

Shared Strategy for Puget Sound Comments on April 2007 Three-Year Work Program Update Lake Washington/Cedar/Sammamish Watershed

Introduction

In April 2007, watersheds submitted three-year work program updates on accomplishments and proposed actions that built on the 2006 three-year work program they developed to get on a recovery trajectory in the first three years of implementation.

This feedback 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 being used by the TRT and Recovery Council Work Group to inform the continued development and implementation of the regional work program components such as adaptive management. The feedback will also stimulate further discussion on recovery objectives to determine what the best investments are for salmon recovery over the next three years.

Guidance for the 2007 work program updates

Guidance for the preparation of the 3-year Work Program update emphasized the importance of stating what has changed in the Update of the 3-year Work Program from the prior adopted Work Program. Watersheds were asked to:

- Describe why you have made the changes proposed, including rationale for including, omitting, or changing the rank of a project;
- Describe any adjustments related to considering sequencing, timing, or H-Integration issues; and
- Discuss the status of implementation of your three-year work program – what have you accomplished in terms of the priority actions, what have you struggled with and how have you resolved it, and provide suggestions, if the issues were not resolved, on how we might work together to improve the situation in the future.

The guidance for preparation of the work program update provided the following as factors to be considered by the Puget Sound Technical Recovery Team in performing its technical review of the Update.

- a. Is the Update consistent with the hypotheses and strategy for the watershed's work program?
- b. Are the sequencing and timing of the actions in your updated 3-year work program appropriate for this first full year of implementation of the Puget Sound Salmon Recovery Plan?
- c. Are there significant components missing from the work program? If so, what are these and what can be done about them in the 3-year work program update or at a regional scale?

Watersheds were provided with the following 7 questions that the Recovery Council Work Group would address in performing its 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 (See Volume I, Watershed Profiles – Results section), and the NMFS supplement to the Puget Sound Salmon Recovery Plan, as well as the regional nearshore chapter guidance, 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. To what extent do programmatic actions address protection identified in the work program and non-capital project list?
5. To what extent are habitat, harvest and habitat actions integrated and included in the work program?
6. To what extent does the work program address the watershed's capacity to implement the updated three-year work program?

Guidance noted that the Work Group would also examine the objectives of the three-year work program and how well the program addresses them. This includes considering whether the Work Program Update:

- Improves the level and certainty of protection for habitat and the 22 existing Chinook populations;
- Preserves options for achieving the future role of this population in the ESU;
- Ensures that protection and restoration preserve and restore ecosystem processes for Chinook; and
- Advances the coordinated/integrated management of harvest, hatchery and habitat.

I. Puget Sound Technical Recovery Team Review

The TRT reviewed fourteen individual watershed salmon recovery three-year work program updates in April and early May 2007. Three questions were addressed. The questions and the TRT's review comments are below.

The proposed 2008-2010 update addresses many of the recommendations made by the PSTRT in the 2006 work program and includes one significant change from the 2007-2009 update: the addition of Issaquah restoration actions where only protection actions had been listed previously. However, the rationale for these activities is somewhat inconsistent with the prevailing conservation hypotheses for the system and may increase the risk to the Cedar population and to the naturally-spawning component of the Sammamish population as well. The successful resolution of this predicament will require more robust (to population risk) sequencing and timing of the proposed restoration actions and the development of a population-specific strategy to avoid any

unanticipated erosion of population viability characteristics of the Cedar population, in particular. Furthermore, this dichotomy points to the necessity of integrating the various “H” activities as quickly as possible, in order to reduce the potential effects on the naturally-spawning populations and increase the certainty of recovery in this watershed.

TRT Questions

1. Is their work program consistent with the hypotheses and strategy for their watershed?

The inclusion of the Issaquah restoration projects in this three-year update seems to be inconsistent with the primary hypotheses and strategy for recovering both the Cedar River population and the naturally-spawning component of the Sammamish population. One of the primary hypotheses of the plan is that the Cedar population and the Bear Creek natural spawning groups are at risk from strays from the Issaquah hatchery, among others. The update suggests that the Issaquah projects are intended to meet hatchery objectives for a supply of natural origin broodstock as recommended by the HSRG. However, the update recognizes that the projects— in particular, enhanced passage at the Issaquah hatchery intake weir— “will likely, in the short term, increase the number of straying adults”. This outcome seems to be in direct contrast to the primary conservation hypotheses and the early strategy for the plan. We believe the issue can be solved by proper sequencing and timing, and careful integration of hatchery objectives with the recovery objectives of the plan. The resolution of some basic questions seems necessary: Is the Cedar Chinook population to be a naturally self-sustaining population? If so, what are the consequences for the Cedar if strays increase from the Issaquah hatchery? What is the proposed role of the Sammamish population in the bio-region and in the ESU? How will the Sammamish population be managed to achieve this proposed role? The sooner this integration work takes place, the sooner this apparent conflict in objectives can be resolved.

2. Is the sequencing and timing of their work program appropriate for this 3-year implementation phase?

The inclusion of the Issaquah projects in this work program without a concomitant set of actions to offset the actual and predicted effects of strays to the Cedar population and to the Bear Creek spawning group is problematic. Is the Cedar population more robust at this update than it was in the previous one? If not, what direct actions to preserve the population are anticipated in the update? Habitat actions, as necessary and effective as they may be in achieving VSP attributes, continue to be the only actions available for addressing the population’s status.

The discussion on pages 12 and 13 of the Implementation Plan narrative outlines the difficulty of VSP sequencing and theorizes a resolution to the problems associated with the populations. Two aspects of the sequencing discussion can increase certainty: 1) addressing the Cedar population as a first action seems to be more consistent with the primary hypotheses and is in agreement with the plan’s priority and strategy; 2) actions that are the most direct and immediate at securing the Cedar population from the

hypothesized effects of hatchery strays could reduce the risk to the population. However, the narrative also points out that the appropriate discussion to establish such a sequence has not taken place. The sooner such a discussion can take place, the greater the certainty that the plan can achieve its objectives.

Timing of projects has not been well considered in the work program. The condition of various habitats throughout the WRIA may make this aspect of project implementation less critical in the 2008-2010 work program. However, as the population begins to respond to recovery activities, the timing of restoration projects will become increasingly important. Well-timed actions that are based on a reading of population (VSP) response can create synergies that raise system performance in a non-linear manner. Conversely, poorly timed (or poorly placed) actions can have a neutral or even a negative effect on population and ecosystem response and may even require remedial actions to correct unanticipated outcomes. This may be especially relevant to the timing of the Issaquah habitat projects.

3. *Are there significant components missing from the work plan? If so, what are they? What can be done about them in the 3-year work plan?*

As the plan moves into implementation, the need for a more explicit adaptive management plan (AEM) becomes critical. The PSTRT suggests that the development of an initial adaptive management plan become a primary task of the technical committee and the H-integration group. While a fully formed 10-year AEM plan is probably unnecessary at this stage of implementation, it is necessary to develop and implement some critical aspects of adaptive management during these very early stages of recovery. The TRT recognizes the plan's objective for out-migrant and adult monitoring as a step in the appropriate direction but the monitoring does not seem to be linked to any criteria or decision triggers. This linkage is especially important for evaluating the Cedar population and formulating appropriate management responses. In the absence of further adaptive management guidance, it is useful to examine the approach discussed in Schueller et al. for some guidance in the development of the initial objectives and indicators that should inform any monitoring and evaluation. (See the following website: <http://www.snre.umich.edu/ecomgt/evaluation/tools.htm>). Crafting specific predictions and triggers derived from hypotheses, indicators and metrics that allow early action-specific information to be used in a longer term assessment of ecosystem function and population response is critical before too much work is done and the evaluation complicated by lack of an adequate analytical context that the AEM plan could provide. Such a plan would also inform the sequence and timing of the many activities called for in the recovery plan. WRIA 8 has a well-developed AEM framework that now requires further explicit development.

The initiation of "H" integration work in 2007 is a welcome addition to the work program update. Given the primary conservation hypotheses for the populations, the necessity for this work cannot be over-estimated and it should proceed as quickly as possible. Given the hypothesized effects among the "Hs" and the primary conservation hypotheses in the plan, this work should assume a higher priority in the 3-year update. It is our view that H-

integration is a more comprehensive issue than can be addressed by a single model such as AHA, although such a model certainly has a place in the evaluation. Using the questions posed by the PSTRT in its brief *Integration for Recovery* paper should be a first step in the process of integration.

Shared Strategy Objectives

1. Improve the level and certainty of protection for habitat and the 22 existing populations.

The many activities proposed in the work program update, should they all be implemented, would improve the certainty of habitat protection, especially in the Cedar River. The plan makes clear the magnitude of the effort required to secure habitats and populations from further harm in this complex watershed. The programs and projects in the update, provided they are implemented in the suggested timeframe, should take the plan a considerable way toward meeting its objectives. However, it is difficult to tell, from the extensive list of proposed projects, which are actually going to be implemented during the 2008-2010 work program. Without greater certainty of the actual projects and activities that will be “in the ground” by 2010, an evaluation of the outcome for VSP attributes and population status will also be highly uncertain. Although the many activities in the work program update clearly circumscribe the need for this watershed, the activities actually implemented will describe the probable VSP response and determine the pace and trajectory of the recovery effort. The certainty of VSP response and, by extension, certainty of recovery can be increased by indicating which of the proposed activities are to be implemented or have the greatest probability of implementation during the update window.

We are also concerned by the sequence and timing of the proposed Issaquah projects and their possible effects on the Cedar population and the NLW population. Should these effects be realized in the absence of a more robust Cedar population, some attributes of VSP in the Cedar could be diminished or lost altogether. The certainty of protection for this population will decline along with the VSP attributes should some of the predicted effects occur.

2. Preserve options for achieving the future role of this population in the ESU.

Three issues are of concern here: Proper sequencing of direct Cedar population management actions with Issaquah habitat actions; the further development of adaptive management criteria and triggers; and the initiation of H integration to develop a strategy and actions for the Cedar population. Each is important but H-integration and adaptive management (which can illuminate the timing and sequence of the Issaquah activities) are most important for preserving options.

3. Ensure protection and restoration preserves and restores ecosystem processes for Chinook salmon.

The update asserts that programmatic actions across the watershed are necessary for addressing the various landscape-level processes that support salmon habitat. While the PSTRT agrees with this assertion, a more strategic application of these programs to

complement the protection and restoration activities (in support of the primary hypotheses) might add to the certainty of recovery. By this we mean that geographies affecting the Cedar population are perhaps more critical to address than geographies elsewhere. That is not to suggest a shift away from all other activities in the WRIA but merely to focus a bit more on the population that appears to be at the greatest risk.

4. Advance the integrated management of harvest, hatchery, and habitat.

The assembly of the ITC will advance the discussions about integration of various “H”-actions in achieving recovery in this watershed provided clear roles for the populations in ESU recovery are developed. In order to achieve some higher level of certainty for recovery, the risks to populations as stated in the update require a thorough evaluation (and development of appropriate management actions) of the interactions among the Hs, a task well suited to the members of the ITC. Guidance for this evaluation and for the development of appropriate management activities can be gleaned from the PSTRT’s paper *Integration for Recovery*.

II. Policy Review Comments

The Recovery Council Work Group, an interdisciplinary policy team, evaluated each of the fourteen watershed work plans. The following questions guided the evaluation of the work plans updates.

1. Is the work program update consistent with the policy feedback and recommendations from the 2004 policy feedback summary, Recovery Plan Watershed Profiles - Results section, and NOAA’s Federal Supplement?
2. Is the work program update tied to the objectives identified and at a pace sufficient to achieve the watershed’s ten-year goals?
3. Are there significant elements missing and how might these be addressed?

In addressing these three questions, the interdisciplinary team noted accomplishments and strengths of the 3-year work program update and also identified and discussed gaps and special issues warranting attention. A short discussion of comments common to all watersheds is provided below, followed by comments specific to the Lake Washington/Cedar/Sammamish watershed.

General comments on 2007 watershed work program updates

Although the watershed 2007 work program updates reflect advancement in terms of project identification, many of the watersheds continue to have gaps, to varying degrees, that were identified in the 2006 work program review. Regional assistance to the watershed planning teams will be needed to address how best to fill the needs identified below.

Work Plan Accomplishments, Sequencing and Prioritization: Work program updates are a useful tool for defining progress toward plan goals and ESU-wide recovery. Narratives

should be crafted to give a sharper focus on what each watershed expects to accomplish within the three-year period and identifying alternatives if they are unable to implement a given suite of actions. All work program updates could be strengthened by providing more focus on how projects and actions are 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.

Integrated Management of Habitat, Harvest and Hatcheries: All Puget Sound watersheds' work programs would benefit from additional efforts to achieve H-Integration. During 2006, all watersheds with Chinook populations have engaged in actions that reflect increased attention to the integrated management of habitat, harvest and hatchery. By the end of 2008, it is anticipated that those watersheds will have completed or substantially advanced efforts to accomplish the 6 Step process developed at the regional level by the H-Integration sub-group of the Adaptive Management and Monitoring Steering Committee. The Shared Strategy and TRT liaisons will continue to assist watersheds without independent Chinook populations concerning integrated management and the capacity of the nearshore to sustain natural- and hatchery-origin populations of all salmonids.

Monitoring and Adaptive Management: A regional monitoring and adaptive management plan is currently being drafted by Shared Strategy staff along with a work group of technical experts, which will guide monitoring efforts at the regional and fish population scales. Some watersheds have already begun putting together their own monitoring and adaptive management frameworks and initial monitoring tasks. The regional team will coordinate with those watersheds to ensure that both of the monitoring and adaptive management plans are consistent and complementary with each other. During the intervening time, the Shared Strategy staff, work group and TRT acknowledge that they play an important role in providing assistance during the coming year to ensure that all Puget Sound watersheds can engage in a coordinated and efficient process to develop, refine and implement a robust monitoring and adaptive management approach. This will enable watersheds and the region to assess progress in reducing uncertainties in the population and ESU-wide recovery. Shared Strategy anticipates that the regional plan will be adopted by the Recovery Council by the end of 2007. In the meantime, the Puget Sound TRT and Shared Strategy liaisons will assist watersheds who are poised to take the next steps in the development of their watershed monitoring and adaptive management plans.

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. Recovery actions have progressed from relatively straightforward work to complex and more expensive multi-year projects. All watersheds are challenged in terms of their capacity to acquire land in order to secure future options, and to implement the large-scale projects. The Shared Strategy staff and work group members acknowledge that additional efforts are needed at the regional scale to assist in securing resources that will enable watersheds to protect restoration options in rapidly

developing areas and to implement projects at an appropriate pace to achieve ESU-wide recovery.

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 within the authority of the Washington State Department of Ecology and will be primarily pursued through its implementation of the NPDES permit program and the establishment of TMDLs under the Clean Water Act throughout the ESU. However, watersheds can play an important role in ensuring that local jurisdictions implementing NPDES permits adopt water quality programs that include actions and regulations that protect and enhance water quality in rivers and streams that are critical for salmon recovery.

At the regional level, a work group has been established on instream flows to determine how to move forward the protection strategy identified in the Recovery plan. At present, the Plan calls for a 3-pronged approach to improving instream flows: (1) setting and/or revising instream flows under the authority of the Department of Ecology; (2) improving our scientific understanding of fish population needs in relation to instream flows, groundwater dynamics and relationship to surface water, as well as the implications of climate change on instream flows over time; and (3) coordinating water management decisions and actions within each watershed to avoid further degradation of instream flow conditions through the creation of Protection and Enhancement Programs (PEPs). Watersheds will play an important role in moving these issues forward in the near term. Each watershed should consider (1) advocating for appropriate instream flow rules in places where they are needed; (2) participating in the development of new science by sending technical staff to instream flow workshops planned in 2007; and (3) working with the Department of Ecology to begin creating PEPs in areas where instream flows hinder the recovery of fish populations. The TRT and Shared Strategy liaisons will assist watersheds in advancing water quantity and water quality actions.

Comments specific to the Lake Washington/Cedar/Sammamish watershed work program update

The work program update reflects capital and non-capital projects and actions that are consistent with the previous policy feedback, and is tied to objectives identified in the watershed's ten-year goals. There is insufficient information to determine whether actions are being implemented at a pace sufficient to achieve the watershed's ten-year goals. As noted below, significant advances have been made in addressing concerns expressed in previous comments.

Significant Advances:

- H-Integration work with WDFW and the Muckleshoot Indian Tribe has been initiated;

- Work program includes discussion of hatchery management issues and stock monitoring support;
- Development of elements of a monitoring and adaptive management plan has been initiated;
- Habitat limiting factors associated with habitat capital projects are noted; and
- Work Program Update project list provides project status information, including whether habitat projects had been completed, fully funded and/or ready for implementation, and whether opportunity had been foreclosed.

Issues needing advancement:

- Watershed capacity – adequacy of resources needed to implement high priority actions remains a concern;
- As noted above, the need for an explicit monitoring and adaptive management plan is critical;
- As noted in 2006 comments, plan refinement and implementation will be benefited by an assessment of protection needed on the Cedar mainstem and analysis of impacts of population growth through “built-out” scenarios; and
- As noted in previous comments, the work program update would benefit from including explicit actions that reflect linkage between the work program and the Cedar River HCP.