Chapter 13

State (s): Oregon and Idaho

Recovery Unit Name: Hells Canyon Complex

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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HELLS CANYON COMPLEX 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 Hells Canyon Complex Recovery Unit includes basins in Idaho and Oregon draining into the Snake River and its associated reservoirs from below the confluence of the Weiser River downstream to Hells Canyon Dam. This recovery unit contains three Snake River reservoirs; Hells Canyon, Oxbow, and Brownlee. Major watersheds are the Pine Creek, Powder River, and Burnt River drainages in Oregon, and the Indian Creek and Wildhorse River drainages in Idaho.

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 Hells Canyon Complex Recovery Unit Chapter. Currently, habitat fragmentation and degradation are likely the most limiting factors for bull trout throughout the Hells Canyon Complex Recovery Unit. In the Snake River, large dams of the Hells Canyon Complex lack fish passage and have isolated bull trout among three basins, the Pine Creek and Indian Creek watersheds, Wildhorse River, and Powder River. Dams, irrigation diversions, and road crossings have formed impassable barriers to fish movement within the basins, further fragmenting habitats and isolating bull trout. Land management activities that degrade aquatic and riparian habitats by altering stream flows and riparian vegetation, such as water diversions, past and current mining operations, timber harvest and road construction, and improper grazing practices, have negatively affected bull trout in several areas of the recovery unit. Bull trout are also subject to negative interactions with nonnative brook trout in streams where the species occur together.

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 across 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 Hells Canyon Complex Recovery Unit:

- Maintain current distributions of bull trout and restore distributions in previously occupied areas within the Hells Canyon Complex Recovery Unit.

- Maintain stable or increasing trends in adult bull trout abundance.

- Restore and maintain suitable habitat conditions for all life history stages and forms.

- Conserve genetic diversity and provide opportunity for genetic exchange.

RECOVERY CRITERIA

Recovery criteria for the Hells Canyon Complex 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. **Maintain current distribution of bull trout in the 17 local populations identified, and expand distribution by establishing bull trout local populations in three areas identified as potential spawning and rearing habitat**. The number of existing local populations and areas identified as containing potential spawning and rearing habitat by core area are: Pine-Indian-Wildhorse Core Area, 7 existing local populations and 2 areas with potential spawning and rearing habitat; and Powder River core area, 10 existing local populations and 1 area with potential spawning and rearing habitat

(see Table 6). Achieving criterion 1 entails: (1) maintaining existing local populations; (2) implementing activities intended to evaluate the feasibility of establishing additional bull trout local populations in potential spawning and rearing habitat, and (3) encouraging the establishment of additional bull trout local populations in potential spawning and rearing habitat in both core areas of the recovery unit (*e.g.,* by implementing recovery tasks to provide accesses to the areas and restoring habitat). Establishing additional local populations will contribute to achieving criteria 2 and 3, and increase the likelihood of achieving the recovery goal for the Hells Canyon Complex Recovery Unit.

2. **Estimated abundance of adult bull trout is at least 5,000 individuals in the Hells Canyon Complex Recovery Unit**. The recovered abundance of adult bull trout for the recovery unit was estimated based on professional judgement of the recovery unit team in consideration of surveyed fish densities, habitats, and potential fish production after threats have been addressed to allow expansion of distribution within existing local populations and establishment of additional local populations in the three areas with potential spawning and rearing habitat. The recovered abundance of adult bull trout should be evenly distributed between the two core areas.

3. **Adult bull trout exhibit stable or increasing trends in abundance in the Hells Canyon Complex Recovery Unit**. The intent of this criterion is that adult bull trout in core areas presently below their recovered abundance exhibit increasing trends, whereas bull trout in core areas that may be at their recovered abundance exhibit stable trends.

4. **Specific barriers inhibiting bull trout movement in the Hells Canyon Complex Recovery Unit have been addressed**. Many barriers to bull trout movement and migration exist within the recovery unit, and this recovery plan recommends several tasks to identify, assess, and reduce barriers to bull trout passage. Although

achieving criteria 1 through 3 is expected to depend on providing passage at barriers (including barriers due to physical obstructions, unsuitable habitat, and water quality) throughout the recovery unit, the intent of criterion 4 is to note specific barriers to address or tasks that must be performed to achieve recovery (*i.e.,* barriers evaluated and appropriately addressed if found to be feasible). Specific barriers to address that are required to achieve this criterion are Oxbow Dam in the Pine-Indian-Wildhorse Core Area, and Thief Valley Dam, Mason Dam, and Wolf Creek Dam in the Powder River Core Area (see task 1.2.4). Achieving criterion 4 also entails implementing additional tasks addressing barriers created by such factors as irrigation diversions, stream dewatering, and road crossings (*i.e.,* tasks 1.2.2, 1.2.3, and 1.2.6) sufficiently to achieve criteria 1 through 3. Tasks intended to assess the feasibility of providing passage should be conducted with coordinated review during implementation with the U.S. Fish and Wildlife Service.

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. Seven categories of actions needed are discussed in Chapter 1; tasks specific to this recovery unit are provided in this chapter.

ESTIMATED COST OF RECOVERY

The total cost of bull trout recovery in the Hells Canyon Complex Recovery Unit is estimated at $9 million spread over a 25-year period. This estimate does not include costs associated with some activities (*e.g.,* capital improvements for fish passage and protection) for which determination of the feasibility and design options are the outcomes of recommended tasks in this chapter, nor does this estimate include costs associated with tasks that are normal agency responsibilities under existing authorities. Total costs include estimates of expenditures by local, Tribal,

State and Federal governments and by private business and individuals. These costs are attributed to bull trout conservation, but other aquatic species will also benefit. Successful recovery of bull trout in the Hells Canyon Complex Recovery Unit is contingent on removing barriers, improving habitat conditions, providing fish passage, and removal of nonnative species that are adversely affecting bull trout.

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. In the Hells Canyon Complex Recovery Unit, bull trout currently have a wide distribution, but exist in relatively low abundance in several areas. 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.