

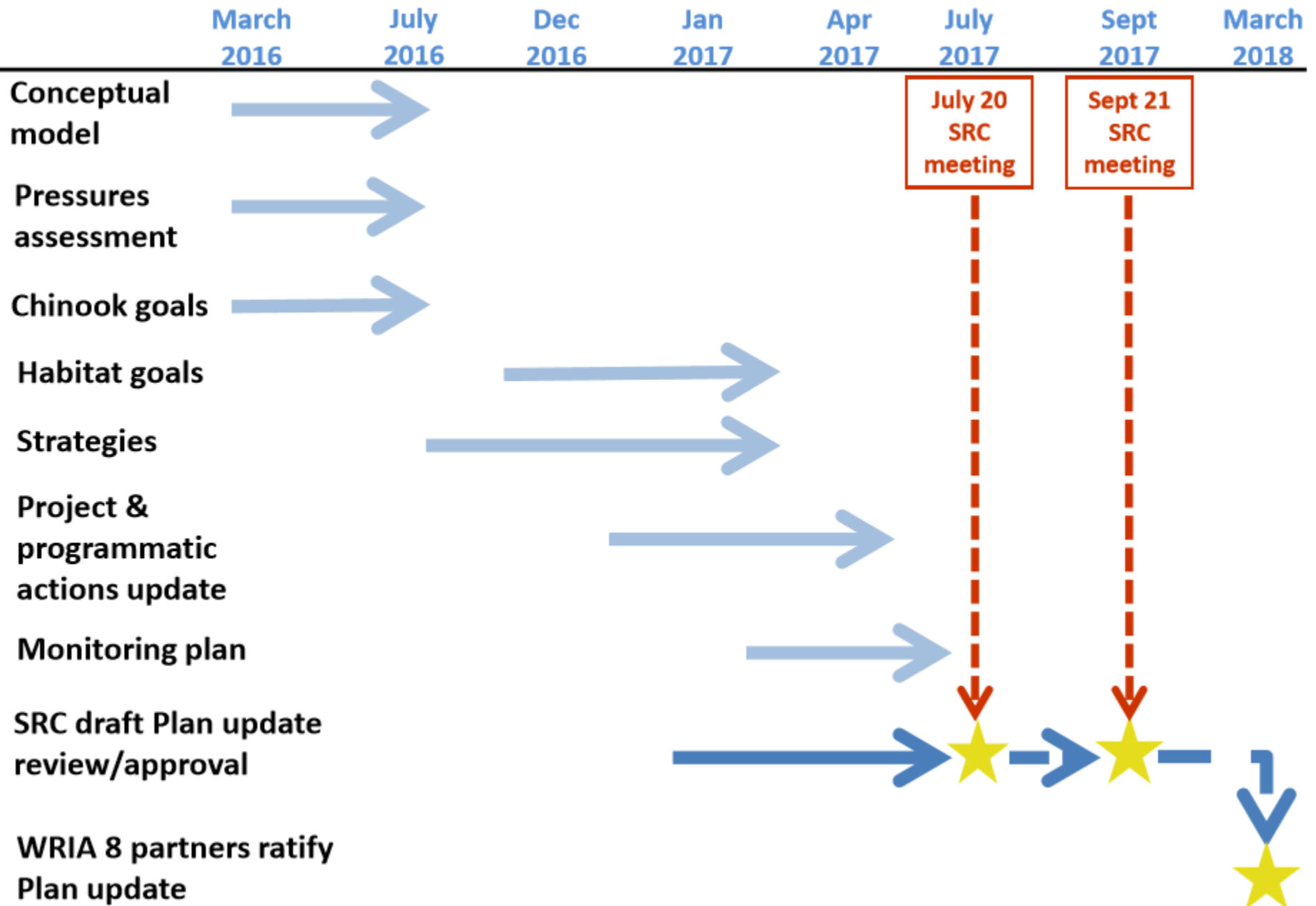
WRIA 8 Chinook Salmon Conservation Plan Update Draft Review

WRIA 8 Salmon Recovery Council

July 20, 2017



WRIA 8 Plan Update Schedule



Where We Started

WRIA 8 Salmon Recovery Summit
February 2016



Plan Summary

- Addendum to 2005 WRIA 8 Plan
- Major changes from 2005 Plan:

| 2005 Plan | 2017 Plan Update |
|---|--|
| Focus on recovery of three populations (Cedar River, Issaquah Creek, and North Lake Washington Tributaries) | Combined Issaquah Creek and North Lake Washington populations into a single, Sammamish River population |
| Conceptual model | New, lifecycle-based conceptual model helps prioritize life stages to inform prioritization of actions, location, and timing |
| No habitat restoration goals | Numeric habitat goals for five key habitat elements |
| Recovery strategies included in 2005 Plan | Twenty new and updated recovery strategies |



Major changes from 2005 Plan cont'd

| 2005 Plan | 2017 Plan Update |
|---|--|
| Upper Cedar River Watershed, between Landsburg Diversion Dam and Cedar Falls, designated Tier 2 | Area designated Tier 1 given regular, significant Chinook salmon spawning use since 2003 when construction of fish passage facilities allowed Chinook salmon to pass above Landsburg Diversion Dam |
| Comprehensive List of site-specific projects (600+ projects); 10-Year Start List of most important and ready-to-go projects, land use actions, and education and outreach actions | Revised and updated lists of (1) site-specific projects, (2) recommended land use actions, and (3) education and outreach actions. |
| Monitoring and adaptive management framework | Monitoring and Assessment Plan guides monitoring and reporting on progress towards implementing recovery strategies and meeting habitat goals. |



Recovery Goals (Section 2)

- Cedar River / Sammamish River Chinook population goals – **No changes (approved by SRC)**
- Habitat Recovery Goals – **NEW! (approved by SRC)**
 - 5 key habitats; 9 distinct indicators
 - Feasible and achievable; proxies for larger set of habitat processes
 - Near-term (2025) and long-term (2055)
- Research and data needs



Current Status (Section 3)

- **Chinook populations status** – How are the fish doing – 10-year average results compared to 2025 goals
- **Habitat status** – Baseline conditions for main habitats (i.e., rivers and streams, lakes, and marine nearshore) using indicators related to habitat goals (e.g., riparian forest cover, wood volume, connected floodplain, etc.)
- **Priority pressures** from humans on Chinook



Current Status (Section 3) cont'd

Climate Change – **NEW!**

- Climate change projections
- Anticipated effects on WRIA 8 Chinook
 - Low summer stream flows and shift in precipitation event timing and intensity
 - Increased water temps
 - Increased stormwater runoff and pollutant discharge
 - Sea level rise = decrease limited shoreline habitat; affect Locks operations
 - Ocean acidification
- Actions to promote resilience



Recovery Strategies (Section 4)

- 20 strategies bring together other Plan update elements to guide actions (approved by SRC)



Recovery Strategies (Section 4) cont'd

- Appendix E = Quick reference info sheets describing each strategy:
 - Description
 - Negative impact reduced
 - Positive benefit increased
 - Life stage affected
 - Location in the watershed where it is most relevant
 - Relevant project and programmatic actions



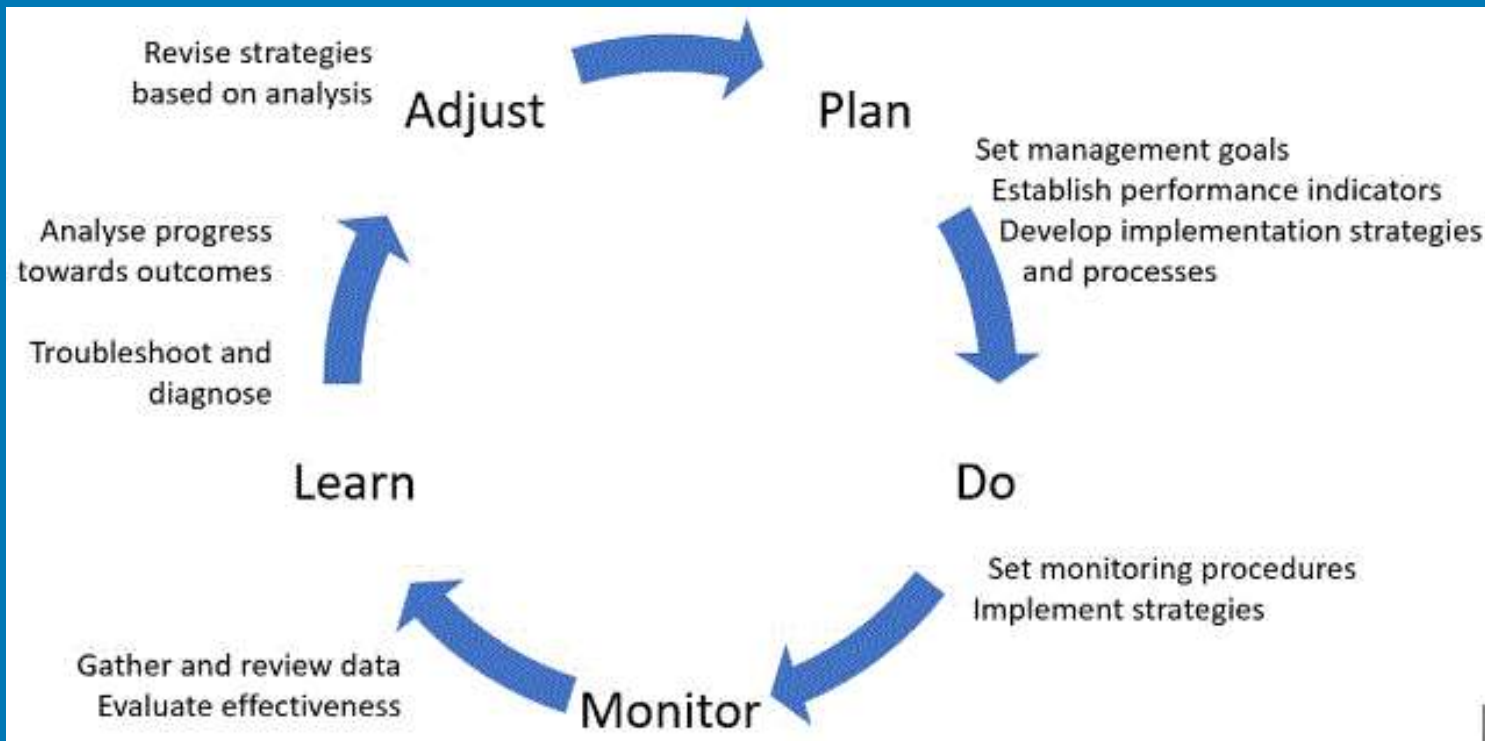
Implementation Framework (Section 5)

How plan will be implemented:

- **Site-specific projects** – Updated project list (Appendix F)
 - ❖ Role of mitigation
- **Land use actions** – Updated recommendations list (Appendix H)
- **Education and outreach actions** – Updated recommendations list (Appendix I)



Adaptive Management (Section 6)



What's different from 2005 Plan?

- ❖ 2017 Plan update includes habitat goals and recovery strategies that enhance ability to adaptively manage implementation



Adaptive Management (Section 6)

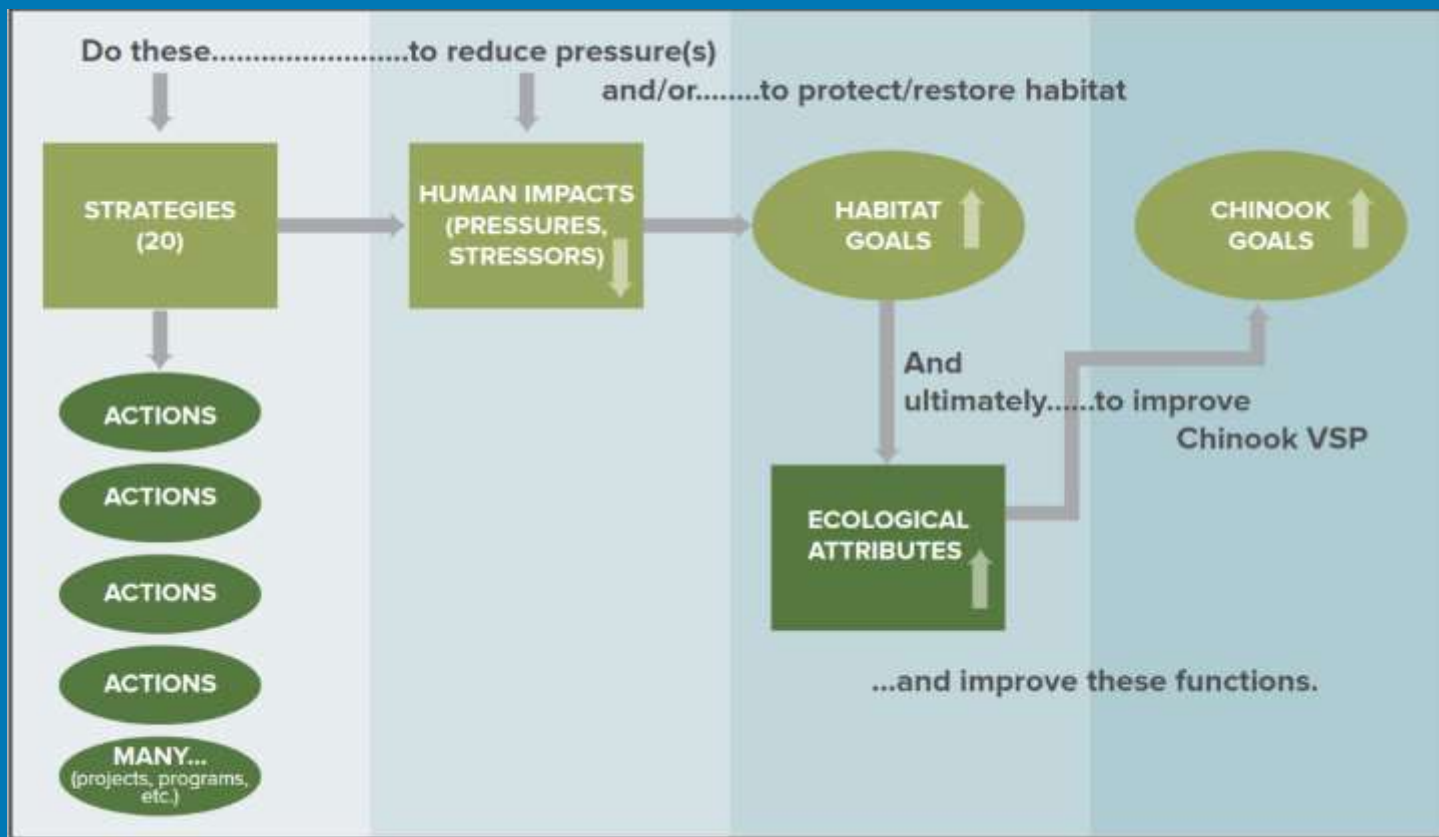
2017 Process:

- Goal 'triggers' (halfway to achieving goals by 2020)
- Effectiveness of projects and land use and education and outreach actions
- WRIA 8 committee process to assess info and develop recommendations for SRC
- Regular reporting (annually for fish #s and at least every five years for habitat conditions)



Monitoring and Assessment Plan (Appendix A)

- Monitoring and Assessment Plan (MAP) – ensure actions to protect and restore habitat adequately contribute to Chinook salmon recovery.



Monitoring and Assessment Plan (Appendix A) cont'd

Addresses five questions:

1. Were strategies and actions implemented? (**Implementation** monitoring)
2. Did those strategies and actions work as intended? (**Effectiveness** monitoring)
3. Are overall habitat conditions improving? (**Habitat status and trends** monitoring)
4. Are Chinook populations responding? (**Chinook status and trends** monitoring)
5. What other technical issues may affect Chinook recovery? (**Emerging issues** assessment)



Additional Appendices

Appendix A – Monitoring and Assessment Plan

Appendix B – Plan update process

Appendix C – Pressures assessment

Appendix D – Habitat goals

Appendix E – Recovery strategies

Appendix F – Project list

Appendix G – Four-Year Work Plan development
process

Appendix H – Land use recommendations list

Appendix I – Education and outreach recommendations
list



Review / Approval Schedule

| | |
|--------------------------------------|---|
| July 20 – August 18 | Draft Plan update reviewed by WRIA 8 partners and interested parties |
| August 18 | Comments due to WRIA 8 |
| August 21 – September 13 | WRIA 8 staff integrate comments and produce final draft |
| September 14 | Distribute final draft to WRIA 8 Salmon Recovery Council for review as part of September meeting packet |
| September 21 | Salmon Recovery Council meeting – approval of final draft Plan update |
| End of September – March 2018 | WRIA 8 ILA partners ratify 2017 Plan |



Ratification – Template Resolution?

*Common Resolution Proposed by WRIA 8 Forum for Local Governments to Ratify
WRIA 8 Chinook Salmon Plan*

A RESOLUTION/ORDINANCE RATIFYING THE
WATER RESOURCE INVENTORY AREA (WRIA) 8
CHINOOK SALMON CONSERVATION PLAN

WHEREAS, in March 1999, the National Oceanic and Atmospheric Administration (NOAA) Fisheries listed the Puget Sound Chinook salmon evolutionary significant unit as a threatened species under the Endangered Species Act (ESA); and

WHEREAS, in November 1999, the United States Fish and Wildlife Service (USFWS) listed the Puget Sound bull trout distinct population segment as a threatened species under the ESA; and

WHEREAS, under the ESA, it is illegal to take a listed species, and the ESA defines the term "take" to include actions that could harm listed species or their habitat; and

WHEREAS, actions that are directly or indirectly authorized by local governments could potentially expose local governments to civil or criminal penalties under the ESA; and

WHEREAS, under the ESA, Section 4(f), NOAA Fisheries (for Chinook salmon) and USFWS (for bull trout) are required to develop and implement recovery plans to address the recovery of the species; and

WHEREAS, an essential ingredient for the development and implementation of an effective recovery program is coordination and cooperation among federal, state, and local agencies, tribes, businesses, researchers, non-governmental organizations, landowners, citizens, and other stakeholders as required; and

WHEREAS, Shared Strategy for Puget Sound, a regional non-profit organization, has assumed a lead role in the Puget Sound response to developing a recovery plan for submittal to NOAA Fisheries and the USFWS; and

WHEREAS, Shared Strategy intends that its recovery plan will include commitments from participating jurisdictions and stakeholders; and



Federal Government Approval?

- WRIA 8 Salmon Recovery Council letter to NOAA
- NOAA letter of acknowledgement and support for ongoing implementation



Questions?



Additional Slides



Table 2. WRIA 8 Habitat Goals

| Habitat Component | 2025 Goals | 2055 Goals |
|--|--|--|
| Cedar River | <p>Total connected floodplain acres between Lake Washington and Landsburg Diversion Dam will be 1,170 acres (reconnect an additional 130 acres) by 2025.</p> <p>Average wood volume will quadruple over current basin conditions to 42 m³/100 m (RM 4 to Landsburg Diversion Dam) by 2025.</p> | <p>Total connected floodplains acres on the Cedar River between Lake Washington and Landsburg Diversion Dam will be at least 1,386 acres by 2055.</p> <p>Average wood volume in the Cedar River between RM 4 and Landsburg Diversion Dam will be 93 m³/100 m by 2055 (the median standard wood volume for streams over 30 m bankfull width – Fox and Bolton, 2007).</p> |
| Sammamish River | <p>Areas of river will be cool enough to support Chinook salmon migration and survival (increase riparian cover by at least 10% and add two thermal refugia by 2025).</p> | <p>Riparian forest cover and thermal refugia along the Sammamish River will help keep river cool enough to support Chinook salmon migration and survival by 2055.</p> |
| Streams (Bear/Cottage Lake, Issaquah, Evans, Kelsey, Little Bear, North creeks) | <p>Area of riparian cover in each Tier 1 and Tier 2 stream will increase by 10% over 2015 conditions by 2025.</p> <p>Average wood volume will double over current basin conditions by 2025.</p> | <p>Riparian areas along Tier 1 and Tier 2 streams will be of sufficient size and quality to support sustainable and harvestable Chinook salmon populations in the watershed by 2055.</p> <p>Each Tier 1 and Tier 2 stream system will meet appropriate regional instream wood-loading standards by 2055.</p> |
| Lakes | <p>Natural lake shoreline south of I-90 (Lake Washington) and throughout Lake Sammamish will double over 2015 conditions by 2025.</p> <p>Natural riparian vegetation within 25 feet of shoreline south of I-90 (Lake Washington) and throughout Lake Sammamish will double over 2015 conditions by 2025.</p> | <p>Natural lake edge habitat south of I-90 on Lake Washington and throughout Lake Sammamish will be restored adequately to support juvenile rearing and migration by 2055.</p> <p>Natural vegetation within 25 feet of the shoreline south of I-90 in Lake Washington and throughout Lake Sammamish is restored adequately to support juvenile rearing and migration by 2055.</p> |
| Nearshore (Pocket Estuaries) | <p>Pocket estuaries along WRIA 8 shoreline will support juvenile Chinook salmon for rearing and migration (reconnect two stream mouth pocket estuaries by 2025).</p> | <p>Same as 2025 goal.</p> |



Table 3. WRIA 8 Chinook Salmon Population Status

| VSP ^a Parameter | 10-year average results (2006-2015) | 2025 Goals |
|----------------------------|--|---|
| Cedar Population | | |
| Abundance | 1,012 natural-origin spawners (NOS) | 1,680 natural-origin spawners (NOS) |
| Productivity | Positive trend (see text) | ≥2 returns per spawner 2-4 years out of 10 |
| | 24.0% egg-to-migrant survival | ≥13.8% egg-to-migrant survival rate |
| Spatial distribution | Cedar River above Landsburg converted to Tier 1 | Convert one satellite subarea to core (Tier 1) |
| | Spawning area distribution includes Cedar River from Landsburg to Cedar Falls (natural upstream barrier) | Restore historic spatial distribution |
| Diversity | Average instream rearing (parr): 8% | Increase Cedar River instream rearing to 40% |
| | HOS: 20% | Hatchery-origin spawners (HOS) <20% |
| Sammamish Population | | |
| Abundance | 47 NOS | 350 naturally spawning adults (NOS)—Bear/ Cottage Lake index |
| | 1,337 naturally spawning adults (includes HOS) | Maintain base period average of 1,083 naturally spawning adults |
| Productivity | Productivity < 1.0 | Adult productivity ≥1.0; ≥2 returns per spawner 2-4 years out of 10; |
| | 8.8% egg-to-migrant survival | ≥4.4% egg-to-migrant survival rate |
| Spatial distribution | Restored access to Issaquah Creek above hatchery intake diversion | Restore historic spatial distribution |
| | No detectable change in spawning distribution | Expand spawning area distribution in NLW tribs |
| Diversity | No improvement | Sammamish R. habitat on trajectory to support parr rearing |
| | Hatchery origin spawners (HOS) average: 90% (status quo) | Hatchery-origin spawners status-quo or decrease |

