

# ENDANGERED SPECIES ACT CONSIDERATIONS

## LSRCP's Steelhead Programs and the ESA

ISRP Steelhead Program Review

Boise, January 21-24, 2025

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# ENDANGERED SPECIES ACT CONSIDERATIONS

- ESA Listed and Unlisted Hatchery Programs
- Steelhead Program Consultations
- 5-year Status Review Findings



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# ESA Status of Hatchery Programs

- Listed Populations/Stocks (6 plus Touchet)
- Unlisted Populations/Stocks (4\*)

\* Snake River Basin only and not including other Mid-Columbia hatchery programs



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# ESA Listed Hatchery Programs

- Touchet Endemic Program\*
- Tucannon River\*
- Little Sheep/ Imnaha\*
- EF Salmon River Natural Program\*
- Dworshak NFH
- Salmon River B-run\*
- SF Clearwater B-run\*

\* LSRCP associated programs



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# Unlisted Hatchery Programs

- Lyons Ferry NFH\*
- Wallowa Hatchery \*
- Hells Canyon Snake River A-run
- Pahsimeroi Hatchery A-run
- Upper Salmon River A-run\*
- Streamside Incubator Project A-run
- Little Salmon River A-run\*

\* LSRCP associated programs



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# All Programs Currently Operating Under BiOps

- LSRCP Steelhead BiOps
  - NOAA (3 Geographically Based BiOps)
    - Section 10 Permits and Section 4(d) Authorizations
  - FWS (4 Geographically Based BiOps)
- <https://www.fws.gov/media/lsrcp-related-esa-compliance>



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# All Programs Currently Operating Under NOAA BiOps

- NOAA (3 Geographically Based BiOps)
  - Nine Snake River and Kelt Reconditioning (12/2017; reinitiated 7/2020 ) – Idaho programs
  - Four Lower Snake River (7/2017) – NEOR/SEWA programs
  - Mid-Columbia River Steelhead and Spring Chinook (2/2018; reinitiated 4/2019) – Touchet program



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# All Programs Currently Operating Under FWS BiOps

- FWS (3 Geographically Based BiOps)
  - NEOR/SEWA (08/2016) - Steelhead, sp/su chinook, and rainbow trout
  - Hells Canyon/Salmon River (12/2017) - Steelhead and sp/su chinook
  - Clearwater (12/2017) - Steelhead, sp/su chinook, and coho
  - Touchet/Walla Walla (09/2018) - Steelhead



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# NOAA BiOps

- Proposed Action
  - Represented by the Hatchery Genetic Management Plans (HGMPs)
  - Straying work groups



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# NOAA BiOps

- Straying Work Groups

In addition to the research, monitoring and evaluation (RM&E) described in Table 5 the applicants propose developing and participating on a workgroup to evaluate the ecological and genetic effects of steelhead straying in the Snake River Basin. The goals of the workgroup are to (1) improve estimation of hatchery-origin steelhead spawning naturally with ESA-listed steelhead populations, and (2) develop biologically acceptable limits for hatchery-origin steelhead that spawn naturally with non-target ESA-listed steelhead populations. Members of the workgroup have already been assigned meetings have taken place regularly since March 2017. The results from workgroup-generated efforts are intended to enhance program assessments/evaluations to allow for adaptive management of ongoing steelhead programs throughout the Snake Basin.



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# NOAA BiOps

- Consolidated release of A-run to Sawtooth Hatchery

The Upper Salmon A-run program began in 1985 to mitigate for the four lower Snake River Dams. Broodstock for this program originated from fish returning to the Snake and Salmon Rivers, and are collected at Sawtooth Fish Hatchery. Historically, fish from this program were released at five mainstem Salmon River sites in addition to releases at Sawtooth Fish Hatchery. The current proposal consolidates all the release locations to just Sawtooth Fish Hatchery. A portion of this program continues to be a part of the *U.S. v. Oregon* Management Agreement.



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# NOAA BiOps

Table 1. Programs included in the Proposed Action and ESA coverage pathway requested.

Program	HGMP Receipt	Program Operator <sup>1</sup>	Funding Source	Program Type and Purpose	ESA Pathway
Steelhead Streamside Incubator (SSI) Project	June 2010	SBT	TBD <sup>2</sup>	Segregated Supplementation	4(d) Tribal rule
Dworshak National Fish Hatchery B-Run Steelhead	April 2010	NPT and USFWS	ACOE, USFWS, and LSRCP <sup>3</sup>	Segregated Harvest	Section 7
East Fork Salmon Natural A-run Steelhead	December 2009	IDFG	LSRCP	Integrated Recovery	4(d) Limit 6
Hells Canyon Snake River A-run Summer Steelhead	September 2011	IDFG	IPC	Segregated Harvest	4(d) Limit 6
Little Salmon River A-run Summer Steelhead	September 2011	IDFG	IPC and LSRCP	Segregated Harvest	4(d) Limit 6
Pahsimeroi A-run Summer Steelhead	September 2011	IDFG	IPC	Segregated Harvest	4(d) Limit 5
South Fork Clearwater (Clearwater Hatchery) B-Run Steelhead	November 2011	IDFG	LSRCP	Segregated Harvest	4(d) Limit 6
Upper Salmon River A-Run Steelhead	November 2011	IDFG	LSRCP	Segregated Harvest	Section 7
Salmon River B-Run Steelhead	November 2011	IDFG and SBT	LSRCP	Segregated Harvest	4(d) Limit 5
Snake River Kelt Reconditioning	Not Applicable	NPT	CRITFC and BPA	Kelt Reconditioning	4(d) Tribal rule

<sup>1</sup> Primary operators are listed, but all programs are coordinated between Idaho, Tribes, and Federal agencies collectively. Operators and funders are: U.S. Fish and Wildlife Service (USFWS), USFWS Lower Snake River Compensation Plan Office (LSRCP), Idaho Power Company (IPC), U.S. Army Corps of Engineers (ACOE), Idaho Fish and Game (IDFG), Nez Perce Tribe (NPT), Shoshone-Bannock Tribes (SBT), Bonneville Power Administration (BPA), and the Columbia River Inter-Tribal Fish Commission (CRITFC); TBD = To be decided.

<sup>2</sup> Future funding sources for the SSI program are under consideration. Past funders include: Bureau of Indian Affairs (638 Grant program); BPA; LSRCP; Pacific Coastal Salmon Recovery Fund.

<sup>3</sup> FWS shares in facility operation costs at DNFH, and LSRCP shares in infrastructure repair/replacement costs at DNFH; these costs support both the COE steelhead and LSRCP spring Chinook programs at this facility.



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# NOAA BiOps

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East Fork Salmon Natural A-run Steelhead	December 2009	IDFG	LSRCP	Integrated Recovery	4(d) Limit 6
Hells Canyon Snake River A-run Summer Steelhead	September 2011	IDFG	IPC	Segregated Harvest	4(d) Limit 6
Little Salmon River A-run Summer Steelhead	September 2011	IDFG	IPC and LSRCP	Segregated Harvest	4(d) Limit 6
Panther Creek A-run Summer Steelhead	September 2011	IDFG	IPC	Segregated Harvest	4(d) Limit 5
South Fork Clearwater (Clearwater Hatchery) B-Run Steelhead	November 2011	IDFG	LSRCP	Segregated Harvest	4(d) Limit 6
Upper Salmon River A-Run Steelhead	November 2011	IDFG	LSRCP	Segregated Harvest	Section 7
Salmon River B-Run Steelhead	November 2011	IDFG and SBT	LSRCP	Segregated Harvest	4(d) Limit 5
Snake River Kelt Reconditioning	Not Applicable	NPT	CRITFC and BPA	Kelt Reconditioning	4(d) Tribal rule

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# NOAA BiOps

**Table 1. Programs included in the Proposed Action and ESA coverage pathway requested.**

Program	HGMP Receipt	Program Operator*	Funding Agency	Program Type and Purpose	ESA Pathway
Grande Ronde Basin Summer Steelhead	May 2011	ODFW	USFWS**	Segregated Harvest	Section 7
Little Sheep Creek Summer Steelhead	May 2011	ODFW	USFWS**	Integrated Supplementation	Section 10(A)(1)(a)
Lyons Ferry Summer Steelhead	March 21, 2011	WDFW	USFWS**	Segregated Harvest	Section 7
Tucannon River Summer Steelhead	January 24, 2011	WDFW	USFWS**	Integrated Supplementation	Section 10(A)(1)(a)

\*Primary operators are listed, but all programs are coordinated between the Oregon Department of Fish and Wildlife (ODFW), Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Nez Perce Tribe (NPT), and the Washington Department of Fish and Wildlife (WDFW).

\*\*The USFWS is the funding agency through the Lower Snake River Compensation Plan



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# NOAA BiOps

Table 1. Middle Columbia River HGMPs and the program operators.

Hatchery and Genetics Management Plan	Operator	ESA Pathway
Touchet River Endemic Summer Steelhead	WDFW	Section 4(d) Limit 5
Walla Walla Hatchery Spring Chinook Salmon	CTUIR and WDFW	Section 7
Umatilla River Summer Steelhead	CTUIR and ODFW	Section 4(d) Limit 5
Round Butte Hatchery Spring Chinook Salmon	ODFW and CTWS	Section 4(d) Limit 5
Touchet River Spring Chinook Salmon	WDFW	Section 7



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# NOAA BiOps

- Six Factors that NOAA evaluates these programs under
  - Removal of fish from natural population
  - pHOS/weirs (e.g., straying)
  - Competition (rearing areas and migration corridors)
  - Research, monitoring, and evaluation
  - Facility Operations
  - Fisheries



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# NOAA BiOps

- Reasonable and Prudent Measures (RPM)
- Terms and Conditions
  - Implementation
  - Reporting
    - Hatchery Environment
    - Natural Environment
- Conservation Recommendations



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# Snake River and Kelt Reconditioning – Reasonable and Prudent Measure

5. NMFS shall ensure that all applicants review the hatchery programs included in the Proposed Action every five years beginning in 2025 to identify any new information gaps, discuss any changes to the Proposed Action, and review requested information.



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# Snake River and Kelt Reconditioning –Terms and Conditions

- d. The ACOE will coordinate with USFWS, NPT, and NMFS' Environmental Services Branch to bring the DNFH North Fork river intake screen system into compliance with NMFS' most recent passage and screening criteria. The ACOE intends to solicit funds for re-design to meet NMFS design criteria in 2023. Once the design is completed, the ACOE will have an estimate for the construction cost and the necessary funding request to support construction will be initiated.
- e. Continuing to work collaboratively with operators on weir/adult management in Yankee Fork to ensure that the majority of the steelhead run can be managed.



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# NEOR/SEWA –Terms and Conditions

- d. By December 31, 2018, initiate discussions of infrastructure needs (e.g., additional rearing vessels) at LFH to improve management and evaluation opportunities for steelhead hatchery programs (relative to concerns regarding wild steelhead populations). It is understood that management of multiple programs (species and stocks) occurs at LFH, and that these programs need to be accommodated.
- e. Continue discussions with partners (e.g., NMFS, WDFW, and BPA) to determine responsible party (or parties) for funding and implementation of a small stream monitoring program associated with the Tucannon steelhead population in the lower Snake River mainstem; monitoring would focus on adult escapement, by origin into select Snake River tributaries. A decision or strategy for long-term monitoring will be coordinated with entities associated with the Federal Columbia River Power System consultation effort by the end of 2018.



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# Touchet River –Terms and Conditions

- d. Developing a Gene Flow Management Plan with applicable parties and approved by NMFS prior to increasing the size of the Touchet steelhead program above the current production of 50,000 smolts.



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# 2022 Five Year Status Reviews

- Section 4(c)(2) under the Endangered Species Act requires listing classification reviews every 5 years
- Last done in 2022



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# 2022 Five Year Status Reviews

- A 5-year review is:
  - A summary of best available information
  - Tracks progress towards recovery
  - Is an opportunity to recognize partners working on recovery
  - A recommendation on whether to reclassify
- A 5-year review is not:
  - A justification of the original (or any subsequent) listing action;
  - A process that requires new data;
  - A rulemaking – must do a proposed and final rule process to reclassify a species.



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# West Coast Recovery Domains

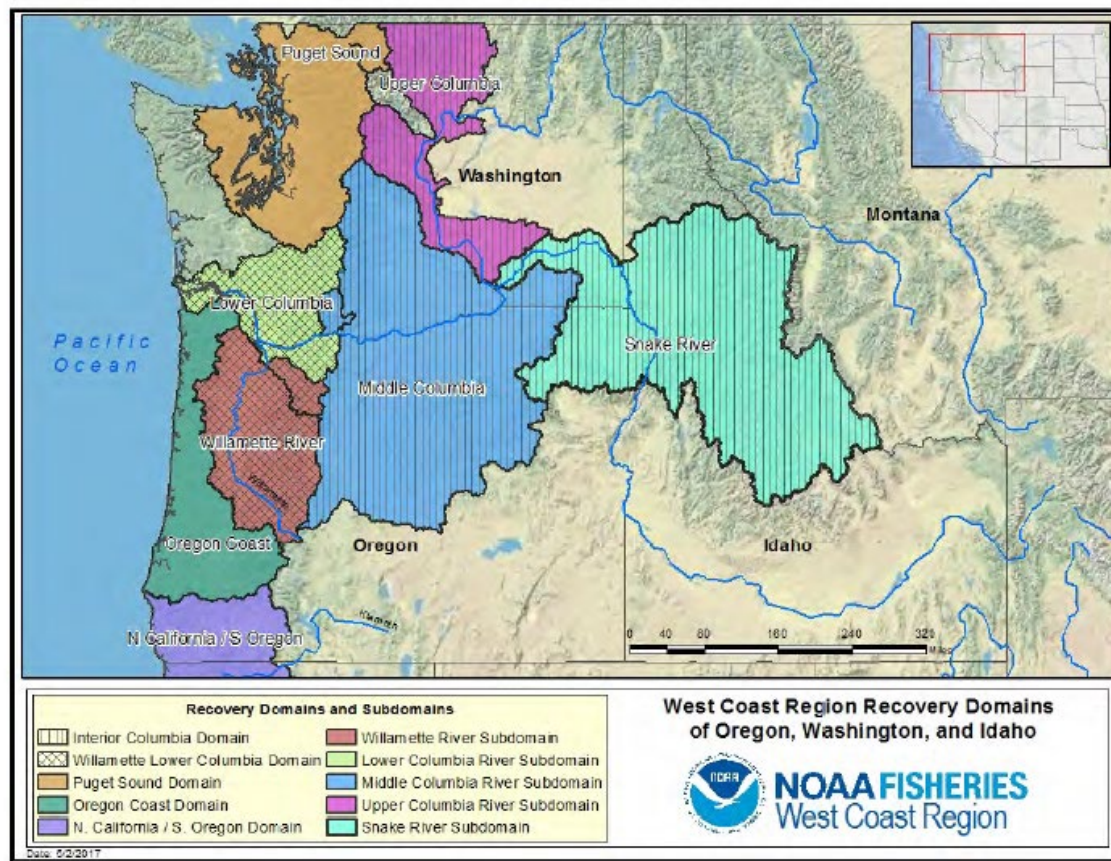


Figure 1-3. NMFS West Coast Region recovery domains of Oregon, Washington, and Idaho.



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# Snake River Basin Steelhead Distinct Population Segment (DPS)

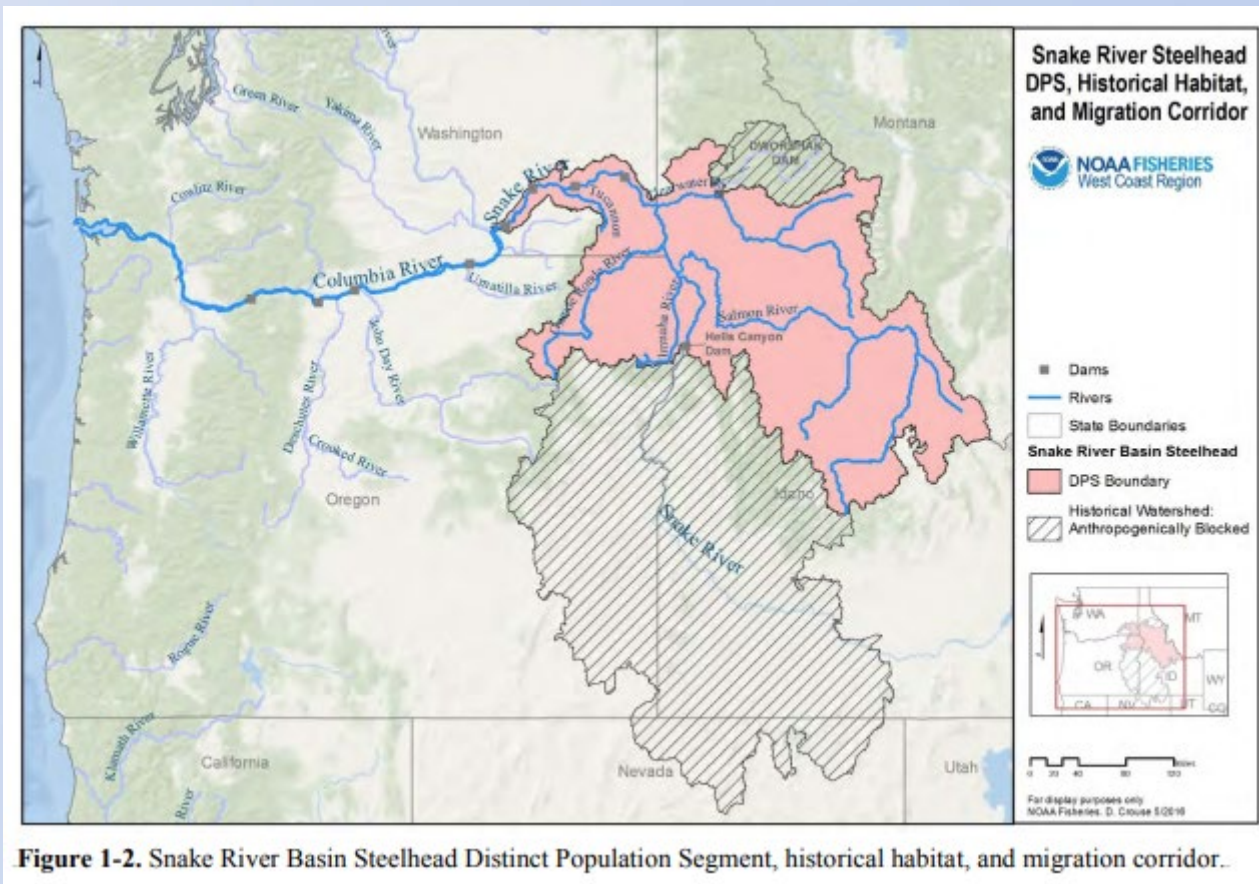


Figure 1-2. Snake River Basin Steelhead Distinct Population Segment, historical habitat, and migration corridor.

# Snake River MPG



**Figure 2-7.** Major Population Groups and Populations of Snake River Basin steelhead. \*extirpated populations  
\*\*functionally extirpated populations.

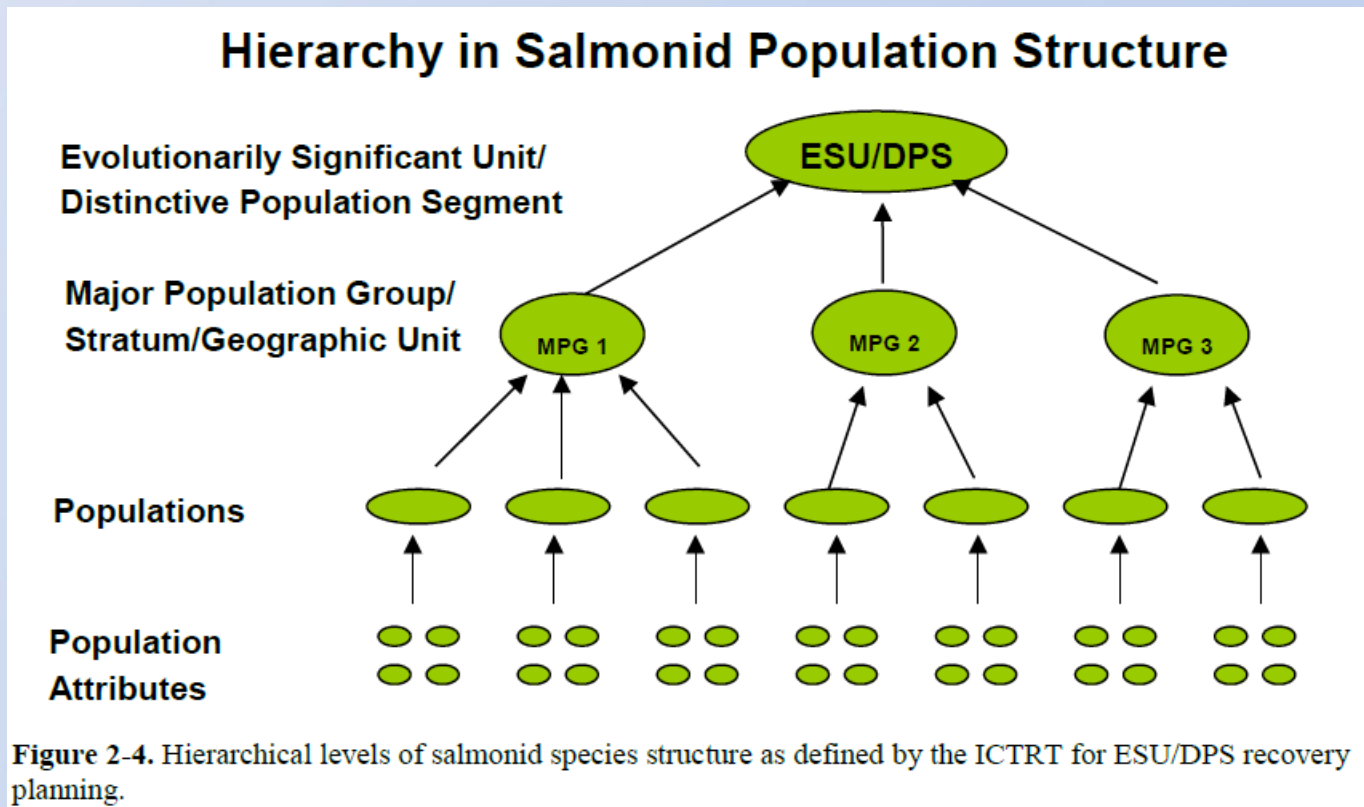


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# Steelhead Population Structure



**Figure 2-4.** Hierarchical levels of salmonid species structure as defined by the ICTRT for ESU/DPS recovery planning.



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# Lower Snake River Viability Criteria

Risk Rating for Abundance/Productivity	Risk Rating for Spatial Structure and Diversity				
		Very Low	Low	Moderate	High
	Very Low (<1%)	Highly Viable	Highly Viable	Viable	Maintained
	Low (1–5%)	Viable	Viable	Viable	Maintained
	Moderate (6–25%)	Maintained	Maintained	Maintained	High Risk
				<i>Lwr Snake R. (Tucannon, Asotin)</i>	
	High (>25%)	High Risk	High Risk	High Risk	High Risk
				<i>Tucannon R.</i>	

**Figure 3.** Lower Snake River MPG population risk ratings integrated across the four VSP parameters. Viability key: Dark Green = highly viable; Green = viable; Orange = maintained; and Red = high risk (does not meet viability criteria) (Ford 2022, Table 23, p. 104).



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# Grand Ronde River Viability Criteria

Risk Rating for Abundance/Productivity	Risk Rating for Spatial Structure and Diversity				
		Very Low	Low	Moderate	High
	Very Low (<1%)	Highly Viable	Highly Viable	Viable	Maintained
				Upper Gr Ronde	
	Low (1–5%)	Viable	Viable	Viable	Maintained
			Joseph Creek		
	Moderate (6–25%)	Maintained	Maintained	Maintained	High Risk
	High (>25%)	High Risk	High Risk	High Risk	High Risk
			Wallowa	Lower Gr Ronde.	

**Figure 4.** Grand Ronde River MPG population risk ratings integrated across the four VSP parameters. Viability key: Dark Green = highly viable; Green = viable; Orange = maintained; and Red = high risk (does not meet viability criteria) (Ford 2022, Table 23, p. 104).



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# Imnaha River Viability Criteria

Risk Rating for Abundance/Productivity	Risk Rating for Spatial Structure and Diversity				
		Very Low	Low	Moderate	High
	Very Low (<1%)	Highly Viable	Highly Viable	Viable	Maintained
				<i>Imnaha</i>	
	Low (1–5%)	Viable	Viable	Viable	Maintained
	Moderate (6–25%)	Maintained	Maintained	Maintained	High Risk
	High (>25%)	High Risk	High Risk	High Risk	High Risk

Figure 5. Imnaha River MPG population risk ratings integrated across the four VSP parameters. Viability key: Dark Green = highly viable; Green = viable; Orange = maintained; and Red = high risk (does not meet viability criteria) (Ford 2022, Table 23, p. 104).



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# Clearwater River Viability Criteria

Risk Rating for Abundance/Productivity	Risk Rating for Spatial Structure and Diversity				
		Very Low	Low	Moderate	High
	Very Low (<1%)	Highly Viable	Highly Viable	Viable	Maintained
			<i>Lower Main Clearwater R.</i>	<i>SF Clearwater R.</i>	
	Low (1–5%)	Viable	Viable	Viable	Maintained
	Moderate (6–25%)	Maintained	Maintained	Maintained	High Risk
			<i>Selway R. Lochsa R.</i>		
	High (>25%)	High Risk	High Risk	High Risk	High Risk
				<i>LoLo Creek</i>	

**Figure 6.** Clearwater River MPG population risk ratings integrated across the four VSP parameters. The Lolo Creek population was disaggregated from the Selway and Lochsa populations (see explanation in the MPG discussion). Viability key: Dark Green = highly viable; Green = viable; Orange = maintained; and Red = high risk (does not meet viability criteria) (Ford 2022, Table 23, p. 104).



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# Salmon River Viability Criteria

Risk Rating for Abundance/Productivity	Risk Rating for Spatial Structure and Diversity				
		Very Low	Low	Moderate	High
	Very Low (<1%)	Highly Viable	Highly Viable	Viable	Maintained
				<i>Little Salmon R.</i>	
	Low (1–5%)	Viable	Viable	Viable	Maintained
	Moderate (6–25%)	Maintained	Maintained	Maintained	High Risk
			<i>SF Salmon R.</i> <i>Secesh R.</i> <i>Chamberlain Cr.</i> <i>Lwr MF Salmon R.</i> <i>Upr MF Salmon R.</i>	<i>NF Salmon R.</i> <i>Lemhi R.</i> <i>Pahsimeroi R.</i> <i>EF Salmon R.</i> <i>Upr Main Salmon R.</i>	<i>Panther Creek</i>
	High (>25%)	High Risk	High Risk	High Risk	High Risk

**Figure 7.** Salmon River MPG population risk ratings integrated across the four VSP parameters. Viability key: Dark Green = highly viable; Green = viable; Orange = maintained; and Red = high risk (does not meet viability criteria) (Ford 2022, Table 23, p. 104).



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# West Coast Recovery Domains

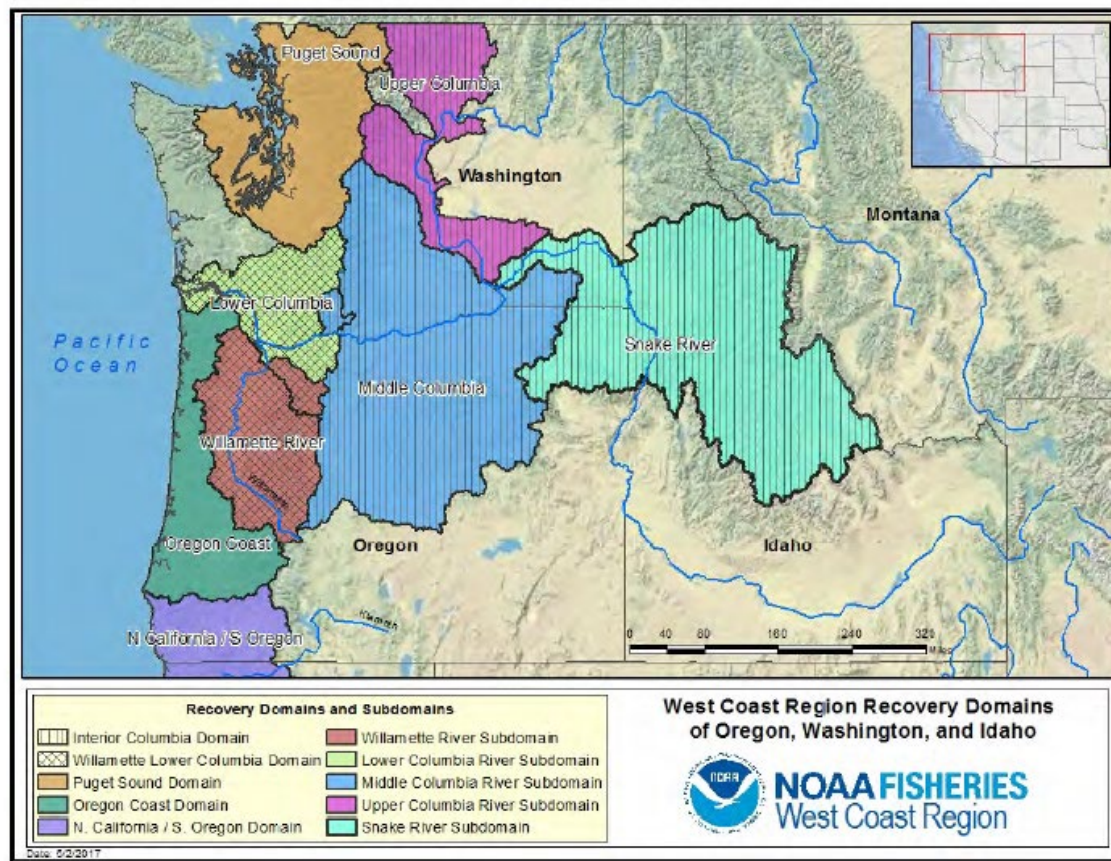


Figure 1-3. NMFS West Coast Region recovery domains of Oregon, Washington, and Idaho.

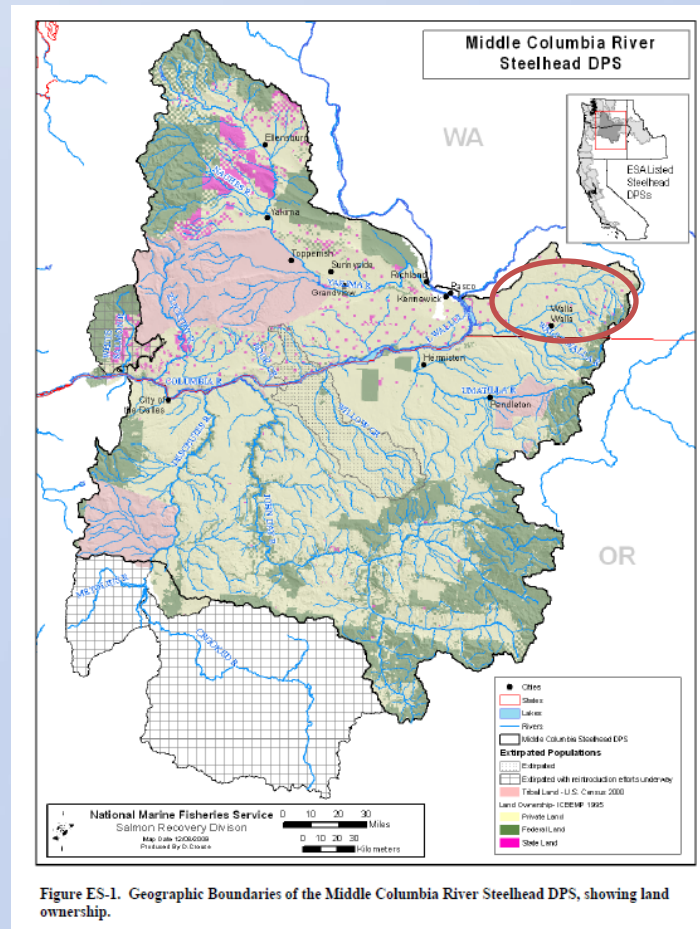


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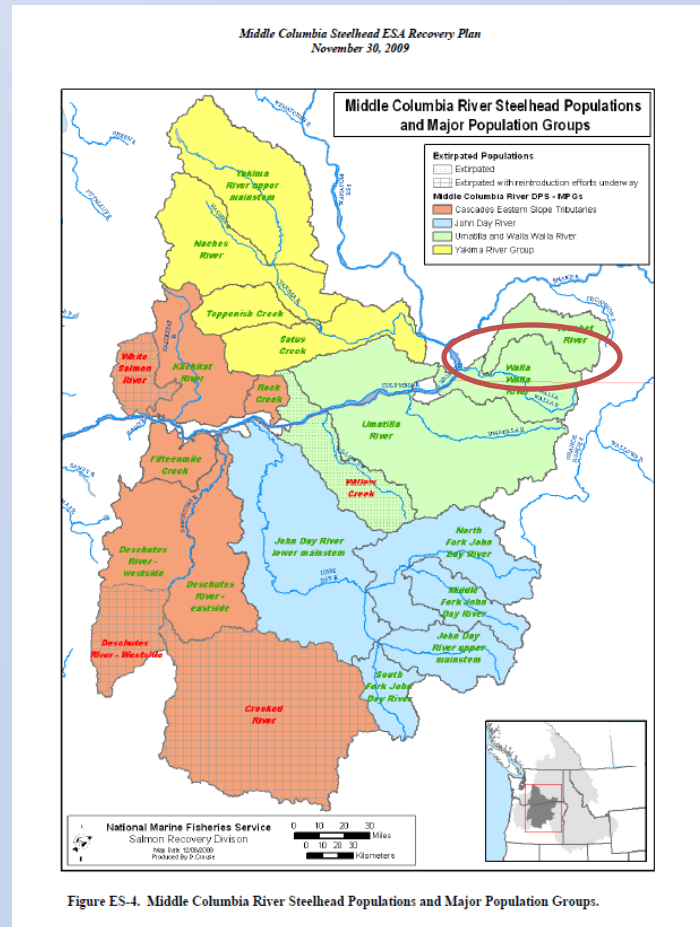
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# Mid-Columbia Steelhead DPS



# Mid Columbia MPG



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# Why the Touchet?

Lyons Ferry FH rears fish for release from three satellite acclimation/final rearing ponds and for direct releases into several southeast Washington streams. The three ponds are Cottonwood Pond on the lower Grande Ronde River, Curl Lake on the Tucannon River, and Dayton Pond on the Touchet River. Dayton Pond, as well as several other nearby stream release sites, are in the Walla Walla River basin which is outside the Snake River basin. WDW selected streams for releases outside the Snake River because of the paucity of suitable anadromous fish streams in southeast Washington. All adult trapping for the brood fish was to occur at Lyons Ferry FH. However, a new floating weir at Tucannon FH capable of operation during the entire steelhead run will also allow broodstock to be taken there.



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# Touchet River Viability Criteria

Risk Rating for Abundance/Productivity		Risk Rating for Spatial Structure and Diversity			
		Very Low	Low	Moderate	High
	Very Low (<1%)				
	Low (1–5%)				
	Moderate (6–25%)			<i>Umatilla R. Walla Walla R.</i>	
	High (>25%)			<i>Touchet R.</i>	

**Figure 6.** Walla Walla and Umatilla Rivers MPG population risk ratings integrated across the four VSP parameters. Viability key: dark green – highly viable; light green – viable; orange – maintained; and red – high risk (does not meet viability criteria) (Ford 2022, Table 27, p. 110).



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# 5-Year Status Review Findings Hatcheries – Snake River Basin

- In general, hatchery programs can provide short-term demographic benefits to salmon and steelhead, such as increases in abundance during periods of low natural abundance. They also can help preserve genetic resources until limiting factors can be addressed. However, the long-term use of artificial propagation may pose risks, including increased competition, predation, disease, genetic, broodstock collection, and facility effects (NMFS 2018b). Recent ESA consultations on Hatchery and Genetic Management Plans for every steelhead hatchery program in the Snake River basin concluded that hatchery programs in the Snake River basin are not likely to appreciably reduce the likelihood of survival and recovery of the Snake River Basin Steelhead DPS (NMFS 2017b). The main area of uncertainty regarding hatchery effects is the relative proportion and distribution of hatchery-origin spawners in natural spawning areas at the population level, particularly for SRB steelhead (Ford 2022). Information is needed to determine where, and to what extent, unaccounted-for hatchery steelhead are interacting with ESA-listed populations, particularly in Idaho (Ford 2022). The proportion and distribution of hatchery-origin spawners in natural spawning areas remain uncertain and similar to the previous 5-year review period. The risk to SRB steelhead persistence from hatcheries remains uncertain and at moderate to high risk, and has not changed since the last review period.



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# 5-Year Status Review Findings

## Status Recommendations

- Snake River – Remain Threatened
- Mid- Columbia – Remain Threatened



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Ryan Hagerty, USFWS



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