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

February 6, 2018

MEMORANDUM

TO: **Fish and Wildlife Committee members**

FROM: **Tony Grover**

SUBJECT: **Overview of the Snake River Salmon Recovery Plan**

BACKGROUND:

Presenter: Rosemary Furfey, Interior Columbia Basin Salmon Recovery Coordinator, NOAA Fisheries

Summary: Snake River spring- and summer-run Chinook salmon (Oncorhynchus tshawytscha) and Snake River Basin 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 actions based on the biological needs of the species and implementation is voluntary.

This 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), was listed as a threatened species under the ESA on April 22, 1992. This ESU has five major population groups (MPGs) and 28 extant populations; and

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- Snake River Basin steelhead, a distinct population segment (DPS), was originally listed as a threatened species under the ESA on August 18, 1997. This DPS has six MPGs with 24 extant populations.

Relevance: The NW Power Act directs the Council to protect, mitigate and enhance salmon and steelhead affected by development of the Columbia River basin hydropower facilities. The Council recognizes that the agencies that participate in and implement the Council's program under the Act must also comply with and implement a range of federal and state laws including the ESA.

Background:
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 hydropower 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 becoming endangered 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 Snake River Basin steelhead can survive over the long term.

More Info:

Highlights of the Recovery Plan: Snake Recovery Plan Highlights

Recovery Plans: Current Snake River Recovery Plans

Science, Service, Stewardship

Final ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon and Snake River Basin Steelhead

Rosemary Furfey, NMFS
Briefing for Fish and Wildlife Committee
Northwest Power and Conservation Council
February 13, 2018

Science, Service, Stewardship

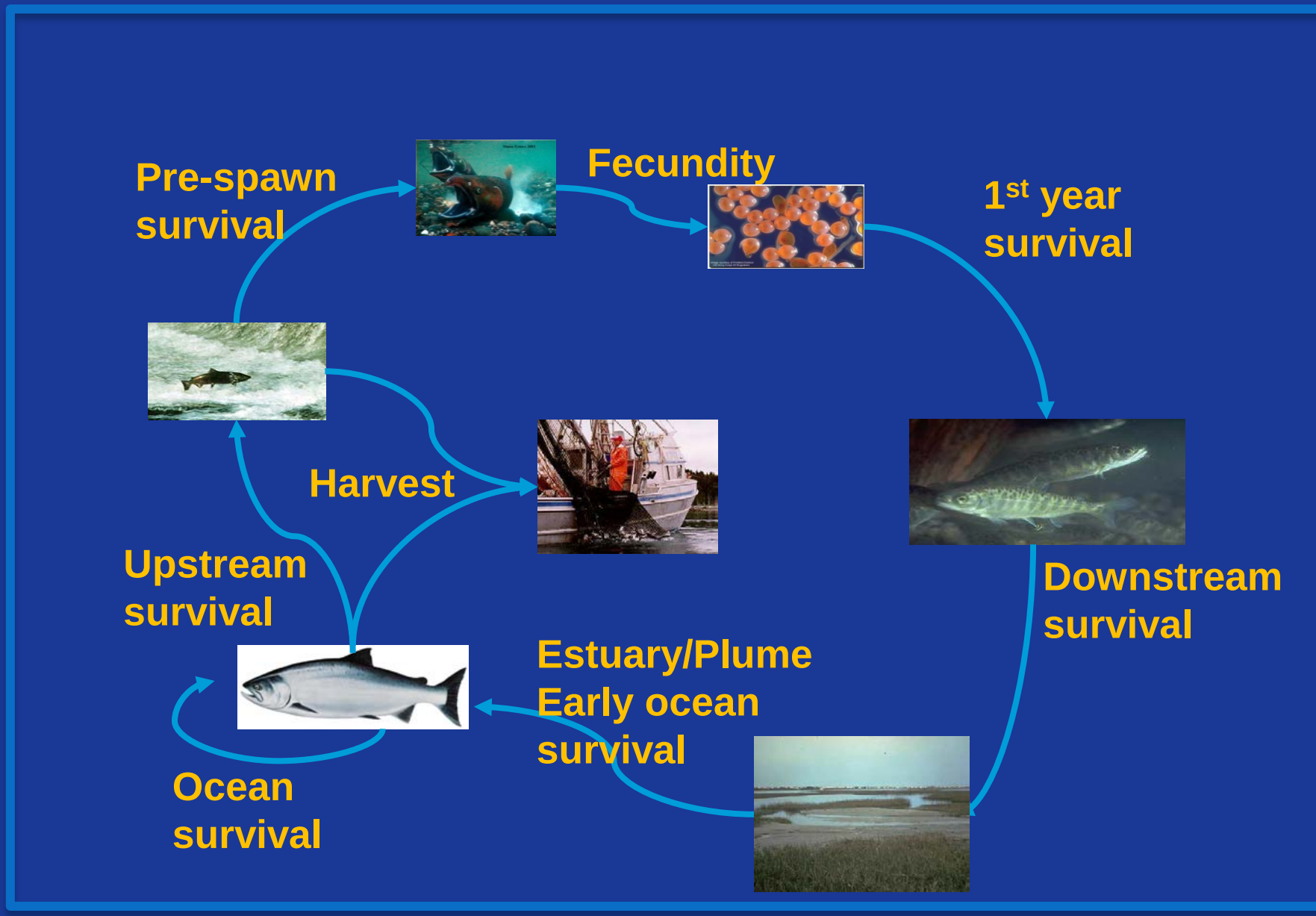
Topics

- Context and background
- Recovery Plan content
- Next Steps

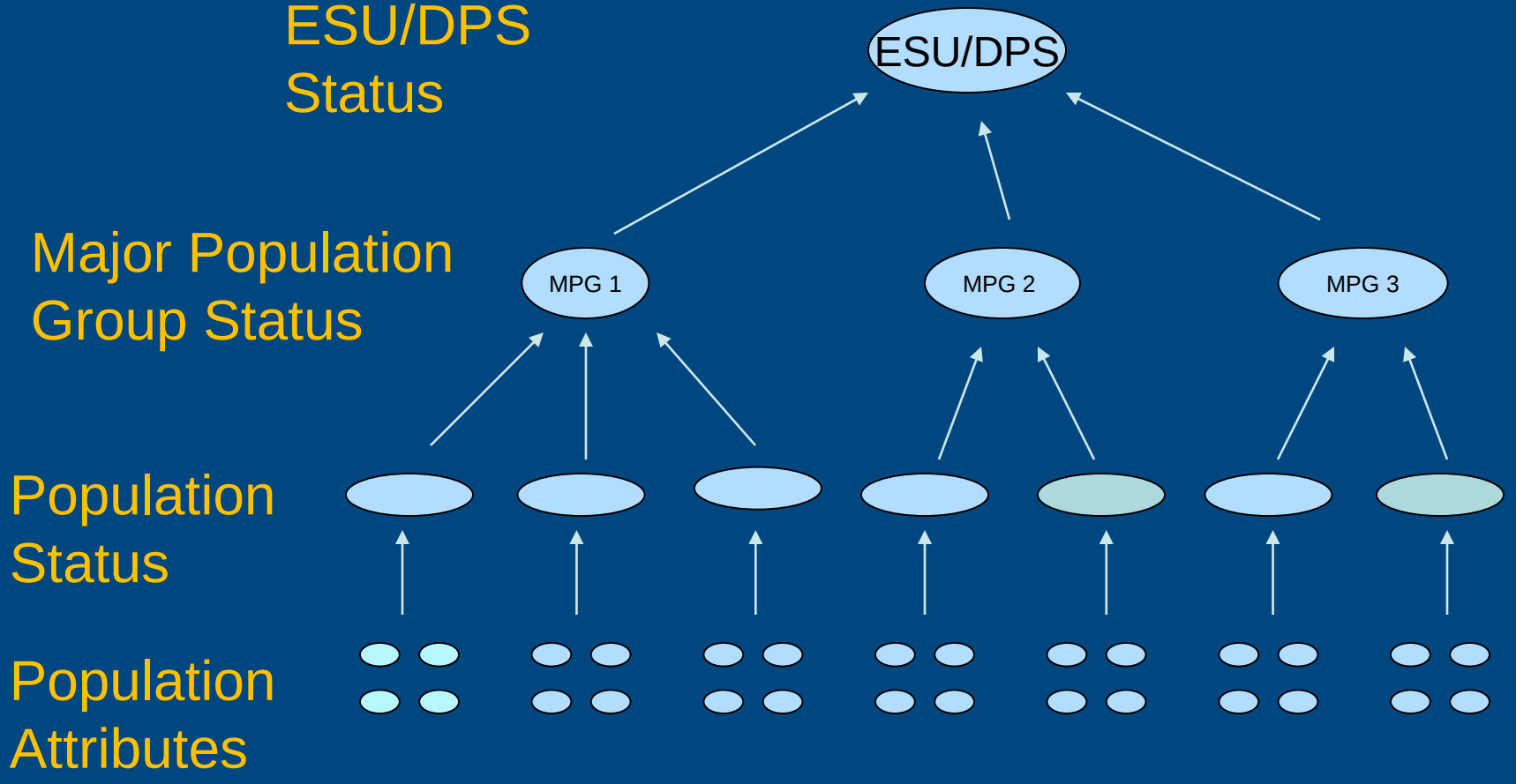
Context – Endangered Species Act

- **ESA Purpose**
  - Conserve the ecosystems upon which endangered and threatened species depend
  - Provide a program to conserve endangered and threatened species
- **ESA Goal**
  - Ecosystems are conserved such that species no longer need protection of the ESA and can be delisted.

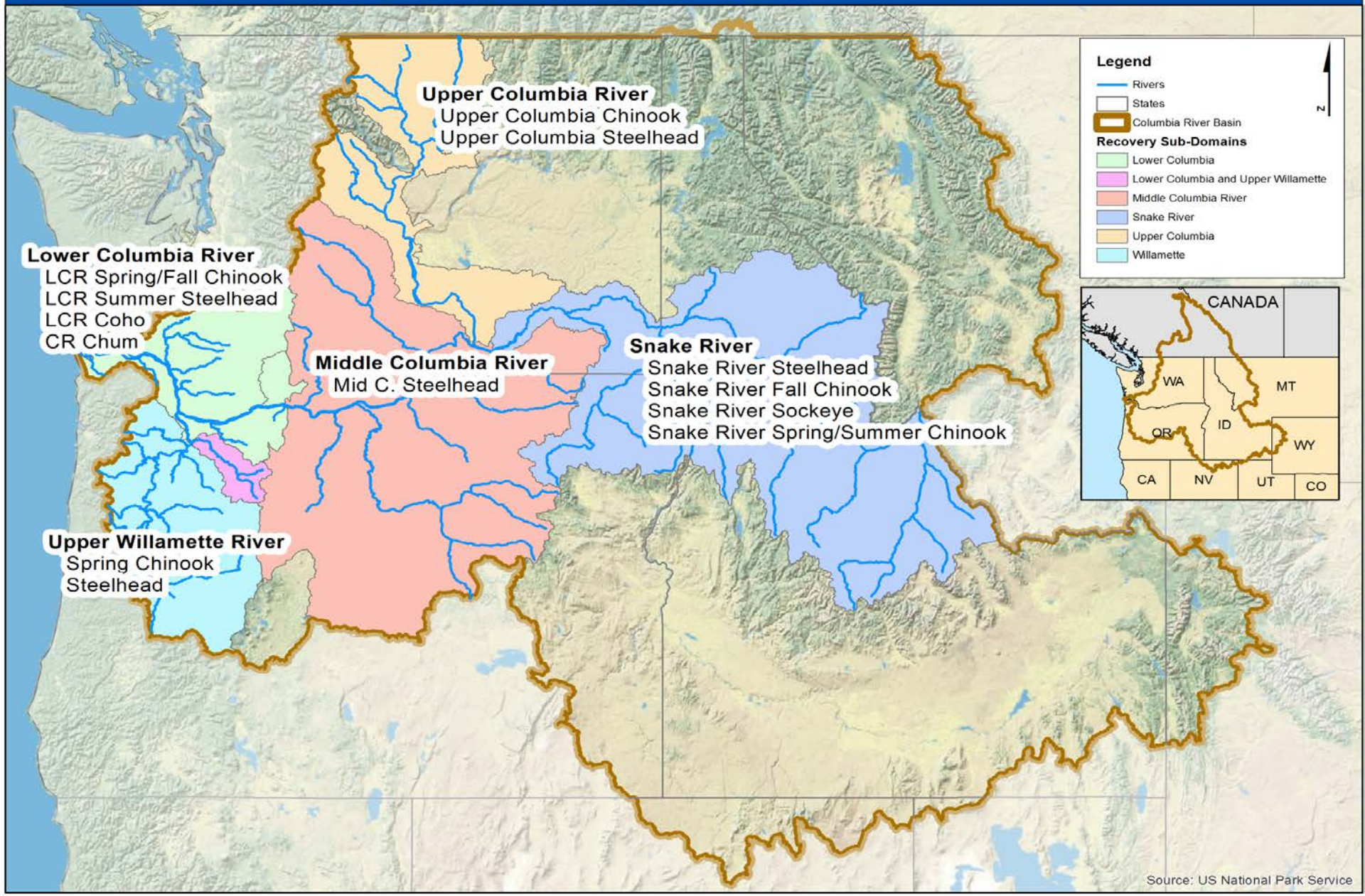
Context - Salmon Life Cycle Approach

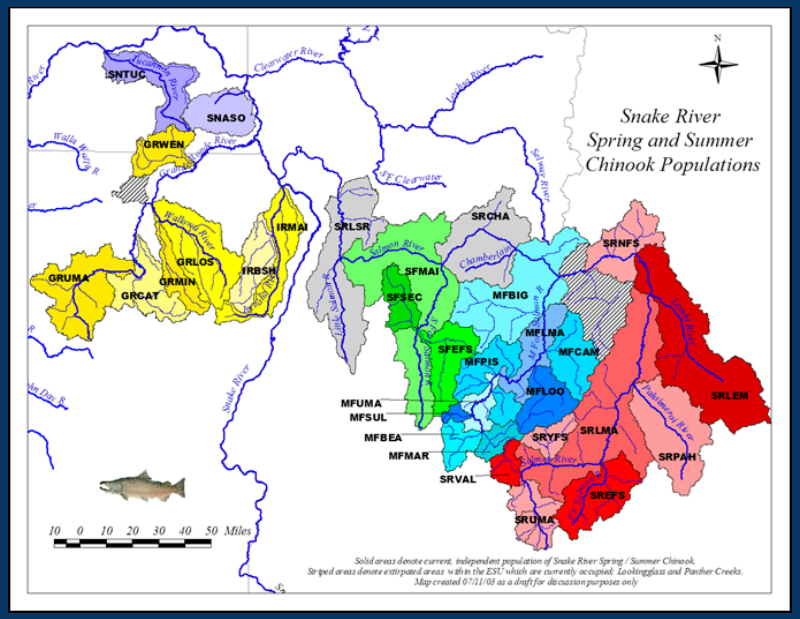


Viability Criteria: Hierarchical Framework



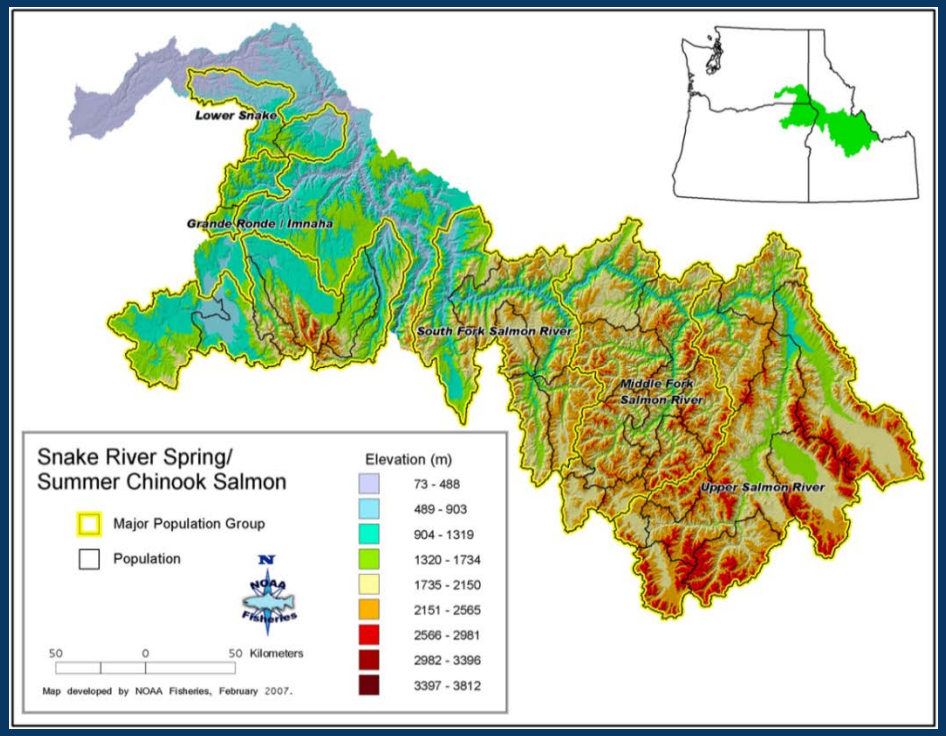
Columbia River Basin Listed Salmon and Steelhead

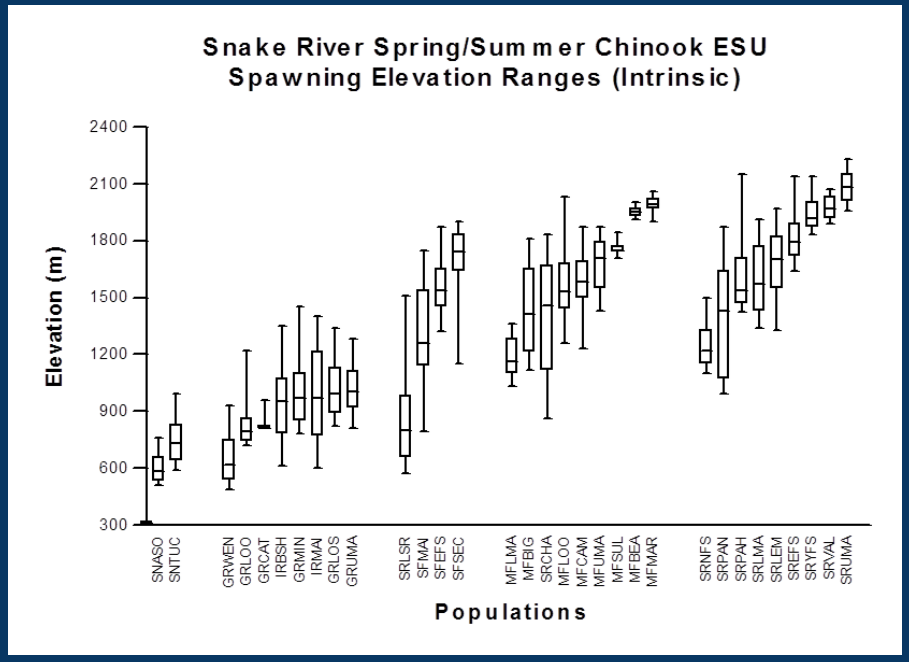


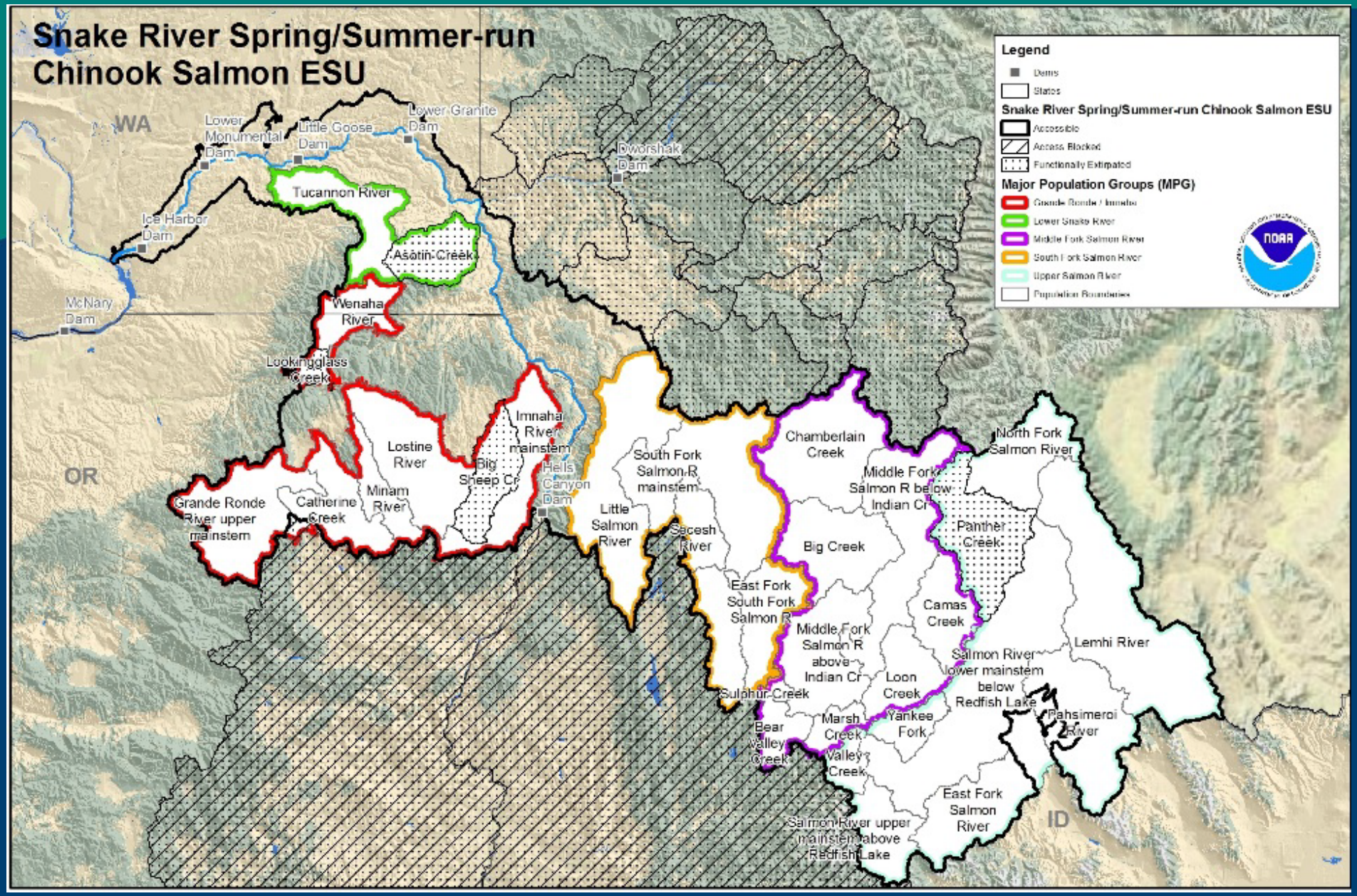


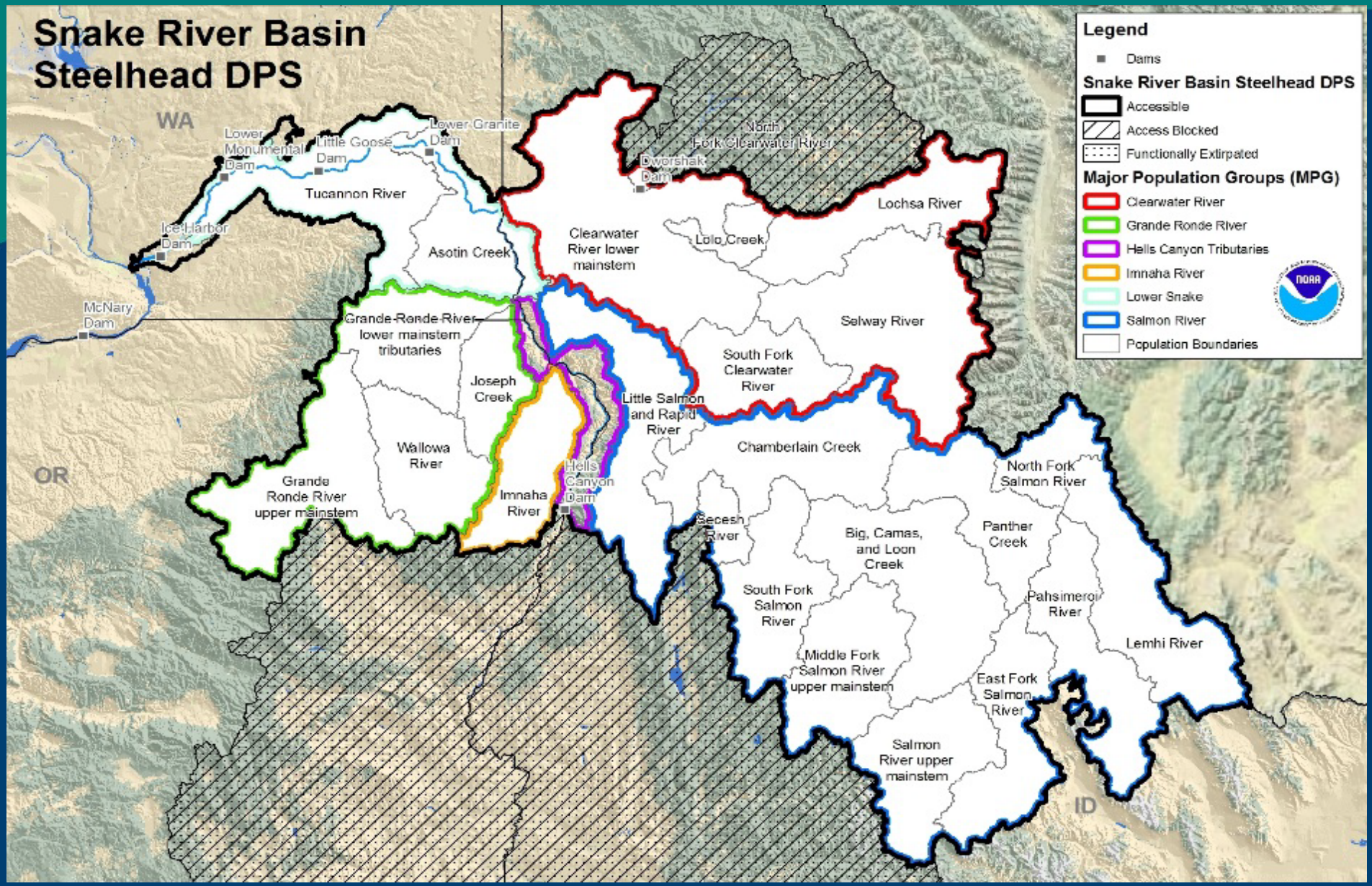
Snake River Basin

- Wide elevation range
- Diverse environmental conditions
  - Temperature and precipitation regimes
  - Ecoregions
- ESU/DPS level viability requires viable populations across representative range of conditions






Snake River Spring/Summer-run Chinook Salmon ESU
Legend
Dams
States
Snake River Spring/Summer-run Chinook Salmon ESU
Accessible
Access Blocked
Functionally Extirpated
Major Population Groups (MPG)
Grande Ronde / Imnaha
Lower Snake River
Middle Fork Salmon River
South Fork Salmon River
Upper Salmon River
Population Boundaries
NOAA
WA
OR
ID
Lower Monumental Dam
Little Goose Dam
Lower Granite Dam
Dworshak Dam
Ice Harbor Dam
McNary Dam
Tucannon River
Asotin Creek
Wenaha River
Lookingglass Creek
Lostine River
Minam River
Catherine Creek
Grande Ronde River upper mainstem
Imnaha River mainstem
Big Sheep Cr
Hells Canyon Dam
South Fork Salmon R mainstem
Little Salmon River
Secesh River
Chamberlain Creek
Middle Fork Salmon R below Indian Cr
North Fork Salmon River
Panther Creek
Big Creek
East Fork South Fork Salmon R
Middle Fork Salmon R above Indian Cr
Camas Creek
Lemhi River
Salmon River lower mainstem below Redfish Lake
Loon Creek
Sulphur Creek
Marsh Creek
Yankee Fork
Pahsimeroi River
Bear Valley Creek
Valley Creek
East Fork Salmon River
Salmon River upper mainstem above Redfish Lake


Snake River Basin
Steelhead DPS
WA
OR
ID
Lower Monumental Dam
Little Goose Dam
Lower Granite Dam
Ice Harbor Dam
McNary Dam
Dworshak Dam
North Fork Clearwater River
Tucannon River
Asotin Creek
Clearwater River lower mainstem
Lolo Creek
Lochsa River
Selway River
South Fork Clearwater River
Grande Ronde River lower mainstem tributaries
Joseph Creek
Wallowa River
Grande Ronde River upper mainstem
Imnaha River
Hells Canyon Dam
Little Salmon and Rapid River
Chamberlain Creek
North Fork Salmon River
Panther Creek
Secesh River
Big, Camas, and Loon Creek
South Fork Salmon River
Pahsimeroi River
Lemhi River
Middle Fork Salmon River upper mainstem
East Fork Salmon River
Salmon River upper mainstem
Legend
Dams
Snake River Basin Steelhead DPS
Accessible
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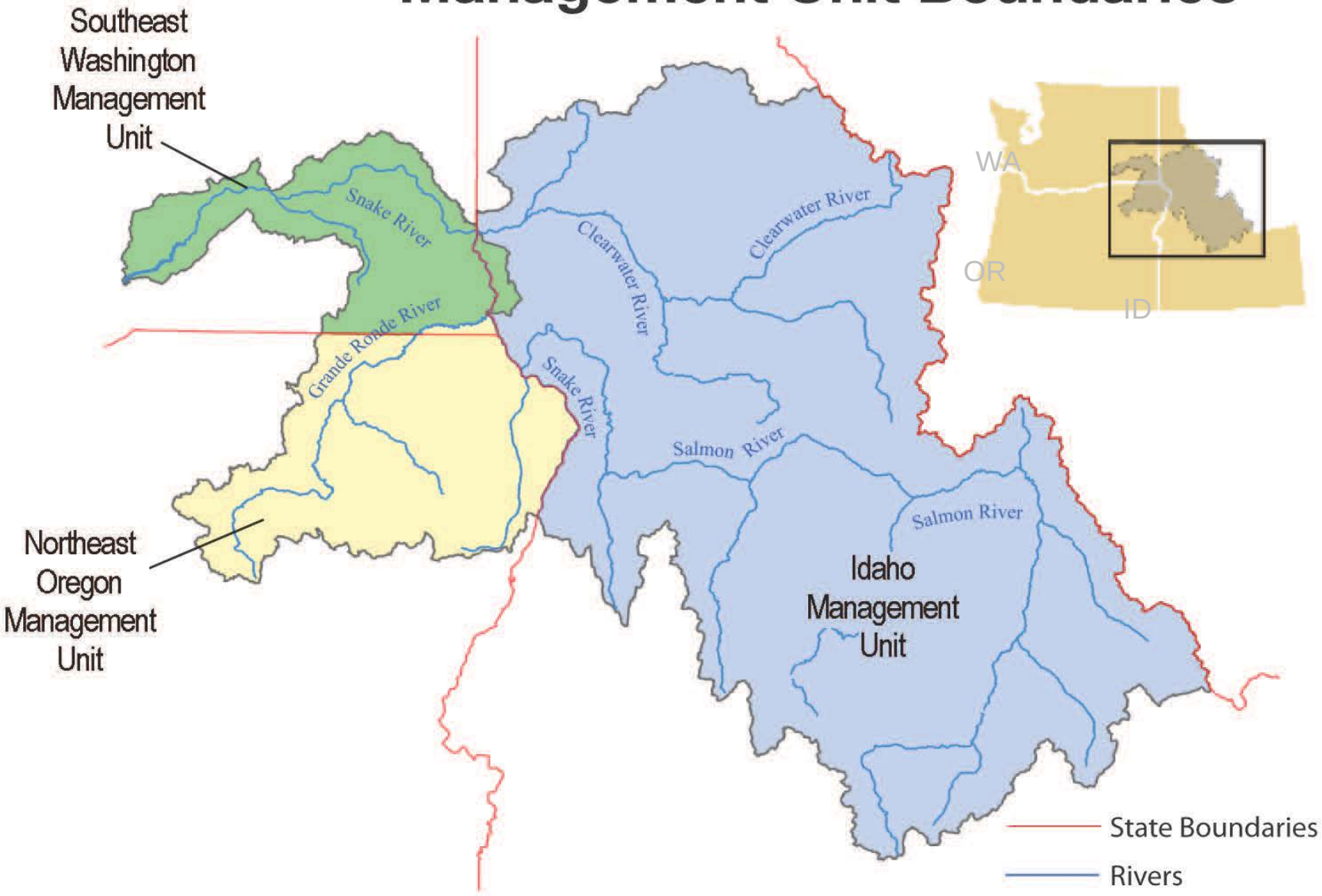
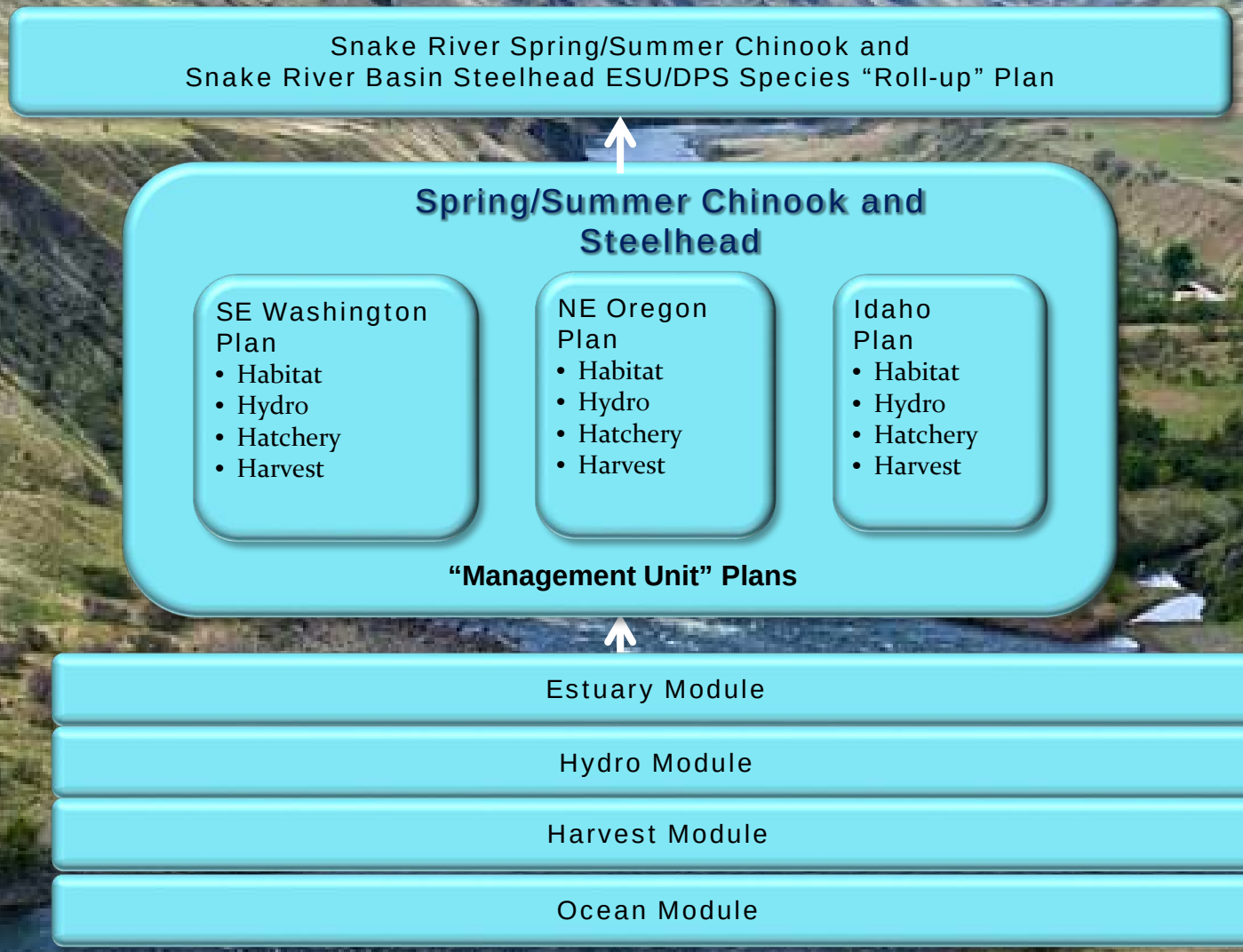
Functionally Extirpated
Major Population Groups (MPG)
Clearwater River
Grande Ronde River
Hells Canyon Tributaries
Imnaha River
Lower Snake
Salmon River
Population Boundaries
NOAA

Snake River Recovery Plan
Management Unit Boundaries



Architecture of Recovery Plan



Recovery Plan Chapters

- Background (plan development; life history, etc.)
- Recovery goals and de-listing criteria
- Current ESU/DPS status
- Limiting factors and threats
- Recovery strategies and actions
- Research, monitoring and evaluation
- Estimates of time & cost
- Implementation

Recovery Goals

ESA: ESU and DPS are self-sustaining in the wild and no longer need ESA protection.

Broad Sense:

- Provide ecological, social, cultural and economic benefits
- Oregon goal of restoring passage and production for extirpated populations
- Support tribal treaty and trust responsibilities
- Meet mitigation objectives
- State of Idaho will focus on ESA delisting

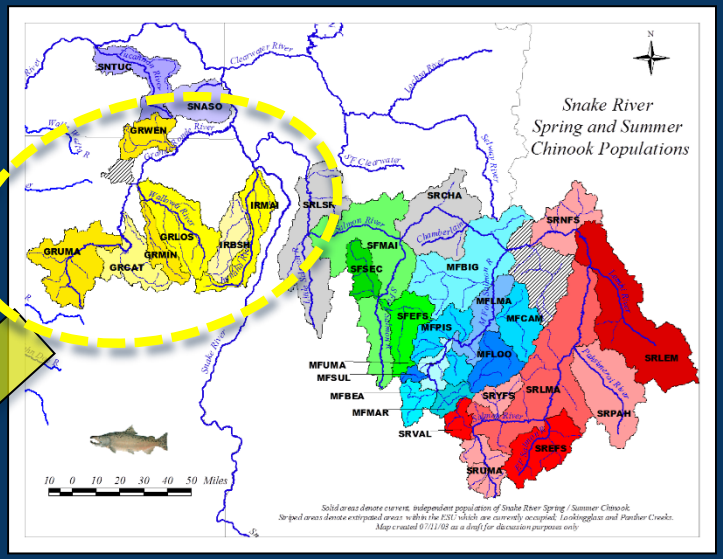
Recovery Strategy

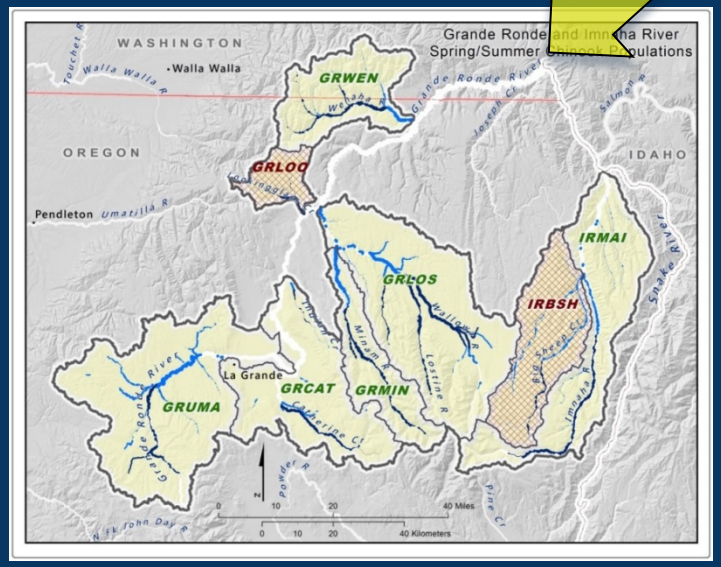
- Protect and improve existing population status
- Pursue full range of viability scenarios
  - Protect gains
  - Address all H protective and restorative actions in concert
  - Address Key Information Needs and Critical Uncertainties
- Identify and implement additional actions
- Adaptive Management Process Framework
  - Evaluate, prepare and implement changes that could lead to delisting

Recovery Actions

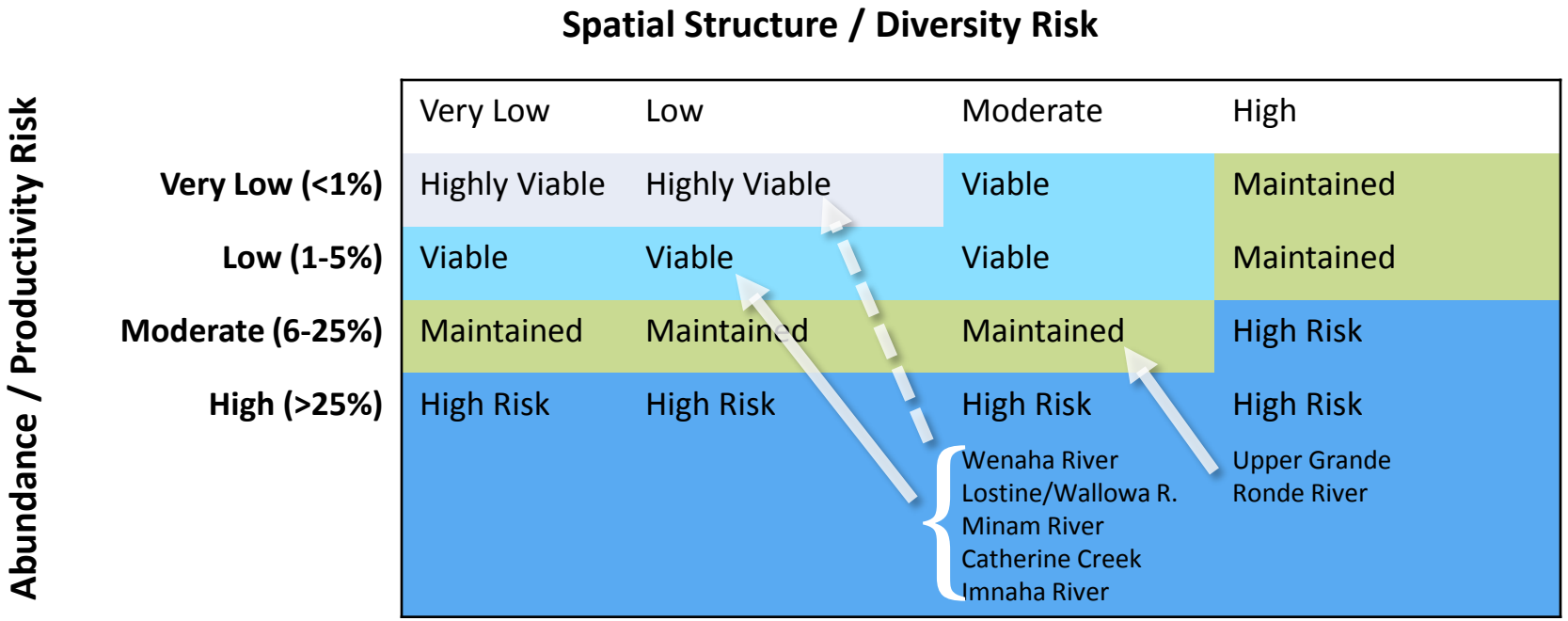
- Recovery strategies and actions for all H's in "Roll-Up" Plan and site specific actions in three Management Unit Plans
- Apply ecological restoration principles for sequence and timing of habitat restoration
- Potential future actions identified (Table 6-8 of "Roll-up" Plan)
- MPG strategies and recovery scenarios in "Roll-up" Plan

Grande Ronde/Imnaha Spring/Summer Chinook Salmon Major Population Group (MPG) (6 extant populations)





Status Assessment and Recovery Scenario for Grande Ronde/Imnaha MPG



Two populations, Big Sheep Creek and Lookingglass Creek, are extirpated and recovery plan supports reintroduction programs.

Time and Cost to Recovery

- Time Estimates: Recovery, like other ESA-listed salmon and steelhead, could take 50 to 100 years
- Costs for both species: Ten-year period costs are $ 139 million
- Costs: Limited to actions that would not be implemented but for the recovery plan

Next steps

- Work with Snake River Coordination Group members to implement actions (tribes, states, federal land managers, watershed councils, recovery boards, local non-profit organizations)

- NMFS staff will work with local partners to identify high priority actions to implement over next five years

- Use recovery plan information in ESA Section 7 consultations with federal agencies