and through potential application of the RITT common framework in collaboration with PSP staff. This remains a priority; the Common Framework for monitoring and adaptive management has undergone external review and will soon be complete and available to aid watershed efforts. From these tools and through Open Standards, watershed groups such as NOBLE can begin the steps to complete and implement an adaptive management plan and strategy that directly identifies goals/targets, monitoring plans, key uncertainties needing assessment and how to use existing and the newly gained knowledge to make effective, sequenced decisions about salmon recovery actions.

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

The challenge of H-integration is again recognized in the work plan narrative and is described in some detail. Significant issues resulting from the lack of communication and integration among those working on the various elements of habitat, harvest, hatchery and hydro are recognized and are common throughout other watersheds. The RITT recognizes that the pace and potential for integration of the H's is a challenge rooted in historical management approaches. Changes in production from habitat restoration efforts ultimately must be considered along with positive or negative effects of artificial production (e.g. hatchery outplantings) if the incremental effects of restoration are to be understood and used in adaptive management and project justification. Improvements in communication and information sharing through policy and the lead entity process are appropriately described and progress on these issues can be expected in the future, particularly as increasingly all parties contributing to salmon recovery in these watersheds establish common ground.

II. Policy Review Comments

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

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

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

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

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

Focus on Salmon Recovery

Salmon recovery implementers continue to be pulled in many directions by other mandates. The Puget Sound Partnership and the Policy Work Group recognize that implementation of salmon recovery actions remains a high priority in the context of the broader Sound-wide recovery efforts. Maintaining a focus on the priorities in the salmon recovery plan, as described in each watershed chapter, will be increasingly challenging as salmon recovery efforts compete in funding and time with other environmental and social programs, and will require a continued investment of time, resources and support. Work to develop, and then implement, the monitoring and adaptive management plans in each of the fourteen watershed chapter areas is one critical priority for the next few years. Other critical priorities that require a focus on salmon recovery are the items described below: multi-level relationships and discussions, monitoring and adaptive management, capacity support, habitat protection, and consistent funding.

Continue to Support Multi-Level Relationships and Discussions

Decisions that affect salmon recovery are made at the federal, state, and regional scales and are

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

Monitoring and Adaptive Management

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

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

Capacity for Implementation of the Recovery Plan

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

Lead entities represent one piece of the overall human infrastructure required for successful implementation of the Salmon Recovery Plan. Capacity and focus of work towards salmon recovery at the local, regional, state and federal levels, as well as other supporting groups

(project sponsors, private resource managers, etc.), will have a significant impact on the ability to implement the Plan and the success of recovery efforts region-wide. The region recognizes the critical importance of building support at multiple levels in order to provide assurance that the actions associated with salmon recovery will be implemented and sustainable over time despite shifts in political will and funding.

Protecting Ecosystem Functions

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

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

At the same time, multiple interests must be balanced: boater safety in rivers, the continued use of productive agricultural lands, balance between wilderness and restoration areas, use of tidelands for shellfish production, protection of the public from flood waters, the need to accommodate growth, and the willingness of landowners to allow restoration activities on private property are all considerations that the watershed groups must face when implementing the Salmon Recovery Plan. Recent efforts such as the Snohomish Sustainable Lands Strategy and the King County Flood District's use of funds to support the local Conservation District and central Puget Sound watersheds' salmon projects and staff are examples of how these interests are being balanced towards salmon recovery.

Consistent, Stable Funding

Consistent, stable, funding sources for capital and programmatic actions related to salmon recovery continues to be absent. This lack of sufficient funding is compounded by the increase in complexity in actions needed to recover salmon. According to a report prepared for the Governor's Salmon Recovery Office (GSRO) by Evergreen Funding Consultants, habitat-related

capital needs in Puget Sound total \$1.467 billion and non-capital programs needs are estimated at \$242 million (Canty, 2011). The Puget Sound region remains significantly below this amount.

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

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

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

Significant Improvements

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

Issues Needing Advancement

- Despite progress, most high-priority actions are on a slow trajectory, resulting from a combination of complex projects requiring detailed design, long-term negotiations, and/or large amounts of funding. The process of forming and evaluating design or policy alternatives is dependent upon the mandate of the responsible agency or project sponsor and can be particularly involved for certain projects.
- With high-priority projects moving slowly, it is important to invest project development capacity strategically across the watershed and to maintain focus on projects of highest priority in the recovery plan.
- Development of a coordinated Monitoring and Adaptive Management strategy across multiple existing plans will serve to integrate efforts across the North Olympic Peninsula.
- The watershed has made strides towards describing the status hatchery and harvest elements, but a more robust integration of hatchery and harvest management with habitat actions could advance understanding, highlight areas for cooperative adaptation of recovery plans, and advance overall salmon recovery goals.