Bull Trout (*Salvelinus confluentus*)

Draft Recovery Plan

CHAPTER 1: Introduction

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Region 1
U.S. Fish and Wildlife Service
Portland, Oregon

Approved:_____XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX_

Regional Director

Date:_____

EXECUTIVE SUMMARY FOR THE BULL TROUT RECOVERY PLAN

Current Species Status

The bull trout (*Salvelinus confluentus*) in the coterminous United States was listed as threatened on November 1, 1999 (64 FR 58910). Earlier rulemakings had listed distinct population segments of bull trout as threatened in the Columbia River, Klamath River, and Jarbidge River basins (63 FR 31647, 63 FR 42757, 64 FR 17110). Bull trout distribution, abundance, and habitat quality have declined rangewide. Several local extirpations have been documented, beginning in the 1950's. Bull trout continue to occur the Klamath River, Columbia River, Jarbidge River, St. Mary-Belly River, and Coastal-Puget Sound, in the states of Idaho, Montana, Nevada, Oregon, and Washington.

Habitat Requirements and Limiting Factors

Bull trout have more specific habitat requirements than most other salmonids. Habitat components that influence bull trout distribution and abundance include water temperature, cover, channel form and stability, substrate for spawning and rearing, and migratory corridors. Bull trout are found in colder streams and require colder water than most other salmonids for incubation, juvenile rearing, and spawning. Spawning and rearing areas are often associated with cold-water springs, groundwater infiltration, and/or the coldest streams in a watershed. Throughout their lives, bull trout require complex forms of cover, including large woody debris, undercut banks, boulders, and pools. Alterations in channel form and reductions in channel stability result in habitat degradation and reduced survival of bull trout eggs and juveniles. Channel alterations may reduce the abundance and quality of side channels, stream margins, and pools, which are areas bull trout frequently inhabit. For spawning and early rearing bull trout require loose, clean gravel relatively free of fine sediments. Because bull trout have a relatively long incubation and development period within spawning gravel (greater than 200 days), transport of bedload in unstable channels may kill young bull trout. Bull trout use migratory corridors to move from spawning and rearing habitats to foraging and overwintering habitats and back. Different habitats provide bull trout with diverse resources, and migratory corridors allow local populations to connect, which may increase the potential for gene flow and support or refounding of populations.

Declines in bull trout distribution and abundance are the results of combined effects of the following: habitat degradation and fragmentation, the blockage of migratory corridors, poor water quality, angler harvest and poaching, entrainment (process by which aquatic organisms are pulled through a diversion structure or other device) into diversion channels and dams, and introduced

nonnative species. Specific land and water management activities that continue to depress bull trout populations and degrade habitat include dams and other diversion structures, forest management practices, livestock grazing, agriculture, road construction and maintenance, mining, and urban and rural development. Some threats to bull trout are the continuing effects of past land management activities.

Organization and Development of the Recovery Plan

Because bull trout in the coterminous United States are widely distributed within a large area, the recovery plan is organized into multiple chapters. This introductory chapter (Chapter 1) describes our overall recovery strategy for the species, defines recovery, and identifies recovery actions applicable for all listed bull trout in the coterminous United States. Each successive chapter focuses on bull trout in specific geographic areas (recovery units), and describes conditions, defines recovery criteria, and identifies specific recovery actions for the recovery unit.

Recovery Objectives

The goal of this recovery plan is to describe the actions needed to achieve the recovery of bull trout, that is, to ensure the long-term persistence of self-sustaining, complex interacting groups (or multiple local populations that may have overlapping spawning and rearing areas) of bull trout distributed across the species' native range. Recovery of bull trout will require reducing threats to the long-term persistence of populations, maintaining multiple interconnected populations of bull trout across the diverse habitats of their native range, and preserving the diversity of bull trout life-history strategies (*e.g.*, resident or migratory forms, emigration age, spawning frequency, local habitat adaptations). To recover bull trout, the following four objectives have been identified:

- Maintain current distribution of bull trout within core areas as described in recovery unit chapters and restore distribution where recommended in recovery unit chapters.

- Maintain stable or increasing trend 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.

These objectives apply to bull trout in all recovery units. Additional objectives may be necessary to achieve recovery in some recovery units and will be identified in the respective recovery unit chapters.

Recovery Criteria

Criteria are established to assess whether recovery objectives are being achieved. Criteria specific to each recovery unit are defined in each recovery unit chapter. Individual chapters may contain criteria for assessing the status of bull trout and alleviation of threats that are unique to one or several recovery units. However, every recovery unit chapter will contain criteria that address the following characteristics:

- The **distribution of bull trout** in identified and potential local populations in all core areas within the recovery unit.

- The **estimated abundance of adult bull trout** within core areas in the recovery unit, expressed as either a point estimate or a range of individuals.

- The **presence of stable or increasing trends** for adult bull trout abundance in the recovery unit.

- The **restoration of passage** at specific barriers identified as inhibiting recovery.

We expect recovery of bull trout to be a dynamic process occurring over time. The recovery objectives are based on our current knowledge and may be refined as more information becomes available. Some local populations of bull trout, and possibly core area populations, may be extirpated even though recovery actions are being implemented. If reestablishment of recently extirpated populations is not feasible or practical, recovery criteria for a given recovery unit will be revised on a case-by-case basis. Meeting the four recovery criteria is not intended to be precluded where localized extirpations of bull trout are offset by sufficiently strong improvements in other areas of a recovery unit in meeting the four recovery objectives.

The determination of whether a distinct population segment of bull trout is recovered will rely on an analysis of the overall status of the species, threats to the species, and the adequacy of existing regulatory and conservation mechanisms. For example, it may be possible for the Columbia River Distinct Population Segment, which has 22 recovery units, to be recovered prior to all recovery unit criteria being met in all recovery units. Success in accomplishing the recovery

criteria will be reviewed and considered for the impacts both within a recovery unit and throughout a distinct population segment.

Actions Needed

Specific tasks falling within the following seven categories will be necessary to initiate recovery within all recovery units:

- Protect, restore, and maintain suitable habitat conditions for bull trout.
- Prevent and reduce negative effects of nonnative fishes and other nonnative taxa on bull trout.
- Establish fisheries management goals and objectives compatible with bull trout recovery and implement practices to achieve goals.
- Characterize, conserve, and monitor genetic diversity and gene flow among local populations of bull trout.
- Conduct research and monitoring to implement and evaluate bull trout recovery activities, consistent with an adaptive management approach using feedback from implemented, site-specific recovery tasks.
- Use all available conservation programs and regulations to protect and conserve bull trout and bull trout habitats.
- Assess the implementation of bull trout recovery by recovery units and revise recovery unit plans based on evaluations.

Recovery Priority Number

The recovery priority number for bull trout in the coterminous United States is 9C, on a scale of 1 to 18, indicating that (1) taxonomically, these populations are distinct population segments of a species, (2) the five populations are subject to a moderate degree of threat(s), (3) the recovery potential is high, and (4) the degree of potential conflict during recovery is high.

Estimated Cost of Recovery

The total cost estimate of recovery for bull trout in the coterminous United States is presented in the individual recovery unit chapters. The costs presented in each chapter are attributed to bull trout conservation but other species will also benefit.

Date of Recovery

Expected time to achieve recovery varies among recovery units because of differences in bull trout status, factors affecting bull trout, implementation and effectiveness of recovery tasks, and responses to recovery tasks. Achieving bull trout recovery in all recovery units will be a complex process that will likely take 25 years or more.