

Final Report for EPA

Snohomish Basin Protection Plan (Federal Grant #PO-00J097-01)

March 30, 2016

Starting in 2011, Snohomish County, the Tulalip Tribes, and King County worked with Snohomish River Basin stakeholders to create the Snohomish Basin Protection Plan (SBPP). The intent of the SBPP is to serve as planning guidance to improve the protection of hydrology and, in turn, salmon habitat. The SBPP was developed with the recognition of the need to increase watershed resilience in the face of a growing population and changing climatic conditions.

The SBPP recommends a range of protection strategies that can be used to promote the protection or enhancement of hydrology and ecosystem function. Appendices to the SBPP describe a technical approach for selecting protection tools at the sub-basin level and provide detailed updates to the 2005 Snohomish River Basin Salmon Conversation Plan. The recommendations are consistent with the overall protection approach included in the 2005 Plan, but they includes new information on specific actions and geographic areas that will help to make protection more immediately actionable and measurable.

This report briefly summarizes the outputs of the SBPP project, offers reflections, describes expected outcomes, and provides contextual information on how the SBPP will inform other local and regional work.

Summary of Outputs

Element 1 – Watershed Characterization

For the first element of the SBPP project, the project team employed a multifaceted technical approach to characterize and evaluate hydrologic conditions across the Snohomish Basin. This approach involved evaluating existing information on watershed processes and conducting a new hydrologic and habitat conditions assessment using Watershed Characterization modeling. For the assessment, the project team worked with the Washington State Department of Ecology to create and vet Watershed Characterization maps at various scales. The resulting GIS overlay, completed in March 2014, documented relationships between the four hydrological components (delivery, surface storage, recharge, and discharge) and geographical areas that provide or benefit from specific ecosystem services.

Through the Watershed Characterization modeling effort, the SBPP project team identified areas of the basin that are most important for maintaining hydrologic processes and developed protection strategies for priority sub-basins, organized by land use type. These strategies were incorporated into “Results Chains” that show how specific actions can reduce pressures on watershed processes and thereby improve overall hydrologic condition. Implementation and effectiveness indicators were assigned in order to track the expected progress of each strategy.

Element 2 – Characterization of reach-scale hydrologic processes

For the second element of the SBPP project, the project team examined hydrologic processes in the priority sub-basins identified through Watershed Characterization. Initially, the sub-basins were described and mapped in terms of important channel and habitat attributes, land use, and potential factors which may sustain or intensify existing pressures. Based on this effort, protection considerations and opportunities for the sub-basins were identified. Later, modeling data from the Pacific Northwest National Laboratory Battelle (PPNL) Snow Caps to White Caps project was used to evaluate current and historic hydrologic conditions within three focus sub-basins and to predict changes to hydrology under various land use and climate change scenarios. Emphasis was placed on potential changes in long-term monthly flow, specifically peak and low flow conditions.

Element 3 – Development of a common vision and protection plan

For the third element of the SBPP project, the project team worked with partners and key stakeholders to develop a protection plan for adoption as an addendum to the 2005 Snohomish River Basin Salmon Conversation Plan. First, the project team worked with the SBPP Steering Committee to develop a definition of protection and establish a common vision and goals for the SBPP. Next, the project team compiled information on protection tools currently used in the basin, region, state, and nation, with research focused on the pressures identified in Elements 1 and 2. This information guided the development of alternative protection strategies for implementation across the basin.

Through the technical approach, the SBPP project team identified protection tools and strategies appropriate for priority sub-basins. The project team then assessed each tool and developed recommendations for improved implementation. Based on these recommendations, the SBPP Steering Committee and the Snohomish Basin Policy Development Committee selected a subset of protection strategies for near-term implementation. Afterwards, the project team assembled “ad hoc” groups that included land use expertise (agriculture, urban, forestry, and rural residential) to provide specific recommendations on how to best implement the selected strategies in specific geographic areas.

In addition to the work described above, the project team compiled information on the range of funding opportunities that are available, or that may become available, to support protection strategies. The project team also identified potential sponsors for early action projects. Finally, in November 2015, the Snohomish Basin Salmon Recovery Forum approved the SBPP as an addendum to the 2005 Snohomish River Basin Salmon Conservation Plan.

Element 4 – Implementation of early action elements of the protection plan

For the fourth element of the project, the SBPP project team initiated an early action pilot program. At the start of the SBPP project, the Steering Committee requested proposals from any recovery partners that were interested in implementing an early action consistent with hydrological protection. In 2015, after discussions with a number of potential project sponsors and the Snohomish Basin Salmon Recovery Forum, the Steering Committee selected two projects: one that focused on validating water typing in the Woods Creek sub-basin (Wild Fish Conservancy) and another that identified areas in the Skykomish River watershed with high conservation value and high development threat (Forterra). Reports for both early action projects are companion deliverables for the SBPP project.

Reflections on Project

When written in 2010, the SBPP grant application was very ambitious. It proposed that emerging science and information – including Watershed Characterization, ecosystem services, and climate change modeling – would be central in developing protection strategy recommendations. As the years passed and the project team attempted to apply the new information, it became clear that these resources could not address all of the questions and challenges outlined in the application. Although there is still a recognized need for improved information, project team and Steering Committee members learned that there is no such thing as perfect information, and it is critical to move forward anyway.

The completion of the SBPP came one year later than originally expected. This was largely due to the effects of staff turnover and resource constraints on the various project partners. It was also the result of significant delays in the completion and provision of modeling data and reports. Though the fits and starts were occasionally frustrating for project team members, the delayed conclusion of the project has turned out to be advantageous. First, it coincides with the anticipated ten-year review of the Snohomish River Basin Salmon Conversation Plan. In addition, it provides timely information for upcoming steelhead recovery planning. Finally, it suggests potential projects ahead of the request for Near Term Actions for the Puget Sound Action Agenda 2016 update.

Logic Model Outcomes

In the near and intermediate term, it is anticipated that the SBPP project will facilitate the development and advancement of local protection projects. Currently, several groups are working to secure federal funding through the Action Agenda 2016 update process for Near Term Actions that directly implement protection recommendations. In addition, with the Snohomish-Stillaguamish Local Integrating Organization working to produce a long-term ecosystem recovery plan, it is likely that the SBPP will have some influence on the selection of priority strategies. It is

also likely that the technical information and recommendations in the SBPP will inform immediate protection efforts, such as land acquisition.

Longer-term outcomes are more difficult to predict, as functioning ecosystems, thriving resource economies, and a healthy Puget Sound are dependent on variables that extend far beyond the SBPP. However, the recommendations outlined in the SBPP are the first step towards improving hydrologic protection in the Snohomish River Basin and have the added benefit of raising awareness of protection issues across multiple sectors and jurisdictions.

Broader Perspectives

Since the listing of Chinook salmon and the subsequent approval of the 2005 salmon recovery plans, partners across Puget Sound have been working to define, improve, and measure protection. While it has been manageable to track the implementation and function of individual restoration projects, measuring protection has been far more difficult. The SBPP provides a good starting point for monitoring protection by identifying the characteristics of a geographic area that should be considered when selecting a protection tool. It further suggests implementation and effectiveness measures for a subset of protection strategies that allow managers to begin tracking efforts at a watershed scale. Although the SBPP does not provide simple answers to the many challenges associated with the protection of Puget Sound, it is currently being used by the Puget Sound Partnership and the Steelhead Technical Recovery Team as a model as they work to define and improve their own recovery efforts. In addition, SBPP project team members have been asked to present the results of the project at the Salish Sea Conference in April 2016.