



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

*Upper Columbia Fish and Wildlife Office  
11103 East Montgomery Drive  
Spokane, Washington 99206*

October 31, 2007

**In Reply Refer To:**

USFWS Reference: 13260-2008-F-0004

USFWS X-reference: none

Hydrologic Unit Codes: 17-03-00-03 (Yakima River Basin)

Nancy Weintraub  
Bonneville Power Administration  
KEC-4  
P.O. Box 3621  
Portland, OR 97208-3621

Dear Ms. Weintraub:

This correspondence transmits the U. S. Fish and Wildlife Service's (Service) Biological Opinion (BO), which is based upon our review of the Yakima Fisheries Project 2006 through 2011 (Project), located in Benton, Kittitas, and Yakima Counties, Washington. The attached BO describes the effects of the Project on the bull trout (*Salvelinus confluentus*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The cover letter and Biological Assessment (BA) from the Bonneville Power Administration (BPA) were received in the Service's Central Washington Field Office (CWFO) on June 21, 2007. The administrative record for this consultation is on file in the CWFO.

The BPA concluded the Project "may affect, is likely to adversely affect" the bull trout (*Salvelinus confluentus*), in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.).

Our analysis in the attached BO concludes that implementation of the proposed Project will not jeopardize the continued existence of the bull trout. The accompanying incidental take statement provides the NMFS with an exemption from the section 9 prohibitions described in the Act.

Please note that the accompanying incidental take statement includes mandatory "reasonable and prudent measures" and "terms and conditions" that are designed to minimize incidental take.

If you have questions about this BO or your responsibilities under the Endangered Species Act, please contact David Morgan of the CWFO in Wenatchee, at (509) 665-3508, ext. 24 or via email at [David\\_T\\_Morgan@fws.gov](mailto:David_T_Morgan@fws.gov).

Sincerely,

  
Acting Supervisor

Enclosure

cc:

Sent by email:

Dennis Beich, Washington Department of Fish and Wildlife, Region 2, Ephrata, WA  
[beichdvb@dfw.wa.gov](mailto:beichdvb@dfw.wa.gov)

## Biological Opinion

For the

### Yakima Fisheries Project 2006 through 2011

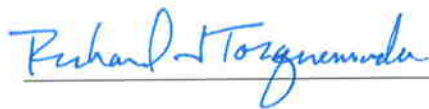
U.S. Department of Energy  
Bonneville Power Administration

KEC-4  
P.O. Box 3621  
Portland, Oregon 97208-3621

FWS Reference Number  
13260-2008-F-0004

Consultation by: David Morgan, Biologist  
U. S. Fish and Wildlife Service  
Central Washington Field Office, Wenatchee

Issued by:



Richard Torquemada, Deputy Project Leader  
*Acting*

Date

*10/29/07*

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## INTRODUCTION

This document transmits the U. S. Fish and Wildlife Service's (Service) biological opinion (BO) based on our review of the proposed Yakima Fisheries Project (Project) located in Benton and Kittitas Counties, Washington, and its effects on the threatened bull trout (*Salvelinus confluentus*). On May 24, 2007 the Service received your completed biological assessment (BA) and request for formal consultation. This consultation was conducted in accordance with Section 7 of the Endangered Species Act (ESA or Act) of 1973, as amended (16 U. S. C. 1531 et seq.). The objective of the following BO is to determine whether the proposed Project is likely to jeopardize the continued existence of the middle Columbia River interim recovery unit of bull trout. The standards for determining jeopardy are described in Section 7(a)(2) of the Endangered Species Act and further defined in 50 C.F.R. 402.14.

The Bonneville Power Administration (BPA) is providing funding to the Yakama Nation (YN) for ongoing studies, research, and artificial production of spring, summer, and fall Chinook (*Oncorhynchus tshawytscha*), and coho (*Oncorhynchus kisutch*) salmon throughout the Yakima River Basin as part of the Yakima/Klickitat Fisheries Project. This BA covers Project actions in the Yakima basin through 2011; actions in the Klickitat basin will be addressed separately. The Project would involve a series of actions including collecting broodstock, incubating eggs and rearing fry in hatcheries, acclimating and releasing smolts, and studying the natural production, ecological interactions, long-term fitness, and culturing/genetics of the fish. The YN and the Washington Department of Fish and Wildlife (WDFW) jointly manage the project, with the YN as lead agency. WDFW and the YN are the fisheries co-managers for the anadromous fish stocks in these basins.

This BO is based upon information provided in the BA for species under U. S. Fish and Wildlife Service jurisdiction received from BPA, published literature and unpublished reports, and the proposed and final rules for listing the bull trout, and the draft Recovery Plan for bull trout (especially the chapter for the middle Columbia River recovery unit). A complete administrative record of this consultation is on file in the Central Washington Field Office (CWFO) in Wenatchee.

### Consultation History

The following chronology documents the consultation process which culminated in the following BO for bull trout.

1. On June 10, 1998, the Service issued a Final Rule listing the Klamath and Columbia River Distinct Population Segments (DPS) of bull trout as threatened species. This listing was superseded on November 1, 1999, when the Service listed the bull trout as threatened throughout the coterminous United States (64 FR 58910).
2. On November 30, 2006, the BPA, National Marine Fisheries Service, WDFW, YN, and the Service met to discuss and review the Project, and to strategize how

to complete permitting procedures. Over the next few months the Service and BPA communicated several times to develop the BA outline and a matrix to facilitate analysis of Project effects.

3. On May 3, 2007, the BPA submitted a draft BA for the proposed project and requested feedback from the Service. We provided comments shortly thereafter.
4. On May 24, 2007, the Service received from BPA a final BA and a request for formal consultation under the Act.
5. On June 21, 2007, the Service and BPA agreed that the BA was complete and that the Service would begin the BO shortly.

## BIOLOGICAL OPINION

### 1 Description of the Proposed Action.

The Project contains many elements involving four salmon species. Activities are planned for numerous locations throughout the Yakima basin. Most of the spring, summer, and fall Chinook salmon activities are continuations or expansions of existing programs. All components will use existing infrastructure. No new hatcheries or construction is included. As described in the BA, step 1 phase 1 (program feasibility studies between 1999 and 2004) was previously consulted on (Service reference 1-9-99-I-131). The Project also includes a coho salmon component described as step 1 phase 2. The Project does not include future activities, described in the BA as step 2, or as the Yakima Coho Master Plan.

This consultation only applies to the BPA-funded Project activities, many of which are supported by pre-existing facilities not funded by BPA, including some located outside of the Yakima basin. None of these other facilities is part of the "larger action" as defined in 50 C.F.R. 402.14, such as a Federal or State hatchery where some Project eggs are incubated, a Bureau of Reclamation or Public Utility District dam where some Project broodstock are collected, et cetera (see Description of the Proposed Action). The effects of Project activities conducted at these locations are evaluated in this BO, but this BO does not provide blanket coverage under Section 7 to the organizations that fund, or the programs that operate, those other facilities.

In order to facilitate the analysis during consultation, the BPA and the Service jointly developed a table including the Project activities, location, and possible consequences for bull trout. This table is included in the BO as Appendix C. For complete details, refer to the BA. A summary of Project actions is provided below.

- Broodstock collection: this activity will occur at several existing locations, most of which are on the lower Yakima River. Two other locations include Cowiche Dam (Naches River mile 3 near Naches), Rosa Dam (Yakima River mile 128 below Ellensburg).
- Adult releases: this activity will occur throughout the Yakima basin and will generally involve up to 20 adults per location. With the exception of Ahtanum Creek, this activity will occur in streams where bull trout are not known to exist currently.
- Juvenile rearing: this activity will occur at existing hatcheries in Columbia basin, including some located outside the Yakima basin.
- Juvenile acclimation and release: this activity will occur in the lower Yakima basin for summer and fall Chinook, and in the mid and upper Yakima basin for spring Chinook and coho. Release numbers will vary from about 1,000 up to 250,000 fish. Most of these sites will be located several miles downstream from bull trout spawning and rearing locations.
- Juvenile collection: this activity will occur at several existing fish traps at dams or screw traps throughout the Yakima basin, generally in lower sections of larger rivers.
- Juvenile surveys: this activity will occur in most or all coho release areas using standard field techniques ranging from snorkeling to electrofishing.



- Spawning surveys: this activity will occur in the lower Yakima basin for summer and fall Chinook, and in the mid and upper Yakima basin for spring Chinook and coho.
- Radio tracking adult salmon: this activity will occur at existing dams using radio telemetry equipment.
- Predator surveys: this activity will occur in the lower and middle Yakima mainstem river and will involve collection of and stomach content analysis from pikeminnow and other species, not bull trout.
- Non-target taxa monitoring: this activity will occur throughout the Yakima basin, including small tributaries where bull trout are known to exist, usually by collecting juvenile fish and comparing growth indices, presence versus absence, etc.
- Domestication research: this activity will occur throughout the Yakima basin, generally in lower sections rivers and large streams, usually by collecting adult salmon in nets or by angling.
- Residual/precocial monitoring and competition indices: this activity will occur throughout the Yakima basin and will include snorkeling, electrofishing, stomach content analysis, and microhabitat surveys.
- Stream sediment impact monitoring: this activity will occur throughout the Yakima basin and will collect gravel samples.
- Carcass distribution: this activity will occur in tributaries, side channels and beaver ponds of upper Yakima River, Naches River, and Little Naches River.

The Project does not include new construction or significant habitat alteration. Compared to some programs which include hatchery activities, the Project does not include substantial spatial or temporal overlap with critical components of the bull trout life-cycle, complete passage blockage, major surface water diversion and stream bypass, etc. However, the Project does include several components, spread out over a large area, where direct and indirect harm may occur to individual bull trout.

This consultation is limited to activities which can be described in sufficient details and will be implemented in the foreseeable future. Therefore its duration is limited. Because some aspects of the Project are experimental, future Project activities are expected to change in ways that have yet to be determined. Regardless of future Project changes, new consultation will be needed in 2011. As described below, Project effects on bull trout and their critical habitat are minor. Therefore the Service anticipates that limiting the duration of this consultation is appropriate and would not result in significant additive adverse effects on bull trout or their critical habitat that might otherwise be obscured by conducting a follow-up consultation in the future as the program changes.

### 1.1 Definition of the Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 C.F.R. 402.02). The action area for this consultation is the Yakima River from the mouth extending upstream into numerous tributaries near their headwaters. Because the Project includes no new construction, and all

significant components will take place in the river, the service does not expect upland disturbance to result.

## **2 Status of the Species**

### **2.1 Listing Status**

The coterminous United States population of the bull trout (*Salvelinus confluentus*) was listed as threatened on November 1, 1999 (64 FR 58910). The threatened bull trout occurs in the Klamath River Basin of south-central Oregon and in the Jarbidge River in Nevada, north to various coastal rivers of Washington to the Puget Sound, and east throughout major rivers within the Columbia River Basin to the St. Mary-Belly River, east of the Continental Divide in northwestern Montana (Cavender 1978, Bond 1992, Brewin and Brewin 1997, Leary and Allendorf 1997).

Throughout its range, the bull trout is threatened by the combined effects of habitat degradation, fragmentation and alterations associated with: dewatering, road construction and maintenance, mining, and grazing; the blockage of migratory corridors by dams or other diversion structures; poor water quality; incidental angler harvest; entrainment (a process by which aquatic organisms are pulled through a diversion or other device); and introduced non-native species (64 FR 58910).

The bull trout was initially listed as three separate DPSs (63 FR 31647, 64 FR 17110). The preamble to the final listing rule for the United States coterminous population of the bull trout discusses the consolidation of these DPSs, plus two other population segments, into one listed taxon and the application of the jeopardy standard under Section 7 of the ESA relative to this species (64 FR 58930):

Although this rule consolidates the five bull trout DPSs into one listed taxon, based on conformance with the DPS policy for purposes of consultation under Section 7 of the Act, we intend to retain recognition of each DPS in light of available scientific information relating to their uniqueness and significance. Under this approach, these DPSs will be treated as interim recovery units with respect to application of the jeopardy standard until an approved recovery plan is developed. Formal establishment of bull trout recovery units will occur during the recovery planning process.

Thus, the Service's jeopardy analysis for the proposed Project is done at the scale of the Columbia River DPS.

### **2.2 Current Status and Conservation Needs**

A summary of the current status and conservation needs of the bull trout within these units is provided below. A comprehensive discussion of these topics is found in the Service's draft recovery plan for the bull trout (USFWS 2002a; 2004a, b).

The habitat conservation needs of the bull trout are generally expressed as the four Cs--cold, clean, complex, and connected habitat. Cold stream temperatures, clean water quality that is relatively free of sediment and contaminants, complex channel characteristics (including abundant large wood and undercut banks), and large patches of such habitat that are well connected by unobstructed migratory pathways are all needed to promote conservation of bull trout at multiple scales, ranging from the coterminus United States to local populations. The recovery planning process for the bull trout (USFWS 2002a; 2004a, b) has also identified the following conservation needs for the bull trout: 1) maintain and restore multiple, interconnected populations in diverse habitats across the range of each interim recovery unit; 2) preserve the diversity of life-history strategies; 3) maintain genetic and phenotypic diversity across the range of each interim recovery unit; and 4) establish a positive population trend.

Central to the survival and recovery of the bull trout is the maintenance of viable core areas (USFWS 2002a, 2004a, b). A core area is defined as a geographic area occupied by one or more local bull trout populations that overlap in their use of rearing, foraging, migratory, and overwintering habitat, and in some cases in their use of spawning habitat. Each of the interim recovery units listed above consists of one or more core areas. About 114 core areas are recognized across the coterminus United States range of the bull trout (USFWS 2002a; 2004a, b).

As noted above, in recognition of available scientific information relating to their uniqueness and significance, five segments of the coterminous United States population of the bull trout are considered essential to the survival and recovery of this species and are identified as interim recovery units: 1) Jarbidge River; 2) Klamath River; 3) Columbia River; 4) Coastal-Puget Sound; and 5) St. Mary-Belly River. Each of these segments is necessary to maintain the bull trout's distribution, as well as its genetic and phenotypic diversity, all of which are important to preserve the species' resilience to changing environmental conditions.

### 2.2.1 *Jarbidge River*

This interim recovery unit currently contains a single core area with six local populations. Less than 500 resident and migratory adult bull trout, including about 50 to 125 spawners, are estimated to occur within the core area. The current depressed condition of the bull trout in this interim recovery unit is attributed to the effects of livestock grazing, roads, angler harvest, timber harvest, and the introduction of non-native fishes (USFWS 2004a). The draft bull trout recovery plan identifies the following conservation needs for this unit: maintain the current distribution of the bull trout within the core area; maintain stable or increasing trends in abundance of both resident and migratory bull trout in the core area; restore and maintain suitable habitat conditions for all life history stages and forms; and conserve genetic diversity and increase natural opportunities for genetic exchange between resident and migratory forms of the bull trout. According to the draft recovery plan, an estimated 270 to 1,000 spawning fish per year are needed to provide for the persistence and viability of the core area and to support both resident and migratory adult bull trout (USFWS 2004a).