

# WRIA 8 Salmon Recovery Council Briefing Memo: Plan Update Policy Decisions

March 16, 2017

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The purpose of this memorandum is to present three policy issues regarding the WRIA 8 Plan update for WRIA 8 Salmon Recovery Council consideration: 1) Habitat/stream “tier” designation adjustments, 2) targets for habitat goals, and 3) recovery strategies.

## I. Habitat/Stream “Tier” Designation Adjustments

### Background:

*Cedar River – Upper watershed:* In the 2005 WRIA 8 Chinook Salmon Conservation Plan, the WRIA 8 Technical Committee designated the upper Cedar River Watershed above Landsburg Dam as Tier 2, since Chinook had just recently (2003) been allowed to pass above the dam and it was unclear whether the area above Landsburg would serve as a core spawning Chinook area. Over the last ten years it is clear the 17 miles of habitat above Landsburg support regular and significant Chinook spawning. Therefore, the WRIA 8 Technical Committee and Implementation Committee recommend changing the designation for this area of the watershed to Tier 1.

*Sammamish River – Tier 2 streams:* In the 2005 WRIA 8 Chinook Salmon Conservation Plan, the WRIA 8 Technical Committee hypothesized there were three Chinook populations in the watershed: Cedar River, North Lake Washington, and Issaquah Creek. The North Lake Washington population centered on Bear Creek; North, Little Bear, Kelsey, and Evans Creeks were considered important to support that population by providing additional spawning and rearing habitat. These “supporting” streams were designated as Tier 2 in the 2005 Plan – their significance being that they distributed the burden of the North Lake Washington population away from a single stream system. The Tier 2 streams were also needed to provide greater spawning area to support the larger number of salmon needed for a self-sustaining population. The goals for the Tier 2 streams outlined in the 2005 Plan were to improve—or at a minimum, maintain—them as systems capable of supporting Chinook salmon.

In 2006, additional genetics research showed no genetic difference between the North Lake Washington/Bear Creek population and the Issaquah Creek population, and the two were merged into one “Sammamish” population. The Sammamish population is recognized as hatchery dominated (from the Issaquah Salmon Hatchery), but Endangered Species Act (ESA) recovery requirements still require improvement in this population.

When Bear Creek and Issaquah Creek Chinook were combined into a single population, no changes were made to the habitat goals developed earlier for Tier 2 streams. Importantly, recognizing Bear Creek and Issaquah Creek Chinook as a single population distributed some of the risk to the population—two larger stream systems are in less danger of suffering a catastrophic loss to the population than is a single stream system. From an ESA salmon recovery perspective, combining Bear Creek and Issaquah Creek into a single population reduced the risk-based justification for restoring smaller Tier 2 streams.

Recent habitat monitoring illustrates that the habitat of Tier 2 streams inside the Urban Growth boundaries (North and Kelsey Creeks) is now more similar to streams that do not support Chinook salmon (Tier 3) than to Tier 1 streams that do support Chinook (all mostly outside the UGA). “Fish-In” monitoring also shows those Tier 2 streams are not consistently used by Chinook in appreciable

numbers. In other words, they are not contributing significantly to Chinook recovery. At the same time, May Creek and Coal Creek are seeing a consistent but small increase in Chinook use (these two streams were originally assigned as Tier 3). The Technical Committee determined that May and Coal creeks do not yet meet the threshold criteria for Tier 2 status, but it is foreseen that they could improve to meet threshold criteria in the future. The Technical Committee will monitor abundance and habitat conditions and decide whether to upgrade the status of these streams if and when circumstances warrant.

**Decision 1: Tier designation for upper Cedar River Watershed**

- Option 1 (No change) – Maintain Tier 2 designation for upper Cedar River Watershed.
- Option 2 – Change the designation of the upper Cedar River Watershed to Tier 1 to reflect the significant use of the area by Chinook to spawn.

**Recommendation:** The WRIA 8 Technical Committee and Implementation Committee recommend Option 2 – designate the upper Cedar River Watershed Tier 1.

**Decision 2: Status of Tier 2 streams related to the Sammamish Chinook population**

- Option 1 (Minimum standard) – Bear Creek and Issaquah Creek are sufficient to support recovery of the Sammamish population. Habitat goals in those two stream systems target restoration and management for Chinook recovery. The Issaquah Hatchery continues to produce Chinook and support the population. Under this option, current Tier 2 streams (North, Little Bear, Kelsey, and Evans) are not necessary to recover the Sammamish population and are not prioritized for restoration with salmon recovery funding.
- Option 2 (Inclusive standard) – Bear Creek, Issaquah Creek, and Tier 2 streams are all considered necessary to contribute to functional spawning and rearing habitat and the recovery of the Sammamish population. The Issaquah Hatchery continues to produce Chinook and support the population, but would not be required for the population to persist. Habitat goals include Tier 2 streams. This will require substantial ongoing investments into Tier 2 streams to support spawning and juvenile rearing. These investments would produce other benefits associated with protecting and restoring stream corridors and improving overall watershed health.

**Recommendation:** The WRIA 8 Technical Committee and Implementation Committee recommend Option 2 – the inclusive standard. The technical rationale is that there is still potential for Chinook to increase their use of the Tier 2 streams with sufficient public support and restoration effort, which could help maintain or improve the overall viability of the Sammamish population. The policy rationales are that investments in restoring these small streams will benefit overall watershed health, such as improved water quality, and that salmon in our small (generally urban) streams are iconic and every effort possible should be made to keep salmon returning to these streams that have been active spawning areas in the past.

## II. Habitat Goals

### Background:

The 2005 WRIA 8 Plan did not contain specific measurable goals for Chinook habitat condition, because there was no way to translate habitat information to salmon recovery goals. Because the Puget Sound Partnership has required developing habitat goals and to help communicate progress moving forward, the WRIA 8 Technical Committee has recommended a short list of goals (Table 1) that focus on key elements affecting critical habitat attributes. These goals target the most important habitat elements for conservation and recovery of Chinook salmon in the watershed and are based on data on existing habitat conditions, the unique constraints placed on rivers and streams in the WRIA 8 watershed, and the pace of implementation progress in the last ten years. These goals are ambitious - and intended to get us closer to recovery, but they are also realistic given constraints. The Technical Committee recommends assessing the habitat goals based on monitoring information to determine whether habitat improvements are having the desired effect on Chinook.

While the number of goals is relatively small, achieving them will have habitat benefits beyond the set of goals measured. The Technical Committee considers them proxies for a larger set of expected habitat improvements.

Monitoring is necessary to track progress toward these goals. Reporting will occur at five-year intervals. To align with other planning horizons and still be ecologically meaningful, we recommend that adaptive management course corrections to the goals occur in 2025, at which time the next adaptive management planning horizon will be set. The Technical Committee will oversee monitoring efforts in the intervening periods and recommend changes if warranted by interim results.

**Decision:** Approve the habitat goals outlined in Table 1. More details and rationale are available in the accompanying briefing document.

**Recommendation:** The Technical Committee and Implementation Committee recommend that the Salmon Recovery Council approve the habitat goals as presented.

Table 1. WRIA 8 Technical Committee and Implementation Committee recommended 2025 habitat goals.

Habitat Component	Goal (2025)	Indicator
Cedar River	Total connected floodplain acres between Lake Washington and Landsburg Dam will be 1,170 acres by 2025.	Total connected floodplain acres – add 130 acres by 2025
	Increase average wood volume four times over current basin conditions (RM 4 to Landsburg Dam) by 2025.	Average wood volume (m <sup>3</sup> /100m) – average wood volume increased from 10.4 m <sup>3</sup> /100m to 42 m <sup>3</sup> /100m by 2025

<p><b>Sammamish River</b></p>	<p>Areas of river are cool enough to support Chinook migration and survival (increase riparian cover and add thermal refugia by 2025).</p>	<p>Number of thermal refugia – add 2 by 2025</p> <p>Acres of riparian forest – increase current amount by X acres by 2025 (<i>Sammamish River riparian forest cover will increase at least 10% over current conditions. Assessment of current conditions in progress.</i>)</p>
<p><b>Chinook streams</b></p>	<p>Area of riparian cover in <u>each Tier 1 and Tier 2</u> stream increases by 10% over current conditions (2015) by 2025.</p> <p>Average wood volume doubles over current basin conditions by 2025.</p>	<p>Acres of riparian forest (<i>Baseline assessment still to be performed.</i>)</p> <p>Average wood volume (m<sup>3</sup>/100m) (<i>Baseline assessment still to be performed.</i>)</p>
<p><b>Lakes</b></p>	<p>Natural lake shoreline south of I-90 (Lake Washington) and throughout Lake Sammamish doubles over current conditions (2015) by 2025.</p> <p>Natural riparian vegetation within 25 feet of shoreline south of I-90 (Lake Washington) and throughout Lake Sammamish doubles over current conditions (2015) by 2025.</p>	<p>Length of natural bank profile (<i>Baseline assessment still to be performed.</i>)</p> <p>Natural riparian vegetation within 25 feet of shoreline (<i>Baseline assessment still to be performed.</i>)</p>
<p><b>Marine Nearshore (Pocket Estuaries)</b></p>	<p>Pocket estuaries along WRIA 8 shoreline support juvenile Chinook for rearing and migration.</p>	<p>Pocket estuary count (connected to nearshore through natural channel profile and delta formation processes) - Two additional pocket estuaries (stream mouths) restored by 2025.</p>

### **III. Recovery Strategies**

#### **Background:**

The 2005 WRIA 8 Plan included conservation strategies and identified associated habitat improvement actions necessary for recovering Chinook in each sub-basin of the watershed. While comprehensive and science-based, the strategies and recommended actions were not easy to reference in the Plan and, in some cases, hard for people to understand.

The following 20 strategies were developed to clarify and better focus the salmon recovery approach in WRIA 8 and to clearly demonstrate what is necessary to address the highest priority stresses on Chinook salmon. The updated strategies were developed by revisiting the strategies from the 2005 WRIA 8 Plan to consider the lifecycle-based conceptual model of WRIA 8 Chinook, assessing the pressures affecting Chinook salmon survival, and incorporating new science and lessons learned since 2005.

WRIA 8 staff and the Technical Committee and Implementation Committee believe it is important and useful to develop a set of clear strategies based on the most recent and applicable science. Accompanying each strategy is a description of why it is important, the negative impact (or pressure) it reduces, the benefit or improvement being sought, the Chinook salmon lifecycle stage affected, and the location in the watershed where it is most relevant to improve conditions to support Chinook recovery. See the accompanying draft strategy mock-up in the meeting packet.

Lists of site-specific projects or programmatic actions that implement each strategy will be appendices to the Plan update.

Below is the list of strategies recommended by the Technical Committee and Implementation Committees. The first eight strategies (bold font) were identified by the WRIA 8 Technical Committee as most important for reducing critical pressures on the highest priority Chinook life stages:

- **Protect/restore floodplain connectivity**
- **Protect/restore functional riparian vegetation**
- **Protect/restore channel complexity**
- **Restore shallow water rearing and refuge habitat**
- **Reconnect and enhance creek mouths**
- **Protect/restore cold water sources and reduce thermal barriers to migration**
- **Improve juvenile and adult survival at the Ballard Locks**
- **Reduce predation on juvenile migrants and lake-rearing fry**
- Remove (or reduce impacts of) overwater structures
- Remove fish passage barriers
- Protect/restore forest cover and headwater areas
- Provide adequate stream flow
- Restore sediment processes necessary for key life stages
- Restore natural marine shoreline
- Reconnect backshore areas and pocket estuaries
- Protect/restore marine water/sediment quality, especially near commercial and industrial areas
- Improve water quality

- Integrate salmon recovery priorities into local and regional planning, regulations, and permitting (SMP, CAO, NPDES, etc.)
- Continue existing and conduct new research, monitoring, and adaptive management on key issues.
- Increase awareness of and support for salmon recovery.

**Policy Decision:** Approve the list of 20 recovery strategies listed above, and the format for describing them in detail in the Plan update (as presented in the draft mock-up).

**Recommendation:** The Technical Committee and Implementation Committee recommend the Salmon Recovery Council approve the list of 20 strategies, and the format for describing them in the Plan update.