Science, Service, Stewardship

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NOAA FISHERIES SERVICE

Northwest Salmon & Steelhead Recovery Planning & Implementation

An Introduction to Recovery Planning Under the Endangered Species Act

The Endangered Species Act (ESA) of 1973 requires NOAA Fisheries to develop and implement recovery plans for salmon and steelhead species listed under the Act. Recovery plans identify actions needed to restore threatened and endangered species to the point that they are again self-sustaining elements of their ecosystems and no longer need the protections of the ESA. Although recovery plans are guidance, not regulatory, documents, the ESA clearly envisions recovery plans as the central organizing tool for guiding and coordinating recovery efforts across a wide spectrum of Federal, state, tribal, local, and private entities. Recovery planning is an opportunity to find common ground among diverse interests, obtain needed protection and restoration for salmon and their habitat, and secure the economic and cultural benefits of healthy watersheds and rivers. Recovery planning is a collaborative effort that draws on the collective knowledge, expertise, and actions of communities and partnerships.

Recovery goals are based on sound scientific data on the species' status and the threats they face. Biological goals describe viable salmonid populations, or populations of salmon and steelhead that are naturally self-sustaining over a 100-year period. Viable salmonid populations are defined in terms of four parameters—abundance, productivity, spatial structure, and diversity. These parameters provide a scientific framework for assessing the status of populations and species, determining the factors limiting survival, and devising actions needed to achieve recovery. Threats are the conditions that have contributed and/or are contributing to the species' risk. Threats will be examined by NOAA Fisheries at the time of delisting to ensure that they have been addressed and are not likely to reemerge upon delisting.

Key Elements of a Recovery Plan

Current Status, Desired Status, Gaps to Viability & Recovery Scenarios

Gaps to viability describe the improvements needed between current and desired status. The recovery scenarios describe some of the alternative ways to achieve the desired status.

Limiting Factors & Threats

Limiting factors describe characteristics of the environment that reduce species' health. Threats are human activities that contribute to limiting factors. Recovery plans describe ways to reduce limiting factors and threats. Legitimate and necessary human activities may at times have unintended negative consequences to fish populations, yet can be managed in a manner that minimizes or eliminates the negative impacts.

Recovery Goals & Delisting Criteria

Recovery goals include both delisting criteria and "broad-sense" goals. Delisting criteria describe the conditions under which a species will no longer be considered endangered or threatened (and no longer warrant protection under the Act). Broad-sense recovery goals describe aspirations beyond delisting to fulfill other legislative mandates or social, economic, and ecological values.

Recovery Strategies & Management Actions

Recovery strategies describe the approach to achieving recovery goals and objectives and help to define the actions necessary to reach them.

Time & Cost Estimates

Time and cost estimates describe the cost and how long it may take to achieve recovery goals and objectives.

Research, Monitoring and Evaluation, & Adaptive Management

Implementation is a learning, iterative, and adaptive process. Comprehensive monitoring and evaluation is important for prioritizing and selecting the right projects in the right places. Recovery actions will adjust to on-the-ground information and local conditions/circumstances to ensure that precious dollars are focused on the greatest needs to achieve the greatest benefit.

What is a Salmon or Steelhead Species?

Salmonid populations exhibit unique adaptations because of their tendency to return to their natal streams to spawn. Over time, populations develop that are uniquely adapted to particular geographic areas. Some spawners "stray" and this results in genetic exchange and the sharing of some traits among nearby populations. Fish that spawn in adjacent streams will have more in common than those spawning hundreds of miles apart.

A salmon ESU (evolutionarily significant unit) or steelhead DPS (distinct population segment) is a distinctive grouping of Pacific salmon or steelhead populations that is uniquely adapted to a particular area or environment and cannot be replaced. For purposes of conservation under the ESA, these are considered species.

Biologists can identify groups of independent populations within an ESU/DPS that share similar genetic, geographic, life-history and/or habitat characteristics. These major population groups (MPGs) are isolated from one another over longer time scales than are individual populations. But MPGs within an ESU/DPS exhibit more connectivity among each other than they do to other ESUs/DPSs. If all MPGs in an ESU or DPS are viable, then the ESU or DPS would be considered recovered.

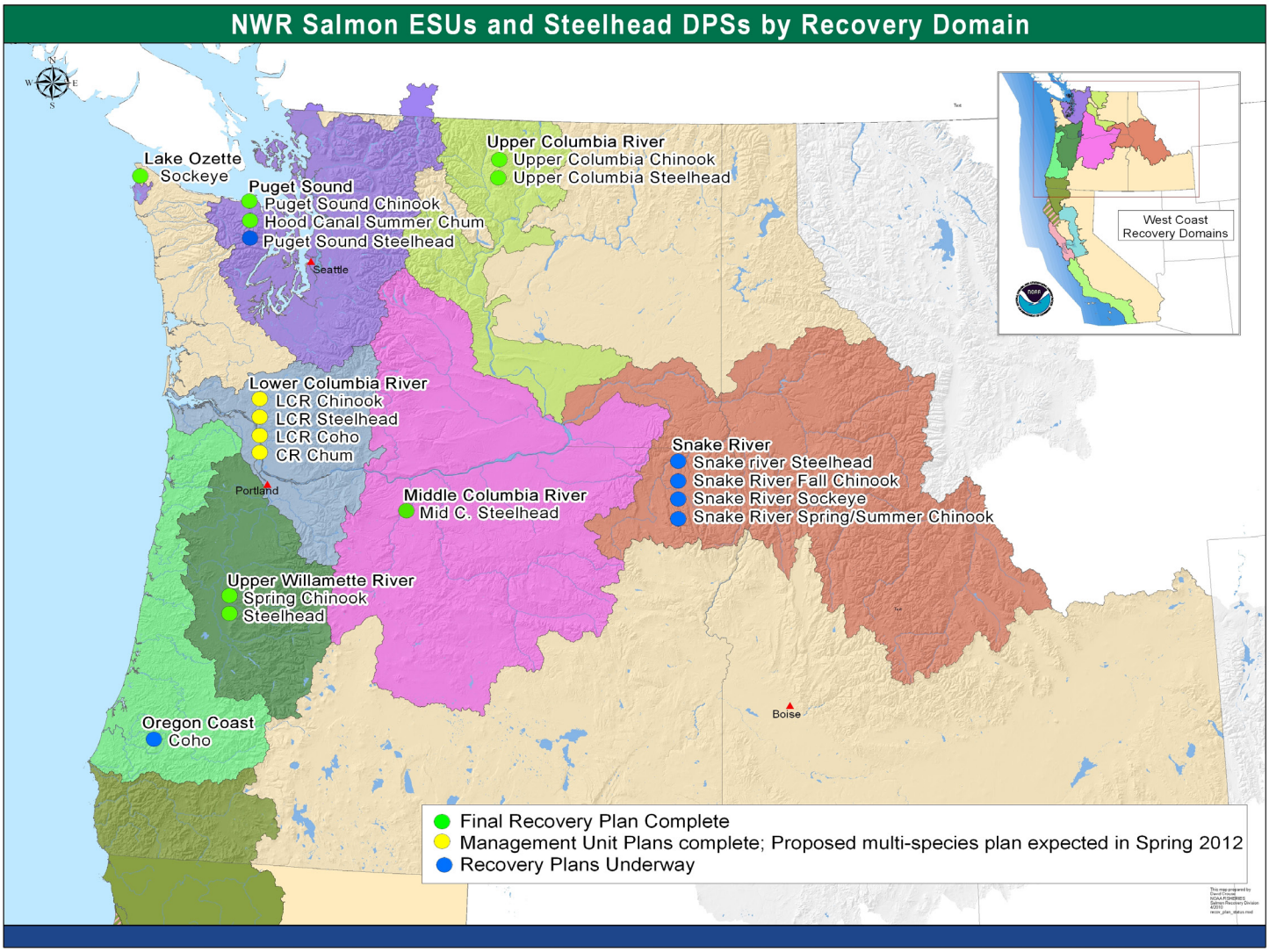
NOAA's Approach to Recovery Planning

In order to collaborate with local stakeholder groups, build on the good work already underway, and draw on the considerable expertise that exists within state and tribal governments, local jurisdictions, and communities, NOAA Fisheries has taken a decentralized, multi-jurisdictional approach to salmon recovery planning in the Pacific Northwest.

NOAA Fisheries has delineated four recovery domains, or geographic recovery planning areas, for the salmon and steelhead populations listed under the ESA in the Northwest Region. The four domains are the Willamette/Lower Columbia, Interior Columbia (which has three sub-domains of the Middle Columbia, Snake, and Upper Columbia), the Oregon Coast, and Puget Sound (which includes Hood Canal and Lake Ozette). Within these domains, several management units may exist.

NOAA Fisheries' approach to recovery planning is rooted in local planning groups with firsthand knowledge of the species and its ecosystem. In each domain, the agency works with state, tribal, local, and other Federal entities to develop planning forums that build on ongoing, locally led recovery efforts. NOAA Fisheries defines "management units" based on jurisdictional boundaries, as well as areas where local planning efforts are underway. In Washington State, NOAA Fisheries is working with state recovery boards to develop recovery plans. In Oregon, similar stakeholder and watershed groups are actively participating in recovery planning. The agency is also working hand-in-hand with the state of Idaho to facilitate tribal and local involvement in recovery planning and implementation.

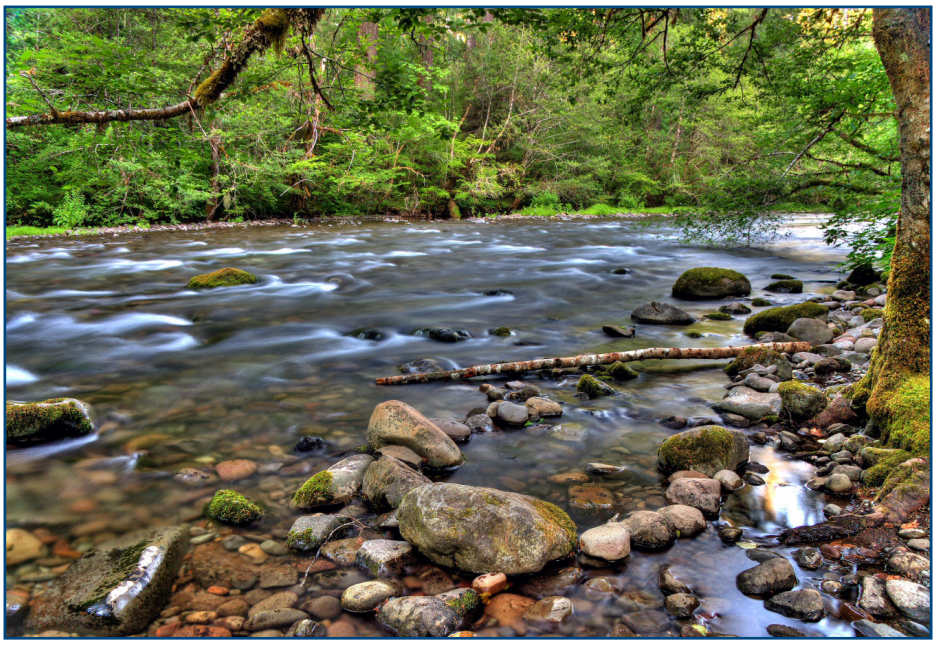
The ESA-listed species in each recovery domain are highlighted in the map below.



Scientific Foundation for Recovery Planning

Teams of biologists and salmonid experts, collectively known as technical recovery teams (TRTs), established the scientific foundation for recovery planning efforts. The TRTs are multi-disciplinary teams of experts chaired by NOAA Fisheries Science Center scientists. They were tasked with identifying independent populations, providing scientifically sound biological recovery criteria, analyzing alternative recovery strategies, and providing scientific review of draft recovery plans. Examples of scientific work to assist recovery implementation include:

- Analysis of the efficacy of particular recovery actions
- Development of monitoring and evaluation programs
- Scientific research concerning critical uncertainties — the unknowns in recovery planning
- The prioritization, sequencing, and development of effective strategies and actions
- Scientific review of plans and analyses for policy, funding, and oversight groups
- Updates and progress reports on species' status and progress in recovery implementation



All photographs by John McMillian, NOAA.

For More Information

For more information on recovery planning in the Northwest, including information on the plans themselves please visit:

http://www.nwr.noaa.gov/nwrcms2/