Northwest **Power** and **Conservation** Council

# Quantitative and Qualitative Objectives Report

Report: Comprehensive

**Document:** **2000 Columbia River Basin Fish and Wildlife Program**

**Author:** Northwest Power and Conservation Council **Document Year:** 2000

**Link:** http://www.nwcouncil.org/fw/program/2000/2000-19/

**Overview:** The Northwest Power and Conservation Council, an interstate compact agency of Idaho, Montana, Oregon, and Washington, was established under the authority of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act or Act). The Act directs the Council to develop a program to "protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries … affected by the development, operation, and management of [hydroelectric projects] while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply."

As a planning, policy-making and reviewing body, the Council develops the program and then monitors its implementation by the Bonneville Power Administration, the U.S. Army Corps of Engineers, the Bureau of Reclamation and the Federal Energy Regulatory Commission and its licensees.

The Northwest Power Act directs the Council to develop its program and make periodic revisions by requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

**Qualitative: Objectives**

Increase total adult salmon and steelhead runs above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and nontribal harvest. Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish.

Restore the widest possible set of healthy naturally reproducing populations of salmon and steelhead in each relevant province by 2012. Healthy populations are defined as having an 80 percent probability of maintaining themselves for 200 years at a level that can support harvest rates of at least 30 percent.

Halt declining trends in salmon and steelhead populations above Bonneville Dam by 2005. Obtain the information necessary to begin restoring the characteristics of healthy lamprey populations.

**Document:** **2009 Yakima Steelhead Recovery Plan**

**Author:** Yakima Basin Fish and Wildlife Recovery Board **Document Year:** 2009

**Link:** http://www.ybfwrb.org/Assets/Documents/Plans/YakimaSteelheadPlan.pdf

**Overview:** The 2009 Yakima Steelhead Recovery Plan represents an updated version of the steelhead portion of the 2005 Yakima Subbasin Salmon Recovery Plan, which NOAA Fisheries approved as an interim recovery plan for Yakima Basin populations of the Middle Columbia Steelhead River Distinct Population Segment (DPS). The Yakima Basin Fish & Wildlife Recovery Board (YSPB) developed this plan to guide steelhead recovery efforts in the Yakima Basin. The board is a locally based organization governed by representatives of Yakima, Benton, and Kittitas counties, the Yakama Nation, and cities in the basin.

The board and its partners followed guidance from NOAA Fisheries, Washington Department of Fish and Wildlife, and the Washington Governor's Salmon Recovery Office in developing this plan. Local planners provided information and feedback to the Interior Columbia Technical Recovery Team that NOAA Fisheries convened to develop science-based viability criteria and assessments of the status of steelhead populations.

The board concurred with NOAA Fisheries and the Interior Columbia Technical Recovery Team that when the delisting threshold is met for the Yakima MPG and all other MPGs in the Middle Columbia River Steelhead DPS, it will be appropriate to consider removing the ESA listing. The board expects recovery actions to continue after that point, even without the immediate motivation of the ESA. The long-term goals are less definite, but are meant to affirm that the YSPB and its partners believe that long-term recovery to significantly higher abundance levels is both feasible and desirable.

**Goal:**

*Broad Sense* Achieving the delisting and short-term recovery goals described above are only the first steps towards increasing the abundance and productivity of Yakima Basin steelhead populations to levels that allow for harvest for recreational, commercial, and ceremonial purposes in keeping with the Vision 2020 statement in Section 1.2. The specific long-term recovery targets identified in this plan are far from definitive determinations of what may be possible. They do serve to remind us that while the short-term goals of recovering steelhead to the point that they no longer require the protective measures of the Endangered Species Act is an immediate priority, the long-term recovery vision of the YSPB will require building on that initial success and continuing recovery efforts long after delisting is achieved. No time frame is set for achieving long-term recovery.

*Overall* To increase the abundance and productivity of Yakima Basin steelhead populations to levels that allow for harvest for recreational, commercial, and ceremonial purposes.

Ensure long-term persistence of viable populations of naturally produced steelhead distributed across their native range.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Average Abundance | Minimum Productivity | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Delisting Criteria | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Satus Mainstem Block | Summer | Threatened | 500 | 1.56 | Viable |
| | | | | Upper Yakima | Summer | Threatened | 500 | 1.2 | Maintained+ |
| | | | | Toppenish | Summer | Threatened | 250 | 1.2 | Maintained+ |
| | | | | Satus | Summer | Threatened | 500 | 2 | Highly Viable |
| | | | | Naches | Summer | Threatened | 1500 | 1.26 | Viable |
| | | | | | | | Long-term recovery | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Satus Mainstem Block | Summer | Threatened | 2000 | 1.2 | NA |
| | | | | Upper Yakima | Summer | Threatened | 7700 | 1.2 | NA |
| | | | | Toppenish | Summer | Threatened | 1500 | 1.2 | NA |
| | | | | Satus | Summer | Threatened | 2000 | 1.2 | NA |
| | | | | Naches | Summer | Threatened | 5400 | 1.2 | NA |
| | | | | | | | Short-term Recovery | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Satus Mainstem Block | Summer | Threatened | 500 | 1.56 | Viable |
| | | | | Upper Yakima | Summer | Threatened | 1500 | 1.26 | Viable |
| | | | | Toppenish | Summer | Threatened | 500 | 1.56 | Viable |
| | | | | Satus | Summer | Threatened | 500 | 1.56 | Viable |
| | | | | Naches | Summer | Threatened | 1500 | 1.26 | Viable |

**Document:** **2014 Columbia River Basin Fish and Wildlife Program**

**Author:** Northwest Power and Conservation Council **Document Year:** 2014

**Link:** http://www.nwcouncil.org/fw/program/2014-12/Program

**Overview:** The Northwest Power and Conservation Council, an interstate compact agency of Idaho, Montana, Oregon, and Washington, was established under the authority of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act or Act). The Act directs the Council to develop a program to "protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries … affected by the development, operation, and management of [hydroelectric projects] while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply."

As a planning, policy-making and reviewing body, the Council develops the program and then monitors its implementation by the Bonneville Power Administration, the U.S. Army Corps of Engineers, the Bureau of Reclamation and the Federal Energy Regulatory Commission and its licensees.

The Northwest Power Act directs the Council to develop its program and make periodic revisions by requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

**Goal:**

*Overall* Achieve anadromous fish in-river migration and passage survival that approximates natural survival during in-river migration

Achieve the delisting and recovery criteria for ESA-listed species in the biological opinions, including for listed salmon and steelhead in NOAA Fisheries' 2008 FCRPS, Upper Snake and Willamette River biological opinions, and those for listed Kootenai River White Sturgeon, bull trout, and Oregon chub in the U.S. Fish and Wildlife Service's FCRPS (2000), Libby Dam (2006) and Willamette River (2008) biological opinions (see footnote).

Encourage biologically diverse species that are resilient to environmental variability

Achieve full mitigation for anadromous fish and native resident fish

Achieve full mitigation for anadromous fish, native resident fish, and wildlife losses by restoring healthy, self-sustaining, and harvestable, natural-origin anadromous fish, especially salmon, steelhead, eulachon, lamprey species, resident fish, including sturgeon and bull trout

**Qualitative: Objectives**

Achieve the four juvenile and adult fish passage performance standards consistent with the most recent NOAA Fisheries FCRPS Biological Opinion 3.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant geographic level.

Within 100 years, achieve population characteristics that, while fluctuating due to natural variability, represent full mitigation for losses of fish.

As an interim objective, achieve smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

As an interim objective, increase total adult salmon and steelhead runs to an average of 5 million annually by 2025 in a manner that emphasizes the populations that originate above Bonneville Dam and supports tribal and non-tribal harvest.

As an interim population objective, increase total adult runs for listed lower Columbia salmon and steelhead to meet NOAA Fisheries' FCRPS Biological Opinion.

Consistent with ESA efforts, increase total adult salmon and steelhead runs, with an emphasis on those above Bonneville Dam, by 2025 to an average of 5 million annually.

Halt declining trends in Columbia River Basin salmon and steelhead populations.

**Document:** **Asotin Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/116948/Entire_Plan.pdf

**Overview:** The planning process involved with the development of the Asotin Subbasin Plan involved a number of organizations, agencies, and interested parties including the Asotin County Conservation District (ACCD), US Forest Service Pomeroy Ranger District, Nez Perce Tribe, Washington Department of Fish and Wildlife, private landowners and others. The lead entity for the planning effort was the ACCD with the Nez Perce Tribe as the co-lead. The technical components of the assessment were developed by the Washington Department of Fish and Wildlife. The planning effort was guided by the Asotin, Lower Snake, and Tucannon Subbasin Planning Team which included representation from the lead entity, co-leads, local resource managers, conservation districts, agencies, private landowners, and other interested parties.

Because specific targets for abundance, population growth rate, population spatial structure and diversity had not been developed by the TRT for summer steelhead or spring Chinook, quantitative goals for the four parameters were not established when the report was prepared.

**Qualitative: Objectives** Interim spawner abundance target for steelhead in Asotin Creek was set at 400 adults. An interim spawner abundance target was not set for Asotin Creek spring Chinook. Planners suggested the Asotin Creek Chinook population could be included with the Lower Mainstem Tributary spawning aggregation, which had an interim goal of 1,000 spawners

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component | Hatchery Spawning Component | Total Spawning Component |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Asotin (functionally extinct) | Spring | | 1018 (2), 4348 (3), >500 (4)(5), 1,152 hatchery plus 1,248 naturally produced (6) | >250 (4)(5), >100 (7), 1000 (8),25000 (9) | 158 (1), 1018 (2), 4348 (3), 10000 (9) | 158 (1), 35000 (9) |

FOOTNOTES:
(1) EDT Model Current -Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
(2) EDT Model PFC - Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
(3) EDT Model Holistic - Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
(4) Nez Perce Tribe Spring Chinook Adult Return Goals for Asotin Subbasin
(5) Goals are derived from various management plans. These numbers do not imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each species and population over time through implementation of the plan.
(6) LSRCP- Lower/Mid Snake River and tributaries
(7) ACCD 1995
(8) NMFS 2002 Interim Abundance Goal-Lower Mainstem Tributaries
(9) Columbia River Fish Management Plan (at Lower Granite Dam)

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Asotin | A-Run | Threatened | 356 (2), 8677 (3), 2000 (4)(5), 4,656 hatchery plus 5044 naturally produced for all of SE WA (none specifically identified for Asotin Creek) (6), | 206 (1), 356 (2), 8677 (3), 1500 (4)(5), >800 (7), 400 (8), 1662 (11) |

FOOTNOTES:
(1) EDT Model Current -Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
(2) EDT Model PFC - Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
(3) EDT Model Holistic - Washington Department of Fish and Wildlife. 2004. Asotin Subbasin Aquatic Assessment.
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(6) LSRCP- Lower/Mid Snake River and tributaries
(7) ACCD 1995
(8) NMFS 2002 Interim Abundance Goal-Lower Mainstem Tributaries
(9) Columbia River Fish Management Plan (at Lower Granite Dam)
(10) SaSI 2004 - WDFW escapement goal
(11) WDFW 2001 - WDFW Potential Parr Production Model, current potential carrying capacity estimate

**Document:** **Bonneville Power Administration - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Bonneville Power Administration, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Adopting performance metrics from the BiOps and Accords.

Incorporate the hydro spill and dam passage strategies, performance standards, and in-river survival targets reflected in the 2008 FCRPS BiOp, as modified by the draft 2013 Supplemental BiOp.

The total run size goal of 5 million fish returning to the mouth of the Columbia River annually remains relevant as a basinwide goal, and is—as required by legal obligations and agreements among fisheries managers outside the Program—composed of both hatchery and wild fish.

**Document:** **Burns Paiute Tribe - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Burns Paiute Tribe, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

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In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. Restore healthy characteristics.

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. Restore healthy characteristics.

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

(delete: Investigate reintroduction of) (Add: Take action) to reintroduce anadromous fish into blocked areas, where feasible.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (Add: Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.)

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

[delete: Allow for biological diversity among and within populations and species] [ add: Promote the increase of biological diversity among and within populations] to increase ecological resilience to environmental variability.

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Incorporate ESA recovery productivity objectives.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Add language that states: "The Council's Program incorporates the quantitative recovery criteria from ESA recovery plans. It also incorporates the more qualitative broad sense goals in some recovery plans that go beyond ESA delisting."

Restore and increase the abundance of native resident fish species (add: (subspecies, stocks and populations)) throughout their historic ranges when (delete: original) (add: appropriate) habitat conditions exist or can be feasibly restored or improved.

**Document:** **CBFWA Fish and Wildlife Program Recommendation 2009 Amendment**

**Author:** CBFWA **Document Year:** 2009

**Link:** http://www.nwcouncil.org/uploads/2008amend/uploadedfiles/111/2_Recommendation.pdf

**Overview:** The fish and wildlife agencies of the Columbia Basin Fish and Wildlife Authority submitted a suite of objectives for Columbia River Basin salmon and steelhead as amendments to the Northwest Power and Conservation Council's 2000 Columbia Basin Fish and Wildlife Program. These recommendations, in most cases, represented objectives that were included in federal recovery plans and state/tribal management plans.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Adult Returns: Adult Returns (Natural Spawners) | Spawner to Spawner | Population Viability Status |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade | Cowlitz | Spring | Threatened | NA | 8150(9):NA | NA | NA |
| | | | | Kalama | Spring | Threatened | 1400 | NA:1400(10) | NA | High |
| | | | | Washougal | Fall | Threatened | 5800 | NA:5800(10) | NA | High |
| | | | | Lewis | Spring | Threatened | 2200 | NA:2200(10) | NA | High |
| | | | | Upper Cowlitz | Fall | Threatened | 1400 | NA | NA | Very Low |
| | | | | Sandy | Fall | Threatened | NA | NA | NA | Early - Medium, Late - High |
| | | | | Sandy | Spring | Threatened | NA | NA | NA | High |
| | | | | Kalama | Fall | Threatened | 1300 | NA:1300(10) | NA | High |
| | | | | Cowlitz | Fall | Threatened | NA | 6900(9):NA | NA | NA |
| | | | | Lewis | Fall | Threatened | NA | 14500(9):NA | NA | NA |
| | | | | Cispus River | Spring | Threatened | 1400 | NA:1800(10) | NA | High+ |
| | | | | Coweeman River | Fall | Threatened | 3000 | NA:3600(19) | NA | High+ |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | East Fork Lewis River | Fall | Threatened | 1900 | NA:2900(10) | NA | High+ |
| | | | | Tilton River | Spring | Threatened | 1400 | NA:150(10) | NA | Very Low |
| | | | | Toutle River | Fall | Threatened | 1400 | NA:1000(10) | NA | Low |
| | | | | Toutle River | Spring | Threatened | 1400 | NA:800(10) | NA | Medium |
| | | | | Upper Cowlitz River | Spring | Threatened | 2800 | NA:5400(10) | NA | High+ |
| | | | | North Fork Lewis River | Late Fall | Threatened | 6500 | NA:11600(10) | NA | High+ |
| | | | | Lower Cowlitz | Fall | Threatened | 3900 | NA:2300 | NA | Medium |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast | Elochoman | Fall | Threatened | 1400 | NA:1400(10) | NA | High |
| | | | | Grays | Fall | Threatened | 1400 | NA:1400(10) | NA | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge | Wind | Fall | Threatened | NA | NA:0-400(10) | NA | NA |
| | | | | White Salmon | Spring | Threatened | NA | 570(9):NA | 3.1 (10) | NA |
| | | | | White Salmon | Fall | Threatened | NA | 982(9),792(10):NA | 3.7 (10) | NA |
| | | | | Hood | Fall | Threatened | NA | NA | NA | Very High Risk |
| | | | | Hood | Spring | Threatened | NA | NA:200(10) | NA | NA |
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | Eastern Cascades | Deschutes | Spring | Not listed | NA | NA:2600-2800 (9):2600-2800 Above Warm Springs NFH, 400-500 in Shitike Creek(10) | 7 | NA |
| | | | | Deschutes | Fall | Not listed | NA | NA:13000-16000(10) | 7.1 | NA |
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | N/A | Walla Walla | Spring | Not listed | NA | 5500(1,2,9):3000 | NA | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Yakima | Spring | Not listed | NA | 3300-4400 short term (adult escapement) (3,9) : >26800 total adult return, 6500 natural adult spawners, Delisting - 3000 natural adult returns, Short-term- 22984 total adult returns and 7500 natural adult returns, Long-term - 39110 total adult returns a | NA | NA |
| | | | | Umatilla | Spring | Not listed | NA | 8000 (1,9):2000(10) | NA | NA |
| | | | | John Day | Spring | Not listed | NA | 12000(10):NA | NA | NA |
| Interior Columbia | Upper Columbia River | NA | Eastern Cascades | Wenatchee | Summer/Fall | | NA | 13500 (6,9):NA | NA | NA |
| | | | | Methow | Summer/Fall | | NA | NA:2000 (10) | NA | NA |
| Interior Columbia | Snake River | NA | Grande Ronde-Imnaha | Imnaha River | Spring | | 1000 | 5740:3800 | 1.8 | NA |
| | | | | Grande Ronde | Fall | | NA | 10000: (4,10), 7500(4,10) | NA | NA |
| No Recovery Domain | NA | NA | N/A | Big Sheep Creek | | | 250 | NA | NA | |
| Interior Columbia | Middle Columbia River | | | Umatilla | Fall | Not listed | NA | 12000 (1,9):6000(10) | NA | NA |
| No Recovery Domain | NA | | | Big Sheep Creek | | | | | | NA |
| Interior Columbia | Snake River | Snake Hells Canyon Fall Chinook | Hells Canyon | Snake Hells Canyon | Fall | | NA | 26800(9):6500 | NA | NA |
| Interior Columbia | Snake River | Snake River Fall Chinook | Clearwater | Clearwater | Fall | | 3000 (total Snake Rver) | 50000(1,4,9):10000 (4,10) | NA | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Fall Chinook | Snake River Fall Chinook | Salmon | Fall | Threatened | NA | 5000(9):2100-2500 (10) | NA | NA |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Clearwater | Clearwater | Spring | Threatened | NA | 60000 (1,9):10,000(4,10) | NA | NA |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Imnaha | Spring/Summer | Threatened | NA | 5740 (1,9):3800(10) | NA | NA |
| | | | | Catherine Creek | Spring | Threatened | 750 | NA | 1.45 | NA |
| | | | | Lostine River | Spring | Threatened | 1000 | NA | 1.45 | NA |
| | | | | Lookingglass Creek | Spring | Threatened | 500 | NA | NA | NA |
| | | | | Wenaha River | Spring | Threatened | 750 | NA | 1.6 | NA |
| | | | | Minam River | Spring | Threatened | 750 | NA | 1.6 | NA |
| | | | | Lookingglass Creek (functionally expirated) | Spring | Threatened | 500 | NA | 1.45 | NA |
| | | | | Grande Ronde | Spring | Threatened | NA | 5000-16000 (4,10):5000-12400(4,10) | NA | NA |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Asotin (functionally extinct) | Spring | | 500 | 500(9):250(10) | 1.9 | NA |
| | | | | Tucannon | Fall | Threatened | NA | 2000(4,9):1000(10) | NA | NA |
| | | | | Tucannon | Spring | Threatened | 750 | 2400-3400(4,9): 2000(11,10) | 1.6 | Highly Viable |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Middle Fork Salmon | Middle Fork Salmon below Indian Creek | Spring/Summer | Threatened | 1000 | NA | 1.45 | NA |
| | | | | Sulphur Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |
| | | | | Lower Middle Fork Salmon River | Spring/Summer | Threatened | 750 | NA | 1.6 | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bear Valley Creek | Spring/Summer | Threatened | 750 | NA | 1.6 | Viable |
| | | | | Upper Middle Fork Salmon River | Spring/Summer | Threatened | 750 | NA | 1.6 | NA |
| | | | | Camas Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |
| | | | | Loon Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | Viable |
| | | | | Marsh Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | Viable |
| | | | | Chamberlain Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | Viable |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | N/A | Snake Hells Canyon | Spring | Extirpated | NA | NA:25000(9) | NA | NA |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | South Fork Salmon | Secesh River | Spring/Summer | Threatened | 750 | NA | 2.1 | Viable |
| | | | | Little Salmon River | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |
| | | | | South Fork Salmon River | Spring/Summer | Threatened | 1000 | NA | 1.45 | Viable |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Upper Salmon River | Lemhi River | Spring/Summer | Threatened | 2000 | NA | 1.2 | Viable |
| | | | | Lower Mainstem Salmon River | Spring/Summer | Threatened | 2000 | NA | 1.2 | NA |
| | | | | Valley Creek | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |
| | | | | Panther Creek | Spring/Summer | Threatened | 750 | NA | 1.6 | NA |
| | | | | Upper Mainstem Salmon River | Spring/Summer | Threatened | 1000 | NA | 1.46 | Viable |
| | | | | Pahsimeroi River | Spring/Summer | Threatened | 1000 | NA | 1.45 | Viable |
| | | | | North Fork Salmon River | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Yankee Fork Salmon River | Spring/Summer | Threatened | 500 | NA | 1.9 | NA |
| | | | | East Fork Salmon River | Spring/Summer | Threatened | 1000 | NA | 1.45 | Viable |
| Interior Columbia | Upper Columbia River | Upper Columbia Spring Chinook | Eastern Cascades | Wenatchee | Spring | Endangered | 2000 | 5500:4100(10) | 1.2 | Viable |
| | | | | Okanogan | Spring | Extirpated | NA | 300 (1,9) | NA | NA |
| | | | | Okanogan | Summer/Fall | | NA | 3500 (7,10):NA | NA | NA |
| | | | | Entiat | Spring | Endangered | 500 | NA:500(6,10) | 1.4 | Viable |
| | | | | Methow | Spring | Endangered | 2000 | NA:2000(10) | 1.2 | Viable |
| | | | | Methow | Summer | Endangered | NA | NA:2000 | NA | NA |
| Willamette Lower Columbia | Upper Willamette River | Upper Willamette River Chinook | Willamette | Willamette | Spring | Threatened | NA | 100000 (past Willamette Falls)(10) | NA | Clackamas River - High |

FOOTNOTES:
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5 - Draft Recovery Plan
6 - WDFW objective
7 - Past Wells Dam
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11 - Minimum delisting criteria from draft recovery plan of technical plan as described in CBFWA recommendation

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Adult Returns: Adult Returns (Natural Spawners) | Spawner to Spawner | Population Viability Status |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Kalama | | Threatened | 1100 | NA:150(10) | NA | Low |
| | | | | Salmon | | Threatened | 1100 | 5200(9):5200(10) | NA | High+ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Cowlitz | Threatened | 1100 | NA:600(10) | NA | Medium |
| | | | | Lewis | Threatened | 1100 | NA:1100(10) | NA | High |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Elochoman | Threatened | 1100 | NA:1100(10) | NA | High+ |
| | | | | Grays | Threatened | 4300 | NA:6000(10) | NA | High+ |

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## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Adult Returns: Adult Returns (Natural Spawners) | Spawner to Spawner | Population Viability Status |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Kalama | Late | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Tilton River | Late | Threatened | 600 | NA:150(10) | NA | Low |
| | | | | Upper Cowlitz | Late | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Washougal | Late | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Cowlitz | Late | Threatened | NA | 3150(9):NA | NA | NA |
| | | | | Lower Cowlitz River | Late | Threatened | 600 | NA:600(10) | NA | High |
| | | | | Coweeman | Late | Threatened | 600 | NA:600(10) | NA | High |
| | | | | South Fork Toutle | Late | Threatened | 600 | NA:600(10) | NA | High |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cispus River | Late | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Lewis | Early | Threatened | NA | 1200(9):NA | NA | NA |
| | | | | East Fork Lewis River | Early | Threatened | 600 | NA:600(10) | NA | High |
| | | | | North Fork Lewis River | Early | Threatened | 600 | NA:600(19) | NA | High |
| | | | | Sandy | Early and Late | Threatened | NA | | NA | High |
| | | | | North Fork Toutle | Late | Threatened | 600 | NA:600(10) | NA | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Elochoman | Late | Threatened | 600 | NA:600(10) | NA | High |
| | | | | Grays | Late | Threatened | 600 | NA:600(10) | NA | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | White Salmon | Late | Threatened | NA | 470(9):NA | NA | NA |
| No Recovery Domain | NA | NA | N/A | Clearwater | NA | NA | NA | 14000 (1,4,9):NA | NA | NA |
| | | | | Grande Ronde | NA | NA | NA | 3500:1000(4,10) | NA | NA |
| | | | | Methow | NA | NA | NA | NA:1500 (8,10) | NA | NA |
| | | | | Wenatchee | NA | NA | NA | NA:1500 (8,9) | NA | NA |
| | | | | Umatilla | NA | NA | NA | 6000 (1,9):1568(10) | NA | NA |

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## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Adult Returns: Adult Returns (Natural Spawners) |
|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | NA | N/A | Grande Ronde | | NA | 2500:NA |
| Interior Columbia | Snake River | Snake River Sockeye Salmon | Sawtooth Valley | NA | | Endangered | 8000-44500:2000 |
| Interior Columbia | Upper Columbia | Upper Columbia River Sockeye | N/A | Okanogan | | NA | 58730 past well dams(9):NA |
| | | | | Wenatchee | | NA | 23000 (6,9):NA |

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## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Adult Returns: Adult Returns (Natural Spawners) | Spawner to Spawner | Population Viability Status |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade | South Fork Toutle River | Winter | Threatened | 1400 | NA:1600(10) | NA | High+ |
| | | | | Kalama | Summer | Threatened | 700 | NA:700(10) | High | NA |
| | | | | Kalama | Winter | Threatened | 600 | NA:650(10) | NA | High+ |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sandy | Summer | Threatened | NA | NA | NA | High |
| | | | | Washougal | Summer | Threatened | 500 | NA:700(10) | NA | High+ |
| | | | | Washougal | Winter | Threatened | 600 | NA:400(10) | NA | High |
| | | | | Cowlitz | Winter | Threatened | NA | 4150(9):NA | NA | NA |
| | | | | Lewis | Winter | Threatened | NA | 900(9):NA | NA | NA |
| | | | | Coweeman River | Winter | Threatened | 800 | NA:800(10) | NA | High |
| | | | | East Fork Lewis River | Winter | Threatened | 600 | NA:300(10) | NA | High |
| | | | | Lower Cowlitz River | Winter | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Lewis | Summer | Threatened | NA | NA:275(9) | NA | NA |
| | | | | North Fork Lewis River | Winter | Threatened | 600 | NA:600(10) | NA | Very Low |
| | | | | Cispus River | Winter | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | Tilton River | Winter | Threatened | 600 | NA:150(10) | NA | Low |
| | | | | Upper Cowlitz River | Winter | Threatened | 600 | NA:300(10) | NA | Medium |
| | | | | North Toutle River | Winter | Threatened | 700 | NA:700(10) | NA | High |
| | | | | North Fork Lewis River | Summer | Threatened | 600 | NA:75(10) | NA | Very Low |
| | | | | East Fork Lewis River | Summer | Threatened | 600 | NA:200(10) | NA | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast | Grays | Winter | Threatened | NA | NA:600(10) | NA | NA |
| | | | | Elochoman | Winter | Threatened | NA | NA:400(10) | NA | NA |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Hood | Summer | Threatened | NA | NA:600(10) | NA | NA |
| | | | | Hood | Winter | Threatened | NA | NA:1100(10) | NA | NA |
| | | | | Wind | Summer | Threatened | NA | NA:1200-1900(10) | NA | Viable |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Wind | Winter | Threatened | NA | NA:100(10) | NA | NA |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Klickitat | Summer | Threatened | 1000 | NA | 1.35 | Viable |
| | | | | Fifteenmile | Summer | Threatened | 500 | NA | 1.56 | Viable |
| | | | | White Salmon | Summer | Threatened | NA | 301(9):NA | 3.3 (10) | NA |
| | | | | Deschutes | Summer | Threatened | NA | 6900-8400 (adult escapement)(9) | NA | NA |
| | | | | Deschutes - Westside Tributaries | Summer | Threatened | 1500 | NA:4500-5500(10) | 6.0 (10), 1.26 (11) | Viable |
| | | | | Deschutes - Eastside Tributaries | Summer | Threatened | 1000 | NA:2400-2900(10) | 2.3 (10), 1.35 (11) | Viable |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | John Day | North Fork John Day | Summer | Threatened | 1500 | NA | 1.26 | Highly Viable |
| | | | | Upper Mainstem John Day | Summer | Threatened | 1000 | NA | 1.35 | Viable |
| | | | | John Day | Summer | Threatened | NA | 29400 adult returns (to mouth) (10):NA | NA | NA |
| | | | | Lower Mainstem John Day | Summer | Threatened | 2250 | NA | 1.19 | Viable |
| | | | | Middle Fork John Day | Summer | Threatened | 1000 | NA | 1.35 | Viable |
| | | | | South Fork John Day | Summer | Threatened | 259 | NA | 1.56 | Moderate Risk |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Touchet River | Summer | Threatened | NA | 1000 (1563-2205 restoration goal) | 1.35 | Viable |
| | | | | Walla Walla | Summer | Threatened | 1000 | 3438-5600 (adult escapement) (1,3,9):NA | 1.35 | Viable |
| | | | | Umatilla | Summer | Threatened | 1500 | 5500 (1,9):4000(10) | 1.26 | Viable |

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|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Satus Creek | Summer | Threatened | NA | Delisting: 1000<br>Short-term: 1000<br>Long-term: 1500 | >1.65 | Viable |
| | | | | Upper Yakima River | Summer | Threatened | NA | Delisting: 500<br>Short-term: 1500<br>Long-term: 7700 | >1.2 | Maintained |
| | | | | Toppenish Creek | Summer | Threatened | NA | Delisting: 250<br>Short-term: 500<br>Long-term: 5400 | >1.2 | Maintained |
| | | | | Yakima | Summer | Threatened | NA | 4500 (adult escapement) (short-term) (11,9):NA | NA | NA |
| | | | | Naches River | Summer | Threatened | NA | Delisting: 1500<br>Short-term: 1500<br>Long-term: 2000 | >1.3 | Viable |
| Interior Columbia | Snake River | Snake River Steelhead | Clearwater | Lochsa River | Summer | Threatened | 1500 | NA | 1.13 | Viable |
| | | | | Clearwater | Summer | Threatened | NA | 47900-101000 (1,9):A-run: 5900-10000 total adult returns and 4900 natural adult spawners, B-run: 42000-91000 total adult returns and 12000 natural adult spawners(10) | NA | NA |
| | | | | North Fork Clearwater River | Summer | Threatened | 2250 | NA | 1.1 | NA |
| | | | | Lower Mainstem Clearwater River | Summer | Threatened | 1500 | NA | 1.13 | Viable |
| | | | | Selway River | Summer | Threatened | 1500 | NA | 1.13 | NA |
| | | | | Lolo River | Summer | Threatened | 500 | NA | 1.4 | Viable |
| Interior Columbia | Snake River | Snake River Steelhead | Grande Ronde | Grande Ronde River | Summer | Threatened | NA | 5000-27500 (1,4,9): 5000-18500 (4,10) | NA | NA |
| | | | | Wallowa River | Summer | Threatened | 1000 | NA | 1.2 | NA |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Upper Grande Ronde River | Summer | Threatened | 1500 | NA | 1.13 | NA |
| | | | | Lower Grande Ronde River | Summer | Threatened | 1000 | 1855-5101(Restoration Goal) (8,10):NA | 1.2 | NA |
| | | | | Joseph Creek | Summer | Threatened | 1000 | 2149-5909(Restoration Goal):NA | 1.2 | NA |
| Interior Columbia | Snake River | Snake River Steelhead | Imnaha | Imnaha | Summer | Threatened | 1000 | 4315 (1,9):2100 (10) | 1.2 | NA |
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Asotin | Summer | Threatened | 1000 | 2776-3114 (1, 11, 9):160-2000 total adults returns, 1500 natural adult spawners, 2776-3114 total adult returns (4,10) | 1.4 | NA |
| | | | | Tucannon | Summer | Threatened | 1000 | 1823-3400 (adult escapement) (5, 9):2200-3400 total adult returns, 1500 natural spawners (Subbasin Plan - Nez Perce Tribe),600 natural spawners (WDFW), 1823-3400 total adult returns (Draft Recovery Plan) (10) | 1.2 | Highly Viable |
| Interior Columbia | Snake River | Snake River Steelhead | N/A | Snake Hells Canyon | Summer | Threatened | NA | 62200(9):NA | NA | NA |
| Interior Columbia | Snake River | Snake River Steelhead | Salmon | Secesh River | Summer | Threatened | 500 | NA | 1.4 | Viable |
| | | | | Upper Middle Fork Salmon River | Summer | Threatened | 1500 | NA | 1.13 | Viable |
| | | | | Upper Mainstem Salmon River | Summer | Threatened | 1000 | NA | 1.2 | Viable |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Salmon | Summer | Threatened | NA | 145000-192900(9):21600(10) | NA | NA |
| | | | | Lower Middle Fork Salmon River | Summer | Threatened | 1500 | NA | 1.13 | NA |
| | | | | East Fork Salmon River | Summer | Threatened | 1000 | NA | 1.2 | NA |
| | | | | North Fork Salmon River | Summer | Threatened | 500 | NA | 1.4 | NA |
| | | | | South Fork Salmon River | Summer | Threatened | 1000 | NA | 1.7 | Viable |
| | | | | Pahsimeroi River | Summer | Threatened | 1000 | NA | 1.2 | NA |
| | | | | Little Salmon River | Summer | Threatened | 1000 | NA | 1.2 | NA |
| | | | | Chamberlain Creek | Summer | Threatened | 1000 | NA | 1.2 | Viable |
| | | | | Upper Middle Fork | Summer | Threatened | 1000 | NA | 1.2 | NA |
| | | | | Lemhi River | Summer | Threatened | 1000 | NA | 1.2 | NA |
| Interior Columbia | Upper Columbia River | Upper Columbia Steelhead | Eastern Cascades | Wenatchee | Summer | Threatened | 1000 | 2500(9):NA | 1.1 | Viable |
| | | | | Okanogan | Summer | Threatened | 500 | NA:600 (6,10) | 1.2 | Viable |
| | | | | Entiat | Summer | Threatened | 500 | NA:500(6,10) | 1.2 | Viable |
| | | | | Methow | Summer | Threatened | 1000 | NA:2500(10) | 1.1 | Viable |

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**Document:** **Columbia Gorge Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/20033/ColumbiaGorgeInvAssPlan.pdf

**Overview:** The Columbia Gorge Subbasin Plan focuses on the mainstem Columbia River between Bonneville and The Dalles dams in western Oregon and Washington. The Oregon Department of Fish and Wildlife (ODFW) was the designated lead entity for developing the plan. The planning process involved a number of federal, tribal, state, and local agencies, as well as regional organizations.

**Qualitative: Objectives**

Restore anadromous fishes to historical abundance in perpetuity.

Within 7 years, halt the declining trends in salmon, sturgeon, and lamprey populations upstream of Bonneville Dam.

Reestablish at least one chum salmon spawning population upstream from Bonneville Dam.

**Document:** **Columbia River Basin Fish and Wildlife Program - 2009 Amendments**

**Author:** Northwest Power and Conservation Council **Document Year:** 2009

**Link:** http://www.nwcouncil.org/fw/program/program-2009-amendments/

**Overview:** The Northwest Power and Conservation Council, an interstate compact agency of Idaho, Montana, Oregon, and Washington, was established under the authority of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act or Act). The Act directs the Council to develop a program to "protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries … affected by the development, operation, and management of [hydroelectric projects] while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply."

As a planning, policy-making and reviewing body, the Council develops the program and then monitors its implementation by the Bonneville Power Administration, the U.S. Army Corps of Engineers, the Bureau of Reclamation and the Federal Energy Regulatory Commission and its licensees.

The Northwest Power Act directs the Council to develop its program and make periodic revisions by requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

**Qualitative: Objectives**

Increase total adult salmon and steelhead runs to an average of 5 million annually by 2025 in a manner that emphasizes the populations that originate above Bonneville Dam and supports tribal and non-tribal harvest, and achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

Significantly increase the total adult salmon and steelhead runs in the Columbia River Basin, especially those that originate above Bonneville Dam, in a manner that supports tribal and non-tribal harvest and complements regional harvest management agreements, such as the Columbia River Compact, the U.S. v Oregon Management Agreement, and the Pacific Salmon Treaty. Efforts to increase abundance must also be consistent with achieving recovery of ESA-listed populations and preventing additional ESA listings of species. Within 100 years, achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province.

Halt declining trends in Columbia River Basin salmon and steelhead populations, especially those that originate above Bonneville Dam. Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. Continue restoration of lamprey populations.

**Document:** **Colville Confederated Tribes - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Colville Confederated Tribes, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives** Performance standards, and in-river survival targets reflected in the 2008/2010 FCRPS biological opinion and the 2008 CCT (15) Accord.

**Document:** **Confederated Tribes of Grande Ronde - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Confederated Tribes of Grande Ronde, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Protect, enhance, restore and connect freshwater habitat in the mainstem for the life history stages of naturally spawning anadromous and resident salmonids and lamprey. Protect and enhance ecological connectivity between aquatic areas, riparian zones, floodplains, and uplands in the mainstem.

Protect, enhance, restore, and connect freshwater habitat in the Columbia River mainstem and tributaries for the life history stages of naturally spawning anadromous and resident salmonds and Pacific lamprey. Protect and enhance ecological connectivity between aquatic areas, riparian zones, floodplains, and uplands in the mainstem.

The Council's program incorporates the qualitative recovery criteria from ESA recovery plans. It also incorporates the more qualitative broad sense goals in some recovery plans that go beyond ESA delisting. The Program also recognizes that these goals do not reflect hatchery production goals for harvest, and such hatchery production targets will need to be determined.

Adopt the ISAB recommendations to establish quantitative biodiversity objectives for foal species and habitats. Incorporate ESA biodiversity objectives.

Adopt ISAB recommendations to make basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. Develop provincial objectives including population targets in the Lower Columbia province.

Adopt ISAB recommendations to make basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. Develop provincial objectives including population targets in the Lower Columbia province.

The Program continues to include a set of quantitative goals and related timelines for anadromous fish, These include, among others, increasing total adult salmon and steelhead runs to an average of 5 million annually by 2025 in a manner that emphasizes the populations that originate above Bonneville Dam and supports tribal and non-tribal harvest, and achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

**Document:** **Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment**

**Author:** ODFW **Document Year:** 2010

**Link:** http://www.dfw.state.or.us/fish/CRP/docs/mid_columbia_river/Oregon_Mid-C_Recovery_Plan_Feb2010.pdf

**Overview:** The Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population provides for the recovery of 10 Middle Columbia River (Mid-C) steelhead populations that occupy Oregon tributaries to the Columbia River. The steelhead populations spawn and rear in the Fifteenmile Creek, Deschutes, John Day, Umatilla and Walla Walla basins and are part of the Mid-C steelhead Distinct Population Segment (DPS).

The plan seeks to remove or minimize threats to the long-term persistence of Oregon's Mid-C steelhead populations and improve their viability to levels that will allow removal of the DPS from the threatened and endangered species list. The long-term goals, however, reach well beyond achieving DPS delisting. They aim to recover the populations and their habitats to levels that are not only viable, but also provide sustainable fisheries and other ecological, cultural, social and economic benefits for future generations.

The Oregon Department of Fish and Wildlife facilitated the plan's development through a collaborative process with broad technical stakeholder and public involvement. Oregon's recovery planning forums include the Middle Columbia Sounding Board, the Mid-Columbia Recovery Planning Team, and management Action Teams. Recovery planners incorporated findings from groups with broader areas of responsibility than the Mid-Columbia, including the Interior Columbia Technical Recovery Team and the Oregon Expert Panel. Involvement by these different entities helped to ensure that recovery goals and actions were consistent and compatible with the goals and direction adopted in related efforts.

Oregon's broad sense recovery goal for Mid-C steelhead is founded on a belief that citizens throughout the region value and enjoy the substantial ecological, cultural, social, and economic benefits that are derived from having healthy and diverse populations of steelhead. The Middle Columbia Sounding Board identified the following broad sense recovery goal that Oregon's Mid-Columbia River natural steelhead populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) so that they provide significant ecological, social, cultural, and economic benefits.

This vision for recovery incorporates ESA delisting goals in the sense that delisting would be achieved first during an extended and stepwise process of achieving broad sense recovery goals. ESA delisting criteria are entirely science-based and establish the biologically based standards required to sustain the DPS. In contrast, recovery represents a level of population and DPS performance that will considerably exceed the delisting level.

**Goal:**

*Broad Sense* Broad Sense Recovery Goal: Oregon's broad sense recovery goal for the Mid-C Steelhead is founded on a belief that citizens throughout the region value and enjoy the substantial ecological, cultural, social, and economic benefits that are derived from having healthy, diverse populations of steelhead: Oregon's Mid-Columbia River natural steelhead populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) so that they provide significant ecological, social, cultural, and economic benefits.

Oregon's Mid-Columbia River natural steelhead populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) so that they provide significant ecological, social, cultural, and economic benefits.

*Overall* Remove or minimize threats to the long-term persistence of Oregon's Mid-C steelhead populations and improve their viability to levels that will allow removal of the DPS from the threatened and endangered species list. The long-term goals, however, reach well beyond achieving DPS delisting. They aim to recover the populations and their habitats to levels that are not only viable, but also provide sustainable fisheries and other ecological, cultural, social and economic benefits for future generations.

**Qualitative: Objectives**

Recovery Objective to be achieved by 2050, land and resource managers work with communities and other interests in a coordinated manner to achieve broad sense recovery through a shared vision of conservation where options and choices are preserved for future generations.

Recovery Objective to be achieved by 2050, landowners, land managers and agencies are provided with guidance on the protection and management of habitats to promote the recovery of Middle Columbia River steelhead.

Recovery Objective to be achieved by 2050, out-of-basin limiting factors are addressed equitably and in concert with in-basin limiting factors.

Recovery Objective to be achieved by 2050, working in concert with existing agreements and collaboratively with landowners and resource managers NOAA will define a suite of additional land and water resource management principles and practices that when followed will alleviate liability for possible ESA regulatory consequences to landowners and resource managers.

Recovery Objective to be achieved by 2050, All extant populations of Middle Columbia steelhead are capable of contributing ecological, social, cultural, and economic benefits on a regular and sustainable basis.

Recovery Objective to be achieved by 2050, extirpated populations (e.g. Willow Creek, Crooked River) are restored in a manner that engages landowner cooperation and does not subject landowners to ESA regulation based on the presence of previously extirpated populations until the introduced populations are self-sustaining and become part of the listed DPS.

Recovery Objective to be achieved by 2050, all currently extant Middle Columbia steelhead populations are highly viable.

Recovery Objective to be achieved by 2050, Middle Columbia steelhead are viable throughout the historical range and no longer need protection under the ESA.

By 2050, all extant populations of Middle Columbia steelhead are capable of contributing ecological, social, cultural, and economic benefits on a regular and sustainable basis.

By 2050, extirpated populations (e.g., Willow Creek, Crooked River) are restored in a manner that engages landowner cooperation and does not subject landowners to ESA regulation based on the presence of previously extirpated populations until the introduced populations are self-sustaining and become part of the listed DPS.

By 2050, all currently extant Middle Columbia steelhead populations are highly viable.

By 2050, Middle Columbia steelhead are viable throughout the historical range and no longer need protection under the ESA.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category | Minimum Productivity |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Fifteenmile | Winter | Threatened | 500 | Basic | 1.56 |
| | | | | Crooked River | Summer | | 2250 | Very Large | 1.19 |
| | | | | Deschutes Westside | Summer | Threatened | 1500(1000) | Large (Intermediate) | 1.26(1.35) |
| | | | | Deschutes Eastside | Summer | Threatened | 1000 | Intermediate | 1.35 |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | John Day | South Fork John Day | Summer | Threatened | 500 | Basic | 1.56 |
| | | | | North Fork John Day | Summer | Threatened | 1500 | Large | 1.26 |
| | | | | Middle Fork John Day | Summer | Threatened | 1000 | Intermediate | 1.35 |
| | | | | Lower Mainstem John Day | Summer | Threatened | 2250 | Very Large | 1.19 |
| | | | | Upper Mainstem John Day | Summer | Threatened | 1000 | Intermediate | 1.35 |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Willow Creek | Summer | | 1000 | Intermediate | 1.35 |
| | | | | Umatilla | Summer | Threatened | 1500 | Large | 1.26 |
| | | | | Walla Walla | Summer | Threatened | 1000 | Intermediate | 1.35 |

FOOTNOTES:
(1) Large size category is for historically accessible area; intermediate size category is for currently accessible area.

**Document:** **Cowlitz Indian Tribe - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Cowlitz Indian Tribe, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (Add: Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.)

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. Restore healthy characteristics.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province (add: by 2024)

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

The Plan should include a biological objective calling for an increase of in the total adult return for salmon and steelhead populations in the lower river to achieve 75% of recovery goals by 2025. Biological objectives for all Columbia Basin salmon and steelhead populations should call for a halt to declining trends.

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

[delete: Allow for biological diversity among and within populations and species] [ add: Promote the increase of biological diversity among and within populations] to increase ecological resilience to environmental variability.

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Incorporate ESA recovery productivity objectives.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

"The Council's Program incorporates the quantitative recovery criteria from ESA recovery plans. It also incorporates the more qualitative broad sense goals in some recovery plans that go beyond ESA delisting."

(delete: Investigate reintroduction of) ( Add: Take action) to reintroduce anadromous fish into blocked areas, where feasible.

**Document:** **Cowlitz, Coweeman, and Toutle Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119238/Vol_II_E__Cowlitz.pdf

**Overview:** The Cowlitz, Coweeman, and Toutle Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the lower Cowlitz River describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Cowlitz | Fall | Threatened | 3900-33200 | Medium |

NOTES:
Contributing population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Cowlitz | | Threatened | 150-1100 | Medium |

NOTES:
Contributing population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Lower Cowlitz | Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Cowlitz | Winter | Threatened | 300 | Medium |

NOTES:
Contributing population in recovery scenario

**Document:** **Deschutes River Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/118290/EntirePlan.pdf

**Overview:** The Deschutes Subbasin Plan shares the vision and cooperation of numerous people who are committed to restoring and/or sustaining healthy fish, wildlife and plant communities, water quality and instream flows in the Deschutes watershed. Many stakeholders took an active role in its formation including fish and wildlife managers, tribes, governmental agencies and citizens.

The foundation of the Deschutes Subbasin Plan was the belief that the physical and cultural environments of the Deschutes Subbasin — and larger Columbia River Basin — control the distribution, composition, and structure of fish and wildlife communities and populations in the watershed. And, that these environments extend beyond the banks of the Deschutes River and tributaries, and reach from ridge top-to-ridge top. Consequently, strategies were designed to protect and restore the functions of natural processes within the subbasin. They include direction to protect, restore and expand core production areas for focal fish and wildlife species in the watershed.

**Qualitative: Objectives**

Middle Deschutes River Assessment Unit

- Provide suitable habitat conditions for restored self-sustaining populations of sockeye salmon in the Metolius/Lake Billy Chinook and Link Creek/Suttle Lake habitat complexes when passage is re-established at the Pelton Round Butte Complex.
- Provide efficient fish passage for focal fish species to all historic fish habitat in the assessment unit and provide connectivity between spawning and rearing habitats in the tributaries and mainstem Deschutes River.

Upper Crooked River Assessment Unit

- Consider restoring native anadromous fish populations (including steelhead, chinook and Pacific lamprey) upstream of Bowman and Ochoco dams, if passage is achieved at Pelton Round Butte Project, Opal Springs Dam and other artificial barriers downstream from this assessment unit.

Lower Crooked River Assessment Unit

- Provide fish passage at Pelton Round Butte Complex and within the assessment unit.
- Provide suitable habitat capacity for potential production of up to 1,016 summer steelhead adults returning annually to the subbasin.
- Provide suitable habitat capacity for potential production of up to 1,052 spring Chinook adults returning annually to the subbasin.

Lower Eastside Deschutes Assessment Unit

- Maintain the life history diversity of the wild redband trout in the Willow Creek system.
- Increase the summer steelhead habitat capacity by 425 or more adult fish.
- Provide efficient fish passage to all historic fish habitat in the assessment unit and provide connectivity between spawning and rearing habitats in the tributaries and mainstem Deschutes River.

Lower Westside Deschutes Assessment Unit

- Increase summer steelhead habitat capacity to produce 5,348 adult fish (EDT projection) with habitat restoration.
- Increase spring Chinook salmon habitat capacity by the equivalent of 702 adult fish (EDT projection).
- Increase fall Chinook salmon habitat capacity to produce 1,549 adult fish (EDT projection).
- Maintain the genetic diversity, adaptiveness, and abundance of the wild indigenous redband trout, steelhead, spring and fall Chinook salmon, bull trout, and Pacific lamprey in the Lower Westside Deschutes Assessment Unit.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity | Diversity Index % | Spawner Escapement |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | Eastern Cascades | Crooked River | Spring | Not Listed | NA | 5.5 | NA | 750-1000 |
| | | | | Deschutes Middle | Spring | Not Listed | NA | NA | NA | 1800-2150 |
| | | | | Deschutes Westside | Spring | Not Listed | 2600-2800 | 7 | 98 | 2200-2300 |
| | | | | Deschutes Westside | Fall | Not Listed | 13000-16000 | 7.1 | 60 | NA |

NOTES:
Abundance represents annual natural-origin adults returning in 25 years

Lower Westside Descutes escapement (wild adults) above barrier at Warm Springs National Fish Hatchery with 400-500 adults into Shitike Creek

Middle Deschutes escapement (natural adults) distribution includes 1400-1600 to Metolius River, 250-350 to Squaw Creek, and 150-200 to Middle Deschutes River when passage is established at the Pelton Round Butte and Squaw Creek dams

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity | Diversity Index % | Spawner Escapement |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Deschutes Middle | Summer | Threatened | NA | NA | NA | 1600-1850 |
| | | | | Crooked River | Summer | Threatened | NA | 4.4 | NA | 700-1000 |
| | | | | Deschutes Westside | Summer | Threatened | 4500-5500 | 6 | 70 | NA |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Deschutes Eastside | Summer | Threatened | 2400-2900 | 2.3 | 0.5 | NA |

NOTES:
Abundance represents annual natural-origin adults returning in 25 years

Lower Eastside escapement (natural adults) distribution includes 800-900 to Buck Hollow Creek, 600-800 to Bakeoven Creek, and 1000-1200 to Trout Creek

Spawner escapement of natural fish

Middle Deschutes escapement (natural adults) distribution includes 600-700 to Metolius River, 700-800 to Squaw Creek, and 300-350 to Middle Deschutes River when passage is established at the Pelton Round Butte and Squaw Creek dams

**Document:** **Draft Clearwater Subbasin Management Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/19923/managementplan.pdf

**Overview:** The Clearwater Policy Advisory Committee and the Nez Perce Tribe developed the Clearwater Subbasin Plan to serve multiple purposes. They intend the plan to meet the Northwest Power and Conservation Council's call for subbasin plans and to provide a resource for federal agencies involved with Endangered Species Act planning efforts. The vision for the Clearwater Subbasin is a healthy ecosystem with abundant, productive, and diverse aquatic and terrestrial species, which will support sustainable resource-based activities.

Objectives were formulated in a quantifiable manner whenever sufficient data and information were available. Quantifiable criteria derived by technical working groups may reflect predefined or newly defined goals, or be a best estimate. In the absence of sufficient information or data, timelines (rather than quantifiable criteria) for gathering necessary information or accomplishing objectives were established as part of the management plan.

**Qualitative: Objectives** Increase the number of naturally spawning adults to achieve recovery goals within 24 years, amounting to a 4 to 6% SAR for spring/summer Chinook, 3% for fall Chinook, and 4% for steelhead as measured at Lower Granite Dam.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Clearwater | NA | Spring | Threatened | 60000 (1)(3) | 10000 (2) |
| | | | | NA | Fall | | 50000 (1) | up to 10000 (2) |

FOOTNOTES:
(1) Clearwater River Subbasin Production Plan 1990. Appendix A, Table 8 of this plan provides the opinions of various management documents as to what the long-term return goal should be. Most values displayed here were derived from the Tribal Recovery Plan, CRITFC (1996).

(2) Intensive chinook spawning grounds redd count data from 24 streams from 1994-2002.

(3) Adult return objectives are 9,135 for Dworshak National Fish Hatchery and 11,915 for Clearwater Fish Hatchery

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| No Recovery Domain | NA | NA | N/A | Clearwater | | | 14000 | Undefined |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Tucannon | B-Run | | 42000-91000 (3) | 12000 (3) |
| | | | | Tucannon | A-Run | | 5900-10000 (1)(2) | 4900 (3) |

FOOTNOTES:
(1) Managers do not agree on the future population size; they do agree on a range estimate of 5,900 to 10,000 untilbetter information is obtained on actual population size potentials. NPT Fisheries staff estimate is higher based onprofessional opinion after inventories from streams in 1980's.

(2) Clearwater River Subbasin Production Plan 1990. Appendix A, Table 8 of this plan provides the opinions of various management documents as to what the long-term return goal should be. Most values displayed here are from the Tribal Recovery Plan.□

(3) NOAA Interim abundance goal; dependent on which tributaries are included in the estimate□

NOTES:
There is agency concern regarding the accuracy of this future management and harvest goal; the current artificial adult goal is 34,000 for Dworshak and Clearwater hatcheries combined; TAC (1985) estimated wild B-run escapement at 10,000 with 80% designated for the Clearwater River; therefore the future B-run escapement goal for both hatchery and wild may range from 42,000 upwards to 91,000. Harvest goal estimates differ similarly ranging from 25,000-74,000. Infinite detail as to how this difference will be achieved is not explained in this plan but must be worked out after implementation of the plan

Future Goals: Goals are derived from various management plans. This plan and do not imply consensus by all management agencies. This table merely gives direction to managers who must workout the restoration and recovery of each specie and population over time through implementation of the plan.Long-term Goals: Clearwater River Subbasin Production Plan 1990. Appendix A, Table 8 of this plan provides the opinions of various management documents as to what the long-term return goal should be. Most values displayed here were derived from the Tribal Recovery Plan

**Document:** **Draft ESA Recovery Plan for Northeast Oregon Snake River Spring and Summer Chinook Salmon and Snake River Steelhead Populations Oregon Snake River Spring and Summer Chinook Salmon and Snake River Steelhead Populations**

**Author:** NMFS **Document Year:** 2015

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/snake/ne_oregon_complete_plan_3-26-15.pdf

**Overview:** This is a plan for the protection and restoration of Snake River spring/summer Chinook salmon and Snake River steelhead. Historically, the fish runs ranged as far as Shoshone Falls in Idaho, and spawned and rearing in parts of the Snake River system extending across the states of Oregon, Washington and Idaho. Major tributaries still available to the fish runs include the Grande Ronde and Imnaha Rivers in Oregon, the Salmon and Clearwater Rivers in Idaho, and the Tucannon River in Washington.
The fish and wildlife agencies of the Columbia Basin Fish and Wildlife Authority submitted a suite of objectives for Columbia River Basin salmon and steelhead as amendments to the Northwest Power and Conservation Council's 2000 Columbia Basin Fish and Wildlife Program. These recommendations, in most cases, represented objectives that were included in federal recovery plans and state/tribal management plans.

**Goal:** *Broad Sense* This Plan for Northeast Oregon Snake River spring/summer Chinook salmon and steelhead is founded on a belief that citizens throughout the region value and enjoy the substantial ecological, cultural, social, and economic benefits that are derived from having healthy, diverse populations of salmon and steelhead. The following is a vision statement for the future condition of Northeast Oregon Snake River Chinook salmon and steelhead. The naturally spawning Snake River Chinook salmon and steelhead populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) throughout historical habitats so that they provide significant ecological, social, cultural, and economic benefits.

**Document:** **Draft Proposed ESA Recovery Plan Snake River Spring/Summer Chinook Salmon and Snake River Steelhead**

**Author:** NMFS **Document Year:** 2013

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/snake/snake_river_spring-summer_chinook__steelhead_draft_rollup__12-06-13.pdf

**Overview:** This is a plan for the protection and restoration of Snake River spring/summer Chinook salmon and Snake River steelhead. Historically, the fish runs ranged as far as Shoshone Falls in Idaho, and spawned and rearing in parts of the Snake River system extending across the states of Oregon, Washington and Idaho. Major tributaries still available to the fish runs include the Grande Ronde and Imnaha Rivers in Oregon, the Salmon and Clearwater Rivers in Idaho, and the Tucannon River in Washington.

**Goal:** *Broad Sense* Each management unit plan includes broad, conceptual statements of purpose for the recovery of their Snake River spring/summer Chinook salmon and steelhead populations. Generally, most of the planning entities and citizen groups agree that while delisting salmon and steelhead is an important goal, ultimately the "broad-sense" goal is to have thriving, abundant fish populations sufficient for harvest in perpetuity by all citizens as well as sufficient to meet federal treaty obligations. The Oregon and Washington management unit plans include goals that go beyond delisting to provide for other socio-economic values. Such goals have not yet been identified for the Idaho management unit plan. (see the individual management plans )

The broad sense goal for salmon and steelhead populations in the northeast Oregon management unit was defined during a series of workshops held by the Oregon Snake River Stakeholders Group, which included local representatives of communities, agricultural water users, land managers, and industry and environmental interests. The management unit plan describes a goal for the northeast Oregon populations that goes beyond delisting. The naturally spawning Snake River Chinook and steelhead populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) throughout historical habitats so that they provide significant ecological, social, cultural, and economic benefits. To achieve benefits for current and future generations, the northeast Oregon plan seeks first to restore Snake River Chinook salmon and steelhead populations in Oregon subbasins to the point where their protection under the ESA is no longer needed. When this is achieved, efforts will move beyond the minimum steps necessary to delist the species to provide for other legislative mandates or social, economic, and ecological values.

The Idaho Management Unit Plan does not identify broad sense goals that reach beyond achieving population levels that support delisting. Instead, the Idaho Management Unit Plan focuses on improving the viability of the two species to the point that ESA protection is no longer required.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Threshold | Population Size | Productivity Threshold | Role in Recovery Scenario |
|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Big Sheep Creek | Spring | | 500 | Basic | 2.21 | Consider for reintroduction as recovery efforts progress |
| | | | | Catherine Creek | Spring | Threatened | 750 | Large | 1.76 | Option: Either Catherine Creek or Upper Grande Ronde should be Viable or Highly Viable. The other should be Maintained. |
| | | | | Minam | Spring | Threatened | 750 | Intermediate | 1.76 | Option: Either Wenaha or Minam should be Viable or Highly Viable. The other should be Maintained. |
| | | | | Lostine/Wallowa | Spring | Threatened | 1000 | Large | 1.58 | Option: Viable or Highly Viable |
| | | | | Wenaha | Spring | Threatened | 750 | Intermediate | 1.76 | Option: Either Wenaha or Minam should be Viable or Highly Viable. The other should be Maintained. |
| | | | | Imnaha | Spring/Summer | Threatened | 1000 | Intermediate | 1.58 | Option: Viable or Highly Viable |
| | | | | Lookingclass Creek | Spring | | NA | NA | NA | Consider for reintroduction as recovery efforts progress |
| | | | | Upper Grande Ronde River | Spring | Threatened | 1000 | Large | 1.58 | Option: Either Catherine Creek or Upper Grande Ronde should be Viable or Highly Viable. The other should be Maintained. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Asotin Creek | Spring | | 500 | Basic | 2.21 | Consider for reintroduction as recovery efforts progress |
| | | | | Tucannon River | Spring | Threatened | 750 | Intermediate | 1.76 | Highly Viable |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Middle Fork Salmon | Bear Valley Creek | Spring | Threatened | 750 | Intermediate | 1.76 | Option: Viable or Highly Viable |
| | | | | Lower Middle Fork Salmon River | Spring/Summer | Threatened | 500 | Basic | 2.21 | Maintained |
| | | | | Marsh Creek | Spring | Threatened | 500 | Basin | 2.21 | Option: Viable or Highly Viable |
| | | | | Sulphur Creek | Spring | Threatened | 500 | Basic | 2.21 | Maintained |
| | | | | Loon Creek | Spring/Summer | Threatened | 500 | Basic | 2.21 | Option: Viable or Highly Viable |
| | | | | Big Creek | Spring/Summer | Threatened | 1000 | Large | 1.58 | Need for Viable status: Viable or Highly Viable |
| | | | | Chamberlain Creek | Spring | Threatened | 500 | Intermediate | 2.21 | Option: Viable or Highly Viable |
| | | | | Camas Creek | Spring | Threatened | 500 | Basic | 2.21 | Viable or Maintained |
| | | | | Upper Middle Fork Salmon | Spring | Threatened | 750 | Intermediate | 1.76 | Option: Viable or Maintained |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | South Fork Salmon | Little Salmon River | Spring/Summer | Threatened | 500 | Intermediate | 2.21 | Need for Viable status lessened because of minor amount of spring-run production and location outside main drainage. |
| | | | | South Fork Salmon | Summer | Threatened | 1000 | Large | 1.58 | Option: Viable or Highly Viable |
| | | | | Secesh River | Summer | Threatened | 750 | Intermediate | 1.76 | Viable or Highly Viable |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | East Fork Salmon River | Summer | Threatened | 1000 | Large | 1.58 | Option: Viable or Maintained |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Upper Salmon River | Yankee Fork | Spring | Threatened | 500 | Basic | 2.21 | Maintained |
| | | | | Lemhi River | Spring | Threatened | 2000 | Very Large | 1.34 | Option: Viable or Highly Viable |
| | | | | Salmon River Mainstem (below Redfish Lake) | Spring/Summer | Threatened | 2000 | Very Large | 1.34 | Maintained |
| | | | | Panther Creek | Spring | | 750 | Intermediate | 1.76 | NA |
| | | | | Valley Creek | Spring | Threatened | 500 | Basic | 2.21 | Option: Viable or Highly Viable |
| | | | | Upper Salmon River Mainstem (above Redfish Lake) | Spring | Threatened | 1000 | Large | 1.58 | Option: Viable or Highly Viable |
| | | | | North Fork Salmon River | Spring | Threatened | 500 | Basic | 2.21 | Maintained |
| | | | | Pahsimeroi | Spring | Threatened | 1000 | Large | 1.58 | Need to meet Viability Criteria: Viable or Highly Viable |
| | | | | East Fork Salmon River | Spring/Summer | Threatened | 1000 | Large | 1.58 | Option: Viable or Highly Viable |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Threshold | Population Size | Productivity Threshold | Role in Recovery Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Clearwater | Lolo Creek | Summer | Threatened | 500 | Basic | 1.27 | Option: Viable or Highly Viable |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lochsa River | Summer | Threatened | 1000 | Intermediate | 1.14 | Option: Viable or Highly Viable |
| | | | | South Fork | Summer | Threatened | 1000 | Intermediate | 1.14 | Option: Viable or Maintained |
| | | | | Selway River | Summer | Threatened | 1000 | Intermediate | 1.14 | Option: Viable or Maintained |
| | | | | Lower Mainstem | Summer | Threatened | 1500 | Large | 1.1 | Viable or Highly Viable |
| | | | | North Fork | Summer | | NA | Large | NA | Not part of recovery scenario |
| Interior Columbia | Snake River | Snake River Steelhead | Grande Ronde-Imnaha | Wallowa | Summer | Threatened | 1000 | Intermediate | 1.14 | Maintained |
| | | | | Lower Grande Ronde | Summer | Threatened | 100 | Intermediate | 1.14 | Option: Viable or Maintained |
| | | | | Upper Grande Ronde | Summer | Threatened | 1500 | Large | 1.1 | Viable or Highly Viable |
| | | | | Joseph Creek | Summer | Threatened | 500 | Basic | 1.27 | Option: Viable, Highly Viable, or Maintained |
| Interior Columbia | Snake River | Snake River Steelhead | Hells Canyon Tributaries | Powder River | Summer | | NA | NA | NA | NA |
| | | | | Lower Hells Canyon Tributaries | Summer | | NA | Below Basic | NA | NA |
| | | | | Weiser River | Summer | | NA | NA | NA | NA |
| | | | | Burnt River | Summer | | NA | NA | NA | NA |
| Interior Columbia | Snake River | Snake River Steelhead | Imnaha | Imnaha | Summer | Threatened | 1000 | Intermediate | 1.14 | Highly Viable |
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Asotin Creek | Summer | Threatened | 500 | Basic | 1.27 | Option: Viable or Highly Viable |
| | | | | Tucannon River | Summer | Threatened | 1000 | Intermediate | 1.14 | Option: Viable or Highly Viable |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Salmon | Secesh River | Summer | Threatened | 500 | Basic | 1.27 | Viable or Maintained |
| | | | | Upper Salmon River | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Maintained |
| | | | | East Fork Salmon | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Maintained |
| | | | | Lemhi River | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Maintained |
| | | | | North Fork Salmon River | Summer | Threatened | 500 | Basic | 1.27 | Viable or Maintained |
| | | | | Lower Middle Fork Salmon | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Highly Viable |
| | | | | South Fork Salmon River | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Highly Viable |
| | | | | Pahsimeroi River | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Maintained |
| | | | | Little Salmon River | Summer | Threatened | 500 | Basic | 1.27 | Viable or Maintained |
| | | | | Chamberlain Creek | Summer | Threatened | 500 | Basic | 1.27 | Viable or Highly Viable |
| | | | | Panther Creek | Summer | Threatened | 500 | Basic | 1.27 | Viable or Maintained |
| | | | | Upper Middle Fork Salmon | Summer | Threatened | 1000 | Intermediate | 1.14 | Viable or Highly Viable |

**Document:** **Elochoman, Skamakowa, Mill, Abernathy, and Germany Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119235/Vol_II_D__Eloch_MAG.pdf

**Overview:** The Elochoman, Skamakowa, Mill, Abernathy, and Germany Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan describes implementation of the regional approach within these stream systems, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Elochoman/Skamokawa | Fall | Threatened | 1400 | High |

NOTES:
Primary population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Elochoman/Skamokawa | | Threatened | 1100 | High |

NOTES:

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Elochoman/Skamokawa | Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast Winter | Elochoman/Skamokawa | Winter | Threatened | 150-600 | Medium |

NOTES:
Contributing population in recovery scenario

**Document:** **Entiat Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/20208/MgmtPlan.pdf

**Overview:** The vision described in the Entiat Subbasin Plan is to implement a locally developed, science-based subbasin management plan using watershed specific information ultimately leading towards compliance with the Endangered Species Act (ESA) and Clean Water Act. End products reflect a balance between existing natural resources and human uses and will capitalize on opportunities to improve these values.
The plan identified four parameters (population growth rate, population spatial structure and life history diversity) that are keys to evaluating and measuring the status of a population's health. These parameters are considered reasonable predictors for extinction risks, they reflect general processes that are important to all populations of all species, and they are measurable.

**Qualitative: Objectives**

Key subpopulations (highly productive) should be maintained to support other subpopulations with lower productivity.

Natural rates of straying among subpopulations should not be substantially increased or decreased by human actions.

Populations do not exhibit trends or shifts in traits that portend declines in a population's growth rate.

Populations do not exhibit sustained declines in abundance that span multiple generations and affect multiple brood-year cycles.

Populations exhibit sufficient productivity during fresh water life history stages to maintain abundance above thresholds, even during poor ocean (or other relevant environmental) conditions.

The population that includes naturally spawning hatchery fish exhibits sufficient productivity from naturally produced spawners to maintain population abundance above viability thresholds in the absence of supplemented hatchery production.

Population natural productivity is sufficient to maintain its abundance above the viable level.

Populations should be sufficiently abundant to provide important ecological functions throughout its life cycle.

Populations should be sufficiently large to maintain genetic diversity over a long term.

Populations have sufficient abundance for compensatory processes to provide resilience to environmental and human caused disturbances.

Populations are large enough to have a high probability of surviving environmental variation of the patterns and magnitudes observed in the past as well as those expected in the future.

Maintain populations at a level that allows meaningful opportunity for tribal and non-tribal hunting and fishing rights.

Restore populations to a point where they no longer require the protection of the ESA.

**Document:** **ESA Recovery Plan for Lower Columbia River Coho Salmon, Lower Columbia River Chinook Salmon, Columbia River Chum Salmon, and Lower Columbia River Steelhead**

**Author:** NMFS **Document Year:** 2013

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/willamette_lowercol/lower_columbia/final_plan_documents/final_lcr_plan_june_2013_-corrected.pdf

**Overview:** The ESA Recovery Plan for Lower Columbia River Coho Salmon, Lower Columbia River Chinook Salmon, Columbia River Chum Salmon, and Lower Columbia River Steelhead provides for the recovery of Chinook, steelhead, coho, and chum in the lower Columbia River or its tributaries in Oregon and Washington.

The core of the plan is a set of goals and actions for each Evolutionarily Significant Unit (ESU) that, if implemented, would reverse the ESU's decline and lead to recovery of the ESU. Biological recovery for an ESU means that it is naturally self-sustaining and no longer requires the protection of the ESA.

The NMFS based this recovery plan on the information, analyses, and strategies in the:

- The Oregon Lower Columbia Conservation and Recovery Plan for Salmon and Steelhead
- ESA Salmon Recovery Plan for the White Salmon River Subbasin
- Washington Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan

Two other documents, both developed by NMFS, were key in the development of the recovery plan: the Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead and the Recovery Plan Module: Mainstem Columbia River Hydropower.

The NMFS concluded that the Willamette Lower Columbia Technical Recovery Team's viability criteria, the recovery scenarios, and the population-level abundance and productivity goals in the management unit plans adequately describe the characteristics of an ESU that no longer needs the protections of the ESA. The NMFS endorsed the recovery scenarios and population-level goals in the management unit plans as one of multiple possible scenarios consistent with delisting.

**Goal:** *Broad Sense* Harvestability is a key aspect of the vision for recovery presented in the Washington Management Unit Plan and represents what is considered a "broad sense" recovery goal. The plan defines a viable species as one that is no longer in danger of extinction or likely to become endangered in the foreseeable future and can therefore be removed from listing under the ESA. The plan defines a harvestable species as one that has achieved viability and has abundance sufficient to allow direct and sustainable recreational, commercial, and tribal harvest without jeopardizing the species' viability (LCFRB2010a). The Washington Management Unit Plan also states that harvestability goals are reached when adult natural production exceeds recovery targets and fish can be directly harvested at levels that maintain spawning escapement at or above those targets (LCFRB 2010a). Harvest of listed fish that have not achieved their target status is typically limited to indirect harvest in mixed-stock fisheries targeted on strong wild runs or hatchery fish. Allowable levels of indirect harvest impacts are established through ESA regulatory processes (LCFRB 2010a).

To achieve broad sense recovery, defined as having Oregon populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that

the ESU as a whole will be self-sustaining and will provide significant ecological, cultural, and economic benefits (ODFW 2010).

Oregon broke down its broad sense recovery goal into two criteria:
1) All Oregon Lower Columbia River salmon and steelhead populations have a very low extinction risk and are highly viable over 100 years throughout their historical range. A very low extinction risk means a less than 1 percent probability of extinction over a 100-year period, based on an integrated assessment of the population's abundance, productivity, spatial structure, and diversity.
2) The majority of Lower Columbia salmon and steelhead populations are capable of contributing social, cultural, economic, and aesthetic benefits on a regular and sustainable basis (ODFW 2010). In working toward the broad sense recovery goal, the Oregon Lower Columbia Plan focuses on the status of Oregon populations only; meeting the broad sense recovery criteria does not depend on the performance of populations in Washington.

The White Salmon Management Unit Plan incorporates a general broad sense recovery goal to achieve a status beyond ESA delisting that incorporates local and traditional uses of salmon, including those associated with rural and Native American values. Local recovery planners and plan implementers may choose to define additional broad sense goals for the White Salmon Management Unit Recovery Plan in the future (NMFS 2013).

*Overall* For the Lower Columbia River coho salmon ESU, Lower Columbia River Chinook salmon ESU, Lower Columbia River steelhead Distinct Population Segment, and Columbia River chum salmon ESU to reach the point at which they no longer need the protection of the Endangered Species Act and can be delisted.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Target Persistence Probability |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Washougal | Fall | Threatened | 1200 | Primary | High+ |
| | | | | Sandy | Fall | Threatened | 1031 | Contributing | Moderate |
| | | | | Coweeman | Fall | Threatened | 900 | Primary | High+ |
| | | | | Toutle | Fall | Threatened | 4000 | Primary | High+ |
| | | | | Upper Cowlitz | Fall | Threatened | NA | Stabalizing | Very Low |
| | | | | Lower Cowlitz | Fall | Threatened | 3000 | Contributing | Moderate+ |
| | | | | Clackamas | Fall | Threatened | 1551 | Contributing | Moderate |
| | | | | Kalama | Fall | Threatened | 500 | Contributing | Moderate |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Lewis | Fall | Threatened | 1500 | Primary | High+ |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Late Fall | Sandy | Fall (Late) | Threatened | 3561 | Primary | Very High |
| | | | | North Fork Lewis River | Fall (Late) | Threatened | 7300 | Primary | Very High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | Toutle | Spring | Threatened | 1100 | Contributing | Moderate |
| | | | | Kalama | Spring | Threatened | 300 | Contributing | Low |
| | | | | Upper Cowlitz | Spring | Threatened | 1800 | Primary | High+ |
| | | | | North Fork Lewis River | Spring | Threatened | 1500 | Primary | High |
| | | | | Cispus | Spring | Threatened | 1800 | Primary | High+ |
| | | | | Tilton | Spring | Threatened | 100 | Stabalizing | Very Low |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Grays/Chinook | Fall | Threatened | 1000 | Contributing | Moderate+ |
| | | | | Clatskanie | Fall | Threatened | 1277 | Primary | High |
| | | | | Scappoose | Fall | Threatened | 1222 | Primary | High |
| | | | | Youngs Bay | Fall | Threatened | 505 | Stabalizing | Low |
| | | | | Mill/Abernathy /Germany | Fall | Threatened | 900 | Primary | High |
| | | | | Elochoman/Skamokawa | Fall | Threatened | 1500 | Primary | High |
| | | | | Big Creek | Fall | Threatened | 577 | Contributing | Low |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | White Salmon | Fall | Threatened | 500 | Contributing | Moderate |
| | | | | Upper Gorge | Fall | Threatened | 1200 | Contributing | Moderate |
| | | | | Lower Gorge | Fall | Threatened | 1200 | Contributing | Moderate |
| | | | | Hood | Fall | Threatened | 1245 | Primary | High |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | White Salmon | Spring | Threatened | 500 | Contributing | Low+ |
| | | | | Hood | Spring | Threatened | 1493 | Primary | Very High |

FOOTNOTES:
(1) The Cispus population requires improvements in every threat category. However, given that hydropower impacts are 100 percent for this population, it will not benefit from improvements in other threat categories until some degree of passage is restored. Although passage improvements alone will not lead to recovery, how successful passage improvements are will greatly influence how much improvement is needed in the other threat categories. The Tilton population also has hydropower impacts of 100 percent but is a stabilizing population not targeted for improvements in any threat category. Because hydropower impacts are 100 percent for both these populations, the formula for percent survival improvement for these populations was modified to account for the 100 percent hydropower impacts (i.e., to avoid having to divide by zero).□

NOTES:
Core populations, meaning those that historically were the most productive: Toutle (fall), Sandy (spring), Lower Cowlitz, Clackamas, Cispus, Upper Cowlitz (spring), Big Creek, Elochoman/Skamokawa, White Salmon (spring and fall), and Lower Gorge

Oregon's analysis indicates a low probability of meeting delisting objective of High Persistence Probability for this Hood population (Gorge Fall)

Genetic legacy populations, which best represent historical genetic diversity: Coweeman, Lewis, Sandy (spring), and Upper Cowlitz □
□
Survival improvements indicate the percentage improvement (rounded to the nearest 10) in population survival needed to achieve target impacts and are derived from the cumulative values (baseline and target). For most populations this was calculated using the following equation: [(1-CumulativeTarget)-(1-CumulativeBaseline)]/[1-CumulativeBaseline] x 100. These cumulative impact numbers were not explicitly reported by ODFW in 2010, but are implicit in the modeling approach that Oregon recovery planners used to derive target impacts. For populations where the survival improvement needed is larger than 500 percent, this table does not report the exact value.

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Target Persistence Probability |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Washougal | | Threatened | 1300 | Primary | High+ |
| | | | | Sandy River | | Threatened | 1000 | Primary | High |
| | | | | Clackamas | | Threatened | 500 | Contributing | Moderate |
| | | | | Lewis | | Threatened | 1300 | Primary | High |
| | | | | Kalama | | Threatened | 900 | Contributing | Moderate |
| | | | | Cowlitz-Fall | | Threatened | 900 | Contributing | Moderate |
| | | | | Cowlitz-Summer | | Threatened | 900 | Contributing | Moderate |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Salmon Creek | Threatened | NA | Stabalizing | Very Low |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Mill/Abernathy /Germany | Threatened | 1300 | Primary | High |
| | | | | Grays/Chinook | Threatened | 1600 | Primary | Very High |
| | | | | Elochoman/Skamokawa | Threatened | 1300 | Primary | High |
| | | | | Clatskanie | Threatened | 1000 | Primary | High |
| | | | | Big Creek | Threatened | <500 | Stabalizing | Very Low |
| | | | | Scappoose River | Threatened | 1000 | Primary | High |
| | | | | Youngs Bay | Threatened | <500 | Stabalizing | Very Low |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Upper Gorge Tributaries | Threatened | 900 | Contributing (1) | Moderate |
| | | | | Lower Gorge Tributaries | Threatened | 2000 | Primary (1) | Very High |

NOTES:
Survival Improvement needed: Survival improvements indicate the percentage improvement (rounded to the nearest 10) in population survival needed to achieve target impacts and are taken. For populations where the survival improvement needed is larger than 500 percent, this table does not report the exact value.□

Oregon did not identify abundance targets for chum salmon populations because quantitative data for use in calculating abundance targets and conservation gaps are not available. In this table, NMFS has included placeholder abundance targets for Oregon chum salmon populations based on the minimum abundance thresholds presented in McElhany et al. 2006 and 2007. The minimum abundance threshold (MAT) represents a lower bound estimate for average population size associated with a given persistence level. Minimum abundance thresholds take into account environmental variation, genetic issues, ecosystem functions, catastrophic risk, and other biological and ecological factors that affect the relationship between abundance and persistence probability and that may not be explicitly addressed in the viability curve analysis. McElhany et al. (2007) advised that, before a population is assigned to a particular risk category, the population should exceed the viability curve criterion, minimal abundance threshold, and any qualitative TRT criteria. 14 "—"indicates that no data are available from which to make a quantitative assessment.□

Designated as a historical core population by the Technical Recovery Team: Youngs Bay, Grays/Chinook, Big Creek, Elochoman/Skamakowa, Cowlitz-Fall, Cowlitz-Summer, Lewis, Clackamas, and Lower Gorge □

Designated as a historical legacy population by the Technical Recovery Team; Grays/Chinook and Lower Gorge

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Target Persistence Probability |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | NF Lewis | Early - Type S and N | Threatened | 500 | Contributing | Low |
| | | | | Lower Cowlitz | Early and Late Type S and N | Threatened | 3700 | Primary | High |
| | | | | Upper Cowlitz | Late - Type N | Threatened | 2000 | Primary | High |
| | | | | Cispus | Early and Late Type S and N | Threatened | 2000 | Primary | High |
| | | | | Tilton | Early and Late Type S and N | Threatened | NA | Stabalizing | Very Low |
| | | | | Toutle SF | Early – Type S | Threatened | 1900 | Primary | High |
| | | | | Toutle NF | Late - Type N | Threatened | 1900 | Primary | High |
| | | | | Kalama | Late - Type N | Threatened | 500 | Contributing | Low |
| | | | | EF Lewis | Early - Type S and N | Threatened | 2000 | Primary | High |
| | | | | Washougal | Late - Type N | Threatened | 1500 | Contributing | Moderate + |
| | | | | Clackamas | Early and Late | Threatened | 11232 | Primary | Very High |
| | | | | Sandy River | Early and Late | Threatened | 5685 | Primary | High |
| | | | | Salmon Creek | | Threatened | NA | Stabilizing | Very Low |
| | | | | Coweeman | Late - Type N | Threatened | 1200 | Primary | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Mill/Abernathy /Germany | Type-N | Threatened | 1800 | Contributing | Moderate |
| | | | | Elochoman/Skamokawa | Late – Type-N | Threatened | 2400 | Primary | High |
| | | | | Clatskanie | Late – Type N | Threatened | 3201 | Primary | Very High |
| | | | | Scappoose River | Late | Threatened | 3208 | Primary | Very High |
| | | | | Youngs Bay | Late | Threatened | 7 | Stabalizing | Very Low |
| | | | | Big Creek | Late | Threatened | 12 | Stabalizing | Very Low |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Grays/Chinook | Late – Type-N | Threatened | 2400 | Primary | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Lower Gorge | Late - Type N | Threatened | 1900 | Primary | High |
| | | | | Upper Gorge/Hood River | Early Type S | Threatened | 5162 | Primary | High (2) |
| | | | | Upper Gorge/White Salmon | Late - Type N | Threatened | 1900 | Primary | High |

FOOTNOTES:
(1) Survival improvements indicate the percentage improvement (rounded to the nearest 10) in population survival needed to achieve target impacts and are derived from the cumulative values (baseline and target). For most populations this was calculated using the following equation: [(1-CumulativeTarget)-(1-CumulativeBaseline)]/[1-CumulativeBaseline] x 100. For some Washington populations (Mill/Abernathy/Germany, Lower Cowlitz, Kalama, Upper Gorge), this equation yields a different result than that reported in 2010 by the LCFRB. Because, for populations that have a very low probability of persistence and require very large improvements, the Washington Management Unit Plan limited threat-specific reductions to 50 percent of the current impact as interim targets until the population response to improvements can be accurately gauged. For those populations, the numbers reported in this table are consistent with the LCFRB's recommendations rather than with the aforementioned equation. In addition, these cumulative impact numbers are not explicitly reported by ODFW in 2010 but are implicit in the modeling approach that Oregon recovery planners used to derive target impacts. For populations where the survival improvement needed is larger than 500 percent, this table does not report the exact value, for the reasons explained in Section 6.5. For Oregon populations designated as stabilizing (Youngs Bay and Big Creek), a survival improvement is shown because of improvements that are expected in tributary habitat, estuary conditions, and predation.

(2) Oregon's analysis indicates a low probability of meeting the delisting or objecive of High persistence probability for this population.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Target Persistence Probability |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | Kalama | Summer | Threatened | 500 | Primary | High |
| | | | | North Fork Lewis | Summer | Threatened | NA | Stabalizing | Very Low |
| | | | | Washougal | Summer | Threatened | 500 | Primary | High |
| | | | | East Fork Lewis | Summer | Threatened | 500 | Primary | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Tributaries | Clackamas | Winter | Threatened | 10671 | Primary | High (2) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Kalama | Winter | Threatened | 600 | Primary | High+ |
| | | | | Washougal | Winter | Threatened | 350 | Contributing | Moderate |
| | | | | Sandy | Winter | Threatened | 1519 | Primary | Very High |
| | | | | Lower Cowlitz | Winter | Threatened | 400 | Contributing | Moderate |
| | | | | Salmon Creek | Winter | Threatened | NA | Stabalizing | Very Low |
| | | | | Cispus | Winter | Threatened | 500 | Primary | High |
| | | | | Clackamas | Winter | Threatened | 10671 | Primary | High |
| | | | | North Fork Lewis | Winter | Threatened | 400 | Contributing | Moderate |
| | | | | East Fork Lewis | Winter | Threatened | 500 | Primary | High |
| | | | | Upper Cowlitz | Winter | Threatened | 500 | Primary | High |
| | | | | Tilton | Winter | Threatened | 200 | Contributing | Low |
| | | | | North Fork Toutle | Winter | Threatened | 600 | Primary | High |
| | | | | Coweeman | Winter | Threatened | 500 | Primary | High |
| | | | | South Fork Toutle | Winter | Threatened | 600 | Primary | High+ |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Upper Gorge (OR & WA) | Winter | Threatened | NA | Stabalizing (1) | Low |
| | | | | Lower Gorge (OR & WA) | Winter | Threatened | 300 | Primary (1) | High |
| | | | | Wind | Summer | Threatened | 1000 | Primary | Very High |
| | | | | Hood | Winter | Threatened | 2079 | Primary | High |
| | | | | Hood | Summer | Threatened | 2008 | Primary | High (2) |

FOOTNOTES:
(1) Designation for shared population based on Washington objectives, with support to be provided by Oregon portion of population, since Washington has a larger proportion of the population area.
(2) Oregon's analysis indicates a low probability of meeting the delisting objective of high persistence probability for this population.

NOTES:
Survival improvements indicate the percentage improvement (rounded to the nearest 10) in population survival needed to achieve target impacts and are derived from the cumulative values (baseline and target). For most populations this was calculated using the following equation: [(1-CumulativeTarget)-(1-CumulativeBaseline)]/ [1-CumulativeBaseline] x 100. For the East Fork Lewis population, this equation yields a different result than that reported by the LCFRB in 2010 because, for populations that have a very low probability of persistence and require very large improvements, the Washington Management Unit Plan limited threat-specific reductions to 50 percent of the current impact as interim targets until the population response to improvements can be accurately gauged. For the East Fork Lewis, the numbers reported in this table are consistent with those from the LCFRB in 2010 rather than with the aforementioned equation. In addition, these cumulative impact numbers are not explicitly reported in ODFW (2010) but are implicit in the modeling approach that Oregon recovery planners used to derive target impacts. For populations where the survival improvement needed is larger than 500 percent, this table does not report the exact value.

Designated as a historical core population by the Technical Recovery Team: Washougal (summer), Kalama, Wind, NF Lewis (winter), Cispus, Clackamas, North Fork Toutle, Hood (winter), and Upper Cowlitz

**Document:** **ESA Recovery Plan for Snake River Sockeye Salmon (Oncorhynchus nerka)**

**Author:** NMFS **Document Year:** 2015

**Link:** http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/snake_river/current_snake_river_recovery_plan_documents.html

**Overview:** The proposed ESA Recovery Plan for Snake River Sockeye Salmon serves as a blueprint for the protection and restoration of Snake River sockeye. Snake River sockeye were listed as endangered under the Endangered Species Act (ESA) in 1991. The listing was reaffirmed in 2005.

The plan provides information required by NMFS to satisfy the requirements of the ESA. It describes: 1) recovery goals and objectives, measurable criteria which, when met, will result in a determination that the species be removed from the threatened and endangered species list; 2) site-specific management actions necessary to achieve the plan's goals; and 3) estimates of the time required and cost to carry out the actions needed to achieve the plan's goals.

The plan is the product of a collaborative process with contributions by a wide group of governments, sovereigns (tribes), and organizations with the potential to contribute to recovery. Participants included Idaho Department of Fish and Game, Shoshone-Bannock Tribes, NMFS' Northwest Fisheries Science Center, members of NMFS' Interior Columbia Technical Recovery Team, Bonneville Power Administration, Stanley Basin Sockeye Salmon Technical Oversight Committee, and the U. S. Forest Service.

The plan identifies the recovery goals and criteria that NMFS will use in future status reviews of the Snake River Sockeye Salmon ESU. The primary goal is to ensure that the species is viable and no longer needs ESA protection. Two types of criteria are used to describe viability and inform future ESA-delisting decisions: "Biological viability" criteria define population or demographic parameters. "Threats" criteria relate to the five listing factors detailed in the ESA. This plan addresses these criteria for Snake River sockeye salmon populations. In addition, broad sense recovery goals identify a future species status beyond ESA delisting.

**Goal:**

*Broad Sense* Naturally spawning Snake River sockeye salmon populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) to provide significant ecological, cultural, social, and economic benefits.

The broad sense goal is that naturally spawning Snake River sockeye salmon populations are sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) to provide significant ecological, cultural, social, and economic benefits. Recovery of Snake River sockeye salmon populations throughout the full life cycle will require actions that preserve, enhance and restore healthy watershed conditions where ecosystem functions, processes, and dynamics are intact — including instream conditions, riparian habitat diversity and complexity, and upland watershed health in concert with complementary management of harvest, hatcheries, and hydropower. Recovery is a process that leads to sockeye salmon populations that are not only viable, but that also provide a harvestable surplus for the treaty tribes, citizens of Idaho, and for others in the region.

*Recovery* The primary goal is for biological recovery to support removal of the Snake River sockeye salmon ESU from the threatened and endangered species list.

*Overall* ESA delisting of Snake River sockeye salmon.

**Qualitative: Objectives**

Sustaining natural production across a range of conditions, allowing for adaptation to changing environmental conditions.

Maintaining long-term evolutionary potential.

Populations distributed in a manner that insulates against loss from a local catastrophic event and provides for recolonization of a population that is affected by such an event.

Resilience to the potential impact of catastrophic events.

Combination of abundance and productivity sufficient to sustain a population (in the absence of hatchery supplementation) at levels that will maintain genetic and spatial diversity.

Population level persistence in the face of year-to-year variations in environmental influences.

## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Threshold | Size Category | Population Growth | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Sockeye Salmon | Sawtooth Valley | Stanley Lake | | | 500 | Small | NA | Consider reintroductions as recovery efforts progress |
| | | | | Yellowbelly Lake | | | 500 | Small | NA | Consider reintroductions as recovery efforts progress |
| | | | | Petit Lake | | | 500 | Small | Stable or Increasing | Highly viable or Viable |
| | | | | Alturas Lake | | | 1000 | Intermediate | Stable or Increasing | Highly viable or Viable |
| | | | | Redfish Lake | | Endangered | 1000 | Intermediate | Stable or Increasing | Highly viable or Viable |

NOTES:
Threshold Abundance: 10-year geometric mean of estimated natural-origin spawners

**Document:** **ESA Recovery Plan for the White Salmon River Watershed**

**Author:** NMFS **Document Year:** 2013

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/willamette_lowercol/lower_columbia/final_plan_documents/white_salmon_recovery_plan__june_2013.pdf

**Overview:** This is a plan for re-establishing the White Salmon River populations of lower Columbia River Chinook, LCR coho, Columbia River chum salmon, and MCR steelhead. The plan aims for these populations to contribute to the conservation and survival of their respective Evolutionarily Significant Units (ESUs)/Distinct Population Segments (DPSs).

The White Salmon River fall and spring Chinook salmon are included in the Lower Columbia River Chinook salmon ESU, which NMFS listed as threatened in 2005. The ESU includes all naturally spawned populations of Chinook salmon in the Columbia River and its tributaries from its mouth at the Pacific Ocean upstream to a transitional point east of Hood River in Oregon and the White Salmon River in Washington. The White Salmon River spring Chinook salmon are considered extirpated.

The White Salmon steelhead population is considered "functionally extirpated" for the following reasons: the population's current lack of access to sufficient habitat to support sustained natural production; the presence of a large in-basin hatchery release program below the dam that uses out-of-basin broodstock; and only a few individual fish may still be present from the original White Salmon population. Functionally extirpated populations are those with so few remaining numbers that there are not enough fish or habitat in suitable condition to support a fully functional population.

This recovery plan provides direction for potential recovery of the White Salmon River's historical salmon and steelhead populations. This plan builds on the past and current efforts of the many parties currently working to rebuild populations and improve their habitat. This approach reflects NMFS's belief that it is critically important to base Endangered Species Act plans on the many state, regional, tribal, local, and private conservation efforts that are already underway. The NMFS initiated a process that incorporated input from the Yakama Nation, Washington Department of Fish and Wildlife, Klickitat County, the Washington State Governor's Salmon Recovery Office, other Federal and state agencies, local governments, and the public. That process produced the White Salmon Recovery Plan.

**Goal:** *Overall* To restore White Salmon River salmon and steelhead populations to viable status.

**Qualitative: Objectives** Restore White Salmon River salmon and steelhead populations to viable status.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Threshold Abundance | Size Category | Minimum Productivity | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ESA De-listing Goals for 95% Probability of Persistence over 100 years | | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | White Salmon | | | 500 | Basic | 1.56 | NA |

**Document:** **Estuary Tributaries (Chinook, Wallacut, and Deep ) Subbasin Plans**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21262/Vol_II_B__Estuary_Tribs.pdf

**Overview:** This Estuary Tributaries Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. Recovery of listed
species and hydropower mitigation is accomplished at a regional scale. This plan for the estuary tributaries describes implementation of the regional approach within this basin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board (Board), Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

**Document:** **Fifteenmile Creek Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/20241/MgmtPlan.pdf

**Overview:** Fifteenmile Creek Subbasin Plan

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Estimated Spawners | Restoration Scenerio at 100% | Juv Outmigrant Abundance |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Mill Creek and tributaries | Winter | Threatened | 54-455 | 62-528 | NA |
| | | | | Fifteenmile | Winter | Threatened | 268-2274 | 311-2638 | 9939-22899 |

NOTES:
Mill Creek values are Fifteenmile estimate divided by 5
Juvenile outmigrant value dependednt on 100% habitat restoration, all environmental parameters, all reaches

**Document:** **Grays Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21265/Vol_II_C__Grays.pdf

**Overview:** The Grays Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River Hydro system in Washington lower Columbia River subbasins. The plan for the Grays River Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council (NPCC), federal agencies, state agencies, tribal nations, local governments, and others.

Development of this plan was led and coordinated by the Washington Lower Columbia River Fish Recovery Board which is comprised of representatives from the state legislature, city and county governments, the Cowlitz Tribe, private property owners, hydro project operators, the environmental community, and concerned citizens. A variety of partners representing federal agencies, Tribal Governments, Washington state agencies, regional organizations, and local governments participated in the process through involvement on the LCFRB, a Recovery Planning Steering Committee, planning working groups, public outreach, and other coordinated efforts.

The planning process integrated four interrelated initiatives to produce a single Recovery/Subbasin Plan for Washington subbasins of the lower Columbia:

- Endangered Species Act recovery planning for listed salmon and trout.
- NPCC fish and wildlife subbasin planning for eight full and three partial subbasins.
- Watershed planning pursuant to the Washington Watershed Management Act, RCW 9082.
- Habitat protection and restoration pursuant to the Washington Salmon Recovery Act, RCW 77.85.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Grays/Chinook | Fall | Threatened | 1400 | High |

NOTES:
Primary population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Grays/Chinook | | Threatened | 4300-7800 | High+ |

NOTES:
Primary population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Grays/Chinook | Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast Winter | Grays/Chinook | Winter | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

**Document:** **Hood River Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/20628/Entire_document.pdf

**Overview:** The Hood River Subbasin Plan was developed in collaboration with local communities and interests, state and federal agencies, the Mt. Hood National Forest-U.S. Forest Service, and the Confederated Tribes of the Warm Springs Reservation. It was intended to be consistent with requirements of Endangered Species Act recovery plans, Clean Water Act plans, tribal trust responsibilities and treaty rights, the Northwest Forest Plan, the Oregon Plan for Salmon and Watersheds, local land use plans, and Oregon Department of Fish and Wildlife basin plans and rules.

The SWCD formed a Subbasin Planning Team to develop the plan that included representatives from the Oregon Department of Fish and Wildlife, Confederated Tribes of the Warm Springs Reservation of Oregon, Hood River Watershed Group, and the U.S. Forest Service including the Mt. Hood National Forest and the Columbia River Gorge National Scenic Area. An advisory committee of local government
officials, business, and other stakeholders also provided input to the planning team.

Subbasin plan development was coordinated with other on-going programs and plans for fish, wildlife, water quality, resource use, and watershed restoration. These included available Endangered Species Act recovery plans; the Columbia Basin Fish and Wildlife Program activities in the Hood River; watershed planning through the Oregon Plan for Salmon and Watersheds and Oregon Watershed Enhancement Board, the Northwest Forest Plan, the Columbia River Gorge National Scenic Area management, Oregon Statewide Land Use Planning Goals, and the Total Maximum Daily Load water quality study

**Qualitative: Objectives**

Retain the genetic integrity of wild winter steelhead in the Hood River subbasin.

Achieve and maintain an average wild/natural origin spawning population of 1,100 adult winter steelhead returning to the Hood River by 2019.

Maintain the unique genetic character of wild summer steelhead in Hood River.

Achieve and increase in habitat carrying capacity from 13,860 smolts to 20,000 by 2019. This assumes a 3% smolt to adult survival to meet the 600 adult objective.

Achieve and maintain an average wild/natural origin spawning population of 600 adult summer steelhead returning to the Hood River by 2019.

Achieve and maintain a naturally-spawning spring chinook population made up of a stock that is adapted to the Hood River.

Achieve a natural smolt production increase from the current estimated range of 15,700 smolts to 20,000 smolts by 2019. A one percent smolt to adult return will produce the adult objectives in SCh-1.

Achieve an average spawning escapement of 125 natural-origin spring chinook returning to the Hood River by 2014, and an average spawning escapement of 200 by 2019.

Achieve an increasing trend in the number of adult fall chinook returning to the Hood River by 2019.

**Document:** **Imnaha Subbasin Management Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/20692/Imnaha_Plan.pdf

**Overview:** The process to develop the Imnaha Subbasin Plan was facilitated by the Imnaha Planning Team (led by the Nez Perce Tribe). The team was composed of representatives from government agencies with jurisdictional authority in the subbasin, fish and wildlife managers, county, industry and user group representatives and private landowners. The team guided the public involvement process, developed the vision statement, helped develop and review the biological objectives, and participated in prioritizing subbasin strategies.

The plan's vision statement describes the desired future condition of the subbasin. It is qualitative and reflects the policies, legal requirements, and local conditions, values, and priorities of the subbasin. The vision statement provides guidance for implementing actions in the future and frames the biological objectives and strategies for the subbasin. Representing a general vision of the subbasin's future, it is both ideal and, at the same time, practical and attainable within the span of a couple of decades.

**Qualitative: Objectives**

Establish the abundance and productivity of anadromous stocks and how they compare to other Snake River stocks.

Achieve escapement objectives within 24 years. The plan identified that criteria would include a time element (persistence) and an abundance element; however both were under review during the development of the plan.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake Hells Canyon Fall Chinook | Snake River Fall Chinook | Snake Hells Canyon | Fall | Threatened | 3000 | 3000 (1) |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Imnaha | Spring/Summer | Threatened | 5740 | 3800 (1) |

FOOTNOTES:
(1) Chinook salmon estimates exclude jacks

NOTES:
Goals are derived from various management plans as described in Appendix A, Appendix Table 1. This table does not necessarily imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each species and population over time through implementation of the plan.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Imnaha | Imnaha | A-Run | Threatened | 4315 | 2100 |

NOTES:
Goals are derived from various management plans as described in Appendix A, Appendix Table 1. This table does not necessarily imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each species and population over time through implementation of the plan.

**Document:** **Interim Report on Viability Criteria for Willamette and Lower Columbia Basin Pacific Salmonids**

**Author:** Willamette/Lower Columbia Technical Recovery Team **Document Year:** 2003

**Link:** http://www.nwfsc.noaa.gov/trt/wlc_viabrpt/complete.pdf

**Overview:** The Willamette/Lower Columbia Technical Recovery Team (WLCTRT) was established to support the development of delisting criteria. The Interim Report on Viability Criteria for Willamette and Lower Columbia Basin Pacific Salmonids presents the WLCTRT's viability criteria guidelines for the Willamette/Lower Columbia domain. The WLCTRT anticipated that the recommendations in this document would be revised in the future based on new data or analysis.

The WLCTRT considered three basic approaches to estimating minimum population size. One approach relied on population viability analysis modeling, in which minimum size thresholds were determined by estimating extinction risk as a function of the population size and other parameters. The other two approaches relied on estimation of historical abundance.

**Document:** **John Day Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/fw/subbasinplanning/johnday/plan

**Overview:** The John Day Subbasin Plan was prepared as part of the Northwest Power and Conservation Council's Fish and Wildlife Program to guide the investment of fish and wildlife restoration funds by the Bonneville Power Administration. The plan was developed under the guidance of the John Day Subbasin Coordination Team. The coordination team included representatives from 17 organizations in the subbasin that were party to a Memorandum of Agreement for subbasin planning.

Public outreach was an integral part of this plan. The coordination team was comprised stakeholders representing soil and water conservation districts, watershed councils, local and regional government and the private sector. Technical staff from a number of stakeholders, including the CTWSRO, Confederated Tribes of Umatilla Indian Reservation, U.S.Forest Service, NOAA Fisheries, and USFWS assisted the coordination team with plan development.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | NOAA Recovery Target | Target to allow Sport Fishing | Adult and Jack Returns | Smolts per Spawner |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | John Day | John Day (Mouth) | Spring | Not Listed | 0 | 5950 | 25 year interim objective: 12000; 50 year interim objective: 20000 | 25 year interim objective: 113; 50 year interim objective: 188 |
| | | | | Granite Creek | Spring | Not Listed | NA | NA | NA | 25 year interim objective: 92; 50 year interim objective: 154 |
| | | | | Middle Fork John Day | Spring | Not Listed | NA | NA | NA | 25 year interim objective: 134; 50 year interim objective: 223 |
| | | | | North Fork John Day | Spring | Not Listed | NA | NA | NA | 25 year interim objective: 88; 50 year interim objective: 147 |
| | | | | Upper Mainstem John Day | Spring | Not Listed | NA | NA | NA | 25 year interim objective: 136; 50 year interim objective: 227 |

NOTE:
Goal is define as an average run year

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | NOAA Recovery Target | Target to allow Sport Fishing | Adult and Jack Returns | Smolts per Spawner |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | John Day | John Day (Mouth) | Summer | Threatened | 9800 | 10294 | 25 year interim objective: 29400; 50 year interim objective: 49000; | 25 year interim objective: 136; 50 year interim objective: 226 |
| | | | | John Day Upper Mainstem | Summer | Threatened | 2000 | NA | NA | 25 year interim objective: 126; 50 year interim objective: 209 |
| | | | | John Day South Fork | Summer | Threatened | 600 | NA | NA | 25 year interim objective: 140; 50 year interim objective: 233 |
| | | | | John Day North Fork | Summer | Threatened | 2700 | NA | NA | 25 year interim objective: 132; 50 year interim objective: 221 |
| | | | | John Day Middle Fork | Summer | Threatened | 1300 | NA | NA | 25 year interim objective: 125; 50 year interim objective: 208 |
| | | | | John Day Lower Mainstem | Summer | Threatened | 3200 | NA | NA | 25 year interim objective: 155; 50 year interim objective: 259 |

**Document:** **Kalama Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21268/Vol_II_F__Kalama.pdf

**Overview:** The Kalama Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the Kalama River Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Kalama | Fall | Threatened | 1300 | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | Kalama | Spring | Threatened | 1400 | High |

NOTES:
Contributing population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Kalama | | Threatened | 150-1100 | Low |

NOTES:
Contributing population to recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Kalama | Late-run (Type-N) | Threatened | 300 | Medium |

NOTES:
Contributing population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | Kalama | Summer | Threatened | 700 | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Kalama | Winter | Threatened | 600-700 | High |

NOTES:
Priority population in recovery scenario

**Document:** **Klickitat Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119037/EntirePlan.pdf

**Overview:** The Klickitat Subbasin Plan was developed by the team that also developed the Lower Middle Mainstem (including Rock Creek) and Big White Salmon subbasins,and thus has many elements are in common with those plans.

**Goal:**

*Overall* To restore and maintain sustainable, naturally producing populations of spring chinook, steelhead that support tribal and non-tribal harvest and cultural and economic practices whileprotecting the biological integrity and the genetic diversity of the subbasin.

Protect or enhance the structural attributes, ecological function, and resiliency of habitats needed to support healthy populations of fish and wildlife.

**Qualitative: Objectives**

Long-term: Increase quantity and quality of reduced and degraded habitat to amounts that will sustain native fish and wildlife species.

Long-term: Increase reduced populations of native fish and wildlife to sustainable sizes.

**Document:** **Little White Salmon Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21280/Vol_II_K__Little_White.pdf

**Overview:** The Little White Salmon Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the Little White Salmon River Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

**Goal:**

*Overall* To restore and maintain sustainable, naturally producing populations of chinook, coho, and steelhead that support tribal and non-tribal harvest and cultural and economic practices while protecting the biological integrity and the genetic diversity of the subbasin.

Protect or enhance the structural attributes, ecological function, and resiliency of habitats needed to support healthy populations of fish and wildlife.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | White Salmon | Fall | Threatened | NA | Low |

NOTES:
Stabilizing population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Little White Salmon | | Threatened | NA | Medium |

NOTES:
Contributing population in recovery scenario

**Document:** **Lower Columbia Fish Recovery Board - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Revise the biological objectives to call for a halt in the declining trends for all Columbia Basin salmon and steelhead populations.

Add a biological objective calling for an increase in the total adult run for listed Lower Columbia salmon and steelhead to achieve 75 percent of recovery goals by 2025.

Adopt biological objectives for Lower Columbia salmon and steelhead populations.

**Document:** **Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead**

**Author:** ODFW **Document Year:** 2010

**Link:** http://www.dfw.state.or.us/fish/CRP/docs/lower-columbia/OR_LCR_Plan%20-%20Aug_6_2010_Final.pdf

**Overview:** The Lower Columbia River Conservation and Recovery Plan for Oregon Populations of Salmon and Steelhead serves as a recovery plan under the Endangered Species Act (ESA) and a State of Oregon conservation plan under Oregon's Native Fish Conservation Policy (NFCP). The plan provides a framework and roadmap for the conservation and recovery of lower Columbia River salmon Evolutionarily Significant Units (ESU) and one steelhead Distinct Population Segment (DPS) in Oregon that are listed under the ESA. These species occupy habitat in Oregon tributaries of the lower Columbia River below, and including, the Hood River. The plan also considers the unlisted steelhead populations in Oregon downstream of the Willamette River and the Clackamas spring Chinook population, which is ESA-listed as threatened as part of the Upper Willamette River Chinook ESU.

The State of Oregon considers this plan its conservation plan for the Oregon portions of the Lower Columbia River coho and Chinook ESUs, and steelhead DPS, and Columbia River chum ESU. The plan supports the State of Oregon's Plan for Salmon and Watersheds (Oregon Plan) and the Oregon Conservation Strategy.

As a conservation plan under the NFCP, the plan for Oregon lower Columbia River salmon and steelhead populations goes beyond achieving ESA recovery requirements. Its desired status includes achievement of 'broad sense goals', including meeting social and cultural benefits. This approach to species recovery includes development of goals for harvestable population levels viewed essential by all the parties involved. These broad sense recovery goals incorporate many of the traditional uses, as well as rural and Native American values, deemed important in Oregon and throughout the Pacific Northwest. Consistent with the Oregon Plan and NFCP — as well as the ESA — the plan provides structure and guidance to efforts to protect and restore Oregon lower Columbia River salmon and steelhead and their habitats, while providing flexibility for actions to be determined by appropriate parties. It is designed to support and build on the existing conservation network across Oregon's portion of the ESUs and DPS.

The plan is the product of a collaborative process led by the Oregon Department of Fish and Wildlife, with extensive participation by the Oregon Governor's Natural Resources Office, NMFS, and the Oregon Lower Columbia River Stakeholder Team. In addition to the cooperative efforts of those entities, the plan benefited from the involvement of a number of other state, federal, and local agencies.

Oregon used two sets of criteria, delisting criteria and broad sense criteria, in the development of the plan. Achieving the criteria will determine whether the two recovery goals have been met. Oregon concluded that the Willamette Lower Columbia Technical Recovery Team's recommendations largely describe the characteristics of an ESU that meet or exceed the biological requirements for viability. Oregon based the plan on these criteria.

**Goal:** *Broad Sense* Achieve "broad sense recovery", defined as having Oregon populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that the ESUs as a whole (a) will be self-sustaining, and (b) will provide significant ecological, cultural, and economic benefits. Broad sense recovery is addressed in Chapter 10.

*Recovery* Achieve "broad sense recovery", defined as having Oregon populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that the ESUs as a whole (a) will be self-sustaining, and (b) will provide significant ecological, cultural, and economic benefits.

Achieve delisting from the federal ESA threatened and endangered species list.

*Broad Sense* Oregon populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that the ESU as a whole will be self-sustaining and will provide significant ecological, cultural, and economic benefits.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Overall Risk Class | A&P Gap | Contribution to Delisting |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade | Clackamas | Spring | | 8377 | Very Low+ | 7006 | NA |
| | | | | Sandy | Fall | | 1487 | Very Low | 1343 | NA |
| | | | | Sandy | Late Fall | | 3858 | Very Low+ | 2064 | NA |
| | | | | Sandy | Spring | | 7871 | Very Low | 7157 | NA |
| | | | | Clackamas | Fall | | 4359 | Very Low+ | 3801 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Clackamas | Fall | Threatened | 1551 | Moderate | 993 | Contributing |
| | | | | Sandy | Fall | Threatened | 1031 | Moderate | 887 | Contributing |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Late Fall | Sandy | Late-Fall | Threatened | 3858 | Very Low | 2064 | Primary |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | Clackamas | Spring | Threatened | 8377 | (Very Low) | 7006 | NA |
| | | | | Sandy | Spring | Threatened | 1230 | Low | 516 | Primary |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast | Scappoose | Fall | | 2336 | Very Low+ | 1920 | NA |
| | | | | Big Creek | Fall | | 1479 | Very Low | 1263 | NA |
| | | | | Clatskanie | Fall | | 1745 | Very Low+ | 1739 | NA |
| | | | | Youngs Bay | Fall | | 1510 | Very Low | 1131 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Scappoose | Fall | Threatened | 1222 | Low | 866 | Primary |
| | | | | Clatskanie | Fall | Threatened | 1277 | Low | 1271 | Primary |
| | | | | Big Creek | Fall | Threatened | 577 | High | 361 | Contributing |
| | | | | Youngs Bay | Fall | Threatened | 505 | High | 126 | Stabalizing |
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge | Hood | Fall | | 1516 | Very Low | 1483 | NA |
| | | | | Upper Gorge | Fall | | 1450 | Very Low | 1433 | NA |
| | | | | Lower Gorge | Fall | | 1471 | Very Low | 1397 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Lower Gorge | Fall | Threatened | 387 | High (Moderate) | 313 | Support WA (Moderate) |
| | | | | Upper Gorge | Fall | Threatened | 87 | Very High (Moderate) | 70 | Support WA (Moderate) |
| | | | | Hood | Fall | Threatened | 1245 | Low | 1212 | Primary |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | Hood | Spring | Threatened | 1493 | Very Low | 1166 | Primary |
| | | | | | | | Broad Sense | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Hood | Hood | Spring | | 6536 | Very Low+ | 6209 | NA |

NOTES:
The desired status (overall risk class) for populations which are not part of an ESA-listed ESU are indicated in parenthesis. The overall risk class for the Lower and Upper Gorge (Oregon portion of shared populations and the entire population (in parenthesis, determined by Washington).

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Overall Risk Class | A&P Gap | Contribution to Delisting |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Scappoose River | | Threatened | TBD | Low | NA | Primary |
| | | | | Sandy River | | Threatened | TBD | Low | NA | Primary |
| | | | | Clackamas | | Threatened | TBD | Moderate | NA | Contributing |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Youngs Bay | | Threatened | TBD | Very High | NA | Stabalizing |
| | | | | Big Creek | | Threatened | TBD | Very High | NA | Stabalizing |
| | | | | Clatskanie | | Threatened | TBD | Low | NA | Primary |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Lower Gorge Tributaries | | Threatened | TBD | Very Low | NA | Support (WA) |
| | | | | Upper Gorge Tributaries | | Threatened | TBD | Moderate | NA | Support (WA) |

NOTES:
Oregon recognizes the ESU as a State Management Unit - Lower Columbia River Chum□

Oregon State Status - Critical□

Oregon identified the Gorge populaitons as a single Gorge population

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Overall Risk Class | A&P Gap | Contribution to Delisting |
|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Clatskanie | Late (Type N) | Threatened | 3201 | Very Low | 1838 | Primary |
| | | | | Sandy River | Early and Late | Threatened | 5685 | Low | 4063 | Primary |
| | | | | Scappoose River | Late | Threatened | 3208 | Very Low | 1266 | Primary |
| | | | | Youngs Bay | Late | Threatened | 7 | Very High | 3 | Stabalizing |
| | | | | Big Creek | Late | Threatened | 12 | Very High | 4 | Stabalizing |
| | | | | Clackamas | Early and Late | Threatened | 11232 | Very Low | 4684 | Primary |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Lower Gorge Tributaries | Late (Type N) | Threatened | 962 | High (Low) | 940 | Support WA (L) |
| | | | | Upper Gorge/Hood River | Early (Type N) | Threatened | 5203 | Low | 5162 | Primary |
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | N/A | Upper Gorge/Hood River | | | 5486 | Very Low | 5445 | NA |
| | | | | Big Creek | | | 6321 | Very Low | 6313 | NA |
| | | | | Youngs Bay | | | 11913 | Very Low | 11909 | NA |
| | | | | Scappoose River | | | 4184 | Very Low+ | 2242 | NA |
| | | | | Lower Gorge | | | 3102 | Very Low | 3080 | NA |
| | | | | Clatskanie | | | 3201 | Very Low | 1838 | NA |
| | | | | Clackamas | | | 17674 | Very Low+ | 11126 | NA |
| | | | | Sandy River | | | 6514 | Very Low | 4892 | NA |

NOTES:
Oregon recognizes the ESU as a State Management Unit - Lower Columbia River Coho□
Oregon State Status - Endangered□
Oregon identified the Gorge populations as a single population □
Oregon identified the Bonneville populaitons as a single population □
The desired status (Overall Risk Class) for population which are not part of an ESA-listed ESU are indicated in parentheses

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Overall Risk Class | A&P Gap | Contribution to Delisting |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade | Scappoose River | Winter | | 5169 | Very Low+ | 1924 | NA |
| | | | | Clackamas | Winter | | 13578 | Very Low | 9681 | NA |
| | | | | Sandy | Winter | | 2106 | Very Low+ | 1432 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Clackamas | Winter | Threatened | 10671 | Low | 6774 | Primary |
| | | | | Sandy | Winter | Threatened | 1519 | Very Low | 845 | Primary |
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast | Big Creek | Winter | | 3182 | Very Low+ | 2039 | NA |
| | | | | Clatskanie | Winter | | 3982 | Very Low+ | 1531 | NA |
| | | | | Youngs Bay | Winter | | 4733 | Very Low+ | 2247 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast | Clatskanie | | | 3982 | Very Low | 1531 | NA |
| | | | | Scappoose | | | 5169 | Very Low | 1924 | NA |
| | | | | Youngs Bay | Winter | | 4733 | Very Low | 2247 | NA |
| | | | | Big Creek | | | 3182 | Very Low | 2039 | NA |
| | | | | | | | Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Hood | Winter | | 2940 | Very Low+ | 1813 | NA |
| | | | | Lower Gorge | Winter | | 1759 | Very Low | 1209 | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Hood | Summer | | 2616 | Very Low | 2581 | NA |
| | | | | Upper Gorge | Winter | | 1302 | Very Low | 1151 | NA |
| | | | | | | | Non-Broad Sense | | | |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Upper Gorge | Winter | Threatened | 235 | Very High (High) | 84 | Support WA (High) |
| | | | | Lower Gorge | Winter | Threatened | 881 | Moderate (Low) | 331 | Support WA (Low) |
| | | | | Hood | Winter | Threatened | 2079 | Low | 952 | Primary |
| | | | | Hood | Summer | Threatened | 2008 | Low | 1973 | Primary |

NOTES:
The desired status (overall risk class) for populations which are not part of an ESA-listed ESU are indicated in parenthesis. The overall risk class for the Lower and Upper Gorge (Oregon portion of shared populations and the entire population (in parenthesis, determined by Washington).

**Document:** **Lower Columbia River Mainstem and Estuary Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119232/Vol_II_A__Col_Estuary_mainstem.pdf

**Overview:** The Lower Columbia River Mainstem and Estuary Subbasin Plan describes a vision and framework for rebuilding salmon, steelhead, and wildlife populations in the Columbia Lower and Estuary Subbasins. The plan addresses subbasin elements of a regional recovery plan for Chinook salmon, chum salmon, coho salmon, and steelhead listed or under consideration for listing as Threatened under the federal Endangered Species Act. Although the regional recovery plan explicitly addresses salmonid populations historically present in Washington lower Columbia tributaries downstream of the Little White Salmon River, inclusive, restoration actions in the Columbia Lower and Estuary Subbasins are expected to benefit other Columbia River threatened or endangered Evolutionary Significant Units, including Snake River sockeye salmon, Upper Columbia River spring Chinook, Snake River spring-summer Chinook, Snake River fall Chinook, Upper Willamette River Chinook, Upper Columbia River steelhead, Snake River Basin steelhead, Mid Columbia River steelhead, and Upper Willamette River steelhead. The plan also serves as the subbasin plan for the Northwest Power and Conservation Council (NPCC) Fish and Wildlife Program to address effects of construction and operation of the Federal Columbia River Power System.

Development of this plan was led and coordinated by the Washington Lower Columbia River Fish Recovery Board (LCFRB). The board was established by state statue (RCW77.85.200) in 1998 to oversee and coordinate salmon and steelhead recovery efforts in the lower Columbia region of Washington. It is comprised of representatives from the state legislature, city and county governments, the Cowlitz Tribe, private property owners, hydro project operators, the environmental community, and concerned citizens. A variety of partners representing federal agencies, Tribal Governments, Washington state agencies, regional organizations, and local governments participated in the process through involvement on the LCFRB, a Recovery Planning Steering Committee, planning working groups, public outreach, and other coordinated efforts.

The planning process integrated four interrelated initiatives to produce a single recovery/ subbasin plan for Washington subbasins of the lower Columbia:

- Endangered Species Act recovery planning for listed salmon and trout.
- NPCC fish and wildlife subbasin planning for eight full and three partial subbasins.
- Watershed planning pursuant to the Washington Watershed Management Act, RCW 9082.
- Habitat protection and restoration pursuant to the Washington Salmon Recovery Act,RCW 77.85.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | N/A | Iveas and Pierce Islands | Fall | Threatened | 12000 | >1 |

NOTES:
Abundance performance levels represent twice the 2002 spawning escapement estimates

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | N/A | Multnomah Falls | | Threatened | 2300 | >1 |
| | | | | Ives Island | | Threatened | 6400 | >1 |
| | | | | I-205 | | Threatened | 1250 | >1 |

NOTES:
Abundance performance levels represent twice the 2002 spawning escapement estimates

**Document:** **Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/6865748/RP.pdf

**Overview:** The Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan provides for the protection and restoration of native fish, aquatic habitats, and sensitive wildlife species in Washington lower Columbia River subbasins. It serves as 1) a recovery plan for Washington lower Columbia salmon and steelhead populations and 2) a Northwest Power and Conservation Council Fish and Wildlife Plan for eleven lower Columbia subbasins.

The plan is the product of a collaborative process facilitated by the Lower Columbia Fish Recovery Board and involving federal and state agencies, tribes, local governments, and the public. It recognizes that recovery of fish and wildlife is a shared responsibility and can only be achieved through the cooperative and combined efforts of federal, tribal, state, and local interests. In order to ensure consistency in goals, strategies and actions and to eliminate needless duplication of effort, the process integrated planning for Federal Endangered Species Act recovery, Northwest Power and Conservation Council fish and wildlife program, and Washington State watershed management and salmon recovery.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Goal | Viability Goal | Scenerio Contribution |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Toutle | Fall | Threatened | 1000 | Low | Stabilizing |
| | | | | Lewis/Salmon | Fall | Threatened | 2900 | High+ | Primary |
| | | | | Coweeman | Fall | Threatened | 3600 | High+ | Primary |
| | | | | Upper Cowlitz | Fall | Threatened | NA | Very Low | Stabilizing |
| | | | | Lower Cowlitz | Fall | Threatened | 2300 | Medium | Contributing |
| | | | | Clackamas | Fall | Threatened | NA | Medium | Contributing |
| | | | | Washougal | Fall | Threatened | 5800 | High | Primary |
| | | | | Sandy | Fall | Threatened | NA | Low+ | Stabilizing |
| | | | | Kalama | Fall | Threatened | 1300 | High | Primary |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Late Fall | Sandy | Late Fall | Threatened | NA | Low+ | Primary |
| | | | | North Fork Lewis River | Late Fall | Threatened | 11600 | High+ | Primary |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | Cispus | Spring | Threatened | 1800 | High+ | Primary |
| | | | | Kalama | Spring | Threatened | 1400 | High | Primary |
| | | | | Upper Cowlitz | Spring | Threatened | 5400 | High+ | Primary |
| | | | | Toutle | Spring | Threatened | 800 | Medium | Contributing |
| | | | | Sandy | Spring | Threatened | NA | High | Primary |
| | | | | North Fork Lewis River | Spring | Threatened | 2200 | High | Primary |
| | | | | Tilton | Spring | Threatened | 150 | Very Low | Stabilizing |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Mill/Abernathy /Germany | Fall | Threatened | 1100 | Medium | Contributing |
| | | | | Big Creek | Fall | Threatened | NA | Low+ | Stabilizing |
| | | | | Clatskanie | Fall | Threatened | NA | High | Primary |
| | | | | Elochoman/Skamokawa | Fall | Threatened | 1400 | High | Primary |
| | | | | Grays/Chinook | Fall | Threatened | 1400 | High | Primary |
| | | | | Scappoose | Fall | Threatened | NA | Low | Stabilizing |
| | | | | Youngs Bay | Fall | Threatened | NA | Low | Stabilizing |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Hood | Fall | Threatened | NA | Low+ | Primary |
| | | | | White Salmon | Fall | Threatened | 900 | Medium | Contributing |
| | | | | Lower Gorge (Hamilton) | Fall | Threatened | 700 | Medium | Contributing |
| | | | | Upper Gorge (Wind) | Fall | Threatened | 100 | Low | Stabilizing |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | Hood | Spring | Threatened | NA | High | Primary |
| | | | | White Salmon | Spring | Threatened | 400 | Low | Contributing |

NOTES:□
Primary, contributing, and stabalizing designations are based on priorities identified in the recovery scenario□
Viability goal is related to the scenario contribution□
Abundance goals are interpolated fromcurrent, viable, and/or potential numbers based on viability goals

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Goal | Viability Goal | Scenerio Contribution |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Sandy River | | Threatened | NA | High | Primary |
| | | | | Clackamas | | Threatened | NA | Medium | Contributing |
| | | | | Salmon | | Threatened | 75 | Very Low | Stabilizing |
| | | | | Washougal | | Threatened | 5200 | High+ | Primary |
| | | | | Lewis | | Threatened | 1100 | High | Primary |
| | | | | Kalama | | Threatened | 150 | Low | Contributing |
| | | | | Cowlitz | | Threatened | 600 | Medium | Contributing |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Scappoose River | | Threatened | NA | Low | Contributing |
| | | | | Clatskanie | | Threatened | NA | Medium | Contributing |
| | | | | Big Creek | | Threatened | NA | Low | Contributing |
| | | | | Youngs | | Threatened | NA | High | Primary |
| | | | | Elochoman/Skamokawa | | Threatened | 1100 | High | Primary |
| | | | | Mill/Abernathy/Germany | | Threatened | 1100 | High | Primary |
| | | | | Grays/Chinook | | Threatened | 6000 | High+ | Primary |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Upper Gorge Tributaries | | Threatened | 600 | Medium | Contributing |
| | | | | Lower Gorge Tributaries | | Threatened | 2800 | High+ | Primary |

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Goal | Viability Goal | Scenerio Contribution |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | EF Lewis | Early - Type S and N | Threatened | 600 | High | Primary |
| | | | | Lower Cowlitz | Early and Late Type S and N | Threatened | 600 | High | Primary |
| | | | | Upper Cowlitz | Late - Type N | Threatened | 300 | Medium | Contributing |
| | | | | Cispus | Early and Late Type S and N | Threatened | 300 | Medium | Contributing |
| | | | | Tilton | Early and Late Type S and N | Threatened | 150 | Low | Contributing |
| | | | | Toutle SF | Early - Type S | Threatened | 600 | High | Primary |
| | | | | Toutle NF | Late - Type N | Threatened | 600 | High | Primary |
| | | | | Coweeman | Late - Type N | Threatened | 600 | High | Primary |
| | | | | NF Lewis | Early - Type S and N | Threatened | 600 | High | Contributing |
| | | | | Salmon | | Threatened | 75 | Very Low | Stabilizing |
| | | | | Washougal | Late - Type N | Threatened | 300 | Medium | Contributing |
| | | | | Clackamas | Early and Late | Threatened | NA | High+ | Primary |
| | | | | Sandy River | Early and Late | Threatened | NA | High+ | Primary |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kalama | Late - Type N | Threatened | 300 | Medium | Contributing |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Elochoman/Skamokawa | Late - Type-N | Threatened | 600 | High | Primary |
| | | | | Mill/Abernathy /Germany | Type-N | Threatened | 300 | Medium | Contributing |
| | | | | Clatskanie | Late - Type N | Threatened | NA | Low | Stabilizing |
| | | | | Scappoose River | Late | Threatened | NA | High | Primary |
| | | | | Big Creek | Late | Threatened | NA | High | Primary |
| | | | | Youngs | Late | Threatened | NA | Low | Stabilizing |
| | | | | Grays/Chinook | Late - Type-N | Threatened | 600 | High | Primary |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Hood River | Early Type S | Threatened | NA | Medium | Contributing |
| | | | | White Salmon | | Threatened | 150 | Low | Contributing |
| | | | | Lower Gorge (Hamilton) | Late - Type N | Threatened | 600 | High | Primary |
| | | | | Upper Gorge (Wind) | Late - Type N | Threatened | 600 | High | Primary |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Goal | Viability Goal | Scenerio Contribution |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | Kalama | Summer | Threatened | 700 | High | Primary |
| | | | | North Fork Lewis | Summer | Threatened | 75 | Very Low | Stabalizing |
| | | | | Washougal | Summer | Threatened | 700 | High+ | Primary |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | East Fork Lewis | Summer | Threatened | 200 | High | Primary |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | North Fork Lewis | Winter | Threatened | 300 | Medium | Contributing |
| | | | | Salmon | Winter | Threatened | 300 | Low | Stabalizing |
| | | | | Washougal | Winter | Threatened | 500 | Medium | Contributing |
| | | | | Sandy | Winter | Threatened | NA | High | Primary |
| | | | | Cispus | Winter | Threatened | 300 | Medium | Contributing |
| | | | | North Fork Toutle | Winter | Threatened | 700 | High | Primary |
| | | | | Clackamas | Winter | Threatened | NA | High | Primary |
| | | | | Kalama | Winter | Threatened | 650 | High+ | Primary |
| | | | | East Fork Lewis | Winter | Threatened | 600 | High | Primary |
| | | | | Upper Cowlitz | Winter | Threatened | 300 | Medium | Contributing |
| | | | | South Fork Toutle | Winter | Threatened | 1600 | High+ | Primary |
| | | | | Lower Cowlitz | Winter | Threatened | 300 | Medium | Contributing |
| | | | | Coweeman | Winter | Threatened | 800 | High | Primary |
| | | | | Tilton | Winter | Threatened | 150 | Low | Contributing |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast Winter | Elochoman/Skamokawa | Winter | Not LIsted | 400 | Medium | Contributing |
| | | | | Mill/Abernathy/Germany | Winter | Not Listed | 600 | High | Primary |
| | | | | Grays/Chinook | Winter | Not Listed | 600 | High | Primary |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Lower Gorge (HHD) | Winter | Threatened | 200 | High | Primary |
| | | | | Upper Gorge (Wind) | Winter | Threatened | 50 | Low+ | Stabalizing |
| | | | | Wind | Summer | Threatened | 1600 | High+ | Primary |

| | | | | | |
|---|---|---|---|---|---|
| Hood | Winter | Threatened | NA | High | Primary |
| Hood | Summer | Threatened | NA | High | Primary |

**Document:** **Lower Columbia Tributaries: Bonneville and Salmon Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21271/Vol_II_H__L_Columbia_Tribs.pdf

**Overview:** The Lower Columbia Tributaries: Bonneville and Salmon Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the Bonneville Tributaries describes implementation of the regional approach within this basin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Lower Gorge Tributaries | Fall | Threatened | 100-1400 | Medium |

NOTES:

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Lower Gorge Tributaries | | Threatened | 2600-3100 | High |

NOTES:

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Lower Gorge Tributaries | Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Lower Gorge | Winter | Threatened | 200 | High |

NOTES:
Primary population in recovery scenario

**Document:** **Lower Mid-Columbia Mainstem (including Rock Creek) Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119309/EntirePlan.pdf

**Overview:** The Lower Mid-Columbia Mainstem Subbasin Plan (including Rock Creek, Washington) was developed, in part, by the same team that is currently working on the Klickitat and Big White Salmon subbasins, and thus shares many elements in common with those plans, with the main exception that this subbasin encompasses the lower mid-Columbia mainstem river.

The Lower Mid-Columbia Mainstem Subbasin Plan, along with the Klickitat and Big White Salmon subbasins, had no single lead entity but was jointly developed by the Yakama Nation, Washington Department of Fish and Wildlife and Klickitat County, with direct support and involvement of the Washington office of the Northwest Power and Conservation Council and its consultants. The Oregon Department of Fish and Wildlife and the Sherman County Soil and Water Conservation District helped with the Oregon portion of the Lower Mid-Columbia Mainstem Subbasin Plan.

**Goal:**

*Overall* To restore and maintain sustainable naturally producing populations of chinook, steelhead, coho and white sturgeon that support tribal and non-tribal harvest and cultural and economic practices while protecting the biological integrity and the genetic diversity of the subbasin.

Protect or enhance the structural attributes, ecological function, and resiliency of habitats needed to support healthy populations of fish and wildlife.

**Document:** **Lower Snake River Fish and Wildlife Compensation Plan**

**Author:** U.S. Army Corps of Engineers **Document Year:** 1975

**Link:** http://www.fws.gov/lsnakecomplan/Reports/LSRCP/Special%20Report%20June%201975/Special%20Report.PDF

**Overview:** In 1945, Congress authorized the construction of four dams on the lower Snake River. Funds to build the dams were appropriated in 1954, with the dams being built from 1961 to 1975. Adult fish ladders and some other minor modifications to the dams were funded to alleviate impacts the dams were expected to have on Snake River salmon and steelhead. The U.S. Fish and Wildlife Service, National Marine Fisheries Service, and state agencies evaluated the need for additional mitigation due to the construction and operation of the Snake River dams. The report was provided to the Army Corps of Engineers in 1972, and the Corps used it to produce the Lower Snake River Compensation Plan (LSRCP) which was submitted to Congress in 1975 and was authorized by Congress as part of the Water Resources Act of 1976.

The LSRCP called for the construction of fish hatcheries to compensate for losses of adult steelhead and Chinook returns to the Snake River associated with the construction and operation of the dams. Construction of the first facility was completed in 1980 and the last hatchery was built in 1991.

The Fish and Wildlife Service, Nez Perce Tribe, Idaho Power Company, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, Idaho Department of Fish and Game and other partners joined to create a well-integrated program for fall Chinook. The program has a mitigation goal of 18,300 adults above the project area. The fall Chinook program contributes 54,900 adults to ocean and lower Columbia River commercial fisheries and another 18,300 adults to recreational fisheries. Two hatcheries and ten satellite facilities are used to rear, acclimate, and release project fish. Release goals of 900,000 yearling and 4.6 million sub-yearling smolts were established for this program.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Adult Escapement |
|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Fall Chinook | N/A | NA | | | 18300 (1) |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | N/A | NA | | | 58700 (1) |

FOOTNOTES:
(1) Hatchery adult returns above Lower Granite Dam

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Adult Escapement |
|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | N/A | NA | | | 55100 |

**Document:** **Lower Snake Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119371/EntirePlan.pdf

**Overview:** The Lower Snake Mainstem Subbasin Plan concerns the Lower Snake Subbasin in southeastern Washington and includes a portion of the Snake River Mainstem and a number of its tributaries, including Deadman Creek, Almota Creek, Alpowa Creek, and Penawawa Creek. The plan, which focuses on the tributaries that are a portion of this subbasin, was developed through the cooperation of a multitude of stakeholders including the Pomeroy Conservation District, Nez Perce Tribe, local landowners, Washington Department of Fish and Wildlife, United State Forest Service, United State Fish and Wildlife Service, and others.

**Document:** **Methow Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/6905450/EntirePlan.pdf

**Overview:** Okanogan County and the Washington Department of Fish and Wildlife partnered to coordinate subbasin planning for the Methow Subbasin Plan.

A significant body of science and analysis was undertaken to support the scientific hypotheses described in the plan. These hypotheses and the species-based biological objectives form the basis for management decisions which, based on public policy, will facilitate coordinated recovery planning for the Methow salmon ecosystem. The vision, goals, and supporting principles in the plan provide the foundation for the implementation of the plan by applying local public jurisdiction to local decisions.

**Goal:**

*Overall* Run size and spawning escapement levels that provide for viable self-sustaining, naturalized population of upper Columbia summer Chinook salmon in the Methow subbasin; management effectively mitigates for hydrosystem losses and supports a harvestable surplus.

Run size and spawning escapement level that provides for the recovery of ESA-listed upper Columbia spring Chinook salmon in the Methow subbasin, effectively mitigates for hydrosystem losses and supports a harvestable surplus.

For steelhead the goal is a run size that provides for the recovery of steelhead in the Methow Subbasin. Specific objectives include the need to provide for an annual tribal and sport fishery while conserving natural stocks. Artificial production should be maintained using locally adapted broodstock to meet recovery, conservation and harvest needs, while minimizing the impacts on recovering naturally reproducing stocks.

The goal for spring and summer/fall Chinook salmon is to achieve run sizes that provide for recovery, mitigation of hydrosystem losses, and harvestable surpluses. Specific objectives address the need to provide for an annual tribal and sport fishery, while conserving natural stocks by 2013. Determining natural smolt production and overall limitations by 2013, and improving smolt to adult survival is a key management priority.

**Qualitative: Objectives**

Increase the natural spawning escapement to pre-1980 numbers in the Methow Subbasin by 2013, consistent with at least 3,500 adults past Wells Dam.

Maintain the genetic diversity/ integrity and population structure of the locally adapted stocks (natural and artificially propagated stocks), consistent with VSP criteria developed through the TRT for recovery planning.

**Document:** **Middle Columbia Steelhead ESA Recovery Plan**

**Author:** NMFS **Document Year:** 2009

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/middle_columbia/mid-c-plan.pdf

**Overview:** The Middle Columbia Steelhead ESA Recovery Plan provides for the protection and restoration of Middle Columbia River steelhead that spawn and rear in tributaries to the Columbia River in central and eastern Washington and Oregon. The Middle Columbia River steelhead distinct population segment (DPS) is listed as threatened under the Endangered Species Act.

This plan is the product of a collaborative process initiated by NMFS with assistance from the Middle Columbia Recovery Forum, a group convened by NMFS to provide input on the development of the DPS recovery plan. Participants in the Mid-C Forum include the Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, the Yakama Nation, Confederated Tribes of the Warm Springs Indian Reservation, Confederated Tribes of the Umatilla Indian Reservation, Washington Governor's Salmon Recovery Office, Oregon Governor's Natural Resources Office, Snake River Salmon Recovery Board, Yakima Basin Fish and Wildlife Recovery Board, US Bureau of Reclamation, US Fish and Wildlife Service, US Forest Service, US Army Corps of Engineers, Klickitat County, and NMFS Northwest Region. NMFS developed this Plan by drawing upon the best available scientific information provided by the four regional recovery plans and by the Interior Columbia Technical Recovery Team.

The recovery scenarios are combinations of viability status for individual populations within the DPS that will meet the Interior Columbia Technical Recovery Team criteria for overall DPS viability.

**Goal:** *Broad Sense* If a Washington Gorge area regional recovery planning organization is created, it would have the option of developing broad sense goals for the area in a collaborative process with diverse stakeholders. In the meantime, the Yakama Nation has proposed, as a broad sense goal for the Klickitat steelhead population, the achievement of "highly viable" status, which corresponds to a one percent risk of extinction in a 100-year period. Achieving highly viable status for the population would provide for long-term, sustainable harvest and other social, cultural, and ceremonial needs, although it would likely exceed the minimum necessary to support delisting the DPS.

"to rebuild Oregon's Mid-C steelhead populations to levels that will provide for sustainable fisheries and other ecological, cultural, and social benefits . . . [incorporating] many of the traditional uses, as well as rural and Native American values, deemed important in the Pacific Northwest. . . . Recovery of Middle Columbia steelhead populations will require actions that preserve, enhance and restore healthy watershed conditions where ecosystem functions, processes and dynamics are intact –including instream conditions, riparian habitat diversity and complexity, and upland watershed health in concert with complementary management of harvest, hatcheries and hydropower. Recovery is a process that leads to steelhead populations that are not only viable, but that also provide a harvestable surplus for the treaty tribes and for all other citizens of the region"

The Yakima Steelhead Recovery Plan sets a long-term or broad sense, recovery goal to increase the abundance and productivity of Yakima Basin steelhead populations to levels that allow for harvest for recreational, commercial, and ceremonial purposes. This goal is articulated in the YBFWRB's Vision 2020 statement (Section 1.2 of the Yakima

Steelhead Recovery Plan), which describes, in general terms, desired future conditions for the Yakima basin:

Yakima River basin communities have restored the Yakima River Basin sufficiently to support self-sustaining and harvestable populations of indigenous fish and wildlife while enhancing the existing customs, cultures, and economies in the basin.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category | Minimum Productivity | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | White Salmon | | | 500 | Basic | 1.56 | NA |
| | | | | Fifteenmile | Winter | Threatened | 500 | Basic | 1.56 | Need for viable status |
| | | | | Klickitat | Summer-Winter | Threatened | 1000 | Intermediate | 1.35 | Need for viable status |
| | | | | Rock Creek | Summer | Threatened | 500 | Basic | 1.56 | Maintain |
| | | | | Crooked River | Summer | | 2250 | Very Large | 1.19 | NA |
| | | | | Deschutes Westside | Summer | Threatened | 1500 | Large (1) | 1.26 | Need for viable status |
| | | | | Deschutes Eastside | Summer | Threatened | 1000 | Intermediate | 1.35 | Need for viable status |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | John Day | Upper Mainstem John Day | Summer | Threatened | 1000 | Intermediate | 1.35 | Option |
| | | | | North Fork John Day | Summer | Threatened | 1500 | Large | 1.26 | Need for viable status |
| | | | | South Fork John Day | Summer | Threatened | 500 | Basic | 1.56 | Maintained |
| | | | | Lower Mainstem John Day | Summer | Threatened | 2250 | Very Large | 1.19 | Need for viable status |
| | | | | Middle Fork John Day | Summer | Threatened | 1000 | Intermediate | 1.35 | Option |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Willow Creek | Summer | | 1000 | Intermediate | 1.35 | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Umatilla | Summer | Threatened | 1500 | Large | 1.26 | Need for viable status |
| | | | | Touchet | Summer | Threatened | 1000 | Intermediate | 1.35 | Option |
| | | | | Walla Walla | Summer | Threatened | 1000 | Intermediate | 1.35 | Option |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Satus | Summer | Threatened | 1000 | Intermediate (2) | 1.35 | Option |
| | | | | Toppenish | Summer | Threatened | 500 | Basic | 1.56 | Maintain |
| | | | | Upper Yakima | Summer | Threatened | 1500 | Large | 1.26 | Option |
| | | | | Naches | Summer | Threatened | 1500 | Large | 1.26 | Option |

FOOTNOTES:
(1) This population is treated as Intermediate in size with respect to abundance and productivity criteria because of constrants on currently accessible habitat (i.e., Pelton Dam)□
(2) For the historical population analysis, the ICTRT included the mainstem Yakima habitat below the confluence of Satus Creek in the Satus Creek population, making it Intermediate in size. However, if the mainstem component is lumped instead with mainstem Yakima River habitat upstream of Satus, the Satus Creek population would drop to Basic size. The Yakima Steelhead Recovery Plan discusses this question in more detail.

**Document:** **Native Fish Society - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Native Fish Society, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Establish sustainable, viable population objectives that also include utilization goals for each salmon and steelhead population in Columbia River subbasins

Establish spawner abundance goals (escapement) for each species and race in each watershed based on an estimate of the carrying capacity of each watershed (subbasin plans). This process would be refined with additional monitoring and evaluation.

Develop quantitative objectives for the environmental (ecosystem) characteristics needed to achieve biological objectives for population performance. (ISAB 2013-1)

Develop quantitative objectives for other species of fish and wildlife in addition to salmonids. (ISAB 2013-1)

Establish quantitative biodiversity objectives for focal species and habitats that can be achieved by 2025. (ISAB 2013-1).

Develop productivity objectives that reflect differences among species and populations. (ISAB 2013-1)

Develop quantitative and realistic objectives for harvest based on stakeholder input. (ISAB 2013-1)

Make the objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. (ISAB 2013-1)

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

**Document:** **Nez Perce Tribe - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Nez Perce Tribe Protect, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

The Council will consult with. .. to determine the possibility of adopting hydrosystem survival performance standards for non-listed populations of anadromous fish including lamprey. Efforts should be implemented to adopt and interim passage standard for adult Pacific lamprey of 80% per mainstem dam to be accomplished within 10 years and to improve passage further in subsequent years.

Protect, enhance, restore, and connect freshwater habitat in the mainstem for the life history stages of naturally spawning anadromous and resident salmonids and lamprey. Protect and enhance ecological connectivity between aquatic areas, riparian zones, floodplains, and uplands in the mainstem.

Add explicit measureable biological objectives to support the more general program goals consistent with ISAB recommendations.

Promote the increase of biological diversity among and within populations to increase ecological resilience to environmental variability.

Enhance, restore, and connect freshwater habitat in the Columbia River mainstem and tributaries for the life history stages of naturally spawning anadromous and resident salmonids and Pacific lamprey.

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

Take action to reintroduce anadromous fish into blocked areas, where feasible.

Increase total salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin."

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province [add: by 2024.].

Halt declining trends in Columbia River Basin salmon and steelhead populations [add: by 2024.]. Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement.

**Document:** **Nez Perce Tribe Department of Fisheries Resources Management Plan 2013-2018**

**Author:** Nez Perce Tribe **Document Year:** 2013

**Link:** http://www.nptfisheries.org/portals/0/images/dfrm/home/fisheries-management-plan-final-sm.pdf

**Overview:** The Nez Perce Tribe Department of Fisheries Resources Management Plan 2013-2018 is designed to provide direction to the Department of Fisheries Resources Management to implement a program consistent with Nez Perce treaty-reserved rights that will restore a balance with nature, bring fish populations and their habitats to healthy conditions, and provide harvest opportunities for tribal members. The plan is intended to formally establish and describe the desired fishery resource conditions and the management framework that will be applied by the department to achieve those conditions.

Abundance-based reference points (thresholds) are delineated for salmon populations in order to develop long-term management strategies and to guide the implementation of short-term management actions necessary to achieve broad and population-specific salmon rebuilding goals. Adult salmon abundance (or escapement) objectives are the primary measure for quantifying goals. The escapement and harvest objectives were derived from the Northwest Power and Conservation Council's subbasin planning process. The Nez Perce Tribe was the lead or co-lead for all subbasin plans within the Nez Perce ICC boundaries. The escapement and harvest objectives were originally described in CRITFC's 1996 Tribal Restoration Plan, Wy-Kan-Ush-Mi Wa-Kish-Wit.

The plan identifies sustainable escapement objectives that describe the numbers of returning adults that would annually sustain substantial spawning as well as harvest for tribal and non-tribal fisheries. It is assumed that escapement sizes reflecting these values would also encompass healthy tribal and non-tribal fisheries downriver. The objectives were derived from the aggregate adult return objectives expressed in Snake River subbasin plans.

**Goal:**

*Overall* Achieve and maintain fish population genetic diversity at levels adequate for population persistence and consistent with historic conditions.

Overall -Achieve and maintain adult spawner distribution consistent with historically utilized tributaries (includes within and across tributary spatial scales).

Achieve and maintain fish abundance in tributary-specific areas at levels sufficient to support: 1) population persistence, 2) harvest, and 3) ecological processes.

The importance of natural reproduction cannot be replaced but where it is compromised, it may be enhanced with measures of artificial production.

Achieve and maintain diverse and productive ecosystems with species composition and productivity consistent with historical conditions.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Designated Stronghold | Viability Threshold | Sustainable Escapement | Ecological Escapement |
|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake Hells Canyon Fall Chinook | Snake River Fall above Hells Canyon | NA | Fall | | NA | NA | NA | NA |
| Interior Columbia | Snake River | Snake River Fall Chinook | Snake River Fall Chinook | Marsing Reach | Fall | | NA | NA | NA | NA |
| | | | | Salmon Falls | Fall | | NA | NA | NA | NA |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Clearwater | Moose Creek | Spring/Summer | Threatened | Yes | 750 | 5000 | 12000 |
| | | | | Upper Selway | Spring/Summer | Threatened | Yes | 1000 | 7600 | 18000 |
| | | | | Upper South Fork Clearwater | Spring/Summer | Threatened | Yes | 1000 | 9600 | 22000 |
| | | | | Lolo Creek | Spring/Summer | Threatened | Yes | 500 | 6600 | 15000 |
| | | | | Lochsa | Spring/Summer | Threatened | Yes | 1000 | 10200 | 24000 |
| | | | | Lapwai/Big Canyon Creeks | Spring/Summer | Threatened | NA | 750 | 6600 | 15000 |
| | | | | Potlatch River | Spring/Summer | Threatened | NA | 500 | 5700 | 13000 |
| | | | | Meadow Creek | Spring/Summer | Threatened | Yes | 500 | 3300 | 8000 |
| | | | | Lawyer Creek | Spring/Summer | Threatened | NA | 500 | 5500 | 13000 |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Catherine Creek | Spring/Summer | Threatened | NA | 1000 | 3000 | 22000 |
| | | | | Upper Grande | Spring/Summer | Threatened | NA | 1000 | 4100 | 31000 |
| | | | | Minam | Spring/Summer | Threatened | NA | 750 | 1900 | 14000 |
| | | | | Lostine/Wallowa | Spring/Summer | Threatened | Yes | 1000 | 4800 | 36000 |
| | | | | Wenaha | Spring/Summer | Threatened | Yes | 750 | 1800 | 13000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Lookingglass (functionally extirpated) | Spring/Summer | Threatened | NA | 500 | 1000 | 3000 |
| | | | | Imnaha | Spring/Summer | Threatened | Yes | 1000 | 5700 | 38000 |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Tucannon | Spring/Summer | Threatened | Yes | 750 | 3400 | 22000 |
| | | | | Asotin (functionally extinct) | Spring/Summer | Threatened | NA | 500 | 2000 | 10000 |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Middle Fork Salmon | Marsh Creek | Spring/Summer | Threatened | NA | 500 | 2600 | 7000 |
| | | | | Bear Valley | Spring/Summer | Threatened | Yes | 750 | 5700 | 16000 |
| | | | | Upper Mainstem Middle Fork | Spring/Summer | Threatened | NA | 750 | 6100 | 17000 |
| | | | | Chamberlain Creek | Spring/Summer | Threatened | NA | 750 | 3900 | 11000 |
| | | | | Lower Mainstem Middle Fork | Spring/Summer | Threatened | NA | 500 | 2100 | 6000 |
| | | | | Sulphur Creek | Spring/Summer | Threatened | NA | 500 | 1400 | 4000 |
| | | | | Loon Creek | Spring/Summer | Threatened | NA | 500 | 3200 | 9000 |
| | | | | Camas Creek | Spring/Summer | Threatened | NA | 500 | 3000 | 8000 |
| | | | | Big Creek | Spring/Summer | Threatened | Yes | 1000 | 6900 | 19000 |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | South Fork Salmon | South Fork Salmon Mainstem | Spring/Summer | Threatened | Yes | 2000 | 8600 | 24000 |
| | | | | Little Salmon River | Spring/Summer | Threatened | Yes | 750 | 5100 | 14000 |
| | | | | Secesh River | Spring/Summer | Threatened | Yes | 750 | 5400 | 15000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | East Fork Salmon/Johnson Creek | Spring/Summer | Threatened | Yes | 1000 | 6900 | 19000 |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Upper Salmon River | North Fork Salmon | Spring/Summer | Threatened | NA | 500 | 2200 | 6000 |
| | | | | East Fork Upper Salmon | Spring/Summer | Threatened | NA | 1000 | 6600 | 18000 |
| | | | | Lemhi River | Spring/Summer | Threatened | Yes | 2000 | 15500 | 43000 |
| | | | | Upper Salmon Mainstem | Spring/Summer | Threatened | Yes | 1000 | 8000 | 22000 |
| | | | | Lower Mainstem Salmon | Spring/Summer | Threatened | NA | 1000 | 16500 | 46000 |
| | | | | Valley Creek | Spring/Summer | Threatened | NA | 500 | 3200 | 9000 |
| | | | | Panther Creek (EXTIRPATED) | Spring/Summer | Threatened | NA | NA | NA | NA |
| | | | | Pahsimeroi | Spring/Summer | Threatened | Yes | 1000 | 12800 | 35000 |
| | | | | Yankee Fork | Spring/Summer | Threatened | NA | 500 | 2400 | 7000 |

NOTES:
Designated stronghold: Restoration of all populations, including non-stronghold populations, remains the Nez Perce Tribe's goal for maintaining healthy and harvestable escapement levels.

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Escapement Goals |
|---|---|---|---|---|---|---|---|
| No Recovery Domain | NA | NA | Grande-Ronde-Imnaha | Salmon | | | 20000 |
| | | | | Grande Ronde | | | 3500 |
| No Recovery Domain | NA | NA | N/A | Tucannon | | | Undefined |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Clearwater | | | | 14000 | | |

FOOTNOTES:
(1) Summary of escapement goals from NPCC subbain plans presented in the NPT 2013 Management Plan

## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Escapement Goals |
|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | NA | Grande Ronde-Imnaha | Grande Ronde | | Endangered | 2500 (1) |
| Interior Columbia | Snake River | Snake River Sockeye Salmon | Sawtooth Valley | Salmon | | Endangered | 8000-44500 (1) |

FOOTNOTES:
(1) Summary of escapement goals from NPCC subbain plans presented in the NPT 2013 Management Plan

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Designated Stronghold | Viability Threshold | Sustainable Escapement | Ecological Escapement |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Clearwater | Lolo Creek | Summer | Threatened | Yes | 500 | 4200 | 7000 |
| | | | | Selway River | Summer | Threatened | Yes | 1500 | 32700 | 55000 |
| | | | | South Fork Clearwater | Summer | Threatened | Yes | 1000 | 14800 | 25000 |
| | | | | North Fork Clearwater | Summer | Threatened | Yes | NA | NA | NA |
| | | | | Lower Mainstem Clearwater | Summer | Threatened | Yes | 1500 | 26400 | 45000 |
| | | | | Lochsa River | Summer | Threatened | Yes | 1500 | 21900 | 37000 |
| Interior Columbia | Snake River | Snake River Steelhead | Grande Ronde | Lower Grande Ronde River | Summer | Threatened | NA | 1000 | 5700 | 38000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Joseph Creek | Summer | Threatened | Yes | 1000 | 3600 | 24000 |
| | | | | Wallowa River | Summer | Threatened | Yes | 1500 | 6200 | 41000 |
| | | | | Upper Grande Ronde River | Summer | Threatened | NA | 1500 | 12100 | 81000 |
| Interior Columbia | Snake River | Snake River Steelhead | Imnaha | Imnaha River | Summer | Threatened | Yes | 1000 | 4300 | 21000 |
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Asotin River | Summer | Threatened | Yes | 1000 | 2000 | 15000 |
| Interior Columbia | Snake River | Snake River Steelhead | Salmon | North Fork Salmon River | Summer | Threatened | NA | 500 | 5200 | 6000 |
| | | | | Secesh River | Summer | Threatened | Yes | 500 | 5500 | 6000 |
| | | | | Pahsimeroi River | Summer | Threatened | NA | 1000 | 16300 | 18000 |
| | | | | Little Salmon River | Summer | Threatened | Yes | 1000 | 14400 | 16000 |
| | | | | Chamberlain Creek | Summer | Threatened | NA | 1000 | 11300 | 13000 |
| | | | | South Fork Salmon | Summer | Threatened | Yes | 1000 | 17700 | 2000 |
| | | | | Lower Middle Fork | Summer | Threatened | NA | 1500 | 28000 | 31000 |
| | | | | Upper Middle Fork | Summer | Threatened | NA | 1500 | 25000 | 28000 |
| | | | | Panther Creek | Summer | Threatened | NA | 1000 | 12000 | 13000 |
| | | | | Lemhi | Summer | Threatened | NA | 1000 | 19400 | 22000 |
| | | | | Upper Salmon East Fork | Summer | Threatened | NA | 1000 | 16900 | 19000 |
| | | | | Upper Salmon Mainstem | Summer | Threatened | NA | 1000 | 21200 | 24000 |
| Interior Columbia | Snake River | Snake River Steelhead | Snake Hells Canyon | Powder River | Summer | | NA | NA | NA | NA |
| | | | | Hells Canyon | Summer | | NA | NA | NA | NA |
| | | | | Burnt River | Summer | | NA | NA | NA | NA |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Weiser River | Summer | | NA | NA | NA | NA |
| Interior Columbia | Snake River | Snake River Steelhead | Tucannon | Tucannon River | Summer | Threatened | Yes | 1000 | 3400 | 15000 |

**Document:** **NF and EF Lewis Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119241/Vol_II_G__Lewis.pdf

**Overview:** The NF and EF Lewis Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels and mitigation of the effects of the Columbia River hydro system in Washington lower Columbia River subbasins. The plan for the Lower NorthFork Lewis River Basin describes implementation of the regional approach within this basin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | NF Lewis (Upper) | Spring | Threatened | 2200 | High |
| | | | | NF Lewis (Lower) | Spring | Threatened | 2200 | High |
| | | | | NF Lewis (Lower) | Fall | Threatened | 6500-16600 | High+ |
| | | | | EF Lewis | Fall | Threatened | 1900-3900 | High+ |

NOTES:
Primary population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | North Fork Lewis (Lower) | | Threatened | 1100 | High |
| | | | | East Fork Lewis | | Threatened | 1100 | High |

NOTES:
Primary population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | NF Lewis (Upper) | Early-run (Type-S)and Late-run (Type-N) | Threatened | 300 | Medium |
| | | | | NF Lewis (Lower) | Early-run (Type-S)and Late-run (Type-N) | Threatened | 300 | Medium |
| | | | | EF Lewis | Early-run (Type-S)and Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | East Fork Lewis | Summer | Threatened | 200 | High |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | North Fork Lewis (Upper) | Winter | Threatened | 300 | Medium |
| | | | | North Fork Lewis (Lower) | Winter | Threatened | 300 | Meidum |
| | | | | North Fork Lewis (Lower) | Summer | Threatened | 150 | Very Low |
| | | | | East Fork Lewis | Winter | Threatened | 600 | High |

NOTES:
Primary populations in recovery scenario

**Document:** **NOAA - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** NOAA, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

For threatened and endangered species, incorporate, at a minimum, ESA spatial structure diversity objectives from final recovery plans.

Council's goal is to apply the available resources in the most effective way possible to achieve protection, mitigation, recovery, and delisting of threatened and endangered species in the shortest possible time.

Incorporate ESA recovery objectives as minimum targets for threatened and endangered species.

Make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Develop productivity objectives that reflect differences among species and populations.

For threatened and endangered species, incorporate, at a minimum, ESA recovery productivity objectives from final recovery plans.

The objective should incorporate ESA viability criteria as minimum targets and should reflect the broad sense recovery goals developed by local stakeholders for ESA recovery plans. We recommend the development of milestones, which could include meeting FCRPS and other biological opinions' performance standards and ESA viability criteria. Development of these objectives should actively engage co-managers and stakeholders.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats.

Develop quantitative objectives for the environmental (ecosystem) characteristics needed to achieve biological objectives for population performance. (ISAB 2013-1)

Add a biological objective that addresses the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

Promote the increase of biological diversity among and within populations to increase ecological resilience to environmental variability.

Make the objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. (ISAB 2013-1)

Develop productivity objectives that reflect differences among species and populations. (ISAB 2013-1)

Establish quantitative biodiversity objectives for focal species and habitats that can be achieved by 2025. (ISAB 2013-1)

Develop quantitative objectives for other species of fish and wildlife in addition to salmonids. (ISAB 2013-1)

Identify/estimate the current capacity of individual sub-basins to support of produce anadromous fish.

**Document:** **NSIA and ANWS - NPCC 2014 F&W Program Amendment Recommendation-Objectives**

**Author:** NSIA and ANWS, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Adopt the NOAA-F recovery goals for salmon and steelhead listed under the WESA as interim quantitative performance benchmarks for these populations.

Maintain existing Basin-Level Biological Objectives that set a goal of five million adult fish retuning annually to the Columbia River.

**Document:** **ODFW - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** ODFW, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Protect, enhance, restore, and connect freshwater habitat in the Columbia River mainstem and tributaries for the life history stages of naturally spawning anadromous and resident salmonids and Pacific lamprey.

(delete: Allow for biological diversity among and within populations and species) Promote the increase of biological diversity among and within populations to increase ecological resilience to environmental variability." … Rationale … 'In most cases, in order to attain broad sense species recovery such that environmental, social, and economic values can be broadly attained, Fish and Wildlife Program goals should exceed the legal step of ESA delisting. However, for listed species, ESA delisting should be an intermediate step towards the longer term Fish and Wildlife Program goals, and the objectives, plans, as well as quantitative and qualitative measures of delisting-based recovery should be deliberately incorporated into the Program if achievement of this delisting objective is intended to be met.

Add language that states: The Council's Program incorporates the quantitative recovery criteria from ESA recovery plans. It also incorporates the more qualitative broad sense goals in some recovery plans that go beyond ESA delisting.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations. Incorporate ESA recovery productivity objectives.

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

(delete: Investigate reintroduction of) ( Add: Take action) to reintroduce anadromous fish into blocked areas, where feasible.

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs)in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province (add: by 2024).

(add: Restore healthy characteristics) (delete: Continue restoration) of lamprey, (add: sturgeon, and eulachon) populations.

Halt declining trends in Columbia River Basin salmon and steelhead populations by 2024, (delete: especially those that originate above Bonneville Dam). Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (add: Increase total adult runs for listed Lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.").

**Document:** **Okanogan Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/fw/subbasinplanning/okanogan/plan/

**Overview:** The Okanogan Subbasin Plan draws from the Okanogan Subbasin Summary and the Salmon and Steelhead Habitat Limiting Factors Assessment WRIA 49, which included an information summary for fish, wildlife, and their habitats, relevant land use planning, human population patterns, and overall management issues for 72 subwatersheds and tributaries. In Canada, the Okanagan Basin Study, the Thompson-Okanagan Land and Resources Management Plan, and the draft State of the Okanagan Basin report provided baseline information on the Canadian sections of the subbasin. The plan also drew from a significant body of additional US and Canadian science to facilitate coordinated recovery planning for the Okanogan salmon and steelhead ecosystem.

The vision for the plan includes viable, self-sustaining, harvestable and diverse populations of fish and wildlife and their habitats, along with the recognition of the need to support the economies, customs, cultures, subsistence and recreational opportunities within the basin.

Consistent with the 2000 Columbia Basin Fish and Wildlife Program's vision, yet tailored specifically to the geographic region of the Okanogan subbasin and its citizenry, the planners envisioned that within 15 years, the subbasin would support self-sustaining, harvestable and diverse populations of fish and wildlife and their habitats, and support the economies, customs, cultures, subsistence and recreational opportunities within the basin.

**Goal:**

*Overall* Run size and spawning escapement levels that provide for the recovery of ESA listed upper Columbia River steelhead in the Okanogan Subbasin; effectively mitigates for hydrosystem losses and supports a harvestable surplus.

Run size and spawning escapement levels that provide for viable self-sustaining naturalized population of upper Columbia summer/fall Chinook salmon in the Okanogan Subbasin; effectively mitigate for hydrosystem losses and supports a harvestable surplus.

Run size and spawning escapement level of sockeye salmon in the Okanogan/Okanagan Subbasin that: provide for long term viable population(s), contribute to spatial diversity, help mitigate hydrosystem losses, lead to a harvestable surplus.

**Qualitative: Objectives**

Populations do not exhibit trends or shifts in traits that portend declines in a population's growth rate.

Populations are large enough to have a high probability of surviving environmental variation of the patterns and magnitudes observed in the past as well as those expected in the future.

Populations have sufficient abundance for compensatory processes to provide resilience to environmental and human caused disturbances.

Populations should be sufficiently large to maintain genetic diversity over a long term.

Populations should be sufficiently abundant to provide important ecological functions throughout its life cycle.

Population natural productivity is sufficient to maintain its abundance above the viable level.

The population that includes naturally spawning hatchery fish exhibits sufficient productivity from naturally produced spawners to maintain population abundance above viability threshold in the absence of supplemented hatchery production.

Recovery and maintenance of key populations must achieve two broad objectives: 1) Restore populations to a point where they no longer require the protection of the ESA, and 2) Maintain populations at a level that allows meaningful opportunity for tribal and nontribal hunting and fishing rights

Populations do not exhibit sustained declines in abundance that span multiple generations and affect multiple broodyear cycles.

Increase the natural spawning escapement to match production levels sought in the HGMPs, HCP and to fully seed the Okanogan River system (including portions of the Upper Middle Mainstem subbasin).

Salmonid habitat should not be destroyed faster that is naturally created.

Natural rates of straying among subpopulations should not be substantially increased or decreased by human actions.

Some salmonid habitat should be maintained that appear suitable or marginally suitable, even though it currently contains no fish.

Key subpopulations (highly productive) should be maintained to support other subpopulations with lower productivity subpopulations.

Re-introduce sockeye into Skaha Lake to improve fry survival during rearing, improve adult survival during pre-spawn holding and serve as an experimental pilot program for re-introduction into Okanagan Lake. Improve survival of sockeye in the mainstem migration corridor

Monitor and evaluate level of survival of Okanagan sockeye salmon at various stages of their fresh water life history (egg to fry, fry to smolt, and smolt-to-spawner) to fill data gaps (necessary for stock conservation and management planning)

Maintain the genetic diversity/ integrity and population structure of the locally adapted stocks (natural and artificially propagated stocks), consistent with VSP criteria developed through the TRT for recovery planning.

Populations exhibit sufficient productivity during fresh water life history stages to maintain abundance above thresholds, even during poor ocean (or other relevant environmental) conditions.

## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Adult Returns | Cohort Replacement Rate | Min No Naturally Produced Spawners |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Upper Columbia | Upper Columbia River Sockeye | N/A | Okanogan | Not listed | 58730 (1) | Greater than or equal 1 (2) | 500 (2) |

FOOTNOTES:
(1) Canada objective
(2) Eight consectutive years

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Natural Spawners for at least 8 years | Replacement Rate for at least 8 years |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Upper Columbia River | Upper Columbia Steelhead | Wenatchee-Methow | Okanogan | Summer | Threatened | 2500 (1) | >1 (1) |

FOOTNOTES:
(1) Adapted from NOAA fisheries interm recovery abundance and productivity for Methow

**Document:** **Pacific Fishery Management Council - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Pacific Fishery Management Council, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Adopt the NOAA-F recovery goals for salmon and steelhead listed under the WESA as interim quantitative performance benchmarks for these populations.

Maintain goal of five million adult fish retuning annually to the Columbia River.

Expanding the quantitative performance goals to include hatchery and wild population objectives would help consistency with HSRG requirements that hatchery program have quantifiable performance goals such as the abundance of fish harvested and the abundance of spawning fish.

**Document:** **Recovery Plan for the Klickitat River Population of the Middle Columbia River Steelhead Distinct Population**

**Author:** NMFS **Document Year:** 2009

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/middle_columbia/mid-c-klickitat.pdf

**Overview:** This plan focuses on the conservation and survival of Middle Columbia River steelhead in the Klickitat River Subbasin. It is one of several recovery plans developed for independent populations of the Middle Columbia River steelhead distinct population segment (DPS), which is listed as threatened under the Endangered Species Act.

The plan provides a roadmap for restoring the Klickitat steelhead population and its habitats to a level that supports recovery of the Middle Columbia River steelhead DPS and allows the population to become a viable component of its ecosystem. A recovery plan is a guidance document, not regulatory.

The plan is the product of a process initiated by NMFS; it incorporates information from the Yakama Nation, Washington Department of Fish and Wildlife, Klickitat County, the Washington State Governor's Salmon Recovery Office, other Federal agencies, state agencies, local governments, and the public. The plan reflects technical data drawn from the Watershed Resource Inventory Area 30 watershed assessment and watershed management plan and Interior Columbia Technical Recovery Team viability criteria for the Middle Columbia River steelhead DPS.

**Goal:**

*Broad Sense* The primary goal of this plan is for the Klickitat steelhead population to be restored to viable status and thus to support recovery of the Mid-Columbia steelhead DPS. A viable salmonid population is defined as an independent population that has negligible risk of extinction over a 100-year timeframe (McElhany et al. 2000). If a local, collaborative Washington Gorge Recovery Board is formed, it may choose to define additional, broad-sense goals for the Klickitat Subbasin and other areas within the Washington Gorge Management Unit.

In the meantime, the Yakama Nation has proposed, as a broad-sense goal for the Klickitat steelhead population, the achievement of "highly viable" status, which corresponds to a one percent risk of extinction in a 100-year period. Achieving highly viable status for the population would provide for long-term, sustainable harvest and other social, cultural, and ceremonial needs, although it would likely exceed the minimum necessary to support delisting the DPS.

The Yakama Nation has proposed, as a broad-sense goal for the Klickitat steelhead population, the achievement of "highly viable" status, which corresponds to a one percent risk of extinction over a 100-year period. Achieving highly viable status for the population would provide for long-term, sustainable harvest and other social, cultural, and ceremonial needs, although it would likely exceed the minimum necessary to support delisting the DPS.

*Overall* For the Klickitat steelhead population to be restored to viable status and thus to support recovery of the Mid-Columbia steelhead DPS. A viable salmonid population is defined as an independent population that has negligible risk of extinction over a 100-year.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Threshold Abundance | Size Category | Minimum Productivity | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ESA De-listing Goals for 95% Probability of Persistence over 100 years | | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Klickitat | Summer/Winter | Threatened | 1000 | Intermediate | 1.35 | Need for viable status |

**Document:** **Recovery Plan for the Rock Creek Population of the Middle Columbia River Steelhead Distinct Population Segment**

**Author:** NMFS **Document Year:** 2009

**Link:** http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/interior_columbia/middle_columbia/mid-c-rock-crk.pdf

**Overview:** This plan focuses on the conservation and survival of Middle Columbia River steelhead in the Rock Creek Subbasin that were listed as threatened under the Endangered Species Act in 1999. This plan provides a roadmap for restoring the Rock Creek steelhead population and its habitats to a level that supports recovery of the Middle Columbia River steelhead DPS and allows the population to become a viable component of its ecosystem.

The plan is the product of a process initiated by NMFS; it incorporates information from the Yakama Nation, Washington Department of Fish and Wildlife (WDFW), Klickitat County, the Washington State Governor's Salmon Recovery Office, other Federal agencies, state agencies, local governments, and the public.

The Rock Creek Plan reflects direction for Rock Creek steelhead adopted into the Northwest Power and Conservation Council's (NPCC) Fish and Wildlife Program subbasin plan. The subbasin plan was produced through a collaborative process involving the Yakama Nation, WDFW, and NPCC. In addition, the plan reflects technical data drawn from the Watershed Resource Inventory Area (WRIA) 31 Watershed Assessment and WRIA 31 Instream Habitat Assessment and the Interior Columbia Technical Recovery Team viability criteria and current status assessment for the Middle Columbia River steelhead DPS.

**Goal:**

*Broad Sense* The primary goal of this plan is for the Rock Creek steelhead population to be restored to a sufficiently robust condition to support recovery of the Mid-Columbia steelhead DPS. If a local, collaborative Washington Gorge Area Regional Board is formed, it may choose to define broad-sense goals for the Rock Creek Subbasin and other areas within the Washington Gorge Management Unit. The Board's broad-sense goals for the area would likely build upon direction from, and respond to interests identified by various stakeholders in the area. These goals would then guide the Board as it defines and implements future recovery actions for the Rock Creek Subbasin.

*Overall* For the Rock Creek steelhead population to be restored to a sufficiently robust condition to support recovery of the Mid-Columbia steelhead DPS.

**Qualitative: Objectives** Rock Creek steelhead population to be restored to a sufficiently robust condition to support recovery of the Mid-Columbia steelhead DPS.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Threshold Abundance | Size Category | Minimum Productivity | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ESA De-listing Goals for 95% Probability of Persistence over 100 years | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Rock Creek | Summer | Threatened | 500 | Basic | 1.56 | Maintain |

**Document:** **Regional Fisheries Enhancement Group Coalition - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Regional Fisheries Enhancement Group Coalition, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives** Escapement goals that account for a range of biological processes related to adult salmon spawning and dying (i.e., sediment flushing through red excavation, and nutrients provided by dying fish).

**Document:** **Revised Viability Criteria for Salmon and Steelhead in the Willamette and Lower Columbia Basins**

**Author:** Willamette/Lower Columbia Technical Recovery Team, ODFW **Document Year:** 2006

**Link:** http://www.nwfsc.noaa.gov/trt/wlc/viability_report_revised.cfm

**Overview:** In 2003, the Willamette Lower Columbia Technical Recovery Team (WLCTRT) released a report describing recommended viability criteria for salmon and steelhead Evolutionarily Significant Units (ESUs) in the Willamette Lower Columbia. The Revised Viability Criteria for Salmon and Steelhead in the Willamette and Lower Columbia Basins provides a revision of the 2003 criteria.

The WLCTRT, in collaboration with ODFW, undertook this revision to improve the criteria by incorporating new analyses by the WLCTRT, other TRTs, state agencies, and others. In addition, the Lower Columbia Fish Recovery Board applied the 2003 criteria in developing a recovery plan for the Washington portion of the LCR ESUs and this application suggested several modifications to the criteria.

Despite being written as a standalone document, the report references the 2003 viability report. Although the criteria may apply equally well to both Oregon and Washington populations, the viability criteria examples and the LCR coho current status assessment focus on Oregon populations.

The report proposes that viable populations should demonstrate a combination of population growth rate, productivity, and abundance that produces an acceptable probability of population persistence. Various approaches for evaluating population productivity and abundance combinations may be acceptable, but must meet reasonable standards of statistical rigor.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Hood | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Clackamas | Fall | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| | | | | Sandy | Fall | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | Sandy | Spring | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Big Creek | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Youngs Bay | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| | | | | Clatskanie | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| | | | | Scappoose | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Upper Gorge Tributaries | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Lower Gorge Tributaries | Fall | Threatened | 0-100(Category 0), 100-200(Category 1), 200-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | Hood | Spring | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| Willamette Lower Columbia | Upper Willamette River | Upper Willamette River Chinook | Cascade Spring | Clackamas | Spring | Threatened | 0-550(Category 0), 550-600(Category 1), 600-700(Category 2), 700-1400(Category 3), >1400 (Category 4) | Large |
| Willamette Lower Columbia | Upper Willamette River | Upper Willamette River Chinook | Willamette | South Santiam | Spring | Threatened | 0-550(Category 0), 550-600(Category 1), 600-700(Category 2), 700-1400(Category 3), >1400 (Category 4) | Large |

| | | | | |
|---|---|---|---|---|
| North Santiam | Spring | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| Molalla | Spring | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| McKenzie | Spring | Threatened | 0-550(Category 0), 550-600(Category 1), 600-700(Category 2), 700-1400(Category 3), >1400 (Category 4) | Large |
| Calapooia | Spring | Threatened | 0-300(Category 0), 300-350(Category 1), 350-500(Category 2), 500-1000(Category 3), >1000(Category 4) | Medium |
| Middle Fork Willamette | Spring | Threatened | 0-550(Category 0), 550-600(Category 1), 600-700(Category 2), 700-1400(Category 3), >1400 (Category 4) | Large |

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Sandy River | | Threatened | NA | NA |
| | | | | Clackamas | | Threatened | NA | NA |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Youngs Bay | | Threatened | 0-900(Category 0), 900-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Medium |
| | | | | Big Creek | | Threatened | 0-900(Category 0), 900-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Medium |
| | | | | Clatskanie | | Threatened | 0-400(Category 0), 400-500(Category 1), 500-700(Category 2), 700-1400(Category 3), >1400 (Category 4) | Small |
| | | | | Scappoose River | | Threatened | NA | NA |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Lower Gorge Tributaries | | Threatened | NA | NA |
| | | | | Hood River | | Threatened | NA | NA |
| | | | | Upper Gorge Tributaries | | Threatened | NA | NA |

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Clackamas | Early and Late | Threatened | 0-2000(Category 0), 2000-2300(Category 1), 2300-3400(Category 2), 3400-6800(Category 3), >6800(Category 4) | Large |
| | | | | Sandy River | Eraly and Late | Threatened | 0-2000(Category 0), 2000-2300(Category 1), 2300-3400(Category 2), 3400-6800(Category 3), >6800(Category 4) | Large |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Big Creek | Late | Threatened | 0-700(Category 0), 700-800(Category 1), 800-1100(Category 2), 1100-2200(Category 3), >2200(Category 4) | Small |
| | | | | Scappoose River | Late | Threatened | 0-1300(Category 0), 1300-1500(Category 1), 1500-2200(Category 2), 2200-4400(Category 3), >4400(Category 3) | Medium |
| | | | | Clatskanie | Late Type-N | Threatened | 0-1300(Category 0), 1300-1500(Category 1), 1500-2200(Category 2), 2200-4400(Category 3), >4400(Category 3) | Medium |
| | | | | Youngs Bay | Late | Threatened | 0-700(Category 0), 700-800(Category 1), 800-1100(Category 2), 1100-2200(Category 3), >2200(Category 4) | Small |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Lower Gorge Tributaries | Late Type-N | Threatened | 0-700(Category 0), 700-800(Category 1), 800-1100(Category 2), 1100-2200(Category 3), >2200(Category 4) | Small |
| | | | | Hood River | Early Type-S | Threatened | 0-1300(Category 0), 1300-1500(Category 1), 1500-2200(Category 2), 2200-4400(Category 3), >4400(Category 3) | Medium |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Clackamas | Winter | Threatened | 0-800(Category 0), 800-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Large |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Sandy | Winter | Threatened | 0-800(Category 0), 800-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Large |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Hood | Winter | Threatened | 0-400(Category 0), 400-500(Category 1), 500-700(Category 2), 700-1400(Category 3), >1400(Category 4) | Medium |
| | | | | Lower Gorge | Winter | Threatened | 0-200(Category 0), 200-300(Category 1), 300-400(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| | | | | Upper Gorge | Winter | Threatened | 0-200(Category 0), 200-300(Category 1), 300-400(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge Summer | Hood | Summer | Threatened | 0-400(Category 0), 400-500(Category 1), 500-700(Category 2), 700-1400(Category 3), >1400(Category 4) | Medium |
| Willamette Lower Columbia | Willamette River | Upper Willamette Steelhead | Willamette | South Santiam | Winter | Threatened | 0-800(Category 0), 800-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Large |
| | | | | Calapooia | Winter | Threatened | 0-200(Category 0), 200-300(Category 1), 300-400(Category 2), 500-1000(Category 3), >1000(Category 4) | Small |
| | | | | Molalla | Winter | Threatened | 0-800(Category 0), 800-1000(Category 1), 1000-1400(Category 2), 1400-2800(Category 3), >2800(Category 4) | Large |

| | | | | |
|---|---|---|---|---|
| North Santiam | Winter | Threatened | 0-400(Category 0), 400-500(Category 1), 500-700(Category 2), 700-1400(Category 3), >1400(Category 4) | Medium |

**Document:** **Salmon Subbasin Management Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/119926/Salmon_Subbasin_Management_Plan.pdf

**Overview:** Due to its large size, the Salmon Subbasin was split between two working groups: the Upper Salmon and Lower Salmon working groups. The Idaho Department of Fish and Game (IDFG) was the lead entity responsible for completing a subbasin assessment and inventory for both the Upper and Lower Salmon. The Nez Perce Tribe (NPT) was the lead entity responsible for developing the portions of the plan for the Lower Salmon; the Shoshone-Bannock Tribes (SBT) was the lead entity responsible for developing the portions of the plan for the Upper Salmon. Issues in the Middle Fork Salmon River were addressed within the upper and lower working groups. Issues in the Middle Fork Salmon River were addressed within both the upper and lower working groups.

**Qualitative: Objectives** Increase the number of naturally spawning adults to achieve recovery goals within 24 years, amounting to a 4 to 6% SAR for spring/summer Chinook, 3% for fall Chinook (minimum), 4% for sockeye (minimum), and 4% for steelhead (minimum) as measured at Lower Granite Dam and in the tributaries

## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Sockeye Salmon | Sawtooth Valley | Salmon (Entire Subbasin) | | Endangered | 8000-44500 | 2000 |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Tucannon | Summer | Threatened | 145-192900 (1) | 21600 (2) |

FOOTNOTES:
(1) Long-term return objectives are derived from management plans as described in Appendix D, Appendix Table 4. This table does not necessarily imply consensus by all management agencies but merely gives direction to managers who must work out the rehabilitation and recovery of each species and population over time through implementation of the plan.

(2) NMFS interim abundance delisting criteria (spring and summer chinook salmon combined; A and B run steelhead combined).

**Document:** **Save Our Wild Salmon Coalition - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Save Our Wild Salmon Coalition, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province [add: by 2024].

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province [add: by 2024].

Halt declining trends in Columbia River Basin salmon and steelhead populations [add: by 2024] [ delete: especially those that originate above Bonneville Dam.] Significantly improve the smolt-toadult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. [add: Restore healthy characteristics ] [ delete: Continue restoration] of lamprey, [add: sturgeon, and eulachon] populations.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.

**Document:** **Snake Hells Canyon Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/22339/Snake_Hells_Canyon_Plan.pdf

**Overview:** The Nez Perce Tribe served as the lead entity for the planning effort and ensured that opportunities occurred for participation by fish and wildlife managers, local interests, and other key stakeholders, including tribal and local governments. The Snake Hells Canyon Subbasin Planning Team included representatives from government agencies with jurisdictional authority in the subbasin, fish and wildlife managers, industry and user-group representatives, and private landowners. The planning team guided the public involvement process, developed the vision statement, helped develop and review the social economic objectives, developed final recommendations, and participated in prioritizing subbasin strategies.

**Qualitative: Objectives**

Increase migratory fish productivity and production, as well as life stage-specific survival, through in-subbasin habitat improvement.

Increase SARs of naturally produced spawning adults to at least 4 to 6% for spring chinook, 3% for fall chinook, and 4% for steelhead, as measured at Lower Granite Dam, to increase natural production and harvest of fish populations.

**Document:** **Snake River Salmon Recovery Plan for SE Washington**

**Author:** Snake River Salmon Recovery Board **Document Year:** 2011

**Link:** http://snakeriverboard.org/wpi/wp-content/uploads/2013/01/Full-Version-SE-WA-recovery-plan-121211.pdf

**Overview:** The Snake River Salmon Recovery Plan for SE Washington, developed by the Snake River Salmon Recovery Board, provides recovery planning for the Southeast Washington Management Unit, which is part of the Snake River Recovery sub-domain and is one part of a comprehensive Snake River Basin Sub-Domain Salmon and Steelhead Recovery Plan that was coordinated and developed by NMFS and other local stakeholders

The vision statement for the plan "Develop and maintain a healthy ecosystem that contributes to the rebuilding of key fish populations by providing abundant, productive, and diverse populations of aquatic species that support the social, cultural, and economic well-being of the communities both within and outside the recovery region" is based largely on statements from the Tucannon River, Asotin Creek, Walla Walla River, Grande Ronde River, and Lower Snake Mainstem subbasin plans.

The recovery plan adopted the Interior Columbia Technical Recovery Team's abundance thresholds as de-listing goals; however, the recovery board and regional fish managers are interested in more than de-listing. The ultimate goal of the fish restoration effort is to create conditions allowing the establishment of salmonid populations that are viable, harvestable, and of sufficient abundance to meet other socio-economic goals. Thus, de-listing salmonid populations is the first step to restoring populations within the SEWMU.

The restoration goals are aimed at achieving healthy, sustainable, and harvestable salmonid populations. The goals are expressed in terms of adult abundance and exceed the values needed for ESA delisting. The restoration goals were proposed in tribal recovery plans, the Lower Snake River Compensation Plan, and other documents. Restoration goals and the proportion of hatchery and naturally-produced fish that would comprise the goals were not agreed to by the fishery co-managers during the drafting of the plan.

**Goal:**

*Broad Sense* In the SEWMU, the broad sense goals are known as —restoration goals. Broad sense goals are goals defined in the recovery planning process that go beyond the requirements for delisting to address other legislative mandates or social, economic, and ecological values. Recovery scenarios are combinations of viability status for individual populations within the ESU/DPS that will meet the ICTRT criteria for overall ESU/DPS viability.

*Overall* To create conditions allowing the establishment of salmonid populations that are viable, harvestable, and of sufficient abundance to meet other socio-economic goals.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Population Size | Productivity Threshold | Restoration Goal |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Broad Sense | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Wenaha | Spring | Threatened | 750 | Intermediate | 1.76 | 1335 (3)(6) |
| | | | | | | | Broad Sense | | | |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Asotin (functionally extinct) | Spring | | 500 | Basic | 1.90 (2) | 500 (3)(4) |
| | | | | Tucannon | Spring | Threatened | 750 | Intermediate | 2.10 (1) | 2400-3400 (3)(5) |
| | | | | | | | Broad Sense | | | |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | N/A | Walla Walla | Spring | Not Listed | None | None | None | 5500 or 1110 NOF, and 2750 HOF, (CTUIR goal to the mouth of the Walla Walla is 5500, but 3850 in the Walla River excludingTouchet and Mill Creek) (3) |

FOOTNOTES:
(1) Because the Lower Snake River spring/summer Chinook MPG consists of only two populations, and that the Asotin is considered functionally extinct, the ICTRT recommends that the Tucannon spring/summer Chinook population should be at a Very Low Risk level of abundance and productivity (< 1%) for the MPG to meet delisting criteria.
(2) The ICTRT considers the Asotin Creek spring/summer Chinook salmon population to be functionally extinct
(3) SRSRB - http://snakeriverboard.org/wpi/wp-content/uploads/2013/01/Full-Version-SE-WA-recovery-plan-121211.pdf
(4) from LSRCP , NPT goal, etc., and spring Chinook = NPT/CRITFC goal per SRSRB Plan
(5) from LSRCP goals and NPT goal
(6) The Lower Grande Ronde River population includes the Wenaha River and tributaries, Mud, Courtney, Grossman, Menatchee, Bear, and other lower Grande Ronde tributaries, and Elbow creeks.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Population Size | Productivity Threshold | Restoration Goal |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Broad Sense | | | |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Touchet | Summer | Threatened | 1000 | Basic | 1.35 | 1563-2205 (2) |
| | | | | Walla Walla | Summer | Threatened | 1000 | Intermediate | 1.35 | 1875-3395 (1) |
| | | | | | | | Broad Sense | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Grande Ronde | Joseph | Summer | Threatened | 500 | Basic | 1.27 | 2149-5909 (6) |
| | | | | Lower Grande Ronde | Summer | Threatened | 1000 | Intermediate | 1.14 | 1855-5101 (5) |
| | | | | | | | Broad Sense | | | |
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Asotin | Summer | Threatened | 500 | Basic | 1.2 | 2776-3114 (4) |
| | | | | Tucannon | Summer | Threatened | 1000 | Intermediate | 1.2 | 1823-3400 (3) |

FOOTNOTES:
(1) CTUIR goal to mouth of the Walla Walla R is 5,500, but 3,850 in the Walla Walla River, excluding Touchet and Mill Creek
(2) LSRCP goals and CTUIR goal
(3) LSRCP goals and NPT goal
(4) LSRCP , NPT goal, etc., and spring Chinook = NPT/CRITFC goal
(5) NMFS 2002 goal and proportion in Lower Grande Ronde and CRITFC
(6) NMFS Grande Ronde goal and proportion of basin in Joseph Creek

**Document:** **Trout Unlimited - 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Trout Unlimited, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Make the objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. (ISAB 2013-1)

Develop quantitative and realistic objectives for harvest based on stakeholder input. (ISAB 2013-1)

Develop productivity objectives that reflect differences among species and populations. (ISAB 2013-1)

Establish quantitative biodiversity objectives for focal species and habitats that can be achieved by 2025. (ISAB 2013-1)

Develop quantitative objectives for other species of fish and wildlife in addition to salmonids. (ISAB 2013-1)

Develop quantitative objectives for the environmental (ecosystem) characteristics needed to achieve biological objectives for population performance. (ISAB 2013-1)

Establish quantitative objectives for diversity of salmon and steelhead populations.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Objectives should be adjusted for periods of low, average, and high marine survival

Objectives should be adjusted for periods of low, average, and high marine survival.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Make the objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish. (ISAB 2013-1)

Develop quantitative and realistic objectives for harvest based on stakeholder input. (ISAB 2013-1)

Develop productivity objectives that reflect differences among species and populations. (ISAB 2013-1)

Establish quantitative biodiversity objectives for focal species and habitats that can be achieved by 2025. (ISAB 2013-1)

Develop quantitative objectives for other species of fish and wildlife in addition to salmonids. (ISAB 2013-1)

Develop quantitative objectives for the environmental (ecosystem) characteristics needed to achieve biological objectives for population performance. (ISAB 2013-1)

Establish quantitative objectives for diversity of salmon and steelhead populations.

Establish quantified escapement objectives (adult wild spawners) for each species in each watershed, which can then be aggregated for basin-wide goals.

Establish quantified escapement objectives (adult wild spawners) for each species in each watershed, which can then be aggregated for basin-wide goals.

**Document:** **Tucannon Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/120068/Entire_Document.pdf

**Overview:** The Tucannon Subbasin Plan was developed through the cooperation of a multitude of stakeholders including the Columbia Conservation District, Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, local landowners, Washington Department of Fish and Wildlife, United State Forest Service, United State Fish and Wildlife Service, and others.

The lead entity for the development of the plan was the Columbia Conservation District. The Nez Perce Tribe and Confederated Tribes of the Umatilla Indian Reservation served as co-leads. The key group involved in guiding the plan was the Asotin, Lower Snake, and Tucannon Subbasin Planning Team (SPT). The SPT operated by consensus.

The plan was developed to meet requirements of the Northwest Power and Conservation Council. Through this planning process, the technical staff and the public worked together to identify working hypotheses regarding limiting factors for fish, wildlife, and habitat, define objectives that measure progress toward those goals, and develop strategies to meet those objectives.

Consistent with Northwest Power and Conservation Council's guidance for the development of subbasin plans, quantitative biological objectives were established wherever sufficient data and information was available to support development of such. Biological objectives were developed within the context of the Ecosystem Diagnosis and Treatment.

In the absence of sufficient data and/or information, subbasin planners established objectives based upon a desired trend. All biological objectives were developed by the technical staff, reviewed and modified by the public as appropriate, with a limited set of assumptions and a 10 to 15 year planning horizon.

Since the plan is a culmination of numerous planning efforts, it was important to recognize anadromous fish goals from previous planning documents. Inclusion of these tables in the subbasin plan does not imply consensus by all management agencies but merely gives a summary of previous goals. The Columbia Conservation District Board (subbasin planning lead) expressed concern regarding the inclusion of numeric fish population goals in this subbasin plan. Board members noted that numeric fish population goals were not applicable to this habitat based subbasin plan. They considered the Snake River Salmon Recovery Planning process to be the appropriate forum through which numeric fish population goals were to be discussed and developed for the region.

Numeric fish population objectives were not set in this plan. Note that the numbers are provided for comparison between historic, current, properly functioning, and post-management plan implementation conditions only. They were not calibrated to reflect actual numeric fish populations within the subbasin.

**Qualitative: Objectives** The Columbia Conservation District Board (subbasin planning lead) expressed concern regarding the inclusion of numeric fish population goals in this subbasin plan. Board members noted that numeric fish population goals were not applicable to this habitat based subbasin plan. They considered the Snake River Salmon Recovery Planning process to be the appropriate forum through which numeric fish population goals were to be discussed and developed for the region.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component | Hatchery Spawning Component | Total Spawning Component |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Tucannon | Spring | Threatened | 3000 (1), 3000 (2), 1000 (3), 2400-3400 (6), 2400 (1152 hatchery produced) (5 | 25000 (4), 2000 (6) | 10000 (4) | 35000 (4) |
| | | | | Tucannon | Fall | Threatened | 2000 (6), 2000 (1), 2500 (2), 18300 hatchery and 14360 naturally produced (5) | 1000 (6) | NA | NA |

FOOTNOTES:
(1) CRITFC, Spirit of the Salmon
(2) 1990 Snake Subbasin Salmon and Steelhead Production Plan
(3) 2002. National Marine Fisheries Service Interim Abundance and Productivity Targets for Interior Columbia Basin Salmon and Steelhead Listed Under the Endangered Species Act. Website accessed January 30:
(4) CRFMP, which has expired (US v. Oregon), establishes interim management goals for fish passing over the Lower Granite Dam; Snake River specific goals are not defined.
(5) LSRCP
(6) Goals are derived from various management plans. These numbers do not imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each species and population over time through implementation of the plan.

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|
| No Recovery Domain | NA | NA | N/A | Tucannon | | Not Listed | Undefined | Undefined |

FOOTNOTES:
(1) Nez Perce Tribe Coho Adult Return Goals -Goals are derived from various management plans as described in Appendix A. This table does not necessarily imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each specie and population over time through implementation of the plan.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Long-Term Return | Natural Spawning Component |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Tucannon | A-Run | Threatened | 2200 (1),3400 (2), 1300 (3), 600 naturally produced (8), | 1500 (6) (7) |

FOOTNOTES:
(1) Spirit of the Salmon (1996. Columbia River Inter-Tribal Fish Commission. Wy-Kan-Ush-Mi Wa-Kish-Wit: Spirit of the Salmon.)
(2) 1990 Snake Subbasin Salmon and Steelhead Production Plan
(3) 2002. National Marine Fisheries Service Interim Abundance and Productivity Targets for Interior Columbia Basin Salmon and Steelhead Listed Under the http://www.nwppc.org/library/2002/NMFSTargets2002_0404.pdf; Endangered Species Act. Website accessed January 30
(4) Columbia River Fish Management Plan
(5) Lower Snake River Compensation Plan
(6) Nez Perce Tribe Spring Chinook Adult Return Goals for Asotin Subbasin
(7) Goals are derived from various management plans. These numbers do not imply consensus by all management agencies but merely gives direction to managers who must workout the restoration and recovery of each species and population over time through implementation of the plan.
(8) SaSi2004 (WA escapement goal)

**Document:** **Umatilla Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/120142/EntirePlan.pdf

**Overview:** The Umatilla Subbasin Plan was developed by the Confederated Tribes of the Umatilla Indian Reservation, Morrow Soil and Water Conservation District, Oregon Department of Fish and Wildlife, Umatilla Basin Irrigation Districts Association, Umatilla Basin Watershed Council, and Umatilla County Soil and Water Conservation District.

Two types of objectives were developed by the aquatic working group, numerical objectives for the number of returning adults of steelhead and salmon and habitat objectives designed to improve limiting factors identified by Ecosystem Diagnosis and Treatment. Ecosystem Diagnosis and Treatment was the major methodology used to develop objectives for natural returns.

**Goal:**

*Overall* Restore and maintain self-sustaining populations of extirpated species consistent with habitat availability, public acceptance, and other uses of the lands and waters of the state.

Strive for de-listing and avoidance of future listings of native fish and wildlife species in the subbasin under state and federal Endangered Species Acts.

Maintain and enhance the diversity, abundance and productivity of existing fish and wildlife populations within the subbasin.

**Qualitative: Objectives**

Restore and maintain diverse and productive natural populations of Chinook and coho in the Umatilla Subbasin using hatchery reintroductions.

Maintain the Birch Creek sub-population as a natural steelhead sanctuary (not supplemented).

Maintain, augment, and enhance natural production, productivity, abundance, life history characteristics and genetic diversity of steelhead, Chinook, coho, and lamprey throughout the Umatilla Basin using hatchery supplementation and out-planting

Maintain and enhance natural production, productivity, abundance, life history characteristics and genetic diversity of fish and mussels throughout the Umatilla Basin using habitat protection and improvement.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Total Return | Natural Return | Hatchery Return |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | N/A | Umatilla | Spring | Not Listed | 11000 (1), 11000 (2), 8000 (3) | 1000 (1), 1000 (2), 3000 (3), 1702 (4) | 10000 (1), 10000 (2), 6000 (3) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | NA | N/A | Umatilla | Fall | Not Listed | 21000 (1), 21000 (2), 12000 (3) | 11000 (1), 11000 (2), 3000 (3), 4192 (4) | 10000 (1), 10000 (2), 6000 (3) |

FOOTNOTES:
(1) 1990 NPPC Subbasin Plan
(2) 1996 CRITFC Spirit of the Salmon (Tribal Restoration Plan)
(3) 2001 NPPC Subbasin Summary
(4) 2004 EDT natural production estimates were derived from the PFC analysis

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Total Return | Natural Return | Hatchery Return |
|---|---|---|---|---|---|---|---|---|---|
| No Recovery Domain | NA | NA | N/A | Umatilla | | Not Listed | 6000 | 1568 | 6000 |

FOOTNOTES:
(1) 1987 United States vs Oregon Subbasin Production Reports;
(2) 1990 NPPC Subbasin Plan
(3) EDT natural production estimates were derived from the PFC analysis in this this plan in Section 3.6.1.2. Total return objectives using the EDT tool are under development by fisheries managers.

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Total Return | Natural Return | Hatchery Return |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Umatilla | A-Run | Threatened | 7958 (1), 9670 (2), 9670 (3),5500 (4) | 4300 (1), 4000 (2), 4000 (3), 4000 (4), 3610 (5) | 3658 (1), 5670 (2), 5670 (3), 1500 (4) |

FOOTNOTES:
(1) USvOR = 1987 United States vs Oregon Subbasin Production Reports;
(2) 1990 NPPC Subbasin Plan
(3) CRITFC Spirit of the Salmon (Tribal Restoration Plan)
(4) 2001 NPPC Subbasin Summary;
(5) EDT natural production estimates were derived from the PFC analysis in this this plan in Section 3.6.1.2. Total return objectives using the EDT tool are under development by fisheries managers.

**Document:** **Upper Columbia River Tribes - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Upper Columbia River Tribes, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Maintaining quantitative benchmark within the Fish and Wildlife Program and expanding them to include sustainable and useable abundance, distribution, and genetic viability objectives as interim quantitative performance objectives for UCB populations and use of a UCUT (27) report card to report on population performance relative to these objectives.

Include a goal of a restored, resilient and healthy CRB that includes ecosystem-based function based on the UCUT (27)s recommended river and reservoir operations (in-development).

**Document:** **Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (Working with the Upper Columbia Salmon Recovery Board, NOAA Fisheries Adopted A Recovery Plan for Upper Columbia Spring-Run Chinook and Steelhead 2007)**

**Author:** Upper Columbia Salmon Recovery Board **Document Year:** 2007

**Link:** http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/upper_columbia/upper_columbia_spring_chinook_steelhead_recovery_plan.html

**Overview:** The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan was developed by the Upper Columbia Salmon Recovery Board for the recovery of Upper Columbia spring Chinook and steelhead. The mission for the Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan is to restore viable and sustainable populations of salmon, steelhead, and other at-risk species through collaborative, economically sensitive efforts, combined resources, and wise resource management of the Upper Columbia region.

The plan was developed with the intention that it would be used to guide federal agencies charged with species recovery. The plan is limited to address listed salmonid species and is intended for implementation within the Upper Columbia River Basin, which includes the Columbia River and its tributaries upstream of the confluence of the Yakima River to the base of Chief Joseph Dam. Recovery of three spring Chinook populations (Wenatchee, Entiat, and Methow populations), four steelhead populations (Wenatchee, Entiat, Methow, and Okanogan populations) is emphasized.

To be consistent with the vision and goals of this plan, listed populations must meet specific abundance, productivity, spatial structure, and diversity objectives and criteria. The plan refers to these parameters as the four "viable salmonid population" parameters. Recovery objectives and criteria were developed by the Interior Columbia Basin Technical Recovery Team (ICBTRT) in collaboration with Upper Columbia technical committees.

Recovery of the Upper Columbia spring Chinook ESU will require the recovery of the Wenatchee, Entiat, and Methow populations. Recovery of the Upper Columbia steelhead DPS will require the recovery of the Wenatchee, Entiat, Methow, and Okanogan populations, but not the Crab Creek population. The plan deviates from the most 2005 recommendation of the ICBTRT that at least two populations within the ESU and DPS must meet abundance/productivity criteria that represent a 1% extinction risk over a 100-year period. The plan requires that all populations within the spring Chinook ESU and the steelhead DPS (save the Crab Creek steelhead population) meet abundance/productivity criteria that represent 5% extinction risk over a 100-year period.

**Goal:**

*Overall* To secure long-term persistence of viable populations of naturally produced spring Chinook and steelhead distributed across their native range.

**Qualitative: Objectives**

Recovery Objective - Restore the distribution of naturally produced steelhead to previously occupied areas (where practical) and allow natural patterns of genetic and phenotypic diversity to be expressed.

Recovery Objective - Increase the productivity (spawner:spawner ratios) of naturally produced steelhead within each population to levels that result in low risk of extinction.

Recovery Objective - Increase the abundance of naturally produced steelhead spawners within each population in the Upper Columbia DPS to levels considered viable.

Recovery Objective - Restore the distribution of naturally produced spring Chinook to previously occupied areas (where practical) and allow natural patterns of genetic and phenotypic diversity to be expressed.

Recovery Objective - Increase the productivity (spawner:spawner ratios and smolts/redds) of naturally produced spring Chinook within each population to levels that result in low risk of extinction

Recovery Objective - Increase the abundance of naturally produced spring Chinook spawners within each population in the Upper Columbia ESU to levels considered viable.

Reclassification Objective - Increase the current distribution of naturally produced steelhead in the Upper Columbia DPS and conserve genetic and phenotypic diversity.

Reclassification Objective - Increase the abundance and productivity of naturally produced steelhead within each population in the Upper Columbia DPS to levels that would lead to reclassification of the DPS as threatened under the ESA.

Reclassification Objective - Increase the current distribution of naturally produced spring Chinook in the Upper Columbia ESU and conserve genetic and phenotypic diversity.

Reclassification Objective - Increase the abundance and productivity of naturally produced spring Chinook within each population in the Upper Columbia ESU to levels that would lead to reclassification of the ESU as threatened under the ESA.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum 12-yr Geometric Mean Spawners | Minimum 12-yr Geometric Mean Spawners:Spawners(1) |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Upper Columbia River | Upper Columbia Spring Chinook | Eastern Cascades | Wenatchee | Spring | Endangered | 2000 | 1.2 |
| | | | | Methow | Spring | Endangered | 2000 | 1.2 |
| | | | | Entiat | Spring | Endangered | 500 | 1.4 |

NOTES:
(1) These values represent the minimum growth rates associated with the minimum number of spawners of a viable population

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum 12-yr Geometric Mean Spawners | Minimum 12-yr Geometric Mean Spawners:Spawners(1) |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Upper Columbia River | Upper Columbia Steelhead | Eastern Cascades | Okanogan | Summer | Threatened | 500 | 1.2 |
| | | | | Wenatchee | Summer | Threatened | 1000 | 1.1 |
| | | | | Methow | Summer | Threatened | 1000 | 1.1 |
| | | | | Entiat | Summer | Threatened | 500 | 1.2 |

NOTES:□
(1) These values represent the minimum growth rates associated with the minimum number of spawners of a viable population.

The ICBTRT has determined that 500 naturally produced steelhead adults for the Okanogan population will meet the minimum abundance recovery criteria within the U.S. portion of the Okanogan subbasin. If the Canadian portion of the Okanogan subbasin was included, the minimum abundance recovery criteria would be 1,000 naturally produced steelhead adults. Voluntary and bilateral efforts are underway to coordinate actions to meet this goal. (Per Upper Columbia River Spring Chinook)

**Document:** **Upper Gorge Tributaries Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21283/Vol_II_L__Gorge_Tribs.pdf

**Overview:** The Upper Gorge Tributaries Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead,and trout species to healthy and harvestable levels, and mitigation of the effects of the ColumbiaRiver hydropower system in Washington lower Columbia River subbasins. The plan for the Columbia Gorge Tributaries Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board (Board), Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Upper Gorge | | Threatened | <100-1100 | Medium |

NOTES:
Includes Wind River, Little White Salmon, and upper Gorge tributaries
Contributing population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Upper Gorge | Late-run (Type-N) | | 600 | High |

NOTES:
Primary population in recovery

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | N/A | Upper Gorge | Winter | Threatened | | 100 | Low+ |

NOTES:
Includes Wind River and upper Gorge tributaries
Stabilizing population in recovery scenario

**Document:** **Upper Snake River Tribes Foundation - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Upper Snake River Tribes Foundation, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province (add: by 2024).

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

(delete: Investigate reintroduction of) ( Add: Take action) to reintroduce anadromous fish into blocked areas, where feasible.

Upper Snake River Tribes Foundation - Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (Add: Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.)

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

Incorporate ESA Recovery Plans: objectives and measureable recovery criteria.

Adopt the ISAB's recommendation to make the Basin-wide objective of 5 million salmon and steelhead by 2025 more specific with respect to wild and hatchery fish.

Adopt the ISAB's recommendation to develop productivity objectives that reflect differences among species and populations.

Incorporate ESA recovery productivity objectives.

Adopt the ISAB's recommendation to establish quantitative biodiversity objectives for focal species and habitats. Incorporate ESA biodiversity objectives.

Add language that states: "The Council's Program incorporates the quantitative recovery criteria from ESA recovery plans. It also incorporates the more qualitative broad sense goals in some recovery plans that go beyond ESA delisting."

[delete: Allow for biological diversity among and within populations and species] [ add: Promote the increase of biological diversity among and within populations] to increase ecological resilience to environmental variability.

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

**Document:** **Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead**

**Author:** ODFW, NMFS **Document Year:** 2011

**Link:** http://www.dfw.state.or.us/fish/CRP/docs/upper_willamette/UWR%20FRN2%20Mainbody%20final.pdf

**Overview:** The Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead is the product of a multi-year collaborative process led by the Oregon Department of Fish and Wildlife, with extensive participation by the Oregon Governor's Natural Resources Office, NMFS, and Oregon Upper Willamette River Planning and Stakeholder teams. The plan serves as a recovery plan under the Endangered Species Act (ESA) and as a State of Oregon conservation Plan under Oregon's Native Fish Conservation Policy (NFCP). The plan provides a framework and roadmap for the conservation and recovery of ESA listing units for threatened Chinook and steelhead species in the Willamette River system of Oregon.

As a conservation plan under the NFCP, the plan for Upper Willamette River spring Chinook and winter steelhead populations goes beyond achieving ESA recovery requirements. Its desired status includes achievement of 'broad sense goals,' including meeting social and cultural benefits. This approach to species recovery includes development of goals for harvestable population levels viewed essential by all the parties involved. Although somewhat broader than the definition of recovery provided in the ESA, these broad sense recovery goals incorporate many of the traditional uses as well as rural and Native American values deemed important in Oregon and throughout the Pacific Northwest

The plan provides an informed, comprehensive, and strategic approach to recovery of the Upper Willamette River spring Chinook ESU and winter steelhead DPS by addressing the limiting factors and threats within population and across life cycle stages. It is based on science, supported by stakeholders, and is built on existing efforts supplemented by new recovery actions as needed.

The authors used other existing plans, documents, assessments, or requirements in developing this plan, notably, actions contained in the Estuary Module (a recovery plan addressing the Columbia River estuary), the Willamette River Basin Flood Control Project Biological Opinion, Federal Energy Regulatory Commission (FERC) hydropower re-license agreements, the Willamette Total Maximum Daily Load Allocation (TMDL) report, and local habitat restoration or conservation plans. In addition, the contents of the plan are consistent with, complementary to, or build upon strategies or actions contained in the Oregon Plan for Salmon and Watersheds, the Oregon Conservation Strategy, the Hatchery Science Review Group's assessment of UWR hatchery programs as well as other recent scientific papers and reports, and the Northwest Power and Conservation Council subbasin plan.

For ESU/DPS-level status evaluations, the plan adopts the viability criteria identified by the Willamette Lower Columbia Technical Recovery Team as the foundation for biological delisting criteria. These criteria were used as technical input into the recovery planning process and provided a technical foundation for the development of biological recovery criteria.

**Goal:** *Broad Sense* Second, the State of Oregon seeks to rebuild the wild populations to reach 'broad sense recovery' to provide for sustainable fisheries and other ecological, cultural and social benefits. Section 3.2 describes broad sense recovery goals. Section 3.2: Oregon's 'broad sense recovery is defined as State of Oregon goals of having populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that the ESU/DPS as a whole (a) will be self-sustaining, and (b) will provide significant ecological, cultural, and economic benefits.Section 10.1.1: The following criteria have been developed to help

measure attainment of the broad sense recovery goal.

1. All UWR Chinook and steelhead populations have a ""very low"" extinction risk and are ""highly viable"" over 100 years throughout their historic range, and

2. The majority of UWR salmon and steelhead populations are capable of contributing social, cultural, economic and aesthetic benefits on a regular and sustainable basis.

Having populations of naturally produced salmon and steelhead sufficiently abundant, productive, and diverse (in terms of life histories and geographic distribution) that the ESU/DPS as a whole (a) will be self-sustaining and (b) will provide significant ecological, cultural, and economic benefits.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Extinction Risk | Modeled Abundance |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Upper Willamette River | Upper Willamette River Chinook | Willamette | South Santiam | Spring | Threatened | Very High | 3116 |
| | | | | North Santiam | Spring | Threatened | Very Low | 5428 |
| | | | | Molalla | Spring | Threatened | Very High | 699 |
| | | | | McKenzie | Spring | Threatened | Low | 10916 |
| | | | | Middle Fork Willamette | Spring | Threatened | Very High | 5802 |
| | | | | Calapooia | Spring | Threatened | Very High | 598 |
| | | | | Clackamas | Spring | Threatened | Moderate | 2314 |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Extinction Risk | Modeled Abundance |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Willamette River | Upper Willamette Steelhead | Willamette | South Santiam | Winter | Threatened | Low | 3912 |

| | | | | |
|---|---|---|---|---|
| North Santiam | Winter | Threatened | Low | 8362 |
| Molalla | Winter | Threatened | Low | 3226 |
| Calapooia | Winter | Threatened | Moderate | 5512 |

**Document:** **Viability Criteria for Application to Interior Columbia Basin Salmonid ESUs**

**Author:** Interior Columbia Basin Technical Recovery Team **Document Year:** 2007

**Link:** http://www.nwfsc.noaa.gov/trt/trt_documents/ictrt_viability_criteria_reviewdraft_2007_complete.pdf

**Overview:** One of the main tasks assigned to Technical Recovery Teams (TRT) is the establishment of biological viability criteria for application to Evolutionarily Significant Units (ESUs) of salmon and steelhead listed under the Endangered Species Act. These biological viability criteria are intended to inform long-term regional recovery planning efforts, including the establishment of delisting criteria. The Interior Columbia Basin Technical Recovery Team (ICTRT) developed a set of viability criteria and guidelines specific for Interior Columbia Basin listed ESUs; those viability criteria are described in Viability Criteria for Application to Interior Columbia Basin Salmonid ESUs.

The ESU level viability criteria in this plan took into consideration the appropriate distribution and characteristics of component populations in order to maintain the ESU in the face of long-term ecological and evolutionary processes. The viability criteria are based on guidelines in the NOAA Technical Memorandum Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units, the results of previous applications and a review of specific information available relative to listed Interior Columbia ESU populations. The population level viability guidelines are organized around four major parameters: abundance, productivity, spatial structure and diversity.

Abundance and productivity criteria were designed to be used, in combination with current assessments, to inform recovery planning efforts as to the relative magnitude of changes in survival and habitat capacity needed to achieve viable status. They also provide insight into whether productivity alone, or both productivity and capacity might need to be improved.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Population Weighted Area | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake Hells Canyon Fall Chinook | N/A | Weiser River | Fall | | NA | NA | NA |
| | | | | Burnt River | Fall | | NA | NA | NA |
| | | | | Powder River | Fall | | NA | NA | NA |
| | | | | Snake Hells Canyon | Fall | | NA | NA | NA |
| Interior Columbia | Snake River | Snake Hells Canyon Fall Chinook | Snake River Mainstem | Lower Mainstem | Fall | | <2500(1) | Small | Highly Viable |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Salmon Falls | Fall | | NA | NA | Reconsider as recovery efforts progress (one of the two to be highly viable) |
| | | | | Marsing Reach | Fall | | NA | NA | Reconsider as recovery efforts progress (one of the two to be highly viable) |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Grande Ronde-Imnaha | Upper Grande Ronde River | Spring | Threatened | 1000 | Large | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |
| | | | | Imnaha River Mainstem | Spring/Summer | Threatened | 750 | Intermediate | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |
| | | | | Wenaha River | Spring | Threatened | 750 | Intermediate | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Minam River | Spring | Threatened | 750 | Intermediate | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |
| | | | | Lookingglass Creek (functionally expirated) | Spring | Threatened | 500 | Basic | Consider for reintroduction as recovery efforts progress |
| | | | | Big Sheep Creek (FUNCTIONALLY EXTIRPATED) | Spring | Threatened | 500 | Basic | Consider for reintroduction as recovery efforts progress |
| | | | | Catherine Creek | Spring | Threatened | 1000 | Large | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |
| | | | | Lostine/Wallowa River | Spring | Threatened | 1000 | Large | 1 Highly Viable and 3 Viable: Imnaha River, Lostine/Wallowa River, Catherine Creek or Upper Grande Ronde River, Wenaha River or Minam River - All remaining extant populaitons Maintained |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Lower Snake River | Tucannon River | Spring | Threatened | 750 | Intermediate | Highly Viable |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Asotin River (functionally extint) | Spring | Basic | 500 | Basic | Consider for reintroduction as recovery efforts progress |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Middle Fork Salmon | Loon Creek | Spring | Threatened | 500 | Basic | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |
| | | | | Lower Mainstem Middle Fork | Spring | Threatened | 500 | Basic | Maintained |
| | | | | Chamberlain Creek | Spring | Threatened | 750(500) | Intermediate (Basic) | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |
| | | | | Camas Creek | Spring | Threatened | 500 | Basic | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |
| | | | | Sulphur Creek | Spring | Threatened | 500 | Basic | Maintained |
| | | | | Marsh Creek | Spring | Threatened | 500 | Basic | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |
| | | | | Bear Valley Creek | Spring | Threatened | 750 | Intermediate | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |
| | | | | Big Creek | Spring | Threatened | 1000 | Large | 1 Highly Viable and 4 Viable: Big Creek, Chamberlain Creek, Bear Valley Creek, Marsh Creek, Camas, or Loon Creek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Upper Mainstem Middle Fork | Spring | Threatened | 750 | Intermediate | Maintained |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | South Fork Salmon | South Fork Salmon | Spring | Threatened | 1000 | Large | 1 Highly Viable and 1 viable - Two populations in the main South Fork Basin |
| | | | | Secesh River | Spring | Threatened | 750 | Intermediate | Maintained |
| | | | | Little Salmon | Spring | Threatened | 750(500) | Intermediate (Basic) | Maintained |
| | | | | East Fork/Johnson Creek | Spring | Threatened | 1000 | Large | Maintained |
| Interior Columbia | Snake River | Snake River Spring/Summer Chinook | Upper Salmon River | Yankee Fork | Spring | Threatened | 500 | Basic | Maintained |
| | | | | North Fork Salmon River | Spring | Threatened | 500 | Basic | Maintained |
| | | | | Lemhi River | Spring | Threatened | 2000 | Very Large | Maintained |
| | | | | Panther Creek (EXTIRPATED) | Spring | | 750 | Intermediate | Maintained |
| | | | | Lower Mainstem | Spring/Summer | Threatened | 2000 | Very Large | Maintained |
| | | | | Upper Salmon River Mainstem | Spring | Threatened | 1000 | Large | 1 Highly Viable and 4 viable - Lemhi River, Pahsimeroi River, East Fork Salmon River, Upper Salmon River, Valley Creek |
| | | | | Valley Creek | Spring | Threatened | 500 | Basic | 1 Highly Viable and 4 viable - Lemhi River, Pahsimeroi River, East Fork Salmon River, Upper Salmon River, Valley Creek |
| | | | | Upper Salmon East Fork | Spring/Summer | Threatened | 1000 | Large | 1 Highly Viable and 4 viable - Lemhi River, Pahsimeroi River, East Fork Salmon River, Upper Salmon River, Valley Creek |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Pahsimeroi River | Spring | Threatened | 1000 | Large | 1 Highly Viable and 4 viable - Lemhi River, Pahsimeroi River, East Fork Salmon River, Upper Salmon River, Valley Creek |
| Interior Columbia | Upper Columbia River | Upper Columbia Spring Chinook | Eastern Cascades | Methow River | Spring | Endangered | 2000 | Very Large | Highly Viable |
| | | | | Wenatchee River | Spring | Endangered | 2000 | Very Large | Highly Viable |
| | | | | Okanogan River (US Portion Only) | Spring | | 750 | Intermediate | Reconsider as recovery efforts progress |
| | | | | Entiat River | Spring | Endangered | 500 | Basic | Viable |

NOTES:
(1) Up to 500 distributed between the upper extant spawning areas used by the lower mainstem population.

## Sockeye

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Size Category | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Sockeye Salmon | Sawtooth Valley | Alturas Lake | | | NA | Intermediate | 2 highly Viable and 1 Viable - Redfish Lake, Alturas Lake, Pettit Lake |
| | | | | Redfish Lake | | Endangered | NA | Intermediate | 2 highly Viable and 1 Viable - Redfish Lake, Alturas Lake, Pettit Lake |
| | | | | Yellowbelly Lake | | | NA | Small | Reconsider as recovery efforts progress |
| | | | | Stanley Lake | | | NA | Small | Reconsider as recovery efforts progress |
| | | | | Petit Lake | | | NA | Small | 2 highly Viable and 1 Viable - Redfish Lake, Alturas Lake, Pettit Lake |

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Minimum Abundance Threshold (MAT) | Population Weighted Area | Role in Viability Scenario |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | Fifteenmile Creek | Winter | Threatened | 500 | Basic | 1 Highly Viable and 3 Viable - Fifteenmile Creek, Deschutes River Westside, Klickitat River, Deschutes River Eastside |
| | | | | Klickitat River | Summer and Winter | | 1000 | Intermediate | 1 Highly Viable and 3 Viable - Fifteenmile Creek, Deschutes River Westside, Klickitat River, Deschutes River Eastside |
| | | | | Deschutes Eastside | Summer | Threatened | 1000 | Intermediate | NA |
| | | | | Deschutes Westside | Summer | Threatened | 1500(1000) | Large(Int) | NA |
| | | | | Crooked River | Summer | | 2250 | NA | NA |
| | | | | White Salmon | Unknown | | 500 | Basic | NA |
| | | | | Rock Creek | Summer | Threatened | 500 | Basic | Maintained |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | John Day | John Day South Fork | Summer | Threatened | 500 | Basic | Maintained |
| | | | | John Day North Fork | Summer | Threatened | 1500 | Large | 1 Highly Viable and 2 Viable - North Fork John Day River, Lower John Day River, Middle Fork John Day or Upper John Day |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | John Day Middle Fork | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 2 Viable - North Fork John Day River, Lower John Day River, Middle Fork John Day or Upper John Day |
| | | | | John Day Upper Mainstem | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 2 Viable - North Fork John Day River, Lower John Day River, Middle Fork John Day or Upper John Day |
| | | | | John Day Lower Mainstem | Summer | Threatened | 2250 | Very Large | Maintain |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Walla Walla Mainstem | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 1 Viable - Umatilla River, Walla Walla River or Touchet River |
| | | | | Willow Creek | Unknown | | 1000 | Intermediate | NA |
| | | | | Touchet River | Summer | Threatened | 1500 | Intermediate | 1 Highly Viable and 1 Viable - Umatilla River, Walla Walla River or Touchet River |
| | | | | Umatilla River | Summer | Threatened | 1500 | Large | 1 Highly Viable and 1 Viable - Umatilla River, Walla Walla River or Touchet River |
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Yakima | Naches River | Summer | Threatened | 1500 | Large | 1 Highly Viable and 1 Viable - Naches River or Upper Yakima, one of the remaining three populations |
| | | | | Satus Creek | Summer | Threatened | 1000 | Intermediate | Viable, Highly Viable, Maintained |
| | | | | Toppenish River | Summer | Threatened | 500 | Basic | Viable, Highly Viable, Maintained |
| | | | | Upper Yakima River | Summer | Threatened | 1500 | Large | 1 Highly Viable and 1 Viable - Naches River or Upper Yakima, one of the remaining three populations |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Snake River | Snake River Steelhead | Clearwater | Selway River | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater |
| | | | | Lower Mainstem | Summer | Threatened | 1500 | Large | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater |
| | | | | Lolo River | Summer | Threatened | 500 | Basic | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater |
| | | | | South Fork | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater with all extant populations maintained |
| | | | | Lochsa River | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater |
| | | | | North Fork | Summer | | 1500 | Large | 1 Highly Viable and 3 Viable - Lower Clearwater, Lolo Creek, 2 of Selway River, Lochsa River, South Fork Clearwater |
| Interior Columbia | Snake River | Snake River Steelhead | Grande Ronde | Wallowa River | Summer | Threatened | 1000 | Intermediate | Maintained |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Upper Grande Ronde River | Summer | Threatened | 1500 | Large | 1 Highly Viable and 1 Viable - Upper Grande Ronde, Joseph Creek or Lower Grande Ronde with all remaining extant populations maintained |
| | | | | Lower Grande Ronde River | Summer | Threatened | 1000 | Intermediate | 2 Highly Viable and 1 Viable - Upper Grande Ronde, Joseph Creek or Lower Grande Ronde with all remaining extant populations maintained |
| | | | | Joseph Creek | Summer | Threatened | 500 | Basic | 1 Highly Viable and 1 Viable - Upper Grande Ronde, Joseph Creek or Lower Grande Ronde |
| Interior Columbia | Snake River | Snake River Steelhead | Imnaha | Imnaha River | Summer | Threatened | 1000 | Intermediate | Highly Viable |
| Interior Columbia | Snake River | Snake River Steelhead | Lower Snake River | Tucannon River | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 1 Viable - Tucannon River and Asotin Creek |
| | | | | Asotin River | Summer | Threatened | 500 | Basic | 1 Highly Viable and 1 Viable - Tucannon River and Asotin Creek |
| Interior Columbia | Snake River | Snake River Steelhead | Salmon | Secesh | Summer | Threatened | 500 | Basic | 2 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |

| | | | | | | |
|---|---|---|---|---|---|---|
| | North Fork | Summer | Threatened | 500 | Basic | 7 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Pahsimeroi River | Summer | Threatened | 1000 | Intermediate | 10 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Little Salmon River | Summer | Threatened | 1000(500) | Intermediate(Basic) | 8 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Chamberlain Creek | Summer | Threatened | 500 | Basic | 3 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Lower Middle Fork | Summer | Threatened | 1000 | Intermediate | 4 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Upper Salmon Mainstem | Summer | Threatened | 1000 | Intermediate | 12 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Upper Salmon East Fork | Summer | Threatened | 1000(500) | Intermediate(Basic) | 11 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Lemhi | Summer | Threatened | 1000 | Intermediate | 9 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | Panther Creek | Summer | Threatened | 500 | Basic | 6 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Upper Middle Fork | Summer | Threatened | 1000 | Intermediate | 5 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| | | | | South Fork | Summer | Threatened | 1000 | Intermediate | 1 Highly Viable and 5 Viable - Upper Middle Fork, Chamberlin, South Fork Salmon, 2 additional Intermediate or Large populations, 1 additional population of any size: All remaining extant populations maintained |
| Interior Columbia | Snake River | Snake River Steelhead | Snake Hells Canyon | Weiser River | Summer | Threatened | NA | NA | If fish in these small tributaries are reminants of this MPG (versus hatchery strays) emphasize recovering this population |
| | | | | Burnt River | Summer | Threatened | NA | NA | If fish in these small tributaries are reminants of this MPG (versus hatchery strays) emphasize recovering this population |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Powder River | Summer | Threatened | NA | NA | If fish in these small tributaries are reminants of this MPG (versus hatchery strays) emphasize recovering this population |
| | | | | Hells Canyon | Summer | Threatened | NA | NA | If fish in these small tributaries are reminants of this MPG (versus hatchery strays) emphasize recovering this population |
| Interior Columbia | Upper Columbia River | Upper Columbia Steelhead | Eastern Cascades | Okanogan River (US Portion Only) | Summer | Threatened | 1000 | Intermediate | 2 Highly Viable and 1 Viable - Wenatchee River, Methow River, Entiat River, Okanogan River |
| | | | | Entiat | Summer | Threatened | 500 | Basic | 2 Highly Viable and 1 Viable - Wenatchee River, Methow River, Entiat River, Okanogan River |
| | | | | Methow | Summer | Threatened | 1000 | Intermediate | 2 Highly Viable and 1 Viable - Wenatchee River, Methow River, Entiat River, Okanogan River |
| | | | | Wenatchee | Summer | Threatened | 1000 | Intermediate | 2 Highly Viable and 1 Viable - Wenatchee River, Methow River, Entiat River, Okanogan River |
| | | | | Crab Creek | Summer | | 500 | Intermediate | Resident component maintained/reconsider as recovery efforts progress |

**Document:** **Walla Walla Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/120337/EntirePlan.pdf

**Overview:** The development of the Walla Walla Subbasin Plan included a number of organizations, agencies, and interested parties including the Walla Walla Watershed Planning Unit, the Walla Walla Basin Watershed Council, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, private landowners and others. The co-leads for this planning effort were Walla Walla County on behalf of the Walla Walla Watershed Planning Unit, and the Walla Walla Basin Watershed Council. The technical components of the assessment were developed by the Washington Department of Fish and Wildlife in conjunction with Oregon Department of Fish and Wildlife. The planning effort was guided by the Walla Walla Subbasin Planning Team which included representation from the leads, local resource managers, conservation districts, agencies, private landowners, and other interested parties. The vision statement and guiding principles for the management plan were formulated by the subbasin planning team through a collaborative and public process.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Total Return | Natural Return | Hatchery Return |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia River Spring Chinook | N/A | Walla Walla | Spring | Not Listed | 5000 (1)(2), 5500 (3)(4), 8625 (5)(6) | 2000 (1)(2), 3000 (3), 4500(5) | 3000 (1)(2), 2500 (3), 4125 (5) |

FOOTNOTES:
1. 1990 NPPC Subbasin Plan
2. 1996 CRITFC Spirit of the Salmon
3. 2001 NPPC Subbasin Summary
4. Only the CTUIR and ODFW agreed
5. 2004 CTUIR Draft Walla Walla Hatchery Master Plan
6. Reflects only CTUIR goals

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Total Return | Natural Return | Hatchery Return |
|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Umatilla/Walla Walla | Walla Walla | Summer | Threatened | 11000(1)(2), 4600-5600(3)(4) | 3000 (1)(2)(3) | 8000 (1)(2), 1600-2600 (3) |

FOOTNOTES:
1. 1990 NPPC Subbasin Plan
2. 1996 CRITFC Spirit of the Salmon
3. 2001 NPPC Subbasin Summary
4. Reflects only CTUIR goals

**Document:** **Washington Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan - Washington Management Plan in Lower Columbia River Recovery Plan for Salmon and Steelhead**

**Author:** Lower Columbia Fish Recovery Board **Document Year:** 2010

**Link:** http://media.wix.com/ugd/810197_ed97ad06e02445f5927163b568dccd3c.pdf

**Overview:** The Washington Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan - Washington Management Plan in Lower Columbia River Recovery Plan for Salmon and Steelhead provides for the recovery of Chinook, steelhead, coho, and chum in the lower Columbia River or its tributaries in Oregon and Washington.

Documents key in the development of the plan include the: 1) Oregon Lower Columbia Conservation and Recovery Plan for Salmon and Steelhead, 2) ESA Salmon Recovery Plan for the White Salmon River Subbasin, 3) Washington Lower Columbia Salmon Recovery and Fish and Wildlife Subbasin Plan, 4) Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead, and 5) Recovery Plan Module: Mainstem Columbia River Hydropower Projects. These documents provided a consistent set of assumptions and recovery actions that management unit recovery planners incorporated into their management unit plans.

The recovery scenarios in the management unit plans are largely consistent with the Willamette Lower Columbia Technical Recovery Team's recommendations at the stratum and ESU level. Exceptions are the Gorge fall Chinook, Gorge spring Chinook, and Gorge chum strata, where the recovery scenarios target only one population, instead of two, to achieve a high probability of persistence. As a way of mitigating for this increased risk in the Gorge strata, the recovery scenarios exceed the WLCTRT criteria in the Cascade fall Chinook, Cascade spring Chinook, and Cascade chum strata (i.e., more populations are targeted for viability than are needed to meet the 2.25 average). Oregon recovery planners suggested that the Gorge strata's historical status and population structure be reevaluated and that recovery goals be revised if modifications are made.

**Goal:**

*Broad Sense* The goal of this plan is recovery of all lower Columbia salmon and steelhead species to healthy and harvestable levels within 25 years. Health is defined based on species status. A species is considered healthy when it is recovered to viable levels where it is no longer in danger of extinction or likely to become endangered within the foreseeable future and can be removed from listing under ESA. A species is harvestable when it is viable and when fish numbers are sufficient to allow direct and sustainable sport, commercial, and tribal harvest without jeopardizing the species' viability.

*Overall* To return all lower Columbia salmon and steelhead populations to healthy and harvestable levels within 25 years.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Viability Objective | Productivity Improvement Target(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Kalama | Fall | Threatened | 500 | Contributing (1) | Moderate | 110 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Washougal | Fall | Threatened | 1200 | Primary | High+ | 190 |
| | | | | Lewis | Fall | Threatened | 1500 | Primary | High+ | 280 |
| | | | | Lower Cowlitz | Fall | Threatened | 3000 | Contributing | Moderate+ | 50 |
| | | | | Upper Cowlitz | Fall | Threatened | NA | Stabilizing | Very Low | NA |
| | | | | Toutle | Fall | Threatened | 4000 | Primary (2) | High+ | 265 |
| | | | | Coweeman | Fall | Threatened | 900 | Primary | High+ | 80 |
| | | | | Salmon | Fall | Threatened | NA | Stabilizing | Very Low | NA |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Late Fall | North Fork Lewis River | Late Fall | Threatened | 7300 | Primary | Very High | 0 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Spring | North Fork Lewis River | Spring | Threatened | 1500 | Primary | High | >500 |
| | | | | Tilton | Spring | Threatened | NA | Stabilizing | Very Low | 0 |
| | | | | Toutle | Spring | Threatened | 1100 | Contributing | Moderate | >500 |
| | | | | Upper Cowlitz | Spring | Threatened | 1800 | Primary | High+ | >500 |
| | | | | Kalama | Spring | Threatened | 300 | Contributing (1) | Low+ | >500 |
| | | | | Cispus | Spring | Threatened | 1800 | Primary | High+ | >500 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Coast Fall | Grays/Chinook | Fall | Threatened | 1000 | Contributing (1) | Moderate+ | 500 |
| | | | | Elochoman/Skamokawa | Fall | Threatened | 1500 | Primary | High | 150 |
| | | | | Mill/Abernathy/Germany | Fall | Threatened | 900 | Primary (2) | High | 155 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Lower Gorge | Fall | Threatened | 1200 | Contributing | Moderate | >500 |
| | | | | White Salmon | Fall | Threatened | 500 | Contributing | Moderate | >500 |
| | | | | Upper Gorge | Fall | Threatened | 1200 | Contributing (2) | Moderate | >500 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | White Salmon | Spring | Threatened | 500 | Contributing | Low+ | >500 |

FOOTNOTES:
(1) Reduction relative to Interim Plan
(2) Increase relative to Interim Plan

NOTES:
Designated as a historical core population by the Technical Recovery Ream: Lower Cowlitz, Toutle, Lewis NF (spring and late-fall), Upper Cowlitz, Cispus, Elochoman/Skamokawa, White Salmon (spring and fall) and Upper Gorge

Designated as a historical legacy population by the Technical recovery Team: Lewis, Coweeman, Lewis NF (late-fall), Upper Cowlitz, and Cispus

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Viability Objective | Productivity Improvement Target(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Cowlitz-Summer | | Threatened | 900 | Contributing | Moderate | >500 |
| | | | | Salmon | | Threatened | NA | Stabilizing | Very Low | 0 |
| | | | | Washougal | | Threatened | 1300 | Primary | High+ | >500 |
| | | | | Lewis | | Threatened | 1300 | Primary | High | >500 |
| | | | | Kalama | | Threatened | 900 | Contributing | Moderate | >500 |
| | | | | Cowlitz-Fall | | Threatened | 900 | Contributing | Moderate | >500 |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Coast | Mill/Abernathy /Germany | | Threatened | 1300 | Primary | High | >500 |
| | | | | Elochoman/Skamokawa | | Threatened | 1300 | Primary | High | >500 |
| | | | | Grays/Chinook | | Threatened | 1600 | Primary | Very High | 0 (1) |
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Lower Gorge | | Threatened | 2000 | Primary | Very High | 0 (1) |
| | | | | Upper Gorge | | Threatened | 900 | Contributing | Moderate | >500 |

FOOTNOTES:
(1) Improvement increments are based on abundance and productivity; however, this population will require improvements in spatial structure or diversity to meet recovery goals

NOTES:
Abundance targets were estimated by population viability simulations based on population viability objectives. This number refers to median abundance over any successive 12-year period which is consistent with species generation times and the moving three-year average basis for assessing risk in the population viability analysis.

Primary, contributing, and stabilizing designations reflect the relative contribution of a population to recovery goals and objective levels of viability consistent with recovery criteria.

Viability objective is based on the scenario contribution.

Productivity improvement target is defined as the relative increase in population production or density-independent recruits per spawner required to reach the population viability objective (e.g.,100% = baseline x 2). This improvement is the net benefit of actions across all limiting factors (habitat, harvest, hatchery, hydropower, estuary, ecological). Increments are relative to conditions prevalent at time of listing.

Designated as a historical core population by the Technical Recovery Team: Grays/Chinook, Elochoman/Skamokawa, Cowlitz (fall), Cowlitz (summer), Lewis, and Lower Gorge

Designated as a historical legacy population by the Technical Recovery Team: Grays/Chinook, and Lower Gorge

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Viability Objective | Productivity Improvement Target(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Washougal | Late-run (Type-N) | Threatened | 1500 | Contributing | Moderate + | >500 |
| | | | | Lower Cowlitz | Late-run (Type-N) | Threatened | 3700 | Primary | High | 100 |
| | | | | Upper Cowlitz | Late-run (Type-N) | Threatened | 2000 | Primary (1) | High (1) | >500 |
| | | | | Cispus | Early-run (Type-S)and Late-run (Type-N) | Threatened | 2000 | Primary (1) | High (1) | >500 |
| | | | | Tilton | Early-run (Type-S)and Late-run (Type-N) | Threatened | NA | Stabilizing (2) | Very Low (2) | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Toutle SF | Early-run (Type-S)and Late-run (Type-N) | Threatened | 1900 | Primary | High | 180 |
| | | | | Toutle NF | Early-run (Type-S)and Late-run (Type-N) | Threatened | 1900 | Primary | High | 180 |
| | | | | Coweeman | Late-run (Type-N) | Threatened | 1200 | Primary | High | 170 |
| | | | | Kalama | Late-run (Type-N) | Threatened | 500 | Contributing | Low | >500 |
| | | | | NF Lewis | Early-run (Type-S)and Late-run (Type-N) | Threatened | 500 | Contributing | Low | 50 |
| | | | | Salmon | Late-run (Type-N) | Threatened | NA | Stabilizing | Very Low | 0 |
| | | | | EF Lewis | Early-run (Type-S)and Late-run (Type-N) | Threatened | 2000 | Primary | High | >500 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Coast | Elochoman/Skamokawa | Late-run (Type-N) | Threatened | 2400 | Primary | High | 170 |
| | | | | Grays/Chinook | Late-run (Type-N) | Threatened | 2400 | Primary | High | 370 |
| | | | | Mill/Abernathy/Germany | Late-run (Type-N) | Threatened | 1800 | Contributing | Moderate | >500 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Upper Gorge | Late-run (Type-N) | Threatened | 1900 | Primary (1) | High | 400 |
| | | | | Lower Gorge | Late-run (Type-N) | Threatened | 1900 | Primary | High | 400 |

FOOTNOTES:
(1) Increase relative to Interim Plan
(2) Reduction relative to the Interim Plan

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance Target | Contribution | Viability Objective | Productivity Improvement Target(%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | Washougal | Summer | Threatended | 500 | Primary | High | 40 |
| | | | | Kalama | Summer | Threatended | 500 | Primary | High | 0 (1) |
| | | | | North Fork Lewis | Summer | Threatended | NA | Stabilizing | Very Low | 0 |
| | | | | East Fork Lewis | Summer | Threatended | 500 | Primary | High | >500 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Upper Cowlitz | Winter | Threatended | 500 | Primary | High (2) | >500 |
| | | | | Salmon | Winter | Threatended | NA | Stabilizing | Very Low | 0 |
| | | | | Washougal | Winter | Threatended | 350 | Contributing | Moderate | 15 |
| | | | | Cispus | Winter | Threatended | 500 | Primary | High (2) | >500 |
| | | | | Kalama | Winter | Threatended | 600 | Primary | High+ | 45 |
| | | | | East Fork Lewis | Winter | Threatended | 500 | Primary | High | 25 |
| | | | | Tilton | Winter | Threatended | 200 | Contributing | Low | >500 |
| | | | | South Fork Toutle | Winter | Threatended | 600 | Primary | High+ | 35 |
| | | | | North Fork Toutle | Winter | Threatended | 600 | Primary | High | 125 |
| | | | | Lower Cowlitz | Winter | Threatended | 400 | Contributing | Moderate | 5 |
| | | | | Coweeman | Winter | Threatended | 500 | Primary | High | 25 |
| | | | | North Fork Lewis | Winter | Threatended | 400 | Contributing | Moderate | >500 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Coast Winter | Elochoman/Skamokawa | Winter | Threatended | 600 | Contributing | Moderate+ | 0 (1) |
| | | | | Mill/Abernathy/Germany | Winter | Threatended | 500 | Primary | High | 0 (1) |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Grays/Chinook | Winter | Threatended | 800 | Primary | High | 0 (1) |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Wind | Summer | Threatended | 1000 | Primary | VH | 0 (1) |
| | | | | Upper Gorge | Winter | Threatended | NA | Stabilizing | Low | 0 |
| | | | | Lower Gorge | Winter | Threatended | 300 | Primary | High | 45 |

FOOTNOTES:
(1) Improvement increments are based on abundance and productivity; however, this population will require improvements in spatial structure or diversity to meet recovery objectives□

NOTES:□
Designated as a historical core population by the Technical Recovery Team: Washougal (summer), Kalama, Wind, NF Lewis, Cispus, and Upper Cowlitz□

Designated as a historical legacy population by the Technical recovery Team: Washougal (summer), EF Lewis, Cispus, and Upper Cowlitz

Wind population iIncrease relative to Interim Plan

**Document:** **Washington State Governor's Salmon Recovery Office - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Washington State Governor's Salmon Recovery Office, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

Add biological objectives that address the reintroduction of extirpated populations in non-blocked areas above Bonneville Dam.

(delete: Investigate reintroduction of) ( Add: Take action) to reintroduce anadromous fish into blocked areas, where feasible.

add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province (add: by 2024).

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement.Restore healthy characteristics.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (Add: Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.

**Document:** **Washougal Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21274/Vol_II_I__Washougal.pdf

**Overview:** The Washougal Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the Washougal River Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Cascade Fall | Washougal | Fall | Threatened | 5800 | High |

NOTES:
Primary population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Cascade | Washougal | | Threatened | 1100-9400 | High+ |

NOTES:
Primary population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Cascade | Washougal | Late-run (Type-N) | Threatened | 300 | Medium |

NOTES:
Contributing population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Summer | Washougal | Summer | Threatened | 500-900 | High+ |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Cascade Winter | Washougal | Winter | Threatened | 400-600 | Medium |

NOTES:
Winter - Contributing populaiton in recovery scenario
Summer - Primary populaiton in recovery scenario

**Document:** **WDFW - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** WDFW, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives**

Add explicit measurable biological objectives to support the more general Program goals consistent with ISAB recommendations (ISAB 2013-1). Also refer to Section 5 of this document, Species Focused Recommendations. These should integrate with the current Council high level indicators and would clarify how to report against current biological objectives.

Expand anadromous goals to the Subbasin and Province levels and add specific and measurable objectives for resident fish and wildlife to support high level indicators.

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

(add: As an interim goal, contribute to) achieving smolt-to-adult survival rates (SARs) in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead.

Restore the widest possible set of healthy, naturally reproducing and sustaining populations of salmon and steelhead in each relevant ecological province (add: by 2024).

Halt declining trends in Columbia River Basin salmon and steelhead populations (add: by 2024, especially those that originate above Bonneville Dam.) Significantly improve the smolt-to-adult return rates (SARs) for Columbia River Basin salmon and steelhead, resulting in productivity well into the range of positive population replacement. Restore healthy characteristics.

Within 100 years achieve population characteristics that, while fluctuating due to natural variability, represent on average full mitigation for losses of anadromous fish caused by development and operation of hydroelectric facilities in the Columbia Basin.

Increase total adult salmon and steelhead runs, in a manner consistent with achieving recovery of ESA listed populations and prevents additional listings of listed species, above Bonneville Dam by 2025 to an average of 5 million annually in a manner that supports tribal and non-tribal harvest, achieving smolt-to-adult return rates in the 2-6 percent range (minimum 2 percent; average 4 percent) for listed Snake River and upper Columbia salmon and steelhead. (Add: Increase total adult runs for listed lower Columbia salmon and steelhead to achieve 75 percent of recovery goals (NOAA-F (30) 2013) by 2025.

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**Document:** **Wenatchee Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/23001/MgmtPlan.pdf

**Overview:** The vision of the Wenatchee Subbasin Plan is to bring people together in a collaborative setting to improve communication, reduce conflicts, address problems, reach consensus and implement actions to improve coordinated natural resource management on private and public lands in the Wenatchee Subbasin. The strategy was to complete a science-based watershed management plan using watershed specific information ultimately leading towards compliance with the federal Endangered Species Act and Clean Water Act.

**Goal:**

*Overall* Restore, maintain, or enhance fish and wildlife populations to sustainable and harvestable levels, while protecting biological integrity and the genetic diversity of the species

Maintain existing high quality habitat and the native fish and wildlife populations inhabiting these areas

**Qualitative: Objectives**

Maintain populations at a level that allows meaningful opportunity for tribal and nontribal hunting and fishing rights

Restore populations to a point where they no longer require the protection of the ESA

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**Document:** **White Salmon Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners **Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/116777/EntirePlan.pdf

**Overview:** The White Salmon Subbasin Plan was developed with the vision of providing for healthy self-sustaining populations of fish and wildlife indigenous to the Columbia Basin that support harvest and other purposes. Decisions and recommendations during the planning process were made in a
community based, open and cooperative.
Lead entities for the development of the plan were the Yakama Nation, Klickitat County, and Washington Department of Fish and Wildlife.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity | Diversity Index % | Capacity |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | White Salmon | Fall | Threatened | Short-Term: 792; Long-Term: 995 | Short-Term: 3.7; Long-Term: 5.6 | Short-Term: 79; Long-Term: 94 | Short-Term: 1086; Long-Term: 1210 |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Spring | White Salmon | Spring | Threatened | Short-Term: 570; Long-Term: 814 | Short-Term: 3.1; Long-Term: 5.1 | Short-Term: 71; Long-Term: 99 | Short-Term: 835; Long-Term: 1013 |

NOTES:
WDFW objectives
Short-term biological objective under dam removal
Long-term biological objective under dam removal and PFC

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity | Diversity Index % | Capacity |
|---|---|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | White Salmon | Late - Type N | Threatened | Short-Term: 952, Long-Term: 1227 | Short-Term: 2, Long-Term: 3 | Short-Term: 15, Long-Term: 57 | Short-Term: 1898, Long-Term: 1828 |

NOTES:
WDFW objectives
Short-term biological objective under dam removal
Long-term biological objective under dam removal and PFC

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Abundance | Productivity | Diversity Index % | Capacity |
|---|---|---|---|---|---|---|---|---|---|---|
| Interior Columbia | Middle Columbia River | Middle Columbia Steelhead | Eastern Cascades | White Salmon | | | Short-Term: 301; Long-Term: 544 | Short-Term: 3.3; Long-Term: 7.1 | Short-Term: 78; Long-Term: 95 | Short-Term: 429; Long-Term: 633 |

NOTES:
WDFW objectives
Short-term biological objective under Condit Dam removal
Long-term biological objective under Condit Dam removal and PFC

**Document:** **Willamette Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/120503/EntirePlan.pdf

**Overview:** In April 2003, the Northwest Power and Conservation Council (NPCC) designated the Willamette Restoration Initiative (WRI) as the lead entity for developing the Willamette Subbasin Plan. The WRI has a 26-member Board of Directors drawn from all walks of life across the full extent of the basin. The WRI was established to develop and implement a long-range conservation plan for the Willamette River and its watershed. Completed in 2001, this conservation plan, called the Willamette Restoration Strategy, is the "Willamette chapter" of the Oregon Plan for Salmon and Watersheds. The Willamette Restoration Strategy identifies 27 critical actions needed to preserve and improve watershed health in the areas of water quality, water supply, habitat and hydrology, and institutions. Two of the actions call for more detailed identification of fish and wildlife conservation priorities and more integrated environmental planning. The development of the Willamette Subbasin Plan represents substantial progress for WRI in both these areas.

**Document:** **Wind Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/21277/Vol_II_J__Wind.pdf

**Overview:** The Wind Subbasin Plan describes a vision, strategy, and actions for recovery of listed salmon, steelhead, and trout species to healthy and harvestable levels, and mitigation of the effects of the Columbia River hydropower system in Washington lower Columbia River subbasins. The plan for the Wind River Subbasin describes implementation of the regional approach within this subbasin, as well as assessments of local fish populations, limiting factors, and ongoing activities that underlie local recovery or mitigation actions. The plan was developed in a partnership between the Lower Columbia Fish Recovery Board, Northwest Power and Conservation Council, federal agencies, state agencies, tribal nations, local governments, and others.

## Chinook

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Chinook | Gorge Fall | Wind | Fall | Threatened | 0-400 | Low |

NOTES:
Stabilizing population in recovery scenario

## Chum

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Columbia River Chum Salmon | Gorge | Wind | | Threatened | <100-1100 | Medium |

NOTES:
Contributing population in recovery scenario

## Coho

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia River Coho | Gorge | Wind | Late-run (Type-N) | Threatened | 600 | High |

NOTES:
Primary population in recovery scenario

## Steelhead

| Recovery Domain | Recovery Sub Domain | ESU/DPS | MPG | Population | Run | ESA Listed | Number Objective | Viability Objective |
|---|---|---|---|---|---|---|---|---|
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge | Wind | Winter | Threatened | 100 | Low+ |
| Willamette Lower Columbia | Lower Columbia River | Lower Columbia Steelhead | Gorge Summer | Wind | Summer | Threatened | 1200-1900 | High+ |

NOTES:
Winter - Stabilizing population in recovery scenario
Summer - Primary population in recovery scenario

**Document:** **Wy Kan Ush Mi Wa Kish Wit Spirit of the Salmon - The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs, and Yakama Tribes; 2014 Update**

**Author:** Columbia River Intertribal Fish Commission **Document Year:** 2014

**Link:** http://plan.critfc.org/assets/wy-kan-update.pdf

**Overview:** This document represents an update of the 1995 Wy-Kan-Ush-Mi Wa-Kish-Wit (Spirit of the Salmon): The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs, and Yakama Tribes. It supplements the original plan using an adaptive management framework to describe progress and needed modifications to the original recommendations. It also identifies and addresses new challenges with new science and policy.

The 1995 Spirit of the Salmon Plan and the 2014 Update cover the anadromous fish species of the Columbia River basin: salmon, steelhead, Pacific lamprey, and white sturgeon. The four tribes did not amend the original 1995 goals and objectives as part of the update. But as the Plan's "expiration date" of 2020 nears, the tribes indicated they will consider how many of these goals and objectives to carry forward unchanged, which ones need modification, and what new goals and objectives are appropriate. CRITFC notes, however, that the doubling goal of 4 million salmon by 2020 is ambitious and, given the challenges of our times, may be difficult to achieve.

**Goal:** *Overall* Reclaim the anadromous fish resource and the environment on which it depends for future generations.

Protect tribal sovereignty and treaty rights.

Emphasize strategies that rely on natural production and healthy river systems to achieve this goal.

Restore anadromous fishes to rivers and streams that support the historical, cultural and economic practices of the tribes. (These are generally areas above Bonneville Dam).

**Qualitative: Objectives**

Methow River escapement goal of 1500 natural origin coho.

Wenatchee River escapement goal of 1500 natural origin coho.

Yakima River total escapement goal of 5000 coho with 3500 of natural origin .

Hood River escapement goal of 205 natural origin spring Chinook.

Within 25 years, increase the total adult salmon returns above Bonneville Dam to 4 million annually and in a manner that sustains natural production to support tribal commercial as well as ceremonial and subsistence harvest opportunities.

Restore anadromous fishes to historical abundance in perpetuity.

Within 7 years, halt the declining trends in salmon, sturgeon, and lamprey populations originating upstream of Bonneville Dam.

**Document:** **Yakima Basin Fish and Wildlife Recovery Board - NPCC 2014 F&W Program Amendment Recommendation - Objectives**

**Author:** Yakima Basin Fish and Wildlife Recovery Board, Northwest Power and Conservation Council **Document Year:** 2013

**Link:** http://www.nwcouncil.org/media/6894057/4-Program-Objectives-staff-template-for-recommendation-summary-for-committee-101513-f.pdf

**Overview:** The Northwest Power Act directs the Northwest Power and Conservation Council (Council) to develop its program and make periodic major revisions by first requesting recommendations from the region's federal and state fish and wildlife agencies, appropriate Indian tribes (those within the basin) and other interested parties. The Council also takes comment from designated entities and the public on those recommendations. The Council then issues a draft amended program, initiating an extensive public comment period on the recommendations and proposed program amendments that includes extensive written comments, public hearings in each of the four states, and consultations with interested parties.

After closing the comment period and following a review and deliberation period, the Council adopts the revised program. The Council develops its final program on the basis of the amendment recommendations, information submitted in support of the recommendations, views and information obtained through public comment and participation, and consultation with the fish and wildlife agencies, tribes, Bonneville customers and others. The program amendments are not concluded until the Council adopts written findings as part of the program explaining its basis for adopting or not adopting program amendment recommendations.

In response to the Council's call for recommendations, a suite of qualitative and quantitative objectives were submitted to be consideration for adoption into the 2014 Fish and Wildlife Program.

**Qualitative: Objectives** Identify recovering all listed ESUs and DPSs to levels that meet recovery criteria in ESA-listed recovery plans as a Program goal.

**Document:** **Yakima Subbasin Plan**

**Author:** Northwest Power and Conservation Council and Partners

**Document Year:** 2004

**Link:** http://www.nwcouncil.org/media/23192/Supplement.pdf

**Overview:** The Yakima Subbasin Fish and Wildlife Planning Board guided the process for the development of the 2004 Yakima Subbasin Plan. The board identified the main objective as providing self-sustaining and harvestable populations. The board's vision for 2020 is that Yakima River Basin communities have restored the Yakima River Basin sufficiently to support self-sustaining and harvestable populations of indigenous fish and wildlife while enhancing the existing customs, cultures, and economies within the basin. Decisions that continuously improve the river basin ecosystem are made in an open and cooperative process that respects different points of view and varied statutory responsibilities, and benefits current and future generations.

The aquatic technical committee could not come to consensus on biological abundance targets for each of the focal species due to policy dilemmas. The board, in cooperation with NOAA Fisheries, will be setting steelhead recovery numbers for the Yakima Basin Regional Salmon Recovery Plan. Planners suggested that the recovery bar numbers would differ from the self-sustaining or harvestable abundance targets.

**Qualitative: Objectives**

Aquatic technical committee could not come to consensus on biological abundance targets for each of the focal species due to policy dilemmas.

To restore this watershed sufficiently to support self-sustaining and harvestable populations of indigenous fish and wildlife.