5-YEAR REVIEW

Short Form Summary

Species Reviewed: Bull trout (*Salvelinus confluentus*)

Current Classification: Threatened

FR Notice announcing initiation of this review:

March 6, 2012, 77 FR 13248, Endangered and Threatened Wildlife and Plants; 5-Year Status Reviews of 46 Species in Idaho, Oregon, Washington, Nevada, Montana, Hawaii, Guam, and the Northern Mariana Islands

Lead Region/Field Office:

Pacific Region, Idaho Fish and Wildlife Office, Boise, Idaho

Name of Reviewer(s):

Idaho Fish and Wildlife Office:

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Cooperating Field Office(s):

Oregon Fish and Wildlife Office
Washington Fish and Wildlife Office
Montana Fish and Wildlife Office
Klamath Falls Fish and Wildlife Office
Nevada Fish and Wildlife Office

Methodology used to complete this 5-year review:

This review was conducted by staff of the Idaho Fish and Wildlife Office with assistance from other field offices in the Pacific Region, Pacific Southwest Region, and the Mountain-Prairie Region that have administrative responsibility for the species, beginning on March 6, 2012 (77 FR 13248). The review was based on a review of current, available information since the last 5-year review for bull trout (USWFS 2008) and was conducted in conjunction with development of the 2015 Recovery Plan for Bull Trout (USFWS 2015) and the six supporting recovery unit implementation plans (RUIPs). Development of the Recovery Plan and RUIPs involved multiple U.S. Fish and Wildlife Service (Service) staff reviewing bull trout science, input from working groups, scientific peer review, and two public comment periods. This review was coordinated with cooperating Service Field Offices for their approval.

Application of the 1996 Distinct Population Segment (DPS) Policy:

The current DPS which was identified in 1999 is still valid. Please refer to the final listing determination published on November 1, 1999 (USFWS 1999) for a complete analysis of the existing species DPS in context of the DPS policy. The Service had earlier identified five potential distinct population segments of bull trout--Columbia River (Idaho, Montana, Oregon, and Washington), Klamath River (south central Oregon), Jarbidge River (southern Idaho and northern Nevada), Coastal-Puget Sound (western

Washington), and St. Mary-Belly River (northwest Montana)--for which some population segments had been listed in 1998. In 1999, the Service made the determination that bull trout should be listed as threatened in the coterminous United States. The DPS that was finally identified contains all populations in the coterminous United States.

Review Analysis:

Please refer to the 5-year review for bull trout that was completed in April 2008, which provides the previous complete review of the species status, threats, and management efforts (USFWS 2008). Since that time, we designated critical habitat for bull trout on October 18, 2010 (USFWS 2010). This designation, applied to the coterminous DPS, was the result of an extensive review of the Service's previous bull trout critical habitat proposals and designation, as well as comments and new information received during the 2010 public review process. In addition, new information concerning the status and threats to the species that has become available since the 2008 status review is summarized in the 2015 Recovery Plan and RUIPs.

The recently finalized recovery plan (USFWS 2015) identifies six recovery units and recovery criteria for each of these units. The list of threats to specific core areas was reviewed and updated in the RUIPs, but the overall threats to the species across the listed entity still remain the same as those identified in the 2008 5-year review (Table 1). The final recovery plan and RUIPs identified primary threats to the species for all core areas in the coterminous United States but due to data gaps, did not fully update the current trend across the range of the species. We evaluated current management efforts across the range; however, we have not yet evaluated these efforts at the recovery unit or core area scale. We developed a draft Threat Assessment Tool (TAT), included in the recovery plan, that will facilitate our review of management efforts at the recovery unit and core area scale. We anticipate refining the TAT for use in future status reviews. The final recovery plan did not result in changes to the overall list of threats affecting the species across the coterminous United States.

New population trend information collected since the 2008 status review varies across the range of the species, and in some cases is lacking. A comprehensive effort to determine trends for the listed entity has not yet occurred; therefore, the trend presented in our 2008 5-year review still applies.

Table 1. Status of threats to bull trout since listing in 1999.

Threat	Listing factor	Current Status	Management
Destruction and/or modification of habitat	A, B, D	Ongoing	Partially
Angling – Overutilization	B	Ongoing	Partially
Invasive Species – Predation	C	Ongoing	Partially
Small Population Size, Climate change, Competition, Hybridization – Other Natural or Manmade Factors	E	Ongoing	Partially

Based on our most recent status review (USFWS 2008), historical habitat loss and fragmentation, interaction with nonnative species, and fish passage issues are widely regarded as the most significant primary threat factors affecting bull trout. The order of those threats and their potential synergistic effects vary greatly by core area and among local populations. In some parts of their extant range, bull trout experience few or no threats and harbor healthy populations throughout most or all available habitat; some bull trout core areas experience limited but major threats and have strong populations throughout most habitat; and some continue to experience severe and systemic threats and harbor relatively small populations that have been reduced to a limited portion of available habitat.

Additionally, climate change effects were not considered as a factor affecting bull trout at the time of listing in 1999. Since that time, several climate change assessments or studies have been published or are currently underway assessing the possible effects of climate change on bull trout. The results of these efforts will allow us to better understand how climate change may influence bull trout and help prioritize and identify suitable conservation actions to ensure bull trout persist in the face of climate change.

Based on the listed entity identified in 1999 and the best current information regarding the status of the species, threats, and management efforts for the species, the Service recommends that bull trout remain listed as threatened in the coterminous United States.

Recommendations for Future Actions:

The final recovery plan was published on September 30, 2015. The ultimate goal of the recovery plan is to manage threats and ensure sufficient distribution and abundance to improve the status of bull trout throughout their extant range in the coterminous United States (listed entity) so that protection under the Endangered Species Act (Act) is no longer necessary. When this is achieved, we expect that:

- Bull trout will be geographically widespread across representative habitats and demographically stable in each recovery unit;
- The genetic diversity and diverse life history forms of bull trout will be conserved to the maximum extent possible; and

- Cold water habitats essential to bull trout will be conserved and connected.

To achieve these goals the final recovery plan and RUIPs outline actions necessary to:

- Effectively manage and ameliorate primary threats.
- Work cooperatively with partners to implement bull trout recovery actions.
- Adaptively manage the bull trout recovery program.

The recovery criteria represent our best assessment of the conditions that would most likely result in a determination that listing under the Act is no longer required. For bull trout, these conditions will be met when conservation actions have been implemented to ameliorate the primary threats in suitable habitats in all six recovery units. If the primary threats have been effectively managed in each recovery unit, the long-term persistence of bull trout should be ensured.

The Service may initiate an assessment of whether recovery has been achieved and delisting is warranted when the following criteria have been met in each recovery unit:

- For the Coastal, Mid-Columbia, and Upper Snake Recovery Units: Primary threats are effectively managed in at least 75 percent of all core areas, representing 75 percent or more of bull trout local populations within each of these three recovery units.
- For the Columbia Headwaters Recovery Unit: Primary threats are effectively managed in 75 percent of simple core areas and 75 percent of complex core areas, representing 75 percent or more of bull trout local populations in both simple and complex core areas.
- For the Klamath and Saint Mary Recovery Units: All primary threats are effectively managed in all existing core areas, representing all existing local populations. In addition, because 9 of the 17 known local populations in the Klamath Recovery Unit have been extirpated and others are significantly imperiled and require active management, we believe that the geographic distribution of bull trout within this recovery unit needs to be substantially expanded before it can be considered to have met recovery goals. To achieve recovery, we seek to add seven additional local populations distributed among the three core areas.
- In recovery units where shared FMO habitat outside core areas has been identified, connectivity and habitat in shared FMO areas should be maintained in a condition sufficient for regular bull trout use and successful dispersal among the connecting core areas for those core areas to meet the criterion. Shared FMO areas that function sufficiently to meet the criterion should provide the primary constituent elements of critical habitat specific to migration habitat.

In the future we may consider, in coordination with our partners and consistent with applicable law at that time, whether pursuing the potential reclassification of the listed coterminous United States population of bull trout into multiple distinct population segments (DPS) is a possible approach to delisting bull trout once recovery has been achieved.

It is possible that each of the six recovery units may meet the definition of a DPS under our 1996 Policy Regarding Recognition of Distinct Population Segments. All six recovery units operate as biologically distinct entities and each face different suites of site-specific threats. For that reason, meeting recovery criteria simultaneously across all six recovery units range-wide may not ultimately be the only option for achieving delisting of one or more recovery units. However, because none of these recovery units are currently designated as a DPS through a formal rule-making process, the DPS discussion in the recovery plan does not constitute designation of any recovery unit as a DPS. Thus, bull trout remain listed as a single DPS in the coterminous United States.

Specific Actions to Consider:

- Work with partners to implement actions identified in the RUIPs that would address primary threats to bull trout in core areas such that bull trout are: 1) geographically widespread across representative habitats and demographically stable, 2) contain genetic diversity and diverse life history forms, and 3) cold water habitat is conserved and well connected.
- Update and assess the status and distribution of local populations in each core area.
- Assess the status of management efforts to conserve bull trout in each core area.
- Finalize and use the Threats Assessment Tool to objectively evaluate threats to bull trout at the recovery unit scale based on the analysis of threats at the core area level.
- Conduct an analysis to determine the potential reclassification of the listed coterminous United States population of bull trout into multiple distinct population segments (DPS).

U.S. FISH AND WILDLIFE SERVICE
5-YEAR REVIEW for bull trout (*Salvelinus confluentus*)

Pre-1996 DPS listing still considered a listable entity? N/A (listed in 1999)

Current listing status: Threatened

Recommendation resulting from the 5-year review:

_____ Delisting
_____ Reclassify from Endangered to Threatened status
_____ Reclassify from Threatened to Endangered status
__x__ No Change in listing status

Lead Field Supervisor, Fish and Wildlife Service

Michael Cassirer

Date 11-13-2015

Literature Cited

[USFWS] U.S. Fish and Wildlife Service. 1999. Endangered and threatened wildlife and plants; determination of threatened status for bull trout in the conterminous United States. November 1, 1999. Federal Register 64:58910-58933.

[USFWS] U.S. Fish and Wildlife Service. 2008. Bull trout (*Salvelinus confluentus*) 5-year review: Summary and evaluation. U.S. Fish and Wildlife Service, Portland, Oregon. 55 pages.

[USFWS] U.S. Fish and Wildlife Service. 2010. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Bull Trout in the Coterminous United States; Final Rule. October 18, 2010 . Federal Register 75:63898-64070.

[USFWS] U.S. Fish and Wildlife Service. 2015. Recovery Plan for the Coterminous United States Population of Bull trout (*Salvelinus confluentus*). Pacific Region. U.S. Fish and Wildlife Service, Portland, Oregon. 179 pages.