

Puget Sound Partnership 2008 Three Year Work Program Update Skagit Watershed

Introduction

In April 2008, each of the fourteen watersheds submitted three-year work program updates on accomplishments, status of actions, and proposed actions that built on the 2006 and 2007 three-year work programs. 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 first three years of implementation. The 2008 Three-Year Work Program Update is the last of the first three years for implementation since the Recovery Plan was finalized in 2005. As salmon recovery in the Puget Sound is now part of the Puget Sound Partnership's legislative responsibility, the Puget Sound Partnership will perform an assessment of the development and review of these work programs in order to be as effective as possible in the coming years.

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 Puget Sound Recovery Implementation Technical Team (RITT), the Recovery Council Work Group, 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 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 2008 work program updates

Factors to be considered by the Puget Sound Recovery Implementation Technical Team in performing its technical review of the Update:

- a. Is the Update consistent with the recovery plan hypotheses and strategy for the watershed's work program?
- b. Is the sequencing and timing of the action in your updated three-year work program appropriate?
- c. Are there significant components missing from the work program? If so, what is missing and what can be done about them in the three-year work program update or at a regional scale?

Watersheds were also provided with the following seven questions, answers to which the Recovery Council Work Group and the Partnership salmon recovery watershed liaisons assessed in performing their policy review of the three-year work program

1. Is the work program consistent with the policy feedback and recommendations from the 2004 documents, Puget Sound Salmon Recovery Plan Volume I, Watershed Profiles – Results section, NMFS Supplement, as well as the regional Nearshore Chapter, where applicable?

2. Is the work program tied to the identified three-year objectives and scheduled to proceed at a pace sufficient to achieve the watershed's ten-year goals?
3. Is the work program narrative tightly linked to individual projects and priorities?
4. Do programmatic actions address protection objectives?
5. To what extent are habitat, harvest and habitat actions integrated and included in the work program?
6. How is the capacity to implement the updated three-year work program addressed?
7. What are the three-year work program objectives and how well does the updated program address them? This includes:
 - Improves the level and certainty of protection of habitat and the 22 existing Chinook populations;
 - Preserves options for achieving the future role of this population in the ESU;
 - Ensures habitat protection and restoration and restores ecosystem processes for Chinook; and
 - Advances the coordinated/integrated management of habitat, harvest, and hatchery.

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 early June 2008. Three primary questions were addressed along with additional regional questions. The questions and the RITT's review comments are below.

SKAGIT WATERSHED

Recovery Implementation Technical Team

1) Is the Update consistent with the hypotheses and strategy for the watershed's Work Program? (The 'work program' includes hypotheses and strategies in the Puget Sound Recovery Plan, including the watershed plan, TRT review comments and NOAA Supplement comments).

In general, we believe the actions identified in the Three-Year Work Plan are consistent with the hypotheses and strategies offered in the watershed recovery chapter with an emphasis on estuarine and freshwater rearing habitat in large river floodplains. The work plan also contains actions in upper watershed areas addressing sediment concerns consistent with the watershed recovery chapter. Needed monitoring and research actions are also listed.

The NMFS supplement indicates that regulatory protection actions are a concern for Puget Sound watersheds, including the Skagit. The Three-Year Work Plan provides a placeholder for staffing 6 FTEs for regulatory program development and enforcement, but does not describe how these FTEs implement any of the protection actions described in the Recovery Plan. Additional information regarding regulatory protection actions, including instream flows and other water

issues, farm and forestry practices, flood and erosion protection in rivers and nearshore (riprap and bulkheads) are needed for the overall implementation of the Recovery Plan. This is also the case for habitat monitoring in terms of determining whether current quantity and quality of habitat is being protected.

Although the existing actions are consistent with the Watershed Recovery Plan, there is not enough information to evaluate whether the pace of implementation is reasonable for year 3 of the Recovery Plan, and whether it is likely to achieve recovery is uncertain in our minds. This is because not enough monitoring elements are currently in place in the watershed to evaluate the question. Full implementation of a monitoring program and linking it to the state's Habitat Work Schedule (HWS) database, as mentioned in the Three-Year Work Plan narrative, is one way to track the needed data to answer the question. The material presented in the Work Plan also helps show which projects have been completed or are the process of being completed. This effort is helpful in determining whether the pace of recovery is on track. More work is needed on this issue.

2) Is the sequencing and timing of the actions in your updated three-year work program appropriate for this third year of implementation of the Puget Sound Recovery Plan?

The actions are generally appropriate for restoration, but it appears that more attention is needed to address sequencing of projects and actions per the RITT recommendations at the April 14, 2008 meeting. Future implementation plan updates should reflect more fully the findings of this meeting's conclusions:

1. *There isn't a "single" limiting factor to prioritize over others. There are multiple factors that need attention. All elements of the recovery plan (or their surrogates) need to be completed over time. A multi-faceted approach to implementation is appropriate to achieve Chinook recovery in the Skagit.*
2. *Related to sequencing of restoration - actions should be done in both freshwater and estuarine rearing habitat to alleviate known constraints on all 6 Skagit Chinook populations.*
 - a. *Large scale restoration of floodplain/mainstem habitat in gap areas of the Sauk (downstream of Darrington) and Skagit (downstream of Rockport) Rivers would be important to sequence early in plan implementation because of their benefit to multiple populations.*
 - b. *Large scale connectivity restoration in the tidal delta would be important to sequence early in plan implementation because their benefits accrue to multiple populations and increase the value (capacity and productivity) of existing habitat and later sequenced restoration projects that change estuarine rearing capacity.*
3. *Extension of the current hydrodynamic model to include the full geomorphic delta would be an important planning tool to evaluate cumulative impacts of multiple restoration projects and other actions (e.g., flood control) for the Skagit Delta.*

The current Three-Year Work Plan contains a diversity of restoration actions across the watershed along with the limiting factors addressed (fits with bullet #1 above), but there is not a comprehensive list of actions that address the points in bullet #2 above relative to large scale

restoration in freshwater floodplains and the tidal delta. Scopes of work to achieve the work outlined in bullet #2 likely includes technical and policy elements.

For bullet 3 above, the hydrodynamic model action, it is listed in the Work Plan. Research and monitoring actions discussed at the April 14, 2008 meeting are also listed. Complete, and early, implementation of these research and monitoring elements will preserve recovery options by developing more focused actions for early timed Chinook populations (e.g., yearling studies) and multiple populations (e.g., regional studies). The effectiveness and status/trends monitoring coupled with the existing IMW monitoring will provide needed data for adaptive management decision making.

Additionally, an explanation of the implementation emphasis being placed on early timed populations would help address the regional need for at least one of the three early timed Chinook populations in the Skagit to be at low risk for ESU viability per the NMFS Supplement.

3) Are there significant components missing from the work program? If so, what are these and what can be done about them in the three-year work program update or at a regional scale?

The Three-Year Work Plan provides information on habitat restoration and land acquisitions, along with information on harvest management, research, and hatchery actions identified through the state and tribal co-managers. Information is also provided for regulatory protection, including, including positions for 6 FTEs although it is unclear at this time how those positions will influence protection. However, as pointed out in the NMFS Supplement (page 34), these actions are not fully vetted with stakeholders or others with jurisdiction, which may hinder their ability to be implemented.

Protection remains a critical piece of salmon recovery in the Skagit. If the protection elements identified can't be implemented, then alternative pathways to protection must be developed. Attempt to implement the protection actions listed in the Recovery Plan should be made early in the Recovery Plan's implementation phase. This is likely an issue regionally as well as locally. Delaying attempts to implement protection actions will only delay answers of whether they are "doable" based on technical, political, or societal factors. Delaying action on the protection front of salmon recovery only defers our ability to gain adequate protection (if the proposed actions are doable) or start the adaptive management process which would develop of alternative pathways for protection (if we find out certain protection actions are not "doable"). No action on this issue most certainly guarantees loss of existing habitat.

Additional aspects for advancement:

* As mentioned in the response to Question #2, there is still a need for thoughtful sequencing of actions. We recommend applying the conclusions of the April 14, 2008 meeting for future plan updates; and

* H-integration for the implementation phase of the Recovery Plan has not been addressed and still remains a shortcoming as pointed out in the 2007 review.

In summary, for Skagit Chinook recovery to occur, all elements of the watershed plan, or its surrogates, must be implemented or recovery goals will not be achieved.

Puget Sound Partnership Questions

Does the Update provide information on the improved level and certainty of protection for habitat and the 22 existing populations?

While the update is an improvement on the 2007 version, it doesn't appear to address the level of certainty of habitat protection. There currently isn't an adaptive management plan along with its complementing monitoring elements to determine whether the current level of habitat in the Skagit Watershed is being protected (or not). Additionally, there isn't necessarily any certainty of implementing protection actions at this time. This leads to an unknown level of certainty associated with habitat protection.

Does the Update provide information on preserving options for achieving the future role of this population in the ESU?

This question is not explicitly addressed in the 3 year plan update material supplied for review. However, we believe much of the material presented in the 3 year plan update, if implemented, will preserve options for recovery of the Skagit Chinook populations.

Actions that benefit multiple populations preserve future recovery options. There are restoration actions identified in the work plan update that benefit multiple populations. These occur in the tidal delta and mixed population freshwater rearing areas of the mainstem and its floodplain.

Additionally, the regional research projects generally focus on multiple populations including:

- The critical life stages that occur in the nearshore marine waters of the Whidbey Basin are now addressed through inter-watershed coordination focusing on that area. This idea has been extended to a regional study including the San Juan Islands. Coordinated regional studies that evaluate rearing areas of a mixture of populations and link them to their source watershed is a good approach. Conclusion of these studies may generate new options for protection or restoration actions and link different parts of the Puget Sound ESU in a quantifiable way for salmon recovery.
- The yearling Chinook research results will transfer conceptually to other basins (e.g., preferences of habitat types by time of year) and yield results that allow for focused restoration and protection action for Skagit populations with significant yearling life history expression. The 3 early timed populations have a higher percentage of yearling life history expression than later timed populations, although all 6 Skagit populations are known to include yearlings.

Implementation of adaptive management preserves future options by allowing for recovery pathway course change if needed. Monitoring data are being collected through the Skagit IMW that is designed to detect the response of Chinook populations to restoration at the scale of the entire basin. However, it is not certain whether IMW funding is secure for the long term. Effectiveness and status/trends monitoring is listed in both versions of the 3 year plan

spreadsheets. Together, these monitoring efforts could provide the necessary monitoring results for an adaptive management process. However, this process does not appear to be developed for the Skagit watershed so it is uncertain whether monitoring results will be used by managers to course correct recovery actions if needed.

Future recovery options are preserved when wild stock goals are given priority in the harvest and hatchery management plans. This is the case with both the harvest and hatchery actions in the Skagit.

Does the Update provide information on ensuring protection and restoration of ecosystem processes for Chinook salmon?

The updated spreadsheet does include a category for limiting factors and the majority of the restoration projects focus on restoring ecosystem process throughout the watershed. The emphasis on estuarine and floodplain processes will likely directly benefit Chinook salmon as these areas were shown in the Recovery Plan to be constraints on wild Skagit juvenile Chinook populations at contemporary smolt outmigration levels (i.e., 700,000 to 6,000,000 smolts).

Does the Update provide a high level of protection and restoration for ecosystem processes for multi-species?

This Recovery Plan does not directly address species other than Chinook salmon, however, implementation of many of the restoration and protection actions aimed at Chinook will provide benefits for other species. We do not see actions listed that will reduce viability of other salmonid species.

Tidal delta restoration will not likely provide significant benefits to coho and steelhead, with the exception of work done in the upper estuary (i.e., riverine tidal zone). Large river floodplain restoration will benefit all salmonids, especially coho if work results in improvement (increase area, access, or quality) to floodplain channel habitat.

Implementation of the yearling research will provide data to not only focus actions benefiting yearling Chinook populations, but other salmonid species dominated by a yearling or older juvenile life history (e.g., coho, steelhead).

The current lack of emphasis in the 3 year plan update on small lowland tributaries does not allow for a higher level of benefit for coho and cutthroat in the Skagit than what is already described above. These areas are not priority areas for Chinook recovery actions and thus not listed.

The Skagit harvest management programs in place for coho, chum, pink, and steelhead all give priority to management for wild stocks.

Advance the integrated management of harvest, hatchery, and habitat

There is little in the 3 year plan update narrative or spreadsheets about H-integration.

H-integration is present in Chapter 16 of the Recovery Plan with respect to showing how the sum of the actions listed in the Recovery Plan, if implemented, will achieve the recovery goals. The Recovery Plan also shows how the actions for each of its chapters are not in conflict with one another. This is a solid foundation of H-integration in which to start the implementation phase of the plan.

H-integration in the Skagit should be updated to explain the process of integration during the implementation phase of the plan. During implementation, alternative (or additional) pathways are often proposed as actions, and projects are sequenced. There is a possibility of unanticipated positive or negative consequences without an integration process in place. This updated integration should also consider factors requested in the NMFS supplement including the potential effects (1) of climate change, (2) predicted human population growth, and the status of protection of existing habitat.

II. Policy Review Comments

The Recovery Council Work Group, an interdisciplinary policy team, evaluated each of the fourteen watershed work plans. In addressing the questions identified above, the interdisciplinary team noted accomplishments and strengths as well as gaps and issues warranting special attention. The team assessed each of the watersheds' three-year work plans, as well as the general themes that applied across the region. The general comments addressing common accomplishments and opportunities for advancement are discussed below as well as specific comments for the Skagit watershed.

General Comments for 2008 Three-Year Work Program Updates

The 2008 watershed three-year work program updates reflect advancement in terms of project and programmatic identification. Watersheds received capital and non-capital funding through the 2007 biennial budget process, providing a significant increase in resources relative to previous years. Despite these gains, both in funds and in work program, many of the watersheds continue to have gaps, to varying degrees, that were identified in the NOAA supplement as well as the 2006 and 2007 work program reviews. Regional assistance to the watershed planning and implementation teams will be needed to address how best to fill the needs identified below.

Work Plan Accomplishments, Status Updates, Sequencing and Prioritization: As identified in 2007, work program updates are a useful tool for defining progress toward recovery plan goals and ESU-wide recovery. Narratives should continue to be refined to provide a sharper focus on what each watershed expects to accomplish within the three-year period. These narratives should also document what projects have been successfully completed, what programmatic actions are underway, and how successful the watershed has been in implementing the previous year's work plan. This includes documenting how the funds of the previous year are being applied for both on-the-ground projects and capacity within the watersheds.

Work program updates can be strengthened by providing a more focused description of how needed recovery projects and actions are identified, developed, prioritized and sequenced. It is

also important that the narrative provide sufficient information to enable watershed teams and regional reviewers to determine whether the pace of implementation is appropriate to achieve each watershed's ten-year goals and if not, to be able to identify the types of changes necessary to get them on pace. This can include information on adaptive management, status updates on actions, and monitoring data.

Integrated Management of Habitat, Harvest and Hatcheries: All Puget Sound watersheds' work programs would benefit from additional efforts and regional resources to achieve H-Integration. Several watersheds advanced their understanding and application of the six steps of H-Integration during 2007 through the strong support of co-manager resources. It is noteworthy that there is a strong connection between full co-manager engagement within the watershed context and significant progress toward salmon recovery implementation. By the end of 2008, it is anticipated all watersheds with Chinook populations will be engaged in actions that reflect an integrated management of habitat, harvest, and hatcheries for Chinook recovery. The Puget Sound Partnership and RITT liaisons will continue to assist those watersheds without independent Chinook populations to integrate management and capacity of the nearshore to sustain natural and hatchery-origin populations of all salmonids. As integration advances, it will be important for each watershed to document how their actions are integrated and advancing in the work programs.

Monitoring and Adaptive Management: At the end of 2007, Shared Strategy staff along with a work group of technical experts completed a regional draft monitoring and adaptive management plan. The completion of this draft plan included a workshop and a gathering of comments on the plan. Since the completion of this draft plan, the Puget Sound Partnership has officially assumed responsibility for completing a regional adaptive management and monitoring plan, including the monitoring of fish populations and the tracking of implementation and effectiveness of actions identified in the Chinook Recovery Plan. At the regional scale, several actions have been initiated to advance adaptive management, including: 1) a pilot program directed at developing an implementation tracking system at both the watershed and regional scale; 2) a status and trends approach for Washington State, which includes directed resources for the Puget Sound; and 3) an accountability system to identify and hold responsible the appropriate entities at the local, regional, state, and federal levels.

Some watersheds have already begun developing their own monitoring and adaptive management frameworks and initial monitoring tasks. The regional team working on the diverse aspects of adaptive management will coordinate with those watersheds to ensure that the monitoring and adaptive management plans are consistent and complementary. During this transitional time, the Puget Sound Partnership staff, the work group, and the RITT acknowledge that they play an important role in providing assistance to all of the Puget Sound watersheds to advance in their development, refinement, and implementation of an adaptive management and monitoring approach. This is important in order to enable watersheds and the region to assess progress in reducing uncertainties in the population and ESU-wide recovery.

Protecting and restoring ecosystem processes for Chinook and other species by preserving options and addressing threats are critical components of recovery planning both at the local and regional scale. The Chinook Recovery Plan is predicated on the assumption that existing habitat

will be protected. Regional work to assess this assumption and to strengthen the regulatory framework is underway through the San Juan Initiative and through the Action Agenda work of the Puget Sound Partnership. Initial findings and recommendations from the San Juan Initiative are expected by the end of 2008. The Action Agenda will be completed by December 2008.

Recovery actions are continuing to become more complex and expensive. All watersheds are challenged in terms of their capacity to acquire land in order to secure future options and to implement large-scale, multi-year projects. It will be important for watersheds to coordinate and partner with other groups, organizations, and agencies locally and regionally to increase capacity and enhance their ability to successfully identify and implement habitat acquisition and restoration efforts. Increased capacity for the key participants in watershed recovery efforts is essential to successfully implement their recovery chapters and protect and restore the ecosystem processes that Chinook and other species require. The Puget Sound Partnership staff and the work group members acknowledge that additional efforts will be needed at the regional scale to assist in securing on-going resources for the watershed groups to protect and restore ecosystem processes.

Water quality and Water quantity: Water quality and water quantity will continue to be important issues for the long-term recovery of all populations within the ESU.

Work on water quality issues is associated with both urban and rural sources. The authority to address these sources is within the purview of the Washington State Department of Ecology and is primarily being addressed through the NPDES permit program, the establishment of TMDLs under the Clean Water Act, and the Forest Practice Rules. It is important to apply these programs and resources in a manner that supports the watershed groups and advances the recovery of salmon in their areas. It is recognized that emerging water quality threats to the health of Puget Sound (e.g. endocrine disruptors) are not adequately addressed under current regulatory regimes and significant new resources are needed to identify and resolve these threats. Watersheds continue to play an important role in ensuring that local jurisdictions implementing these permits adopt water quality programs that include actions and regulations that protect and enhance water quality in rivers and streams critical for salmon recovery.

Work on water quantity issues is also important at both the regional and local watershed scale. At the regional level, the Water Quantity Sub-Committee, coordinated by the Washington State Department of Ecology, is working on advancing the science on instream flows and viable salmon populations (VSP). In May of 2008, the Water Quantity Sub-Committee held an instream flow and VSP workshop to discuss the current state of instream flow/VSP science and flow assessment tools, and to identify and develop a future science agenda for instream flow/VSP work over the next five to 10 years. The workshop also focused on trying to determine the appropriate scale for flow assessment tools and VSP concepts. Additionally, the impacts of climate change will need to be assessed and integrated into salmon recovery planning on a regional scale.

Locally, watershed groups can help move these issues forward in a manner that reflects their priorities for salmon recovery. Each watershed should consider (1) advocating for appropriate instream flow rules in places where they are needed; and (2) working with the Department of

Ecology to begin creating protection and enhancement programs (PEPs) in areas where instream flows hinder the recovery of fish populations.

The RITT and the Puget Sound Partnership liaisons will continue to assist watersheds in advancing water quantity and water quality actions.

Nearshore Habitats and Processes: There continues to be a need to advance our understanding of nearshore habitats and processes associated with Chinook recovery. Several nearshore fish presence assessments were funded through the 2007 biennial budget and SRFB round. These assessments are a crucial step in advancing our knowledge of salmonid use of the nearshore and nearshore processes. The Puget Sound Partnership and RITT liaisons recognize the need to support these watersheds in translating the assessments into protection and restoration projects. The Puget Sound Partnership and the work group also acknowledge that we need to increase the scientific certainty regarding sequencing and prioritizing which nearshore areas to protect across the Puget Sound. Finally, we need to develop a standardized framework to not only monitor nearshore fish presence, but to also assess fish utilization of those areas.

Multi-species planning: The Puget Sound Steelhead were listed in May 2007 and a NOAA-appointed Technical Review Team (TRT) is working to define the population and habitat criteria for the listing. This information is anticipated to be available in March 2009. The Puget Sound watersheds will play an instrumental role in sequencing and prioritizing actions across multiple species in order to gain the highest ecosystem benefit. NOAA, the co-managers, and the watersheds are currently discussing options for Puget Sound Steelhead recovery planning. It is expected that the planning process will be defined by the end of 2008. Resources are needed to support the watersheds in steelhead planning over the next several years.

Skagit Watershed-Specific Comments

The 2008 Work Program is a continued refinement on the actions needed for recovery of Chinook salmon in the Skagit. This includes habitat restoration and protection actions along with research and capacity needs.

Significant Advancements

- Thoughtful advancement of capital projects and the application of increased funds through the 2007 biennial budget.
- Clear identification of projects that have been funded through the infusion of PSAR funds and the acknowledgement of the interim status of several projects needing additional assistance for implementation.
- Inclusion of the Middle Skagit Floodplain Restoration work and the implementation of projects in the Skagit Delta.

Issues Needing Advancement

- The Skagit Watershed lacks a coordinated effort to implement the entire Skagit Chinook Recovery Chapter. A coordinated effort is needed to advance on issues such as protection, water quantity, water quality, and a comprehensive adaptive management and monitoring program.

- Identification and procurement of the non-capital resources necessary to implement the protection and restoration actions identified in the work program, including monitoring, is likely a critical aspect to advancing recovery.
- Although the Skagit basin continues to refine and advance on research and monitoring priorities within the basin, the Skagit Watershed would greatly benefit from a structured program of adaptive management. As indicated in the Regional comments, the Puget Sound Partnership and RITT liaisons acknowledge the need to provide assistance to each of the watersheds in formulating their approach so that it addresses local needs and is complementary of the regional work.