



# 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Average Abundance</u>	<u>Minimum Productivity</u>	<u>Role in Viability Scenario</u>
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# Quantitative and Qualitative Objectives

							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.

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>	<u>Hatchery Spawning Component</u>	<u>Total Spawning Component</u>
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 work out 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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.
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- (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



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**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>

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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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Adult Returns: Adult Returns (Natural Spawners)</u>	<u>Spawner to Spawner</u>	<u>Population Viability Status</u>
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+

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				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

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				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

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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 expired)	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

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				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:

- 1 - Includes hatchery fish
- 2 - ODFW and CTUIR objective
- 3 - Yakama Indian Nation project proposal 199506325
- 4 - Nez Perce Tribe objective
- 5 - Draft Recovery Plan
- 6 - WDFW objective
- 7 - Past Wells Dam
- 8 - Yakama Nation Master Plan
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## Chum

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Adult Returns: Adult Returns (Natural Spawners)</u>	<u>Spawner to Spawner</u>	<u>Population Viability Status</u>
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+

**FOOTNOTES:**

- 1 - Includes hatchery fish
- 2 - ODFW and CTUIR objective
- 3 - Yakama Indian Nation project proposal 199506325
- 4 - Nez Perce Tribe objective
- 5 - Draft Recovery Plan
- 6 - WDFW objective
- 7 - Past Wells Dam
- 8 - Yakama Nation Master Plan
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## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Adult Returns: Adult Returns (Natural Spawners)</u>	<u>Spawner to Spawner</u>	<u>Population Viability Status</u>
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

# Quantitative and Qualitative Objectives

				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

FOOTNOTES:

- 1 - Includes hatchery fish
- 2 - ODFW and CTUIR objective
- 3 - Yakama Indian Nation project proposal 199506325
- 4 - Nez Perce Tribe objective
- 5 - Draft Recovery Plan
- 6 - WDFW objective
- 7 - Past Wells Dam
- 8 - Yakama Nation Master Plan
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## Sockeye

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Adult Returns: Adult Returns (Natural Spawners)</u>
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

**FOOTNOTES:**

- 1 - Includes hatchery fish
- 2 - ODFW and CTUIR objective
- 3 - Yakama Indian Nation project proposal 199506325
- 4 - Nez Perce Tribe objective
- 5 - Draft Recovery Plan
- 6 - WDFW objective
- 7 - Past Wells Dam
- 8 - Yakama Nation Master Plan
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## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Adult Returns: Adult Returns (Natural Spawners)</u>	<u>Spawner to Spawner</u>	<u>Population Viability Status</u>
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+

# Quantitative and Qualitative Objectives

				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

# Quantitative and Qualitative Objectives

				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

# Quantitative and Qualitative Objectives

Interior Columbia	Middle Columbia River	Middle Columbia Steelhead	Yakima	Satus Creek	Summer	Threatened	NA	Delisting: 1000 Short-term: 1000 Long-term: 1500	>1.65	Viable
				Upper Yakima River	Summer	Threatened	NA	Delisting: 500 Short-term: 1500 Long-term: 7700	>1.2	Maintained
				Toppenish Creek	Summer	Threatened	NA	Delisting: 250 Short-term: 500 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 Short-term: 1500 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

# Quantitative and Qualitative Objectives

				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



# Quantitative and Qualitative Objectives

				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

FOOTNOTES:

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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.

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**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.

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**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 salmonids 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 focal 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.

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**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](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									
<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>	<u>Minimum Productivity</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

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

NOTES:  
Contributing population in recovery scenario

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	Cascade	Lower Cowlitz	Late-run (Type-N)	Threatened	600	High
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NOTES:  
Primary population in recovery scenario

**Steelhead**

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>	<u>Diversity Index %</u>	<u>Spawner Escapement</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>	<u>Diversity Index %</u>	<u>Spawner Escapement</u>
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

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Deschutes Eastside	Summer	Threatened	2400-2900	2.3	0.5	NA
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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

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**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

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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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No Recovery Domain      NA      NA      N/A      Clearwater      14000      Undefined

## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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 until better information is obtained on actual population size potentials. NPT Fisheries staff estimate is higher based on professional 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 work out 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](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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Threshold</u>	<u>Population Size</u>	<u>Productivity Threshold</u>	<u>Role in Recovery Scenario</u>
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# Quantitative and Qualitative Objectives

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/Wallo wa	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.

# Quantitative and Qualitative Objectives

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

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

# Quantitative and Qualitative Objectives

				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	Asofin 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



# Quantitative and Qualitative Objectives

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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Chinook	Coast Fall	Elochoman/Skamakowa	Fall	Threatened	1400	High

NOTES:  
Primary population in recovery scenario

## Chum

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Columbia River Chum Salmon	Coast	Elochoman/Skamakowa		Threatened	1100	High

NOTES:

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	Coast	Elochoman/Sk amokawa	Late-run (Type-N)	Threatened	600	High
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NOTES:  
Primary population in recovery scenario

**Steelhead**

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Lower Columbia Steelhead	Coast Winter	Elochoman/Sk amokawa	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\\_col/mbia/final\\_plan\\_documents/final\\_lcr\\_plan\\_june\\_2013\\_-corrected.pdf](http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/willamette_lowercol/lower_col/mbia/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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Target Persistence Probability</u>
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

# Quantitative and Qualitative Objectives

				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:  $[(1 - \text{CumulativeTarget}) - (1 - \text{CumulativeBaseline})] / [1 - \text{CumulativeBaseline}] \times 100$ . 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Target Persistence Probability</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Target Persistence Probability</u>
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# Quantitative and Qualitative Objectives

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
Elochoman/Sk amokawa	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:  $[(1-\text{CumulativeTarget})-(1-\text{CumulativeBaseline})]/[1-\text{CumulativeBaseline}] \times 100$ . 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 objective of High persistence probability for this population.

## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Target Persistence Probability</u>
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)

# Quantitative and Qualitative Objectives

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:  $[(1 - \text{CumulativeTarget}) - (1 - \text{CumulativeBaseline})] / [1 - \text{CumulativeBaseline}] \times 100$ . 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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Threshold</u>	<u>Size Category</u>	<u>Population Growth</u>	<u>Role in Viability Scenario</u>
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
				Pefit 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\\_colu\\_mbia/final\\_plan\\_documents/white\\_salmon\\_recovery\\_plan\\_june\\_2013.pdf](http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/willamette_lowercol/lower_colu_mbia/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
Interior Columbia	Middle Columbia River	Middle Columbia Steelhead	Eastern Cascades	White Salmon			500	Basic	1.56	NA

ESA De-listing Goals for 95% Probability of Persistence over 100 years

**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Estimated Spawners</u>	<u>Restoration Scenerio at 100%</u>	<u>Juv Outmigrant Abundance</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

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

NOTES:  
Primary population in recovery scenario

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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](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.

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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 work out the restoration and recovery of each species and population over time through implementation of the plan.



## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>NOAA Recovery Target</u>	<u>Target to allow Sport Fishing</u>	<u>Adult and Jack Returns</u>	<u>Smolts per Spawner</u>
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										
<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>NOAA Recovery Target</u>	<u>Target to allow Sport Fishing</u>	<u>Adult and Jack Returns</u>	<u>Smolts per Spawner</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

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

NOTES:  
Contributing population to recovery scenario

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

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**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 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 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.

**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.

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

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

NOTES:  
Contributing population in recovery scenario

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**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.

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Overall Risk Class</u>	<u>A&amp;P Gap</u>	<u>Contribution to Delisting</u>
							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	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	Sandy	Late-Fall	Threatened	3858	Very Low	2064	Primary
							Non-Broad Sense			
Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Chinook	Cascade	Spring	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
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**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Overall Risk Class</u>	<u>A&amp;P Gap</u>	<u>Contribution to Delisting</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Overall Risk Class</u>	<u>A&amp;P Gap</u>	<u>Contribution to Delisting</u>
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# Quantitative and Qualitative Objectives

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
Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	N/A	Broad Sense			5486	Very Low	5445	NA
				Upper Gorge/Hood River						
				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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Overall Risk Class</u>	<u>A&amp;P Gap</u>	<u>Contribution to Delisting</u>
							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](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 statute (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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>
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**

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Goal</u>	<u>Viability Goal</u>	<u>Scenario Contribution</u>
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

# Quantitative and Qualitative Objectives

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/Sk amokawa	Fall	Threatened	1400	High	Primary
				Grays/Chinoo k	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
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 stabilizing designations are based on priorities identified in the recovery scenario □  
 Viability goal is related to the scenario contribution □  
 Abundance goals are interpolated from current, viable, and/or potential numbers based on viability goals

## Chum

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Goal</u>	<u>Viability Goal</u>	<u>Scenario Contribution</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Goal</u>	<u>Viability Goal</u>	<u>Scenario Contribution</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Goal</u>	<u>Viability Goal</u>	<u>Scenario Contribution</u>
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

# Quantitative and Qualitative Objectives

				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/Sk amokawa	Winter	Not Listed	400	Medium	Contributing
				Mill/Abernathy /Germany	Winter	Not Listed	600	High	Primary
				Grays/Chinoo k	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

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Hood	Winter	Threatened	NA	High	Primary
Hood	Summer	Threatened	NA	High	Primary

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**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](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

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

NOTES:

## Chum

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

NOTES:

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	Gorge	Lower Gorge Tributaries	Late-run (Type-N)	Threatened	600	High
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NOTES:  
Primary population in recovery scenario

## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Adult Escapement</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Adult Escapement</u>
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](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										
<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>	<u>Minimum Productivity</u>	<u>Role in Viability Scenario</u>
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 constraints 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.

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**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.

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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.

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**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Designated Stronghold</u>	<u>Viability Threshold</u>	<u>Sustainable Escapement</u>	<u>Ecological Escapement</u>
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# Quantitative and Qualitative Objectives

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

# Quantitative and Qualitative Objectives

				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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Escapement Goals</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Escapement Goals</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Designated Stronghold</u>	<u>Viability Threshold</u>	<u>Sustainable Escapement</u>	<u>Ecological Escapement</u>
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

# Quantitative and Qualitative Objectives

				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

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

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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	Medium
				North Fork Lewis (Lower)	Summer	Threatened	150	Very Low
				East Fork Lewis	Winter	Threatened	600	High

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NOTES:  
Primary populations in recovery scenario

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**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.

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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.

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**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>

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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:** 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 returning 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 Okanogan Basin Study, the Thompson-Okanogan Land and Resources Management Plan, and the draft State of the Okanogan 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/Okanogan 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 Okanogan Lake. Improve survival of sockeye in the mainstem migration corridor
- Monitor and evaluate level of survival of Okanogan 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Adult Returns</u>	<u>Cohort Replacement Rate</u>	<u>Min No Naturally Produced Spawners</u>
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Interior Columbia	Upper Columbia	Upper Columbia River Sockeye	N/A	Okanogan	Not listed	58730 (1)	Greater than or equal 1 (2)	500 (2)
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FOOTNOTES:

(1) Canada objective

(2) Eight consecutive years

## Steelhead

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

FOOTNOTES:

(1) Adapted from NOAA fisheries interim recovery abundance and productivity for Methow

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**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.

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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:** 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](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



# Quantitative and Qualitative Objectives

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Threshold Abundance</u>	<u>Size Category</u>	<u>Minimum Productivity</u>	<u>Role in Viability Scenario</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Threshold Abundance</u>	<u>Size Category</u>	<u>Minimum Productivity</u>	<u>Role in Viability Scenario</u>
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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
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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>
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	Early and Late	Threatened	0-2000(Category 0), 2000-2300(Category 1), 2300-3400(Category 2), 3400-6800(Category 3), >6800(Category 4)	Large

# Quantitative and Qualitative Objectives

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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>
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

# Quantitative and Qualitative Objectives

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

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

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

## Steelhead

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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-to-adult 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](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.

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**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Population Size</u>	<u>Productivity Threshold</u>	<u>Restoration Goal</u>
										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 excluding Touchet 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Population Size</u>	<u>Productivity Threshold</u>	<u>Restoration Goal</u>
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)

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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](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.



<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>	<u>Hatchery Spawning Component</u>	<u>Total Spawning Component</u>
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

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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Long-Term Return</u>	<u>Natural Spawning Component</u>
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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)
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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](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)
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**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Total Return</u>	<u>Natural Return</u>	<u>Hatchery Return</u>
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)
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**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Total Return</u>	<u>Natural Return</u>	<u>Hatchery Return</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Total Return</u>	<u>Natural Return</u>	<u>Hatchery Return</u>
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.

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum 12-yr Geometric Mean Spawners</u>	<u>Minimum 12-yr Geometric Mean Spawners:Spawners(1)</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum 12-yr Geometric Mean Spawners</u>	<u>Minimum 12-yr Geometric Mean Spawners:Spawners(1)</u>
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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)

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**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](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 Columbia River 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia Steelhead	N/A	Upper Gorge	Winter	Threatened	100	Low+
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NOTES:  
Includes Wind River and upper Gorge tributaries  
Stabilizing population in recovery scenario

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**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 measurable 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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Extinction Risk</u>	<u>Modeled Abundance</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Extinction Risk</u>	<u>Modeled Abundance</u>
Willamette Lower Columbia	Willamette River	Upper Willamette Steelhead	Willamette	South Santiam	Winter	Threatened	Low	3912

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North Santiam	Winter	Threatened	Low	8362
Molalla	Winter	Threatened	Low	3226
Calapooia	Winter	Threatened	Moderate	5512

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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Population Weighted Area</u>	<u>Role in Viability Scenario</u>
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 populations 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 populations 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 populations 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 populations Maintained
				Lookingglass Creek (functionally extirpated)	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 populations 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 populations Maintained
Interior Columbia	Snake River	Snake River Spring/Summer Chinook	Lower Snake River	Tucannon River	Spring	Threatened	750	Intermediate	Highly Viable

# Quantitative and Qualitative Objectives

				Asotin River (functionally extint)	Spring	Basic	500	Basic	Consider for reintroduction as recovery efforts progress
Interior Columbia	Snake River	Snake River Spring/Summe r 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

# Quantitative and Qualitative Objectives

				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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Size Category</u>	<u>Role in Viability Scenario</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Minimum Abundance Threshold (MAT)</u>	<u>Population Weighted Area</u>	<u>Role in Viability Scenario</u>
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

# Quantitative and Qualitative Objectives

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 remnants of this MPG (versus hatchery strays) emphasize recovering this population
				Burnt River	Summer	Threatened	NA	NA	If fish in these small tributaries are remnants of this MPG (versus hatchery strays) emphasize recovering this population

				Powder River	Summer	Threatened	NA	NA	If fish in these small tributaries are remnants of this MPG (versus hatchery strays) emphasize recovering this population
				Hells Canyon	Summer	Threatened	NA	NA	If fish in these small tributaries are remnants 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Total Return</u>	<u>Natural Return</u>	<u>Hatchery Return</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Total Return</u>	<u>Natural Return</u>	<u>Hatchery Return</u>
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
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**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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Viability Objective</u>	<u>Productivity Improvement Target(%)</u>
Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Chinook	Cascade Fall	Kalama	Fall	Threatened	500	Contributing (1)	Moderate	110

# Quantitative and Qualitative Objectives

				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
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**FOOTNOTES:**

- (1) Reduction relative to Interim Plan□
- (2) Increase relative to Interim Plan□

**NOTES:**

Designated as a historical core population by the Technical Recovery Team: 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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Viability Objective</u>	<u>Productivity Improvement Target(%)</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Viability Objective</u>	<u>Productivity Improvement Target(%)</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance Target</u>	<u>Contribution</u>	<u>Viability Objective</u>	<u>Productivity Improvement Target(%)</u>
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)

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				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 increase 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.



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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:** 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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Chinook	Cascade Fall	Washougal	Fall	Threatened	5800	High

NOTES:  
Primary population in recovery scenario

## Chum

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Columbia River Chum Salmon	Cascade	Washougal		Threatened	1100-9400	High+

NOTES:  
Primary population in recovery scenario

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	Cascade	Washougal	Late-run (Type-N)	Threatened	300	Medium
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NOTES:  
Contributing population in recovery scenario

**Steelhead**

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

**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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>	<u>Diversity Index %</u>	<u>Capacity</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>	<u>Diversity Index %</u>	<u>Capacity</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Abundance</u>	<u>Productivity</u>	<u>Diversity Index %</u>	<u>Capacity</u>
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](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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
Willamette Lower Columbia	Lower Columbia River	Columbia River Chum Salmon	Gorge	Wind		Threatened	<100-1100	Medium

NOTES:  
Contributing population in recovery scenario

## Coho

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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Willamette Lower Columbia	Lower Columbia River	Lower Columbia River Coho	Gorge	Wind	Late-run (Type-N)	Threatened	600	High
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NOTES:  
Primary population in recovery scenario

**Steelhead**

<u>Recovery Domain</u>	<u>Recovery Sub Domain</u>	<u>ESU/DPS</u>	<u>MPG</u>	<u>Population</u>	<u>Run</u>	<u>ESA Listed</u>	<u>Number Objective</u>	<u>Viability Objective</u>
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.

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**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.

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