

Chapter: 12

State(s): Oregon

Recovery Unit Name: Imnaha-Snake Rivers Recovery Unit

Region 1

U S Fish and Wildlife Service

Portland, Oregon

DISCLAIMER

Recovery plans delineate reasonable actions that are believed necessary to recover and/or protect the species. Recovery plans are prepared by the U.S. Fish and Wildlife Service and, in this case, with the assistance of recovery unit teams, State and Tribal agencies, and others. Objectives will be attained and any necessary funds made available subject to budgetary and other constraints affecting the parties involved, as well as the need to address other priorities. Recovery plans do not necessarily represent the views or the official positions or indicate the approval of any individuals or agencies involved in the plan formulation, other than the U.S. Fish and Wildlife Service. Recovery plans represent the official position of the U.S. Fish and Wildlife Service *only* after they have been signed by the Director or Regional Director as *approved*. Approved recovery plans are subject to modification as dictated by new findings, changes in species status, and the completion of recovery tasks.

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IMNAHA-SNAKE RIVERS RECOVERY UNIT CHAPTER OF THE BULL TROUT RECOVERY PLAN

EXECUTIVE SUMMARY

CURRENT SPECIES STATUS

The U.S. Fish and Wildlife Service issued a final rule listing the Columbia River and Klamath River populations of bull trout (*Salvelinus confluentus*) as a threatened species under the Endangered Species Act on June 10, 1998 (63 FR 31647). The Columbia River Distinct population segment is threatened by habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, and past fisheries management practices such as the introduction of nonnative species.

As required by the Endangered Species Act, the U.S. Fish and Wildlife Service has developed a plan which when implemented will lead to the recovery and ultimate delisting of the Columbia River Distinct Population Segment. An overall recovery unit team with membership from the States of Washington, Oregon, Idaho, and Montana, as well as Native American Tribes, was established to develop a framework for the recovery plan, provide guidance on technical issues, and insure consistency through the recovery planning process. Within the Columbia River Distinct Population Segment, the recovery unit team has identified 22 recovery units. Recovery unit teams were established to develop specific reasons for decline and actions necessary to recover bull trout.

Recovery units were identified based on three factors: (1) recognition of jurisdictional boundaries, (2) biological and genetic factors common to bull trout within a specific geographic area, and (3) logistical concerns for coordination, development, and implementation of the recovery plan. To facilitate the recovery planning process and avoid duplication of effort, the recovery unit team considered the frameworks put forth in Kostow (1995) and Buchanan *et al.* (1997) to develop recovery units in Oregon. The Imnaha-Snake Rivers Recovery Unit was identified as one of the 22 recovery units for bull trout. Use of these existing

frameworks will allow for better coordination during both salmon (*Oncorhynchus spp.*) and bull trout recovery planning and implementation.

The Imnaha-Snake Rivers Recovery Unit Team identified three core areas, the Imnaha River, Sheep Creek, and Granite Creek. For the purposes of recovery planning, a core area represents the closest approximation of a biologically functioning unit. Core areas consist of both habitat that could supply all the necessary elements for every lifestage of bull trout (*e.g.*, spawning, rearing, migratory, and adult), and have one or more groups of bull trout (see Chapter 1 for glossary). Research needs apply to areas where the recovery unit team feels more information is needed in order to accurately plan and implement recovery actions.

Based on survey data and professional judgement as well as Kostow (1995) and Buchanan *et al.* (1997), the Imnaha-Snake Rivers Recovery Unit Team has also identified local populations of bull trout which currently exist within each core area. In the Imnaha Core Area (which is entirely in Oregon), local populations currently include the Imnaha River (above the mouth of Big Sheep Creek), upper Big Sheep Creek (above the Wallowa Valley Improvement diversion and in the canal), lower Big Sheep Creek (below the Wallowa Valley Improvement diversion), Little Sheep Creek, and McCully Creek. One local population, the Sheep Creek population, was identified in the Sheep Creek Core Area. One local population, the Granite Creek population, was identified in the Granite Creek Core Area. Both the Sheep Creek and Granite Creek Core Areas (which are entirely in Idaho) are defined at their lower ends by the Snake River.

Key information gaps that need to be addressed in the Imnaha-Snake Rivers Recovery Unit include: (1) the extent to which bull trout from the three core areas use the mainstem of the Snake River and interact with each other, (2) specific information on the suitability of potential spawning and rearing areas in each subbasin, (3) increased inventory in each subbasin to establish more accurately the current distribution and abundance, and (4) a complete limiting factors analysis to identify site specific actions needed to recover bull trout within each core area. Information from each of these tasks is essential in order to define more accurately the recovered distribution and abundance in each core area. The

Innaha-Snake Rivers Recovery Unit Team believes that it is essential that efforts to collect information be coordinated with local watershed councils and working groups.

HABITAT REQUIREMENTS AND LIMITING FACTORS

A detailed discussion of bull trout biology and habitat requirements is provided in Chapter 1 of this recovery plan. The limiting factors discussed here are specific to the Innaha-Snake Rivers Recovery Unit chapter. Within the Innaha-Snake Rivers Recovery Unit, historical and current land use activities have impacted bull trout local populations. There have been a combination of human-induced factors that affect bull trout including forest management practices, irrigation withdrawals, livestock grazing, past bull trout harvest, and introduction of non-native species. Lasting effects from some, but not all, of these activities still act to limit bull trout production in the Innaha, Sheep Creek, and Granite Creek Core Areas.

RECOVERY GOALS AND OBJECTIVES

The goal of the bull trout recovery plan is to **ensure the long-term persistence of self-sustaining, complex, interacting groups of bull trout distributed throughout the species' native range, so that the species can be delisted.**

To achieve this goal the following objectives have been identified for bull trout in the Innaha-Snake Rivers Recovery Unit:

- Maintain current distribution of bull trout and restore distribution in previously occupied areas within the Innaha-Snake Rivers Recovery Unit.
- Maintain stable or increasing trends in abundance of bull trout.
- Restore and maintain suitable habitat conditions for all bull trout life history stages and strategies.

- Conserve genetic diversity and provide opportunity for genetic exchange.

Recovery Criteria

Recovery criteria for the Imnaha-Snake Rivers Recovery Unit are established to assess whether actions are resulting in the recovery of bull trout in the basin. The criteria developed for bull trout recovery address quantitative measurements of bull trout distribution and population characteristics on a recovery unit basis.

1. **Distribution criteria will be met when bull trout are distributed among at least six local populations in the Imnaha-Snake Rivers Recovery Unit.** Within all core areas, local populations should express migratory life history patterns. Designation of local populations is based upon the professional judgement of Imnaha-Snake Rivers Recovery Unit Team members. Further genetic studies are needed to more accurately delineate local populations and quantify spawning site fidelity and straying rates.
2. **Abundance criteria will be met when the estimated abundance of bull trout among all local populations in the Imnaha-Snake Rivers Recovery Unit is at least 5,000 adults.** This abundance estimate is only for the Imnaha Core Area. Recovered abundance estimates in the Sheep Creek and Granite Creek Core Areas are considered a research need. Recovered abundance for the Imnaha Core Area was derived using the professional judgement of the recovery unit team and estimation of productive capacity of identified local populations. Resident and migratory life history forms are included in this estimate, but the relative proportions of each are considered a research need. As more data is collected, recovered population estimates will be revised to more accurately reflect both the migratory and resident life history components. This criterion should be achieved within 25 to 50 years.
3. **Trend criteria will be met when adult bull trout local populations exhibit a stable or increasing trend for at least two generations at or**

above the recovered abundance level. This criterion should be achieved within 25 to 50 years.

4. **Connectivity criteria will be met when specific barriers to bull trout migration in the Imnaha-Snake Rivers Recovery Unit have been addressed.** Within the Imnaha-Snake Rivers Recovery Unit, specific barriers (mostly associated with the Wallowa Valley Improvement Canal) may be inhibiting the recovery of bull trout. However, the recovery unit team expressed great uncertainty about whether many of the barriers can be corrected in a manner that would benefit bull trout.

The Imnaha-Snake Rivers Recovery Unit Team expects that the recovery process will be dynamic and will be refined as more information becomes available. Recovery criteria for the Imnaha-Snake Rivers Recovery Unit were established to assess whether recovery actions have resulted in the recovery of bull trout. Recovery criteria developed for bull trout address quantitative measurements of bull trout distribution and population characteristics. The recovery objectives were based on our current knowledge and may be refined as more information becomes available. Future adaptive management will play a major role in recovery implementation and refinement of recovery criteria. While removal of bull trout as a species under Endangered Species Act (*i.e.*, delisting) can only occur for the entity that was listed (Columbia River Distinct Population Segment), the recovery unit criteria listed above will be used to determine when the Imnaha-Snake Rivers Recovery Unit is fully contributing to recovery of the species.

ACTIONS NEEDED

Recovery for bull trout will entail reducing threats to the long-term persistence of populations and their habitats, ensuring the security of multiple interacting groups of bull trout, and providing habitat and access to conditions that allow for the expression of various life history forms. The seven categories of action needed are discussed in Chapter 1; tasks specific to this recovery unit are provided in this chapter.

ESTIMATED COST OF RECOVERY

Total estimated cost of bull trout recovery in the Imnaha-Snake River Recovery Unit is estimated at about \$ 24 million. This estimate does not include areas outside the Imnaha River, Sheep Creek and Granite Creek, which are considered research needs. Total costs include estimates of expenditures by local, Tribal, State, and Federal governments and by private business and individuals. Successful recovery of bull trout in the aforementioned core areas is contingent on removing barriers, improving habitat conditions, and removal of nonnative species within the recovery unit. These costs are attributed to bull trout conservation, but other aquatic species will also benefit. Cost estimates are not provided for tasks which are normal agency responsibilities under existing authorities.

ESTIMATED DATE OF RECOVERY

Time required to achieve recovery depends on bull trout status, factors affecting bull trout, implementation and effectiveness of recovery tasks, and responses to recovery tasks. A tremendous amount of work will be required to restore impaired habitat, reconnect habitat, and eliminate threats from nonnative species. Three to five bull trout generations (15 to 25 years), or possibly longer, may be necessary before identified threats to the species can be significantly reduced and bull trout can be considered eligible for delisting.

In the Imnaha-Snake Rivers Recovery Unit several local populations have relatively good abundance, but many are poorly connected. Degradation and fragmentation of bull trout habitat have resulted in populations that are at risk of extinction. Ultimately, these threats must be addressed in the near future for recovery to be achieved. If identified actions are implemented, the recovery unit team anticipates that recovery could occur within 25 to 50 years.