

# **Puget Sound Partnership and Recovery Implementation Technical Team 2011 Three Year Work Program Review Stillaguamish Watershed**

## Introduction

The 2011 Three-Year Work Program Update is the sixth year of implementation since the Recovery Plan was finalized in 2005. The Puget Sound Partnership, as the regional organization for salmon recovery, along with 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 programs in order to be as effective as possible in the coming years. These work programs are intended to provide a road map for implementation of the salmon recovery plans and to help establish a recovery trajectory for the next 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 RITT, the Recovery Council, and the Puget Sound Partnership to inform the continued development and implementation of the regional work program. 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 2011 work program 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/program 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/program 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 program:

- 1) *Consistency question*: Are the suites of actions and top priorities identified in the watershed's three-year work plan/program 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/program 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 program 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. Regional technical review that identifies and discusses technical topics of regional concern
2. 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. Regional policy review that identifies and discusses policy topics of regional concern
4. 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 program updates in May and June 2011. 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 review, along with the watershed specific review comments, are included below.

### **Regional Technical Review: 2011 Three-Year Work Plans – Common Themes**

#### **H integration**

In most watersheds the recognized group (lead entity) used by the Partnership as a point of contact for salmon recovery planning, implementation, and status assessment is charged with only a subset of the actions needed for salmon recovery. For example, the Skagit Watershed Council's purview only extends to voluntary habitat restoration and protection through acquisition. However, salmon recovery in every watershed requires significant action in all of the so-called H's: habitat restoration, habitat protection, harvest management, and hatchery management. Because most of the lead entities are limited in their scope, the three-year workplans we reviewed are not comprehensive across all Hs, and we are not able to adequately evaluate the integration of actions across all Hs.

There is a regional need to form more comprehensive watershed forums or groups, with the capability and commitment to implement and coordinate recovery plan actions for all Hs. This issue, and the obvious lack of intentional H integration, has hampered RITT review of 3 year work plans since their inception. We suggest that the Recovery Council work with the co-managers and others to take a strong role in forming functional watershed-level groups for implementing and coordinating actions for all Hs.

#### Monitoring - Status and Trends of Habitat

Most watersheds have no organized, systematic way of monitoring habitat status and trends. This is especially important for assessing the true progress of salmon recovery in Puget Sound, because most watersheds' recovery plans require that existing habitat be protected. For example, the Skagit plan stipulates that approximately 60% of the habitat burden (which includes habitat protection and habitat restoration) needed for achieving the Chinook recovery goals is based on protecting existing habitat, defined as the amount and quality of habitat in 2005. Thus, tracking whether the quantity and quality of existing habitat is changing is an important need for recovery plan implementation. Continued lack of this information is not necessarily neutral to salmon recovery because losses in habitat may not be reversible or economically feasible, thus limiting options to adaptively manage the issue in the future. Ignoring this necessary status and trends monitoring only serves to hide potential problems with habitat loss (out of sight, out of mind). Without status and trends information it is impossible to evaluate the success of recovery plan implementation to date.

A topic related to status and trends monitoring of habitat is the need for a "balance sheet" system to account for habitat related to mitigation projects. All Puget Sound Chinook recovery plans require a net gain in salmon habitat. Any use of mitigation strategies for damaged habitat needs to ensure that there is not any loss at the scale that Puget Sound Chinook populations operate. Monitoring the big picture for all mitigation programs in the context of individual Puget Sound Chinook salmon populations is critical because mitigation does not always occur on site within the same habitat type, nor does it consistently restore natural process (often engineered habitat). Some possible consequences of mitigating habitat damage using these procedures are:

- an influence to species or populations other than those damaged by the habitat action (different site, different habitat type)
- a lack of functioning and sustainable habitat (limitations in restoring natural processes that form and sustain habitat).

Without keeping a detailed "balance sheet" of changes in habitat quantity, quality, and location, it is possible that the mitigation process ultimately produces no net gain in habitat.

#### Protection of ecosystem functions and habitat

Protection of existing well-functioning habitat is an essential component of salmon recovery in Puget Sound. Most watershed groups continue to express concerns about ongoing degradation and loss of habitat. Their concerns are supported by habitat change analyses that document continued loss of key habitats in a number of Puget Sound watersheds, with little change in the rate of loss since the listing of Puget Sound Chinook in 1999. Some watersheds have noted that habitat loss may be offsetting any gains they are making through restoration projects.

While habitat restoration can be accomplished through the watershed groups, given adequate funding, protection of existing habitat is mainly reliant on local regulations and their enforcement. Many local, state, and federal policy drivers 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.

During 2010, the RITT was briefed on the SMA, GMA, and HPA in order to better understand how practical implementation of habitat protection could be better incorporated into salmon recovery. While these acts 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. We found that none of these acts is 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.

#### Funding for monitoring

Salmonids and the ecosystems on which they depend are naturally dynamic. For this reason, and because our understanding of both salmonids and their ecosystems is incomplete, adaptive management is necessary. Adaptive management, however, cannot proceed without monitoring, and monitoring requires stable funding.

A recent meta-analysis of >37,000 river restoration projects nationwide found that few included any form of monitoring, and most that did were not designed to monitor project effectiveness or to distribute monitoring results (Bernhardt et al. 2005). The authors concluded that opportunities to improve future practices by learning from successes and failures were being lost, particularly for small-sized projects whose cumulative cost and extent exceeded those of larger, better monitored projects.

The Puget Sound region, like the rest of the country, needs to elevate its prioritization of monitoring – not just effectiveness monitoring of restoration projects, but also other types of monitoring (e.g., status and trends monitoring) of the numerous ecological endpoints relevant to listed salmonids. A critical impediment to additional monitoring is adequate funding. Some funding sources explicitly exclude monitoring proposals; others simply give higher priority to habitat manipulation than to monitoring. We encourage all funding sources to recognize the need to allocate a portion of resources to monitoring.

#### Adaptive Management and Monitoring

One of the biggest challenges for implementing the Puget Sound Salmon Recovery Plan is the development of substantive but also realistic, useful, and applicable adaptive management plans

at the watershed level. The NOAA Supplement to the Puget Sound Recovery Plan identified these as the key tool for addressing the scientific uncertainties inherent in the Plan. A number of watersheds have made good progress on development of adaptive management and monitoring plans. Meanwhile, the RITT has embarked on development of a general approach that can be tailored to each watershed's plan while providing a means of evaluating progress across watersheds. While much progress was made in 2010 on both fronts, most watersheds' adaptive management plans remain incomplete.

The RITT has developed a draft framework for adaptive management and monitoring, both to support individual watershed's needs and to integrate the watersheds' work through a common terminology and template at the regional scale. The draft framework is in the process of being finalized with the intent of distribution later this year. The framework has been applied, with RITT support, in three "case study" watersheds – San Juan Islands, Skagit, and Hood Canal – using the Open Standards for Conservation planning approach, in order to:

- 1) identify needs,
- 2) provide a consistent template for planning and prioritizing monitoring,
- 3) develop a process for refining short-term objectives and 10-year goals, and
- 4) increase the technical capacity of the watersheds to complete these adaptive management and monitoring plans.

Expansion of RITT support to work with other watersheds has also begun and will continue in 2011 and 2012. Although RITT support is available to each watershed, the process of building the adaptive management and monitoring plans will still demand time, commitment, and resources from the watershed leads, planners and implementers of actions associated with the Recovery Plan.

#### Climate Change Adaptation

Climate change 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 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, 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 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 develop of adaptive management plans that consider climate change.

Those interested in “a place-based exchange of information about emerging climate, climate impacts, and climate adaptation science in the Pacific Northwest” should consider attending the second annual Pacific Northwest Climate Science Conference, scheduled September 13-14, 2011 in Seattle, Washington. Details on registration and abstract submission can be found at <http://ces.washington.edu/cig/outreach/pnwscienceconf2011/>.

The following online references synthesize various agencies’ efforts at understanding the potential impacts of climate change on natural resources in Washington State:

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

<http://ces.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/>

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>

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](http://wdfw.wa.gov/wlm/cwcs/nwf_climatechange09.pdf)

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

[http://wdfw.wa.gov/conservation/climate\\_change/](http://wdfw.wa.gov/conservation/climate_change/)

### **Watershed Specific Technical Review: Stillaguamish Watershed**

- 1. 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)?***

Yes. Most actions are consistent with the strategies and organization of the Stillaguamish recovery plan in the areas of habitat restoration, harvest management, and hatchery management. Habitat restoration projects are organized around six primary limiting factors identified in the plan and two secondary limiting factors that, while not directly called out in the plan are alluded

to there. The limiting factors are given equal weight because the watershed group feels that action is required in all of them to promote Chinook recovery. The capital project list is organized by five of the primary limiting factors, plus a protection/acquisition category, and it is set up in a way that shows potential sponsors where the greatest needs or gaps are, which could be helpful in directing future work towards unmet needs, assuming project sponsors use the list in this way.

A significant part of the workplan involves supplementation of both the North Fork and South Fork populations with hatchery-produced fingerlings. The North Fork portion of this work is well documented in the 2005 plan, but the South Fork portion was developed after the original plan was adopted and was not discussed in the original plan. Although there has been a lot of planning and analysis to support the South Fork program, the format of the three-year workplan does not allow for this analysis to be included, other than being on the project list. It is not clear from the available documentation which, of the six limiting factors are being temporarily or permanently addressed by these supplementation programs. This sort of analysis would be helpful in predicting the likely effectiveness of these programs and in evaluating their effectiveness after implementation. The harvest management portion of the plan is proceeding as outlined in the 2005 recovery plan, and overall exploitation rates are now generally at or below the rebuilding exploitation rate established in the harvest management plan. The three-year workplan includes a project, to be implemented once South Fork coded-wire tags recoveries are available, to reevaluate the exploitation rate guideline for Stillaguamish Chinook and to develop a separate guideline for the South Fork population, which would be a good idea given the amount of time that has passed since the development of the original exploitation rate guideline and the documented net loss of habitat since then.

The original recovery chapter did not address habitat protection in detail. The three-year workplan makes it clear that the watershed group feels that major habitat protection issues must be addressed at the regional level in order for meaningful habitat protection to occur. The project list includes some specific ideas for improving, or implementing, meaningful habitat protection. Continued work to relate habitat protection to the limiting factors that have already been identified would help make the case for habitat protection to the appropriate regional authorities and help them understand what needs to be done. There is also, apparently, some analysis that informs the choice of which areas to acquire as a mean to protection, but this is not clearly articulated in the narrative.

***2. 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?***

The project list is organized in a manner that documents the progress of habitat restoration relative to 10-year goals developed in the 2005 plan. The plan appears to be on pace for several of the limiting factors (e.g. riparian restoration and sediment reduction) and several are behind the pace called for in the plan (e.g. placement of large wood, removal of hardened banks and reconnection of the river to its floodplain). There is a very nice summary of the quantity of habitat restored. For some factors (e.g. , removal of hardened banks and reconnection of the river to its floodplain) the narrative discusses the balance between restoration and degradation and points out that, despite lots of work to restore habitat, the balance between restoration and

loss is actually negative. In other words, the watershed is apparently actually losing ground in those areas, although the information on which this conclusion is based is not referenced in the narrative and is not clear from the project list. This kind of information is extremely valuable for communicating to regional policy makers that much more than just implementation of restoration projects is required for salmon recovery.

The narrative states that increases in peak flows, a documented factor limiting Chinook salmon recovery in the basin, are continuing to get worse. Juvenile outmigrant monitoring has documented a 30% reduction in freshwater survival over the past several decades, and this decline is thought to be directly related to the increase in peak flows. The watershed is also investigating the cause of the peak flow increase according to the narrative, although we didn't find this study in the project list. They initially hypothesize that the cause is a combination of climate and land use factors. This work should help determine what actions, if any, would be most effective in stopping this trend.

In addition, based on recent data analysis, the watershed group is beginning to revise its thinking about the most important factors affecting performance of the Chinook populations, with a new emphasis on estuary processes. This rethinking has already led to modified priorities for acquisition and restoration, and could lead to a fundamental change in sequencing and priorities of recovery actions. This new information and the resulting change of focus for the recovery strategy is not documented or referenced clearly in the current three-year workplan. We would like to see more discussion of this, including any implications of the limitation of estuary habitat on the expected effectiveness of the hatchery supplementation programs.

Information provided in the plan suggests that the exploitation rate on North Fork Stillaguamish Chinook, at least, has been close to or below the rebuilding exploitation rate (RER) level of .25 in most years since the listing and is continuing to decline or stay low. The North Fork hatchery supplementation program has been proceeding pretty much according to the plan. The South Fork program, as described above, is new.

The fact that a new supplementation program in the South Fork has been necessitated since the adoption of the plan in 2005 is strong, albeit indirect, evidence that the current all-H recovery program has not been effective, so far, in moving Stillaguamish Chinook towards their recovery goals. Despite a high level of effort by the watershed group, a failure to adequately protect existing well-functioning habitat, along with impediments to full implementation of the restoration program, seem to be the main factors responsible for this situation.

### ***3. Is the sequencing and timing of actions appropriate for the current stage of implementation?***

The narrative states that much of this question will be answered by the watershed's monitoring and adaptive management plan. One outcome of that work will be the development of a project prioritization protocol and movement towards greater h-integration. The watershed anticipates developing prioritization within limiting factors but not among limiting factors, preferring to maintain the equal status of all limiting factors for now. Given this structure, the implementation of h-integration would be greatly facilitated by relating all plan actions (for example the North and South Fork supplementation programs) to the six limiting factors as much as possible.

Translation of the Stillaguamish plan using the Open Standards template developed by the RITT will also help sequencing work within and among H's and among habitat limiting factors. An analysis such as this might be useful in sorting out the relative roles of hydrological processes and estuary habitat in supporting recovery and the appropriate sequencing of estuary restoration, remediation of hydrological processes, and the supplementation programs.

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

Snohomish County, and several of the Stillaguamish watershed partners, have recently adopted a sustainable lands strategy (SLS) to address conflicts between use of land for agriculture and salmon restoration projects. The RITT has previously commented that a blanket prohibition on restoration projects in agricultural lands would not be consistent with reaching the Chinook recovery goals for Stillaguamish Chinook, and we have no reason to change this statement now. We agree with the statement in the narrative that Chinook salmon recovery in the Stillaguamish basin depends on resolution of conflicts between agricultural and salmon recovery uses as soon as possible. It will be important to closely track the effectiveness of the new SLS in allowing restoration to occur at the needed pace for the Stillaguamish. The dispute over restoration of estuary habitat on Legue island is a part of this broader discussion, and there the groups expressing concern about restoration of key salmon habitat extend well beyond agricultural interests. Based on the hypotheses of the Stillaguamish Chinook recovery plan, and new information that is not yet well documented in the three-year workplan, significant increases in accessible estuary and lower river floodplain habitat is key to the recovery of Stillaguamish Chinook.

The Stillaguamish Flood Control District has expressed concerns about more removal of bank armoring, which is part of the recovery strategy for Stillaguamish Chinook. The Flood Control District has also pointed out that restored salmon habitat needs to have resources allocated for stewardship and monitoring in order for the restoration to be maximally effective. The watershed group, and the RITT, concur with the need for adequate resources for stewardship and monitoring. This is another area where the watershed would like help from regional entities in getting support for the actions needed to promote Chinook salmon recovery.

Finally, the narrative nicely sums up the societal issues involved in developing and maintaining support for salmon recovery and makes the case that there is an important role for the Puget Sound Partnership in marketing the need for significant actions that will turn around the decline of Chinook salmon. The RITT concurs with this statement and with the need to develop strong societal support to overcome some of the current barriers to salmon recovery plan implementation.

## **II. Policy Review Comments**

The Recovery Council Work Group is an interdisciplinary policy team of tribal, federal, state, and local agency policy staff. The team developed both general comments on common themes

across the watersheds within the region, as well as significant advancements and issues needing advancement that are watershed specific. The general and watershed specific comments follow below.

### **Regional Policy Review: 2011 Three-Year Work Plan – Common Themes**

It has been twelve years since the listing of Puget Sound Chinook. Although there has been considerable advances towards recovery, significant difficult challenges remain. The following is our sense of some of these key challenges. We acknowledge the complexities and enormous efforts undertaken to advance recovery, and the Region remains steadfast in its support of the watershed approach to salmon recovery.

The Region wants to again highlight 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 in the work of implementing recovery. The work plan is becoming more refined, and ultimately is helping advance regional recovery through a strategic process that results in the most important projects being done.

We appreciate the efforts of the watersheds, and look forward to further refining this process and its utility in the future.

#### **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 to find common ground and common solutions. This includes decisions around land use, how to sequence and identify regionally significant actions, and the functional relationships within the Action Agenda.

#### **Focus on Salmon Recovery**

The work to recover the Puget Sound ESU is complex, multi-faceted, and is being advanced in many different forums. This includes the effort to integrate decisions across the H's, adaptively manage the salmon recovery plan, refine the Action Agenda, participate in the development of LIOs, and support the integration of salmon recovery into shoreline master program updates. The salmon recovery community must engage in all these arenas, but it is also critically important to focus the time and resources in a way that leads to recovery of salmon. The Region recognizes that implementation of salmon recovery actions remains a high priority and is committed to continuing to strengthen and implement the salmon recovery plan to realize this goal.

#### **Protecting Ecosystem Functions**

The protection of existing habitat is essential to supporting healthy ecosystem functions. Improving our ability to protect habitat continues to be a high priority for the Region. There are several timely initiatives associated with our ability to protect habitat underway right now, including the Shoreline Master Program Updates and response to the Biological Opinion on FEMA's NFIP. Other tools necessary for this work include voluntary efforts, technical

assistance, incentives, education and outreach work, and acquisition of property. The Region recognizes the importance of these tools and initiatives and supports continued work to refine and improve our use.

### **Adaptive Management and Monitoring**

The development of a coordinated watershed/regional monitoring and adaptive management program remains a high priority for the region. This is key to strengthen recovery chapter implementation, adaptation, and overall assessment of recovery efforts. Many of the watersheds indicated the challenges of advancing this work, due in part to the limited regional and watershed capacity

The Region continues to be committed to advancing adaptive management in a way that describes the relationship between habitat, harvest, hatchery, and hydropower management decisions. The following describes several actions occurring at the regional scale to advance this effort:

- Compilation of VSP monitoring data throughout the Sound by NOAA and co-managers
- Establishment of the Salmonid Work Group with PSP, NOAA, and USFWS to develop an assessment of ongoing VSP monitoring and how it relates to listed Chinook, steelhead, and summer chum.
- Framework to link together the hypotheses and monitoring information associated with each of the watershed chapters and the regional chapter information. This has been developed by the RITT and is now being tailored to the watersheds, starting with three (San Juan, Skagit, and Hood Canal)
- RITT/PSP commitment to work with all the watersheds to tailor the monitoring and adaptive management framework/template and support monitoring and adaptive management plan development.

To be successful in this work, a significant amount of resources are, and will continue to be, needed. In addition, the right people must be at the table, including the technical and policy experts in the hatchery, harvest, habitat protection, habitat restoration, and hydropower sectors.

### **Emerging Issues Affecting Salmon Recovery**

There continues to be issues that emerge that can ultimately affect the trajectory of recovery. Local, state, tribal, and federal representatives in the salmon community should continue to engage and connect salmon recovery needs to such discussions and coordinate messages that offer the broadest level of support possible. Such initiatives include:

- Shoreline Master Program updates: Occurring across the Puget Sound and is critically important for maintaining and improving the ecosystem functions associated with the riparian habitat and freshwater and nearshore systems that support salmon.
- FEMA's National Flood Insurance Program: Local Jurisdictions are responding to a NOAA/NMFS Biological Opinion on the program that will impact how and where development occurs in the floodplains across the Sound.
- Corps of Engineers Levee Vegetation Management Policy: The Corps is working on an approach to vegetation management on levees along rivers and streams that contain salmon.
- Large Woody Debris Installation: Jurisdictions are balancing the need for sustainable, functional salmon habitat with boater safety and flood management.

- Hatchery Genetic Management Plans: their development and their connection to the Puget Sound Harvest Management Plan and watershed plans aimed at system recovery

### **Funding**

The Salmon Recovery Plan identified a need for a \$120 million investment per year for the first ten years. This represents the need for both a sustained investment that is consistent and reliable for capital and non-capital actions, as well a protection of the existing resources. We are falling short of this need to make salmon recovery successful and it is imperative that the Region and its partners continue to think broadly about diversified funding sources. Leveraging the efforts of others, and forging new relationships with non-traditional allies will only help increase efficiencies to advance recovery. The Region is committed to exploring creative ways to leverage and secure new funding for salmon and ecosystem recovery.

### **Watershed Specific Policy Review: Stillaguamish Watershed**

#### *Significant Improvements*

- The Stillaguamish watershed acknowledged their work to advance prioritizing within the six limiting factors. There still may be a need to continue work to sequence and prioritize between these limiting factors. Continued refinement of the project list as prioritization occurs that allows for a more refined/articulated list will be helpful in continuing a strategic implementation approach.
- The Stillaguamish watershed continues to advance an integrated ecosystem approach to salmon recovery that includes water quality issues. The Partnership is encouraged that a broad ecosystem approach is being considered for future 3-year work plans as various ecosystem components will certainly benefit the recovery of Chinook salmon. The watershed will need to continue to describe how Chinook recovery and ecosystem recovery overlap, and in areas where there is not obvious overlap identify how best to articulate the unique needs of the Chinook salmon populations.
  - Some possible next steps for this work could help identify increased refined in how water quality and habitat interact for salmon recovery. A good example is the King County, Snoqualmie Valley water quality synthesis report.
- Work to implement recommendations of the AMM report. Advance and gain in areas that are shown to be lagging behind. Great progress has been made on further refining the Stillaguamish Adaptive Management and Monitoring plan over the last year. As this work continues, an emphasis on all H-integration will be helpful for better understanding how all H's are working together to achieve recovery. The RITT adaptive management and monitoring effort may provide one tool for looking at salmon recovery in the watershed in an all H context. Other tools may also exist.
- Great strides have been made to advance the work on the Snohomish Sustainable Lands Strategy. This has many promising features that can provide efficiencies and can expedite the projects while also advancing agricultural interests in the basin. The next steps in phase 2 will be important to further refining the strategy and actively engaging more partners in the watersheds. This work is an example that could be used in other areas in Puget Sound. This is a very promising and pioneering initiative to support both agriculture and habitat restoration for salmon recovery and should be commended.

- The Stillaguamish Watershed Council celebrated its 20<sup>th</sup> anniversary this year.

*Issues to Advance*

- Partnerships with County, State and Federal agencies that have interest in the watershed should continue to be strengthened to address the concerns of the watershed regarding those factors/stressors that are highlighted in this three-year work plan update. Coordination between entities is necessary for recovery, especially between the co-lead entities of the Stillaguamish Tribe and County. Particular emphasis could be placed on continuing to build and strengthening the co lead entity partnership between Snohomish county and the Stillaguamish tribe. As these partnerships develop a broader participation from the watershed in developing the 3-year work plan would provide an avenue to strengthen relationships as well as the mutual understanding of the recovery plan and progress toward goals.
- With the soon to be completion of the two major estuary projects, the watershed is very close to achieving the 10 year targets for estuary restoration. There will be a need to work closely with stakeholders through the SWC and other avenues to evaluate how these projects are performing and to develop a shared understanding of future targets and needs.
- Habitat protection: SMP update, review, salmon recovery information incorporated into the update. Habitat protection continues to be a challenge. As mentioned in the 3-year work plan update, the watershed is losing ground faster than it is gaining through restoration. This indicates a need to engage multiple partners to further strengthen the full suite of habitat protection tools within the watershed. This includes but is not limited to strategically focused education and outreach, regulatory updates at the city, county, regional and state levels, fee simple acquisitions, incentive programs, and others.