October 2016

Recovering Snake River Spring/Summer Chinook Salmon & Steelhead

NOAA FISHERIES

WEST COAST REGION

Interior Columbia Basin Office

If you wish to comment on the proposed Recovery Plan, NOAA Fisheries will accept comments through December 25, 2016

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Overview

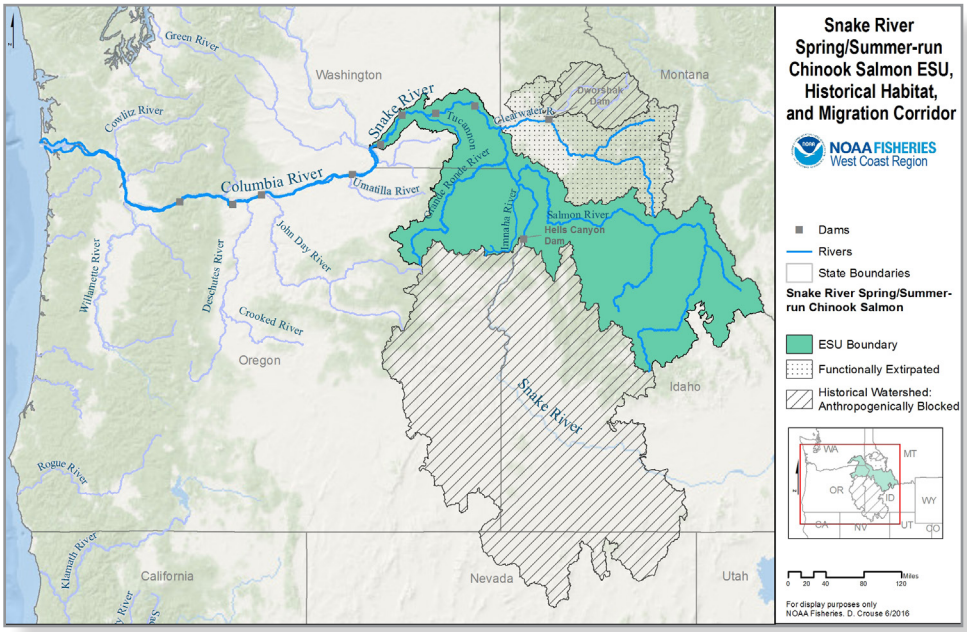
Snake River spring- and summer-run Chinook salmon *(Oncorhynchus tshawytscha)* and Snake River steelhead *(Onchorhynchus mykiss)* are among twenty-eight species of Pacific salmon and steelhead that are protected under the Endangered Species Act (ESA). NOAA's National Marine Fisheries Service (NMFS) is required, pursuant to section 4(f) of the ESA, to develop and implement recovery plans for species listed under the ESA. Recovery plans serve as a resource to organize on-the-ground action based on the biological needs of the species. This proposed ESA recovery plan focuses on two species that spawn and rear in the Snake River basin, a main artery of the Columbia River in the northwest United States:

- Snake River spring/summer-run Chinook salmon, an evolutionarily significant unit (ESU)[1], was listed as a threatened species under the ESA on April 22, 1992 (57 FR 14658). The listing was reaffirmed on June 28, 2005 (70 FR 37160) and again on April 14, 2014 (79 FR 20802). This ESU has five major population groups (MPGs) and 28 extant populations; and
- Snake River steelhead, a distinct population segment (DPS)[2], was originally listed as a threatened species under the ESA on August 18, 1997 (62 FR 43937). This listing was reaffirmed on January 5, 2006 (71 FR 834) and again on April 14, 2014 (79 FR 20802). This DPS has six MPGs with 24 extant populations.

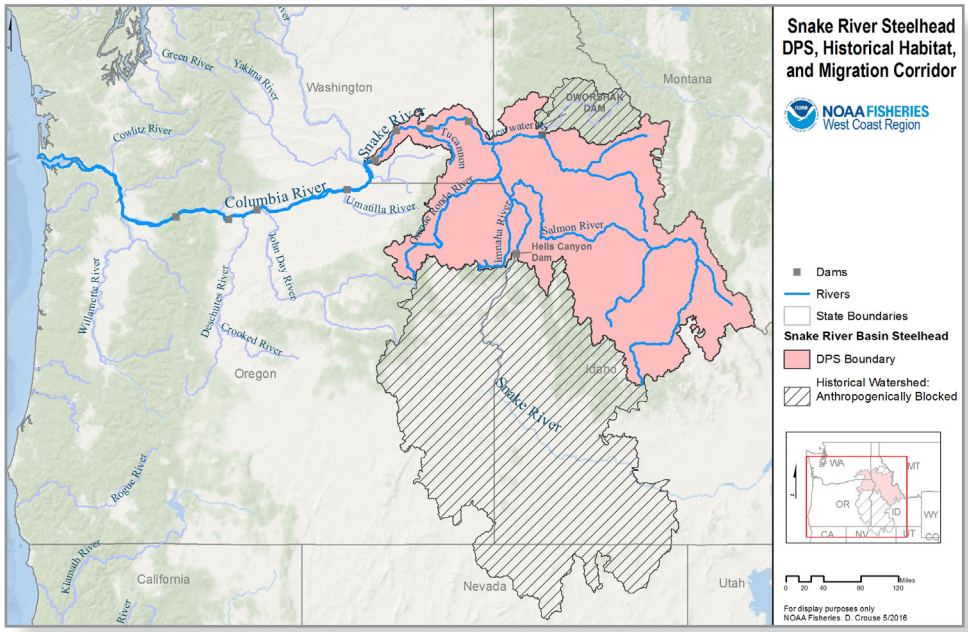
Dagger Falls, Idaho
Photo: Enrique Patino, NOAA

Recovering Snake River Salmon and Steelhead

Historically, the Snake River is believed to have been the Columbia River basin's most productive drainage for salmon and steelhead, supporting more than 40 percent of all Columbia River spring/summer Chinook salmon and 55 percent of summer steelhead. Strong runs of spring/summer Chinook salmon and steelhead returned each year to spawn and rear in mainstem and tributary reaches of the Snake River extending upstream to Shoshone Falls, a 212-foot-high natural barrier on the Snake River near Twin Falls, Idaho. The fish also ranged into most Snake River tributaries stretching across the states of Oregon, Washington, and Idaho, including the Owyhee, Bruneau, Boise, Payette, Weiser, Malheur, Burnt, Powder, Salmon, Clearwater, Grande Ronde, Imnaha, and Tucannon Rivers.



These salmon and steelhead cover vast areas and rely on habitats across a wide geographic range during their life cycle. They begin life in the gravel of freshwater streams of the Snake River basin, up to 900 miles inland from the Pacific Ocean and 6,500 feet above sea level, and rear in these freshwater areas for their first year. As juveniles, they travel hundreds of miles downstream from their natal streams, through the Snake and Columbia Rivers to the ocean, passing up to eight major hydroelectric dams and undergoing extraordinary metabolic changes as they adapt to salt water. After one to five years traveling long distances in the Pacific Ocean, the adult fish retrace their journey up the Columbia and Snake Rivers, and through the mainstem hydropower system, to return to their natal streams to spawn.



Currently, both fish species remain at risk of extinction within 100 years. Multiple threats across their life cycles contribute to their current weakened status. These various threats need to be addressed to ensure that Snake River spring/summer Chinook salmon and steelhead can survive over the long term.

[1]An ESU or DPS is a group of Pacific salmon or steelhead, respectively, that is discrete from other groups of the same species and that represents an important component of the evolutionary legacy of the species. Under the Endangered Species Act, each ESU or DPS is treated as a species.

[2]The species was originally listed as an ESU. It was delineated as an anadromous steelhead-only DPS in 2006. A DPS is defined based on discreteness in behavioral, physiological, and morphological characteristics, whereas the definition of an ESU emphasizes genetic and reproductive isolation.

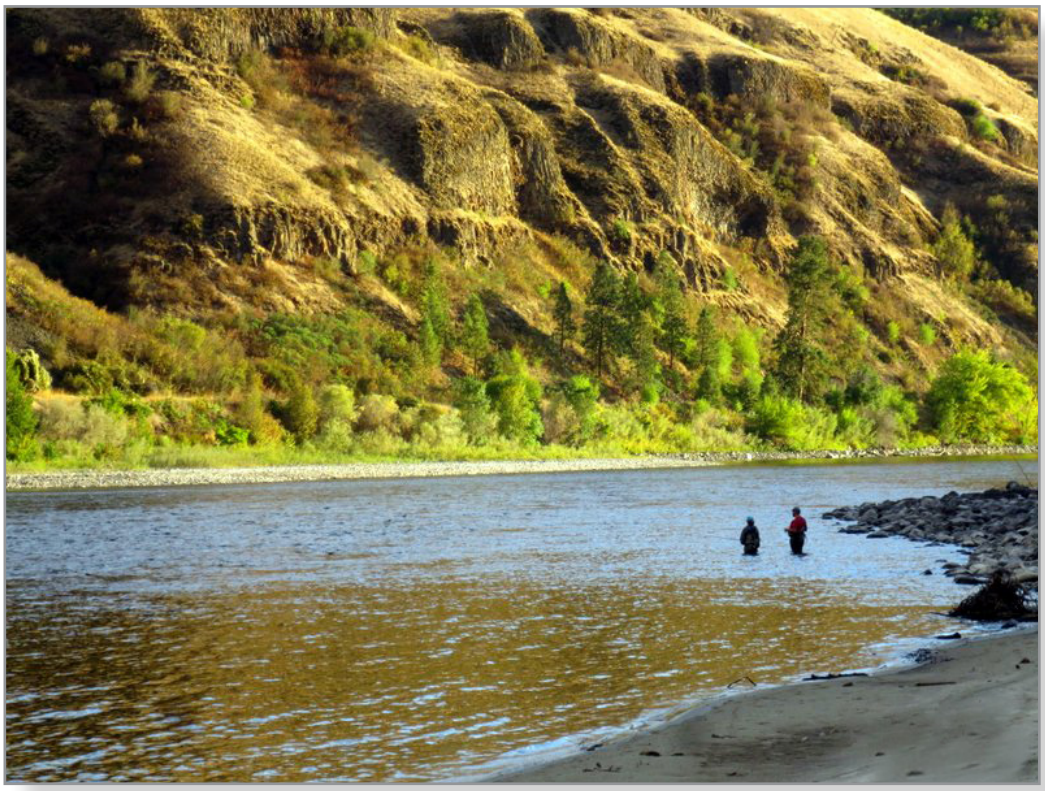
An Introduction to the Proposed Recovery Plan

NMFS' goal is to improve the viability of Snake River spring/summer Chinook salmon and steelhead to the point that ESA protection is no longer required. This proposed recovery plan provides a roadmap that builds on past and current efforts to recover the species. It sets out where we need to go and defines a path to guide our steps based on best available science. In addition to identifying actions that can be implemented now to improve species' viability, it targets research, monitoring, and evaluation to address key uncertainties and provides a framework that uses newly gained knowledge to alter our course strategically to achieve recovery.

The proposed recovery plan includes the following parts:

- Description of the context and process of Plan development and how NMFS intends to use the Plan (Chapter 1);
- Background information on the Snake River spring/summer Chinook salmon and steelhead life histories, historical and current distribution, and relationship of this Plan to other programs and processes (Chapter 2);
- Recovery goals and delisting criteria (Chapter 3);
- Assessment of the current status of Snake River spring/summer Chinook salmon and steelhead, and gaps between the current status and viability criteria (Chapter 4);
- Summary of the threats and limiting factors for the ESU and DPS (Chapter 5);
- Summary of recovery strategies and actions for the ESU and DPS and their major population groups (Chapter 6);
- An adaptive management framework (Chapter 7);
- A framework for research, monitoring, and evaluation to support adaptive management (Chapter 7);
- Time and cost estimates to achieve recovery (Chapter 8); and
- Framework for implementation and coordination, including an approach for adaptive management and an implementation infrastructure (Chapter 9).

This proposed recovery plan focuses on the Snake River spring/summer Chinook salmon and steelhead populations that occupy remaining accessible Snake River habitats 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 River and parts of the Clearwater River in Idaho, and the Tucannon River in Washington.



Clearwater Falls, Idaho. Photo: J. Myers

Endangered Species Act Requirements

The ESA requires NMFS to develop and implement plans for the conservation and survival of species listed as endangered or threatened under the ESA. Section 4(f) of the ESA refers to these plans for conservation and survival as recovery plans. Recovery plans identify actions needed to restore threatened and endangered species to the point where they are again self-sustaining in the wild and no longer need the protections of the ESA.

ESA section 4(a)(1) lists five factors for reclassification and delisting that must be addressed in a recovery plan:

A. The present or threatened destruction, modification, or curtailment of [the species'] habitat or range;

B. Over-utilization for commercial, recreational, scientific or educational purposes;

C. Disease or predation;

D. The inadequacy of existing regulatory mechanisms;

E. Other natural or human-made factors affecting its continued existence.

These listing factors, or threats, need to be addressed to the point that the removal of the species from a listed status is not likely to result in their re-emergence.

ESA section 4(f)(1)(B) directs that recovery plans, to the extent practicable, incorporate:

1. A description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;
2. Objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this chapter, that the species be removed from the list; and
3. Estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal.

In addition, it is important for recovery plans to provide the public and decision makers with a clear understanding of the goals and strategies needed to recover a listed species and the science underlying those conclusions. Once a species is deemed recovered and therefore removed from a listed status, section 4(g) of the ESA requires the monitoring of the species for a period of not less than five years to ensure that it retains its recovered status.

The Scientific Foundation of the Proposed Recovery Plan

The proposed recovery plan is based on the best available science about Snake River spring/summer Chinook salmon and steelhead, including the threats they face and their biological needs. It draws on the work of the Interior Columbia Technical Recovery Team (ICTRT), a team of scientists from NOAA Fisheries, states, tribes, and academic institutions. The ICTRT identified the historical populations comprising the major population groups for each species. It also recommended biological viability criteria, or targets, that are based on the biological parameters of abundance, productivity, spatial structure, and diversity, which help to define when a species is healthy enough to warrant delisting.

Recovery Goals and Criteria

The Plan (Section 3) identifies the recovery goals and criteria that NMFS will use in future reviews of the status of the Snake River spring/summer Chinook salmon ESU and steelhead DPS. NMFS will conduct these reviews to determine whether and when delisting of Snake River spring/summer Chinook salmon and steelhead is warranted.

The status levels targeted for populations within an ESU or DPS are referred to collectively as the "recovery scenario" for the ESU or DPS. The ICTRT recommends that all MPGs in an ESU/DPS should be viable before the ESU or DPS is considered at low risk of extinction. However, the ICTRT recognizes that a variety of recovery scenarios may lead to a viable ESU/DPS. These various recovery scenarios may reflect different combinations of viable populations and policy choices regarding acceptable risk levels.

Management Unit Plans, Modules, and Integration of Management Unit Plans

NMFS divided the Snake River Basin into three different "management units" for recovery planning based on jurisdictional boundaries, as well as areas where local planning efforts were underway (see figure below). The three separate management units for spring/summer Chinook salmon and steelhead are: the Northeast Oregon unit, Southeast Washington unit, and Idaho unit.

Separate plans have been developed for each management unit. All three plans were developed in coordination with respective state, federal, and local agencies, tribes, and others. This proposed ESU-level and DPS-level recovery plan synthesizes relevant information from the three management unit plans for Northeast Oregon, Southeast Washington, and Idaho and they are incorporated as appendices.

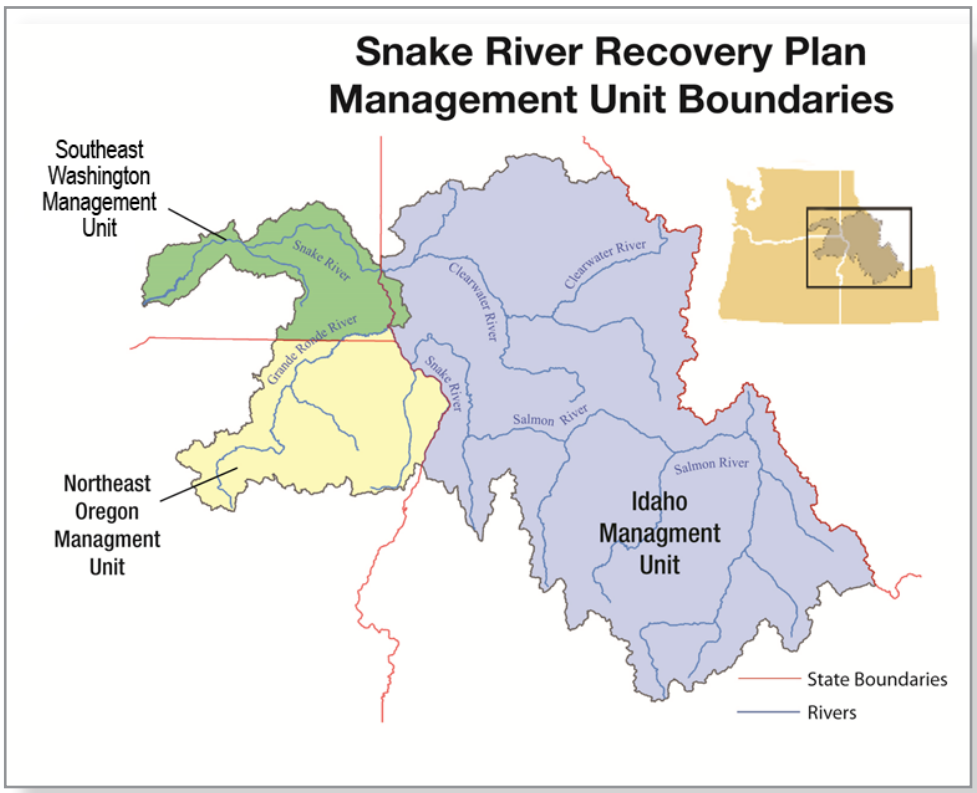
The proposed plan also draws information from four "modules" developed by NMFS to address conditions in the Columbia and Snake rivers, the estuary, and the ocean. The four modules summarize the following and are incorporated as appendices into the plan:

- Hydropower Module and Supplement for Snake River Salmon and Steelhead: effects of federal and non-federal mainstem Snake and Columbia River hydropower programs;
- Estuary Module: recovery actions needed in the Columbia River estuary;
- Module for the Ocean Environment: conditions in the estuary, plume, and Pacific Ocean; and
- Harvest Module: fisheries impacts in the Snake and Columbia rivers, estuary, and ocean.

Strategies to Recover Snake River spring/summer Chinook Salmon and Steelhead

The proposed plan identifies the factors limiting survival of Snake River spring/summer Chinook and steelhead, such as impaired fish passage, low stream flows and high water temperatures, degraded habitat and impaired floodplain function, predation, competition, and freshwater and marine impacts due to climate change.

The following section summarizes recovery information for each species' major population groups (MPGs). It describes the (1) current status, (2) proposed MPG recovery scenario, and (3) MPG-level recovery strategies. Site specific recovery strategies and actions are described in each management unit plan, which also include specific research, monitoring, and evaluation actions for adaptive management in each geographic area.



Grande Ronde/Imnaha Rivers Spring/Summer Chinook Salmon

Current MPG Status

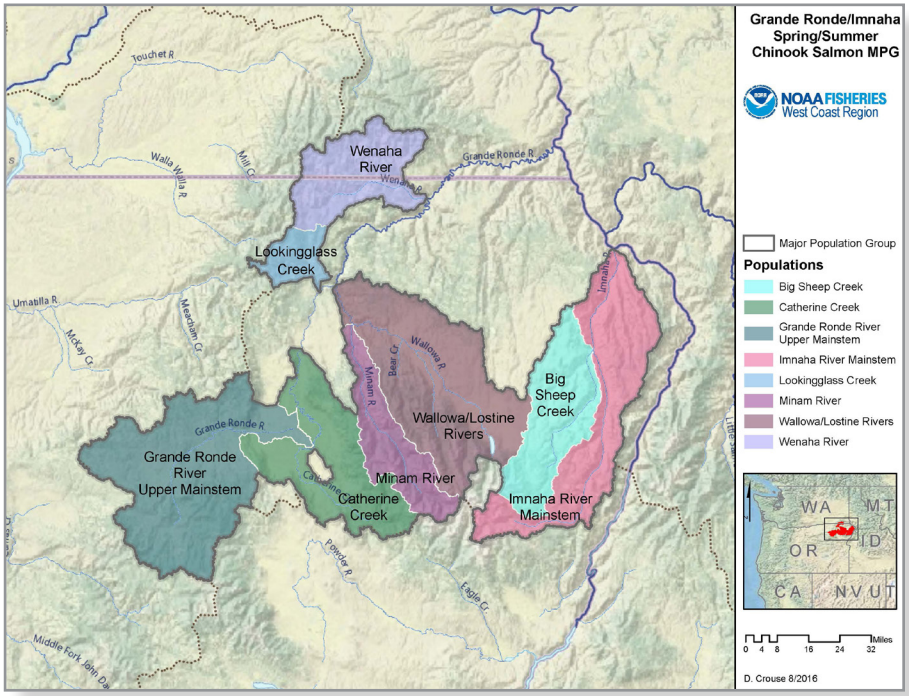
- **The six extant populations in MPG are at high risk of extinction.**
- **Two populations, Big Sheep and Lookingglass Creeks, are functionally extirpated.**

Proposed MPG Recovery Scenario

- **Achieve viable status (low risk) for the Imnaha, Lostine/Wallowa, Minam, and Wenaha Rivers and Catherine Creek populations, with at least one highly viable (very low risk).**
- **Achieve at least "maintained" status (moderate risk) for Upper Grande Ronde River population.**
- **Support reintroduction programs for Big Sheep and Lookingglass Creeks populations.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce mortalities during the outmigration from overwintering habitats to the Snake River, especially in the lower Grande Ronde River mainstem and key tributary production areas.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Improve quantity and quality of winter rearing habitats, especially key overwintering areas in the Grande Ronde Valley, lower mainstem Grand Ronde River, and in tributary production areas.
- Protect/enhance spawning and summer rearing habitats in currently used areas of the Grande Ronde River and key tributary production areas, and improve potential summer rearing habitat quantity/ quality.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries according to an abundance-based schedule.
- Implement hatchery programs so they will reduce short-term extinction risk and promote recovery.
- Monitor/evaluate effects of Lookingglass, Imnaha, and Big Sheep Creek hatchery programs on extant populations. Manage returning hatchery fish to minimize effects of hatchery fish on natural-origin spawners in affected populations.
- Restrict naturally spawning hatchery fish in some population areas, while maintaining unrestricted natural spawning of hatchery fish in others, as identified and developed through co-manager planning efforts.
- Utilize terminal fisheries to minimize the escapement of hatchery-origin fish in natural production areas.



Lower Snake River Spring/Summer Chinook Salmon MPG

Current MPG Status

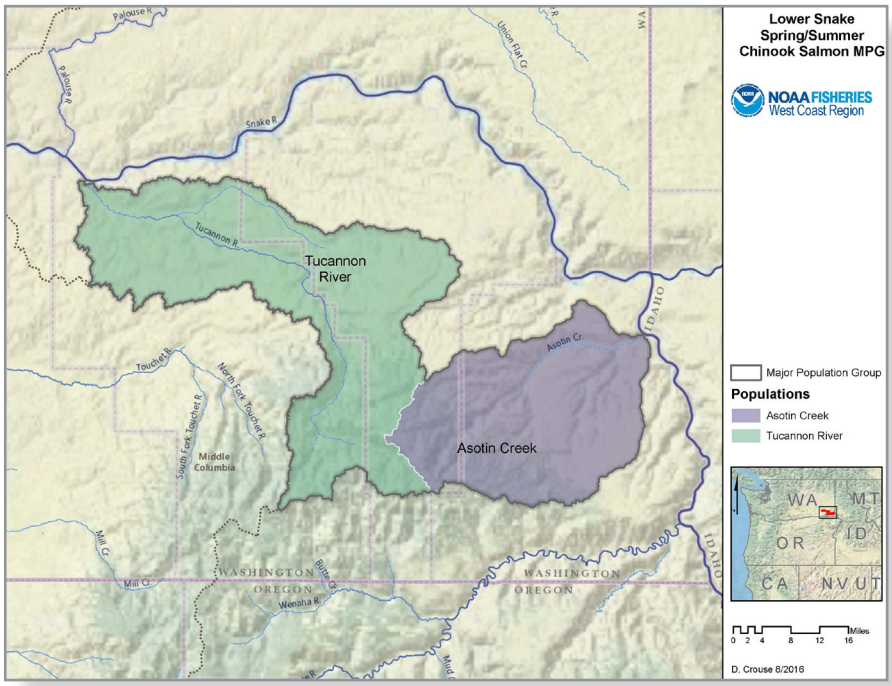
- **The lone extant population, Tucannon River, remains at moderate to high risk of extinction.**
- **The Asotin Creek population is functionally extirpated.**

Proposed MPG Recovery Scenario

- **Achieve Highly Viable status (very low risk) for the Tucannon River population.**
- **Focus initial recovery efforts on improving status of Tucannon River population, but support reintroduction program for Asotin Creek population.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce mortalities during the outmigration from overwintering habitats to the Snake River, especially in the lower Grande Ronde River mainstem and key tributary production areas.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Improve quantity and quality of winter rearing habitats, especially key overwintering areas in the Grande Ronde Valley, lower mainstem Grand Ronde River, and in tributary production areas.
- Protect/enhance spawning and summer rearing habitats in currently used areas of the Grande Ronde River and key tributary production areas, and improve potential summer rearing habitat quantity/ quality.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries according to an abundance-based schedule.
- Implement hatchery programs so they will reduce short-term extinction risk and promote recovery.
- Monitor/evaluate effects of Lookingglass, Imnaha, and Big Sheep Creek hatchery programs on extant populations. Manage returning hatchery fish to minimize effects of hatchery fish on natural-origin spawners in affected populations.
- Restrict naturally spawning hatchery fish in some population areas, while maintaining unrestricted natural spawning of hatchery fish in others, as identified and developed through co-manager planning efforts.
- Utilize terminal fisheries to minimize the escapement of hatchery-origin fish in natural production areas.



South Fork Salmon River Spring/Summer Chinook Salmon MPG

Current MPG Status

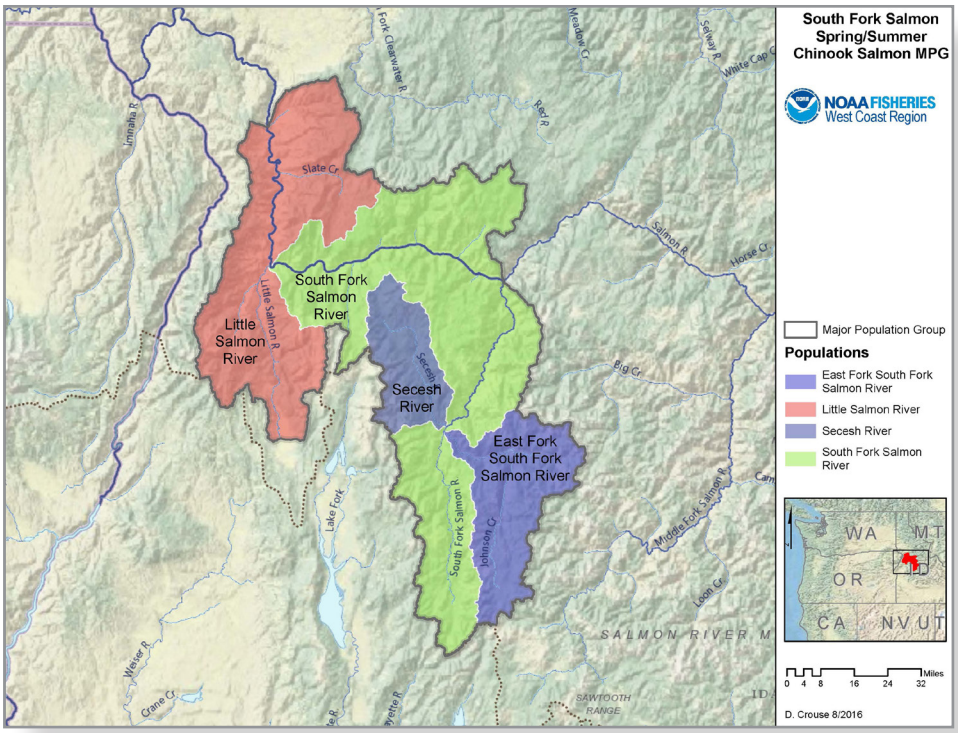
- **All four populations in MPG remain at high risk of extinction.**

Proposed MPG Recovery Scenario

- **Achieve highly viable status (very low risk) for the Secesh River population.**
- **Achieve at least viable status (low risk) for South Fork Salmon population.**
- **Achieve at least "maintained" status (moderate risk) for East Fork South Fork Salmon River, and Little Salmon River populations.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce juvenile mortality during outmigration from rearing habitats through the mainstem Salmon River, Little Salmon River, and key tributary production areas.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Provide/improve passage to and from areas with high intrinsic potential through barrier removal, screening, and other projects.
- Reduce and prevent sediment delivery to streams by improving road systems and riparian communities, and rehabilitating abandoned mine sites.
- Improve riparian and floodplain health and function by encouraging beaver activity and enhancing riparian communities.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries according to an abundance-based schedule.
- Manage MPG for natural production in Secesh River and other areas where appropriate (e.g., upstream of weir on the Rapid River).
- Monitor straying of retuning hatchery-origin fish to spawning grounds. Manage returning hatchery fish to minimize straying and effects of hatchery fish on natural-origin spawners in affected populations.
- Manage brook trout to reduce predation and competition with spring/summer Chinook salmon.



Middle Fork Salmon River Spring/Summer Chinook Salmon MPG

Current MPG Status

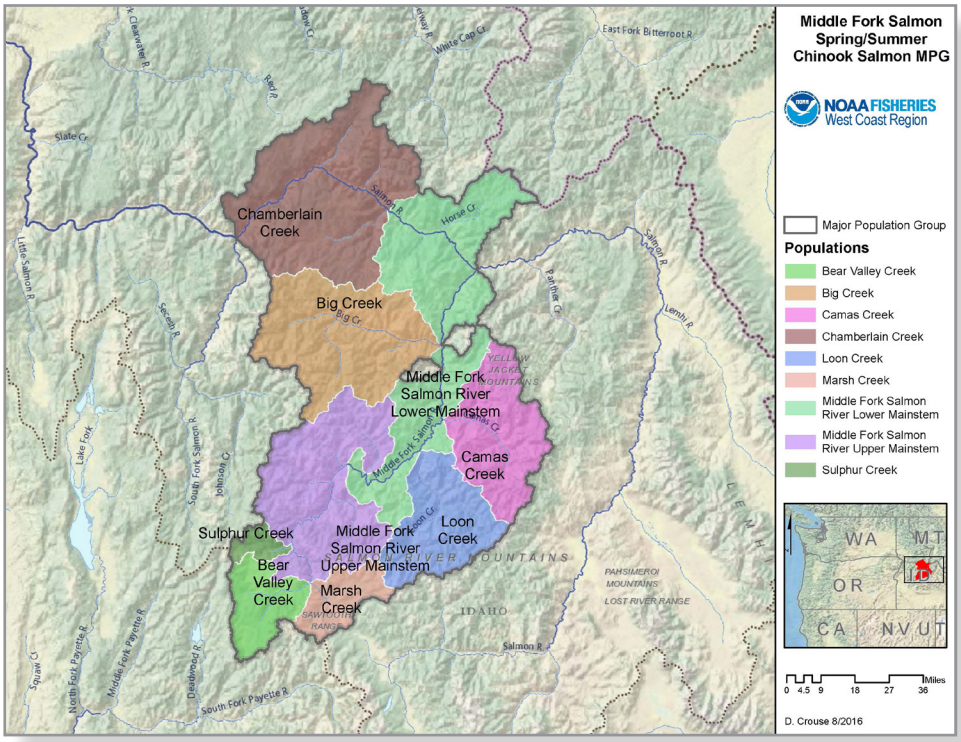
- **All nine populations in MPG are extant but eight remain at high risk of extinction. One population (Chamberlain Creek) is at moderate risk.**

Proposed MPG Recovery Scenario

- **Achieve highly viable status (very low risk) for the Big Creek population.**
- **Achieve at least viable status (low risk) for Loon Creek, Bear Valley Creek, Marsh Creek, and Chamberlain Creek populations.**
- **Achieve at least "maintained" status (moderate risk) for Lower Middle Fork Salmon River, Camas Creek, Upper Middle Fork Salmon River, and Sulphur Creek populations.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce juvenile mortality during outmigration from rearing habitats through the mainstem Salmon River.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Provide/improve passage to and from areas with high intrinsic potential through barrier removal, screening, and other projects.
- Reduce and prevent sediment delivery to streams by rehabilitating abandoned mine sites and roads, and improving riparian areas.
- Improve riparian and floodplain health and function by encouraging beaver activity and enhancing riparian communities.
- Protect and improve instream flows to support fish production during critical periods.
- Investigate feasibility of increasing nutrients in areas where lack of nutrients may be limiting productivity.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries according to an abundance-based schedule.
- Manage MPG for natural production. Monitor for straying hatchery-origin fish to minimize effects of hatchery fish on natural-origin spawners.
- Manage brook trout to reduce predation and competition with spring/summer Chinook salmon.



Upper Salmon River Spring/Summer Chinook Salmon MPG

Current MPG Status

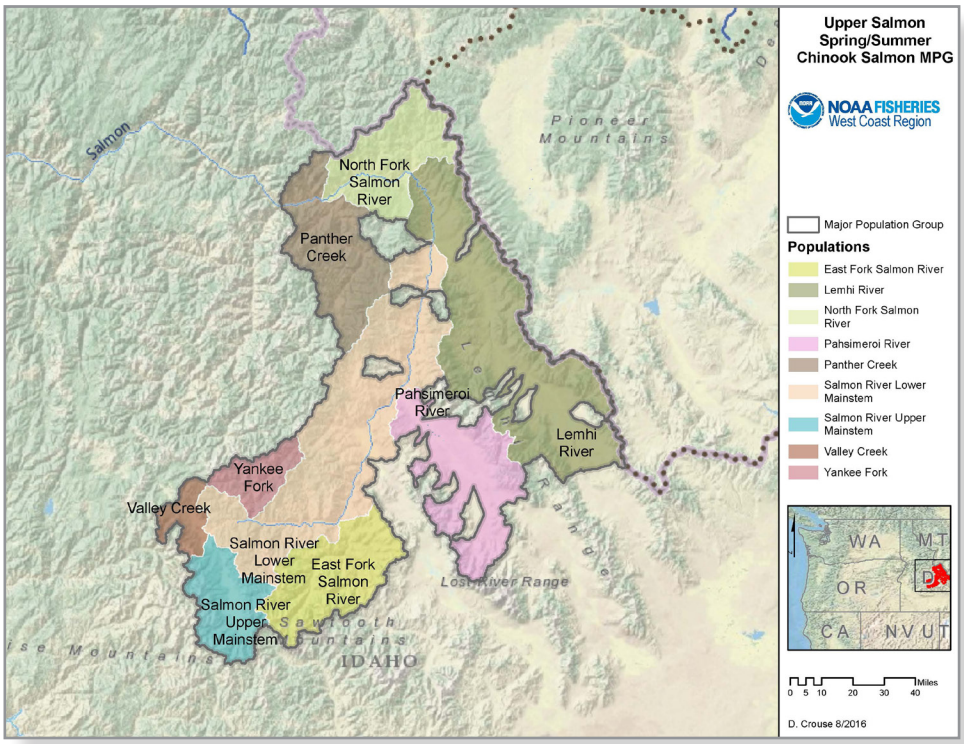
- **Eight of nine populations in this MPG are extant but remain at high risk of extinction.**
- **The Panther Creek population is extirpated**

Proposed MPG Recovery Scenario

- **Achieve highly viable status (very low risk) for the Upper Salmon River Upper Mainstem (above Redfish Lake Creek) population.**
- **Achieve at least viable status (low risk) for Lemhi, Pahsimeroi, East Fork Salmon Rivers, and Valley Creek populations.**
- **Achieve at least "maintained" status (moderate risk) for North Fork Salmon River, Upper Salmon River Lower Mainstem (below Redfish Lake Creek), and Yankee Fork populations.**
- **Support reintroduction program for Panther Creek population.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce juvenile mortality during outmigration through the mainstem Salmon River.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Protect and improve flows to support all spring/summer Chinook salmon life stages.
- Provide/improve passage to and from areas with high intrinsic potential through barrier removal, screening, and other projects.
- Reduce sediment delivery to streams from roads, recreation sites and livestock grazing.
- Improve riparian conditions and floodplain function in select areas.
- Improve water quality in areas of high intrinsic potential by implementing TMDLs.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries according to an abundance-based schedule.
- Manage populations in the North Fork Salmon, Upper Salmon River Lower Mainstem, and East Fork Salmon Rivers, and Valley Creek for natural production. Monitor for straying hatchery-origin fish.
- Consider Yankee Fork and Dollar Creek hatchery programs for inclusion in the ESU.
- In all populations where artificial production is used, minimize associated ecological and genetic risks.
- Manage brook trout to reduce predation and competition with spring/summer Chinook salmon.



Grande Ronde River Steelhead MPG

Current MPG Status

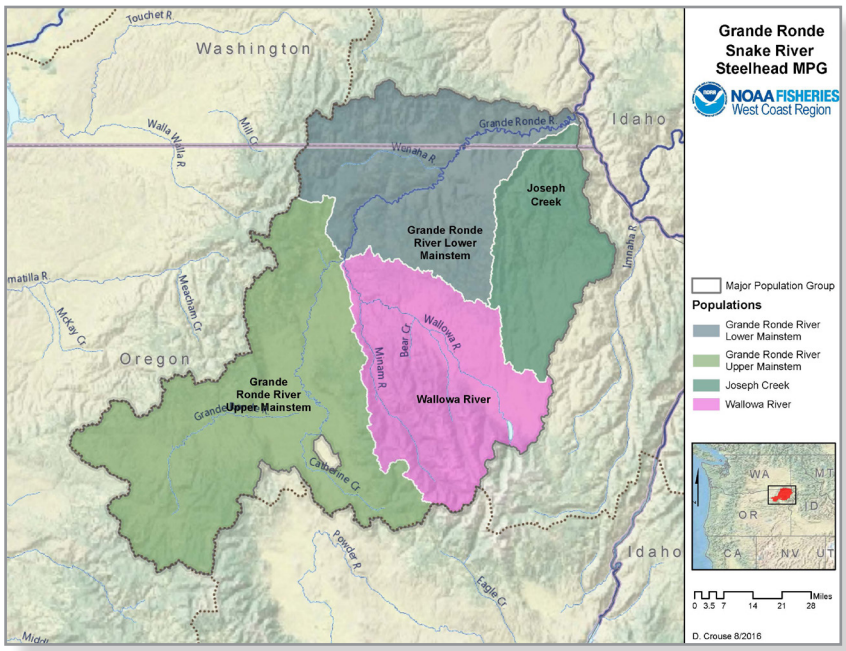
- **One population, Joseph Creek, is at very low risk of extinction and considered Highly Viable.**
- **The Upper Grande Ronde River population is at low risk and tentatively rated at Viable status based on existing data.**
- **The Lower Grande Ronde River and Wallowa River populations are at moderate risk of extinction and tentatively rated at maintained in their current state based on existing data.**

Proposed MPG Recovery Scenario

- **Achieve at least Viable status (low risk) for at least two steelhead populations in the MPG, with at least one population at Highly Viable status (very low risk).**
- **Achieve at least Maintained status (moderate risk) for the remaining populations.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Reduce mortalities during outmigration from overwintering habitats to the mainstem Snake River.
- Maintain current wilderness protection and protect and conserve pristine tributary habitat.
- Increase streamflows in the mainstem Grande Ronde River to improve habitat for summer parr.
- Reduce mortalities during the outmigration from overwintering habitats to the mainstem Snake River – with special emphasis on the Grande Ronde River mainstem.
- Improve winter rearing habitats in the lower Grande Ronde River and tributary production areas.
- Improve summer rearing habitats in the mainstem Grande Ronde River and tributary production areas.
- Enhance spawning and eggs and alevin survival by reducing sediment in spawning gravels in tributaries.
- Manage risks from Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries through updated Fisheries Management Evaluation Plans and Tribal Resource Management Plans, and according to an abundance-based schedule.
- Maintain a segregated-type hatchery program. Manage releases of hatchery smolts so returning hatchery adults home to localized areas and do not interact to a substantial degree with the natural-origin population.
- Collect and analyze population-specific data to accurately determine viability status for the Lower Grande Ronde and Wallowa River populations.



Imnaha River Steelhead MPG

Current MPG Status

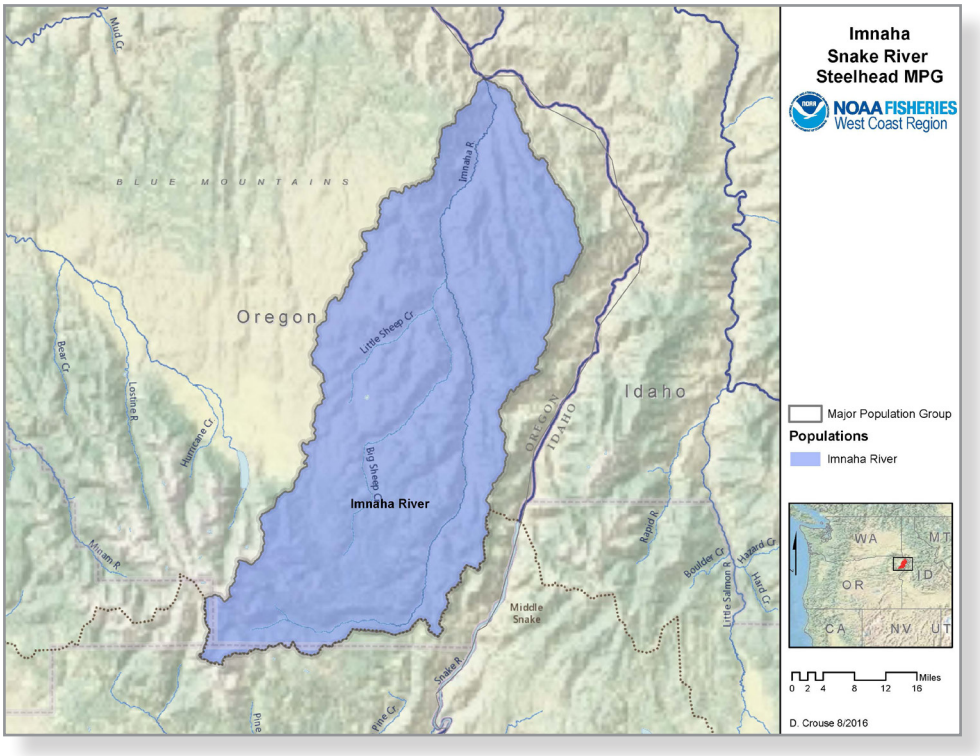
- **The Imnaha River steelhead population is the only population located in this MPG.**
- **The population is rated at moderate risk of extinction and is tentatively rated as maintained in its current state based on existing data.**

Proposed MPG Recovery Scenario

- **The Imnaha River population must attain High Viability status (very low risk) for the MPG to achieve viable status and support delisting of the Snake River steelhead DPS.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Collect and analyze population-specific data to accurately determine population status.
- Reduce mortalities during the outmigration from overwintering habitats to the mainstem Snake River.
- Maintain current wilderness protection.
- Protect and conserve pristine tributary habitat.
- Restore tributary habitat conditions, especially for steelhead spawners and juvenile rearing.
- Manage the Little Sheep Creek hatchery program to minimize genetic and ecological impacts on natural-origin spawning fish.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon*.
- Manage risks from tributary fisheries through updated Fisheries Management Evaluation Plans and Tribal Resource Management Plans, and according to an abundance-based schedule.



Lower Snake River Steelhead MPG

Current MPG Status

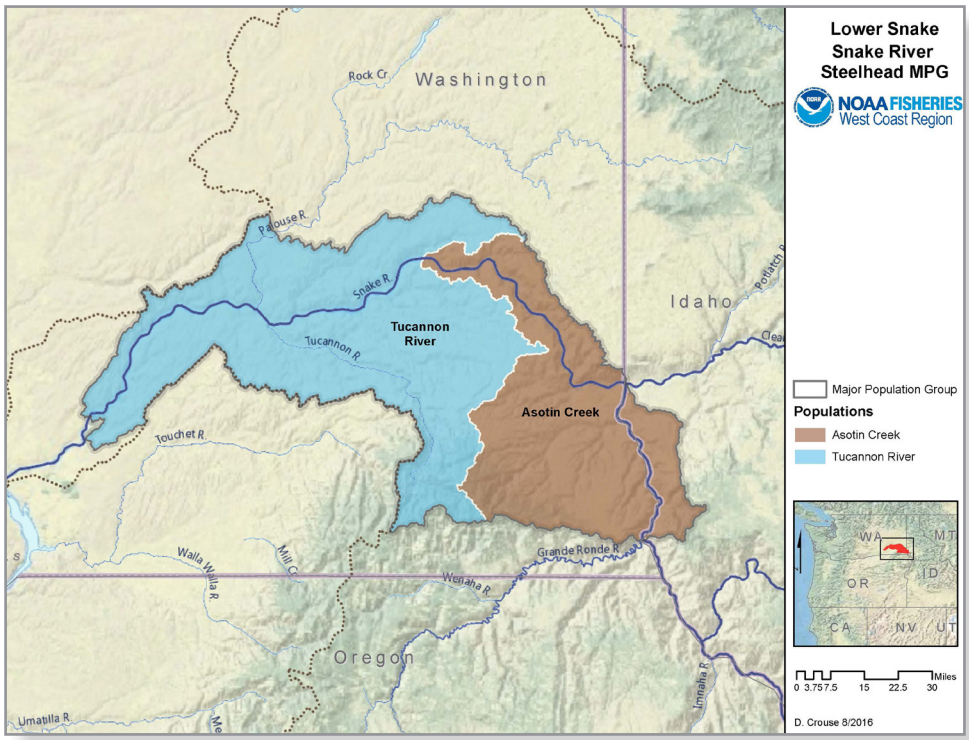
- **The Tucannon River population remains at moderate or high risk of extinction and the Asotin Creek population has an uncertain rating of moderate risk based on existing data.**

Proposed MPG Recovery Scenario

- **Achieve at least Viable status (low risk) for both the Tucannon River and Asotin Creek populations, with one of the populations at Highly Viable (very low risk).**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Continue to manage Asotin Creek steelhead population for natural production only.
- Collect and analyze population-specific data to accurately determine population status.
- Protect, improve and increase freshwater habitat to support summer rearing and overwintering in high potential reaches, especially by restoring riparian, channel and floodplain functions, reducing temperatures, and increasing instream habitat.
- Improve adult and juvenile passage at artificial barriers and diversions.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries through updated Fisheries Management Evaluation Plans and Tribal Resource Management Plans, and according to an abundance-based schedule.
- Conduct research to determine the cause of straying of Tucannon natural- and hatchery-origin fish that continue upstream of Lower Granite Dam instead of migrating into the Tucannon River, and take actions to reduce straying.
- Continue hatchery management practices that minimize impacts from hatchery releases on naturally produced fish.
- Utilize terminal fisheries to minimize the escapement of hatchery-origin fish and exotic predatory fish to natural production areas.



Clearwater River Steelhead MPG

Current MPG Status

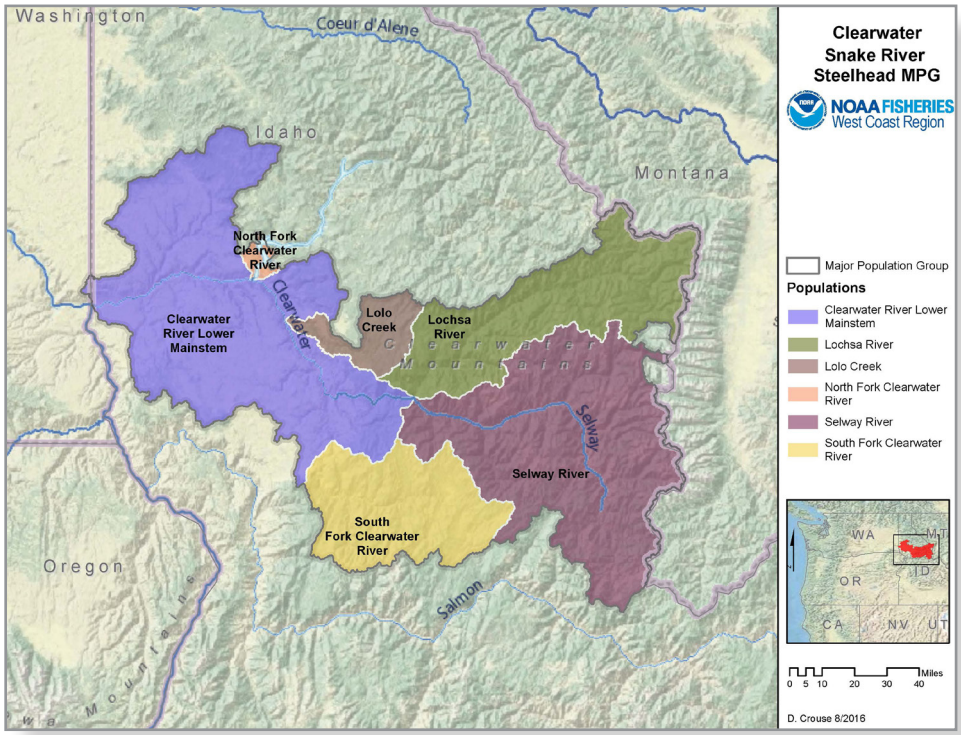
- **All extant populations in the MPG (Lower Mainstem, South Fork Clearwater, Lolo, Selway, and Lochsa Rivers) remain at moderate risk.**
- **The North Fork Clearwater River population is extirpated.**

Proposed MPG Recovery Scenario

- **Achieve at least Viable status (low risk) for the Lower Mainstem Clearwater, Selway, and Lochsa Rivers populations, with one of the populations (target Lochsa) at High Viability (very low risk).**
- **Achieve at least Maintained status (moderate risk) for South Fork Clearwater and Lolo Rivers populations.**

MPG-Level Recovery Strategies

- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Collect and analyze population-specific data to accurately determine population status.
- Maintain current wilderness protection and protect pristine tributary habitat.
- Preserve, restore, or rehabilitate natural habitat-forming processes in areas with high suitability for steelhead by reestablishing riparian areas and reconnecting floodplains, and reducing surface runoff.
- Provide or improve access to and from historical habitat by removing/replacing culverts and other barriers and screening diversions.
- Reduce and prevent sediment delivery to streams by improving road systems and rehabilitating mining sites.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries through updated Fisheries Management Evaluation Plans and Tribal Resource Management Plans, and according to an abundance-based schedule.
- Manage Selway River and Lochsa River population areas for natural production.
- Review hatchery programs in Lower Mainstem Clearwater, Lolo, and South Fork Clearwater population areas, and consider strategies to reduce or eliminate releases of non-localized fish, and transition to locally adapted broodstock.
- Monitor straying of retuning hatchery-origin fish to spawning grounds. Manage returning hatchery fish to minimize straying and effects of hatchery fish on natural-origin spawners in affected populations.



Salmon River Steelhead MPG

Current MPG Status

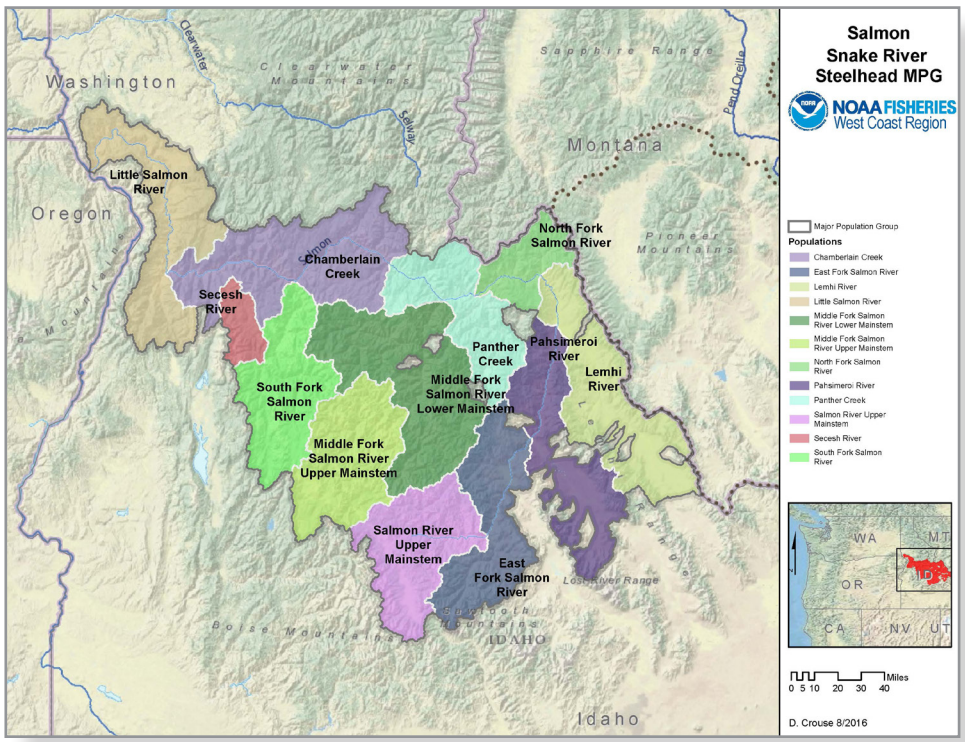
- **Eleven populations in MPG remain at moderate risk (South Fork Salmon, Secesh, Chamberlain, Lower Middle Fork Salmon, Upper Middle Fork Salmon, Little Salmon, North Fork Salmon, Lemhi, Pahsimeroi, East Fork Salmon, and Upper Mainstem Salmon). One population (Panther Creek) is at high risk.**

Proposed MPG Recovery Scenario

- **Achieve at least Viable status (low risk) for the South Fork Salmon, Lower Middle Fork Salmon, Upper Middle Fork Salmon, and Lemhi Rivers and Chamberlain and Panther Creeks populations, with at least one population (target: Lower Middle Fork Salmon) at Highly Viable (very low risk).**
- **Achieve at least Maintained status (moderate risk) for Secesh, Pahsimeroi, East Fork Salmon, Little Salmon, Upper Mainstem Salmon, and North Fork Salmon Rivers populations.**

MPG-Level Recovery Strategies

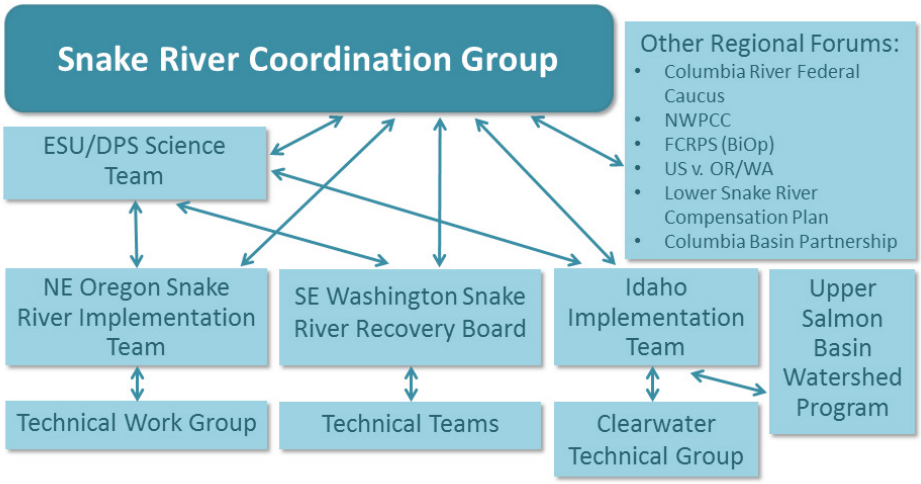
- Implement FCRPS BiOp actions to reduce mortalities associated with passage through mainstem Columbia and Snake River hydroelectric projects and continue identifying, evaluating, and implementing actions to further improve survival in the future.
- Collect and analyze population-specific data to accurately determine population status.
- Maintain wilderness protection and protect pristine tributary habitat.
- Preserve, restore, or rehabilitate natural habitat-forming processes in areas with high intrinsic potential by reestablishing riparian areas and reconnecting floodplains.
- Upgrade irrigation diversions to provide instream flow and fish passage.
- Eliminate passage barriers and improve connectivity to historical habitat.
- Acquire irrigation flow by lease or purchase to improve instream flow in Lemhi River.
- Reduce and prevent sediment delivery to streams by rehabilitating roads and mining sites.
- Manage risks from mainstem Columbia River fisheries through *U.S. v. Oregon.*
- Manage risks from tributary fisheries through updated Fisheries Management Evaluation Plans and Tribal Resource Management Plans, and according to an abundance-based schedule.
- Manage Rapid River, South Fork Salmon, Secesh, Upper Middle Fork Salmon, Lower Middle Fork Salmon, Chamberlain, Panther, and North Fork Salmon populations for natural production; consider managing Lemhi population for natural production.
- Review hatchery programs in Lemhi, Pahsimeroi, East Fork Salmon, and Upper Salmon populations; consider strategies to reduce/eliminate releases of non-localized fish, and transition to locally adapted broodstock.
- Monitor straying of retuning hatchery-origin fish to spawning grounds. Manage returning hatchery fish to minimize straying and effects of hatchery fish on natural-origin spawners in affected populations.



Implementation & Time and Cost Estimates

Implementation

The proposed recovery plan describes a potential implementation framework to engage all partners to implement this plan. The NMFS-coordinated Snake River Coordination Group (which meets periodically to review recovery information) will take the lead in efforts to coordinate recovery actions at an ESU and DPS level. The Coordination Group will be supported by the management unit leads, and local and regional science and technical teams, as described in the following proposed implementation structure. NMFS will work with our partners to refine this proposal based on public review and comment of the proposed recovery plan.



Time and Cost Estimates

NMFS estimates that recovery of the Snake River spring/summer Chinook salmon ESU and steelhead DPS, like recovery for most of the ESA-listed Pacific Northwest salmon and steelhead, could take 50 to 100 years. This recovery plan contains an extensive list of actions to move the ESU and DPS towards viable status; however, the actions will not get us to recovery. There will still be gaps, and our recovery efforts will need to be broadened and adapted as we progress towards the time when the species are self-sustaining in the wild and can be delisted under the ESA.

The total estimated cost of tributary habitat recovery actions for the Snake River spring/summer Chinook salmon ESU and steelhead DPS is expected to be approximately $139 million over the initial 10-year period, given available cost estimates. The total estimated cost of recovery actions for ESA-listed Snake River spring/summer Chinook salmon and steelhead over the next 25 years is projected to be approximately $347 million. This cost estimate may change in the future as additional actions are identified and implemented to achieve recovery. Costs for those actions will be identified at that time.

How to Provide Comments on the Proposed Recovery Plan

NOAA Fisheries will accept comments on the proposed recovery plan through December 25, 2016.

To submit comments:

Electronically: nmfs_snakeriver_ssch_st_plan.wcr@noaa.gov

By mail: 1201 N.E. Lloyd Boulevard, Suite 1100, Portland, OR 97232

By fax: (503)230-5441

The proposed recovery plan is available at:

http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/snake_river/snake_river_sp-su_chinook_steelhead.html

For more information: Contact Rosemary Furfey, NOAA Fisheries West Coast Region: Rosemary.Furfey@noaa.gov or (503) 231-2149