



Priorities and Immediate Needs

2020 Call for Salmon Habitat Projects

Background

The Hood Canal Summer Chum Evolutionarily Significant Unit (ESU) is comprised of two populations. Both populations need to meet recovery criteria for the ESU to be delisted. The two populations are the Hood Canal population and the Strait of Juan de Fuca (SJDF) population. At the time of ESA listing in 1999, six extant subpopulations comprised the Hood Canal population and two subpopulations made up the SJDF population. It is noted, however, that each population is now considered to include one additional robust subpopulation since the ESU was ESA-listed as a result of re-introduction and/or a rebound in abundance.

In August 2018, the HCCC completed a comprehensive review¹ of the status of Hood Canal summer chum, involving an evaluation of ESA delisting criteria and an assessment of population/subpopulation status. The review concludes that additional habitat restoration and protection actions should address the continuing need to strengthen performance in the core subpopulations to bolster overall population abundance, as well as strengthening other subpopulations. These core subpopulations are the Quilcene, Dosewallips, and Union in the Hood Canal population and Salmon-Snow Creek in the SJDF population. The review also recommends actions to reduce the performance gaps for subpopulations projected to be below viability thresholds. Very specific monitoring needs in relation to understanding the early marine growth and survival of summer chum salmon were also recognized in the review. Understanding the growth patterns of sub-populations with varying productivity in the estuarine/early marine environment will help us focus our work toward recovery as well as inform the recovery discussions and decisions. The recommendation for balancing restoration actions reflects an understanding of the importance of biological diversity, spatial structure, and population abundance and productivity to long-term viability.

The comprehensive review emphasizes that the quality of existing habitat is critical both to the success of summer chum recovery and for building resilience into the subpopulations to protect against future climate change effects. Efforts should focus on restoring and protecting quality habitat and addressing data gaps in those geographic areas where work is in progress or projected to be implemented in the very near-term. This call for projects seeks to restore or protect habitat by:

- Addressing estuary restoration actions in the Big Quilcene and Duckabush watersheds.
- Addressing Hood Canal summer chum core subpopulations in both abundance and spatial structure including: mid and upper watershed process impairments such as sediment, road infrastructure, loss of riparian structure, and floodplain development in the Snow Creek, Salmon Creek, Dosewallips and Union River watersheds.
- Addressing protection and restoration of functioning quality habitat within the West Kitsap Ecological Diversity Group: Big Beef, Dewatto, Tahuya and Union watersheds.

The geographic region of relevance herein is the entirety of Hood Canal, Admiralty Inlet (or the western half), and the eastern Strait of Juan de Fuca extending out to approximately Dungeness Spit, including adjoining embayments, shorelines, and other associated tidally affected features, as well as the

¹ Lestelle et.al. In Review. Recovery Goal Review and Updated Guidance for the Hood Canal Summer Chum ESU, August 2018



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watersheds that drain to these estuarine/marine areas. There is no question that the entirety of this geographic region is relevant to the ESU.

The current HCCC working hypothesis guiding nearshore and stream-mouth estuarine habitat² related priorities, focuses on priority needs for recovery of the Hood Canal Summer Chum ESU. This hypothesis is based in part on the analysis and findings presented in the most recent recovery goal guidance document for the ESU (Lestelle et al. 2018). Factors related to the Pacific Decadal Oscillation (PDO) are having a major effect on the performance of the ESU's two populations and their associated subpopulations. The spatial-temporal performance patterns suggest that the effects of PDO-related factors are occurring most strongly within the Puget Sound complex, and further, that the effects are strongest within the estuarine water bodies nearest to the natal spawning streams. Furthermore, the available data demonstrate a time lag between the PDO index for the Hood Canal population (up to 2-year lag) but essentially no lag for the SJDF population.

We hypothesize that different time lags are caused by differences in water circulation and mixing patterns within the various parts of Puget Sound. We suggest such differences may affect localized plankton blooms and food webs at variable times, perhaps differing by many months, as the effects of a PDO shift are transferred slowly into the various branches of Puget Sound. We hypothesize that the correspondence of the PDO and summer chum performance is due to some kind of climate system forcing on the Puget Sound ecosystem related to the PDO. Causal mechanisms have not been identified. However, we suggest that the mechanisms may be related to how nutrients from oceanic waters are moved into the inland sea, which then affect food webs of importance to outmigrating summer chum fry.

Moreover, these effects of the PDO seem to be operating in combination with conditions within stream-mouth estuaries also. Those stream-mouth estuaries where significant restoration actions have been taken appear to be demonstrating a level of resilience to the recent phase shift of the PDO (to the warm phase) not exhibited by subpopulations without significant restoration in their stream-mouth estuaries. Subpopulations that have had significant habitat restoration work and where population performance appears to be demonstrating resilience to the recent PDO shift are Jimmycomelately Creek, Salmon Creek, Union River, and Skokomish River.

These observed patterns of performance, which include data for the 2019 adult returns to the various natal streams, strongly suggest that the performance of a subpopulation is being most affected by estuarine and nearshore conditions very close to the natal stream. We infer from this, therefore, that the highest priority for nearshore and estuarine actions should be given to those projects within nearshore areas within the general vicinity of natal stream-mouth estuaries. We are particularly interested in providing for increased productivity and enhancement of the food web at the time of emergence of summer chum salmon near these natal estuaries of interest.

We recognize that other nearshore features likely have significant beneficial effects on summer chum performance. Therefore, strong consideration will be given to assigning high priority to restoration of special nearshore features within the geographic range of interest. Rationale with associated hypothesis

² / The stream-mouth estuary is delineated as the aquatic, semi-aquatic, and riparian habitats bounded on the upstream end by the upper extent of tidal influence and on the downstream end by the outer edge of the delta at the mouth of a stream (see Simenstad 2000; Lestelle et al. 2005).



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will need to be provided in these cases. Two examples of recent projects that fit this category are Kilisut Harbor and Washington Harbor.

In addition to summer chum recovery needs, the Hood Canal region is one of five bio-geographic regions needing restoration work to achieve recovery of Puget Sound Chinook Salmon. The Skokomish River is the natal watershed to two Chinook population components relevant to the recovery of this species in Hood Canal. Currently, an updated recovery plan for Skokomish Chinook is in review by NMFS. It bears noting that much work is in progress in the Skokomish watershed to support Chinook salmon recovery. Current evidence strongly suggests that summer chum salmon benefit from the Chinook work in the Skokomish system as the abundance of summer chum spawners has significantly rebounded in recent years. Whereas the Puget Sound TRT determined that Skokomish summer chum had been extirpated, the most recent review of the subpopulation now considers this spawning aggregation to be robust. This rebound is believed to be due to this subpopulation component benefiting from significantly improved habitat conditions within the lower Skokomish River, and particularly within the watershed's stream mouth estuary. To what extent the river has been recolonized from a nearby subpopulation, such as Union River or whether the rebound is due to a small remnant of the original subpopulation benefiting from improved habitat is unknown. But regardless of the source of spawners now comprising the subpopulation, it is logical that the rebound has benefited from improved conditions within and in the vicinity of the stream-mouth estuary. Consideration will be given to actions that support the primary Chinook population in Hood Canal while contributing to summer chum recovery in the watershed.

Purpose

The purpose of this document is to identify the strategic priorities that provide the direction and guidance that will focus on the conclusions and recommendations presented above. These needs are the most immediate areas of focus to ensure that we continue progress towards recovery and delisting of summer chum salmon and support Chinook salmon recovery in the Hood Canal biogeographic region. The summer chum salmon recovery plan, the comprehensive review of that plan, and the prioritization guidance³ combined, provide the foundation for this approach.

The 2020 HCCC Lead Entity grant round will use the *Priorities and Immediate Needs* as guidance and promotion of the 2020 Call for Salmon Habitat Projects.

2020 Call for Salmon Recovery Projects

The Hood Canal Coordinating Council (HCCC), as the Regional Recovery Organization for Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Salmon and the Lead Entity for Hood Canal, is issuing a *Call for Salmon Habitat Projects* for the 2020 HCCC Lead Entity grant round addressing specific actions (Table 1) and watersheds (Figure 1). This *Call for Salmon Habitat Projects* will provide the basis for the selection of projects to be submitted to the Salmon Recovery Funding Board (SRFB) for the 2020 HCCC Lead Entity grant round.

Habitat actions that directly address the *Priorities and Immediate Needs* will be prioritized over 'other watershed actions' that support these objectives. Table 1 below, provides the guidance for eligible project submittals for the 2020 LE grant round.

³ Guidance for Prioritizing Salmon Stocks, Issues, and Actions for the Hood Canal Coordinating Council, March 2015.



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Table 1: 2020 Salmon Habitat Actions to guide project development and implementation

WATERSHED	PRIORITIES AND IMMEDIATE NEEDS	OTHER POTENTIAL RELATED ACTIONS
SNOW CREEK	<ul style="list-style-type: none"> • Assess weir impacts, conduct alternatives analysis • Bank control measures to improve incision issues • Restore floodplains • Channel pattern • Transportation infrastructure impairing flow and processes • Assess and model sediment processes, deposits, and reconnection with Salmon Creek 	<ul style="list-style-type: none"> • Protect riparian • Restore riparian • Non-road sediment • Watershed analysis • Estuarine channel rehabilitation
SALMON CREEK	<ul style="list-style-type: none"> • Improve channel pattern • Transportation infrastructure impairing flow and processes • Assess and model sediment processes, deposits • Reconnection with Snow Creek 	<ul style="list-style-type: none"> • Road crossings • Protect riparian • Invasive flora
BIG QUILCENE RIVER	<ul style="list-style-type: none"> • Estuarine and lower river floodplain restoration projects in-progress need continued support • Protect and restore riparian 	<ul style="list-style-type: none"> • Channel pattern • Channel migration zone • Road crossings • Transportation infrastructure
DOSEWALLIPS RIVER	<ul style="list-style-type: none"> • Protect riparian buffers • LWD structures • Restore floodplains • Channel migration zone 	<ul style="list-style-type: none"> • Bank protection • Restore riparian • Transportation infrastructure • Assess restoration needs within the Lazy C Ranch subdivision
UNION RIVER	<ul style="list-style-type: none"> • Protect and restore riparian buffers • riparian • LWD structures • Restore floodplains 	<ul style="list-style-type: none"> • Road crossings • Watershed analysis
DUCKABUSH RIVER	<ul style="list-style-type: none"> • Protect riparian buffers • Large restoration project in estuary needs continued support to address the highway 101 causeway infrastructure 	<ul style="list-style-type: none"> • Bank protection • Restore floodplains • Restore riparian • Channel migration zone • Forest maturity
SKOKOMISH RIVER	<ul style="list-style-type: none"> • Continued support for ACOE restoration project in Skokomish River valley 	<p>Extensive work is in progress for the Skokomish Watershed. An updated recovery plan for Skokomish chinook salmon has been completed and an updated Skokomish watershed chapter for the Puget Sound Chinook Salmon Recovery Plan are in review. These works provide guidance and direction for projects that will likely address Chinook salmon and summer chum salmon recovery.</p>

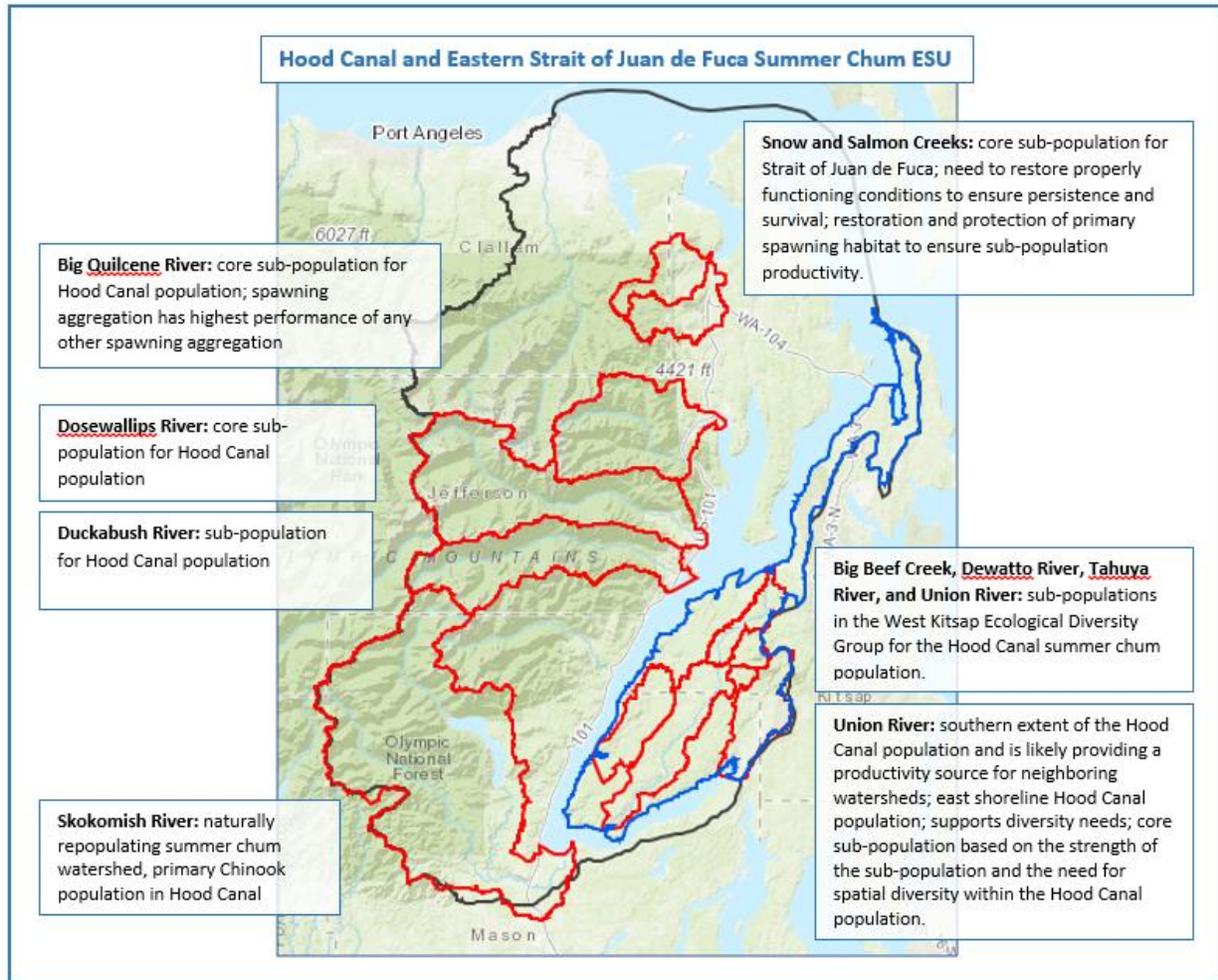


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WATERSHED	PRIORITIES AND IMMEDIATE NEEDS	OTHER POTENTIAL RELATED ACTIONS
BIG BEEF CREEK, DEWATTO RIVER, TAHUYA RIVER	<ul style="list-style-type: none"> • Within the West Kitsap Ecological Diversity Group: Protection of highly functioning habitat – while a current comprehensive review is seeking spatial structure clarification continue with actions ensuring functioning habitat protection. 	<ul style="list-style-type: none"> • Restoration in Tahuya River watershed depending on outcomes of current watershed assessments • Assess weir impacts Big Beef Creek, conduct alternatives analysis
NATAL ESTUARIES	<ul style="list-style-type: none"> • Restoration actions in summer chum natal estuaries. 	<ul style="list-style-type: none"> • Snow and Salmon Creeks: Transportation infrastructure, Tidal flow regime Estuarine wetlands • Big Quilcene and Little Quilcene Rivers: Tidal flow regime, Sediment processes, Estuarine wetlands, Channel rehabilitation, Berm/dike removal • Duckabush River: Tidal flow regime, Sediment processes, Transportation infrastructure. • Big Beef Creek: Tidal flow regime, Sediment processes. • Tahuya River: Tidal Flow Regime.
NEARSHORE HABITAT	<ul style="list-style-type: none"> • Nearshore areas that most benefit summer chum sub-populations that provide significant benefits to summer chum performance. <p>Likely these area are within the general vicinity of the natal watersheds.</p> <ul style="list-style-type: none"> • A forum will be convened to collect relevant data and assemble expertise to discuss priorities in the nearshore within the geography of the Hood Canal Summer Chum ESU. 	<ul style="list-style-type: none"> • Restoration and protection actions of substantial-scale, <ul style="list-style-type: none"> ○ Recent examples include Kilisut Harbor and Washington Harbor. • Restoration and protection actions special nearshore features <ul style="list-style-type: none"> ○ For example, features that affect food web interactions such as pocket estuaries and the Hood Canal Bridge. • Restoration and protection actions in strategic places, <ul style="list-style-type: none"> ○ For example, affecting food web interactions on early marine growth of summer chum fry.
REGIONAL MONITORING	<ul style="list-style-type: none"> • Monitoring of recovery parameters for the Hood Canal Summer Chum. <ul style="list-style-type: none"> ○ Early Marine Growth Assessments ○ Fish in/Fish out Surveys 	<p>Approximately 10% of the regional salmon recovery organization's allocation is set aside for HCCC to embark on this effort.</p> <ul style="list-style-type: none"> • For example Union River juvenile surveys and otolith/scales early marine growth analysis.



Figure 1: Watersheds for 2020 *Call for Salmon Habitat Projects*





2020 Call for Salmon Recovery Projects Letter of Intent Submittal Process

Individuals and entities wishing to propose a salmon habitat project aligning with the habitat actions identified in the *Table 1: 2020 Salmon Habitat Actions to guide project development and implementation* are asked to complete a *Letter of Intent* (LOI) for the project utilizing the LOI template and submit the completed template to Alicia Olivas, Lead Entity Program Coordinator aolivas@hccc.wa.gov by **January 7, 2020**.

The LOI is a means for project sponsors to communicate all pertinent information about their project and will be used for initial screening to determine if the project can be submitted through the 2018 HCCC Lead Entity grant round. A project is defined to be a specifically designed activity implemented to achieve the basic intent of one or more actions, over a given footprint, and over a specific timeframe to achieve a specific outcome. The information provided in the LOI should be concise and provide all information needed for initial project review. Importance will be placed on the following elements:

- The project is clearly and adequately described;
- The project aligns with Table 1 above;
- The project will address the watershed process impairment;
- Project goals and objectives are clearly articulated addressing the *Specific Measurable Achievable Relevant and Time-bound (SMART)*⁴ components;
- Goals and objectives are feasible and appropriate to address the identified habitat action;
- Phasing of project, if appropriate, appears reasonable.

The LOI is not the grant application and should be no longer than five pages (including maps and photos). Missing information will delay the review of the project or may prevent the project from being eligible for the current grant round. HCCC staff will conduct the initial review. Projects will be considered for the 2020 HCCC Lead Entity grant round if it is determined that the project adequately addresses a habitat action identified in the *Table 1: 2020 Salmon Habitat Actions to guide project development and implementation*. Project sponsors will be contacted by the HCCC Lead Entity Program Coordinator by January 7, 2020, to notify them of the selection status for the 2020 HCCC Lead Entity grant round.

Once a project is approved through the initial LOI review process, a project application will be requested in which continued project review, ranking and selection for funding will take into consideration project factors such as: ability of project to address habitat process restoration, project fit to identified action, project feasibility, project scale, and cost effectiveness. The HCCC Technical Advisory Group (TAG) will evaluate accepted project application proposals through the 2020 HCCC Lead Entity grant round and the HCCC Citizens Advisory Group (CAG) will develop a prioritized list of projects to recommend to the HCCC Citizens Committee. Information on deadlines for submittal to the HCCC Lead Entity grant round can be found on hccc.wa.gov and through the HCCC Lead Entity Program Coordinator.

⁴ Cramer, Michelle L. (managing editor) 2012. Stream Habitat Restoration Guidelines. Co-published by the Washington Departments of Fish and Wildlife, Natural Resources, Transportation and Ecology, Washington State Recreation and Conservation Office, Puget Sound Partnership and the U.S. Fish and Wildlife Service, Olympia, Washington.



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Process for Request for Actions Not in Call for Projects

Should HCCC not receive sufficient process restoration based proposals to complete the top actions as identified in the *Table 1: 2020 Salmon Habitat Actions to guide project development and implementation*, HCCC will conduct a second call for projects.

Phased Projects

Projects which have been previously reviewed, Lead Entity approved, and previously funded utilizing a phased implementation approach will be considered for funding in 2020. However, projects addressing the habitat actions identified in the *Table 1: 2020 Salmon Habitat Actions to guide project development and implementation* will be given preference.