LEARNING OVER TIME & ADAPTIVE MANAGEMENT

Monitoring and research will be needed to support adaptive management and allow managers to make sound decisions for the future. As actions are taken and the results monitored, new information will help us learn what works best for the fish.

MANAGEMENT UNITS

In each domain, NMFS worked with state, tribal, local and other Federal entities to develop planning forums that build ongoing, locally led recovery efforts. NMFS defined "management units" based on jurisdictional boundaries as well as areas where local planning efforts were underway. The Mid-Columbia management units are (1) Oregon; (2) Washington Gorge, which, in turn, is subdivided into three planning areas, White Salmon, Klickitat, and Rock Creek; (3) Yakima subbasin; and (4) Southeast Washington.

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The Middle Columbia River Steelhead Recovery Plan and Federal Register notice are available for download: http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Interior-Columbia/Mid-Columbia/Mid-Col-Plan.cfm

U.S. Department of Commerce - National Oceanic & Atmospheric Administration
National Marine Fisheries Service

Science, Service, Stewardship

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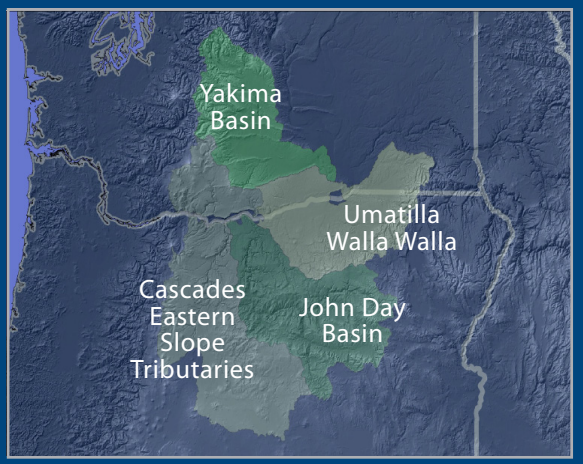


Middle Columbia River Steelhead:

A Blueprint for Recovery

NOAA FISHERIES SERVICE

Recovery Planning

Salmon and steelhead are a treasured icon of the Pacific Northwest. They are important to our environment, economy, and culture. Eighteen species of Pacific Northwest salmon and steelhead are currently listed under the Endangered Species Act (ESA).

The ESA requires recovery plans to be developed for all listed species. For the ESA, recovery means that the species is again naturally self-sustaining over the long term, no longer needs the protection of the ESA, and can be "delisted."

A recovery plan provides a roadmap for communities seeking to secure the long-term benefits of healthy watersheds and rivers for salmon and steelhead. It helps organize people, processes, and resources for more effective action.

A Recovery Plan:

- Contains an explanation of steelhead biology
- Indicates recovery goals & viability criteria
- Includes an assessment of current status, limiting factors & threats
- Presents recovery strategies & site-specific actions
- Holds estimates of time & costs to implement actions
- Includes research, monitoring & evaluation to track progress

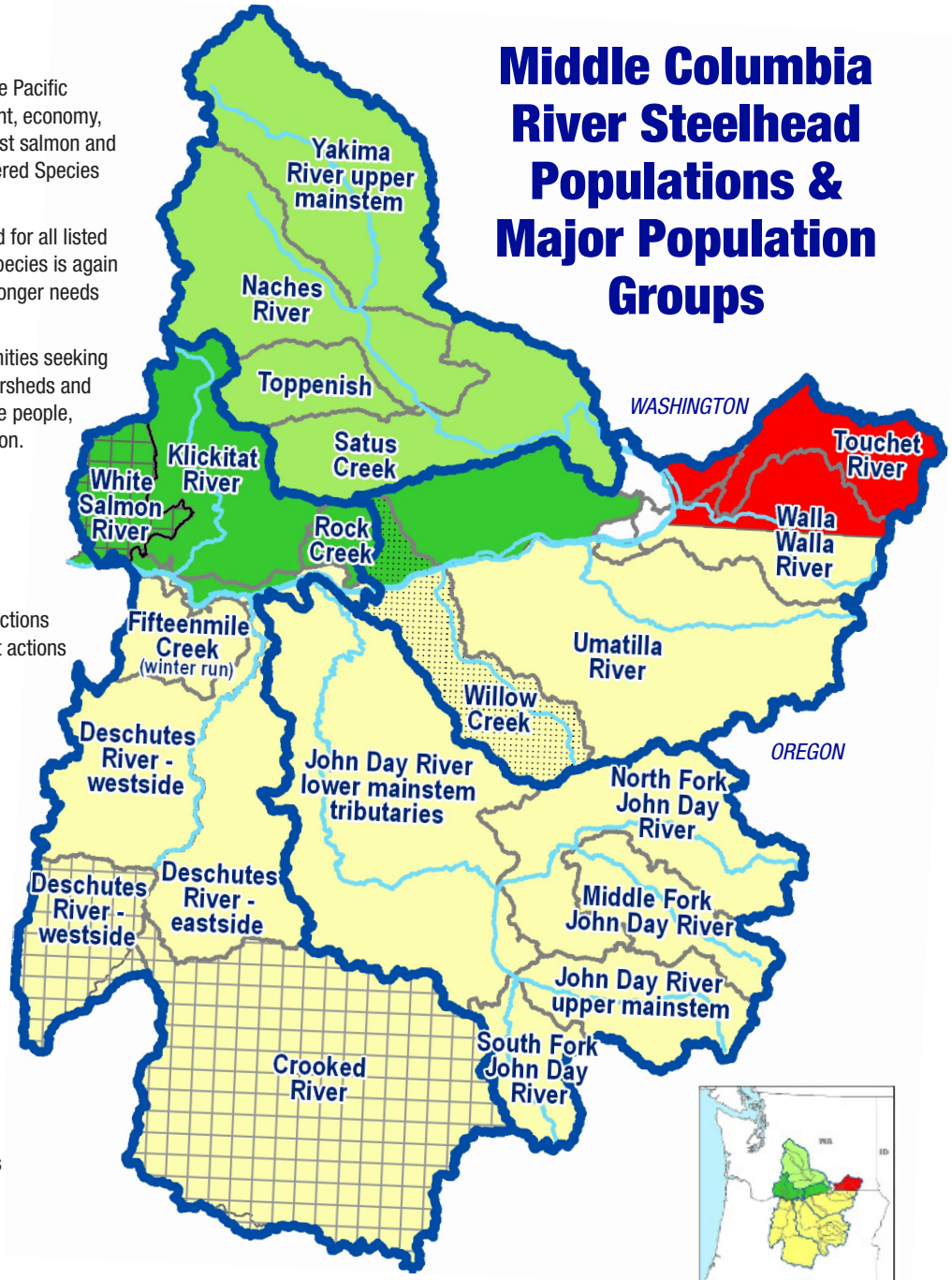
Habitat, Hydro, Hatcheries & Harvest

This plan addresses steelhead status and recovery in terms of the "four Hs" that affect the species' survival: habitat, the hydropower system, hatcheries, and harvest. The plan summarizes information from four locally developed recovery plans encompassing Middle Columbia River tributaries in Washington and Oregon.

The plan also uses information from two "modules" developed by NMFS to address conditions in the Columbia River mainstem and estuary that affect all the Middle Columbia steelhead: the Hydro Module, which summarizes effects of the mainstem hydropower dams, and the Estuary Module.

For hatchery effects, the plan relies upon Hatchery & Genetic Management Plans and Artificial Production for Pacific Salmon (Appendix C of Supplemental Comprehensive Analysis, NMFS 2008 FCRPS Biological Opinion). For fishery management planning, it refers to the *U.S. v. Oregon* process for mainstem fisheries, and Fisheries Management Evaluation Plans for tributaries.

Middle Columbia River Steelhead Populations & Major Population Groups



Middle Columbia River Steelhead Status

The Middle Columbia steelhead is listed as "threatened" under the ESA. The steelhead spawn and rear in freshwater tributaries, then migrate to the ocean. Of the 17 extant populations of Middle Columbia steelhead, five are considered at high risk of extinction over the next 100 years, nine are at moderate risk, and three populations are currently considered viable. Reintroduction efforts are underway for two of the three extirpated populations. For the species to be viable in the long term, we need to improve survival conditions for most of the populations.

Factors Limiting Steelhead Survival

The major factors currently limiting the viability of Middle Columbia River steelhead populations are:

- Degraded tributary habitats
- Impaired fish passage in the mainstem Columbia River & tributaries
- Hatchery-related effects
- Predation/competition/disease

Strategies for Recovery

The recovery plan proposes actions to reduce or mitigate the limiting factors and threats to steelhead survival throughout the life cycle:

Tributary Habitat: Protect highest quality habitats, maintain existing unimpaired healthy watersheds, and restore habitat conditions through passive and active measures.

Hydrosystem: Improve juvenile and adult steelhead migratory passage and survival in the Federal Columbia River Power System.

Hatcheries: Improve hatchery management to minimize impacts of hatchery fish on naturally produced steelhead. Supplement natural production where appropriate.

Predation: Reduce predation on steelhead in the Columbia River and estuary.

Harvest: Maintain low-impact fisheries, increase harvest of hatchery strays.

Coordination: Coordinate research and planning within the range of the Middle Columbia River steelhead.