



Work Session Meeting

Jason Yencopal to: Audie Huber, Carolyn Templeton, Carl Stiff, Colleen Fagan, GRIFFIN Dennis, Emily Carter, Fred Warner, Gary Miller, Ken
04/02/2010 03:19 PM
Cc: Heidi Martin, Jason Yencopal

From: Jason Yencopal/Baker County
To: "Audie Huber" <Audiehuber@ctuir.com>, "Carolyn Templeton" <Carolyn.Templeton@ferc.gov>, "Carl Stiff" <cbstiff@wildblue.net>, "Colleen Fagan" <Colleen.E.Fagan@state.or.us>, "GRIFFIN Dennis" <Dennis.Griffin@state.or.us>, "Emily
Cc: Heidi Martin/Baker County@Baker County, Jason Yencopal/Baker County@Baker County

Stakeholders,

Thank you all so much for getting back to me so quickly. The date will be May 20th as everyone is able to participate that day. The time will be from 9:00 to around noon. I will send out the location and conference call information in the near future.

Thank you,
Jason



FW: [BULK]
Audie Huber to: jyencopal
Cc: "Carl Merkle"

03/19/2010 11:15 AM

From: "Audie Huber" <AudieHuber@ctuir.org>
To: <jyencopal@bakercounty.org>
Cc: "Carl Merkle" <CarlMerkle@ctuir.org>

Can you please add Carl Merkle to the e-mail list of this project, his e-mail is above. Armand Minthorn is no longer on the Board of Trustees. Thanks.

A

Audie Huber
Intergovernmental Affairs Manager
Department of Natural Resources
Confederated Tribes of the Umatilla Indian Reservation
46411 Timine Way
Pendleton, Oregon 97801

Please note new phone number and new address:

(w) 541-429-7228
(f) 541-276-3447
(c) 541-969-3123

The opinions expressed by the author are his own and are not necessarily those of the Confederated Tribes of the Umatilla Indian Reservation.

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-----Original Message-----

From: jyencopal@bakercounty.org [mailto:jyencopal@bakercounty.org]
Sent: Thursday, March 18, 2010 3:50 PM
To: Armand Minthorn; Audie Huber; Carolyn Templeton; Carl Stiff; Colleen Fagan; GRIFFIN Dennis; Emily Carter; Fred Warner; Gary Miller; John Quintela; Ken Anderson; Kenneth Hogan; GRAINEY Mary S; Matt Buhyoff; Mike Gerdes; Micheal Hall; Randy Joseph; DEVITO Paul; Quentin Lawson; LUSK Rick M; Robert Ross; Shawn Steinmetz; Susan Rosebrough; Thomas Stahl; Timothy Looney; Timothy Welch; GRIFFIN Dennis; Joseph Hassell; lgocy@ecowest-inc.com; ted@tsorenson.net; gsense@cableone.net
Cc: hmartin@bakercounty.org; jyencopal@bakercounty.org
Subject: [BULK]
Importance: Low

Stakeholders,

As discussed in our December 10th meeting, Baker County would like to continue working with all agencies over the issues. The proposed meeting time is April 16th 2010 at 9:00 am (Pacific Time) at the Baker County Courthouse. This is the first available time that our engineer and consultant had available. If this does not work for you please let me know what dates would work for you and we will go from there. Also, attached is a modified Mason Dam schedule. The proposed schedule at this time moves the License Application and Draft Final Biological Assessment due date from April 1, 2010 to November 30, 2010.

If I may be of any help please let me know,

Sincerely,
Jason Yencopal

(See attached file: Mason Dam Schedule B.xlsx)



Mason Dam Schedule B.xlsx



Jason Yencopal to: Armand Minthorn, Audie Huber, Carolyn Templeton, Carl Stiff, Colleen Fagan, GRIFFIN Dennis, Emily Carter, Fred Warner,
Cc: Heidi Martin, Jason Yencopal

03/18/2010 03:50 PM

From: Jason Yencopal/Baker County
To: "Armand Minthorn" <ArmandMinthorn@ctuir.com>, "Audie Huber" <Audiehuber@ctuir.com>, "Carolyn Templeton" <Carolyn.Templeton@ferc.gov>, "Carl Stiff" <cbstiff@wildblue.net>, "Colleen Fagan" <Colleen.E.Fagan@state.or.us>, "GRIFFIN Dennis"
Cc: Heidi Martin/Baker County@Baker County, Jason Yencopal/Baker County@Baker County

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If I may be of any help please let me know,

Sincerely,
Jason Yencopal



Mason Dam Schedule B.xlsx



Comments received on PLP and DBA

Jason Yencopal to: Armand Minthorn, Audie Huber, Carolyn Templeton, Carl Stiff, Colleen Fagan, GRIFFIN Dennis, Emily Carter, Fred Warner, Cc: Jason Yencopal, Heidi Martin

01/29/2010 03:49 PM

From: Jason Yencopal/Baker County
To: "Armand Minthorn" <ArmandMinthorn@ctuir.com>, "Audie Huber" <Audiehuber@ctuir.com>, "Carolyn Templeton" <Carolyn.Templeton@ferc.gov>, "Carl Stiff" <cbstiff@wildblue.net>, "Colleen Fagan" <Colleen.E.Fagan@state.or.us>, "GRIFFIN Dennis"
Cc: Jason Yencopal/Baker County@Baker County, Heidi Martin/Baker County@Baker County

Stakeholders,

I want to thank all of those that participated in submitting comments on Baker County's Preliminary License Proposal (PLP) and Draft Biological Assessment (DBA). For those of you who have not received the comments they are attached below. I have also included information about the US Fish & Wildlife Service proposal to revise critical habitat for bull trout, Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and Chapter 18 Code of Federal Regulations 5.16 and 5.18. The PLP and DBA can be found on the Baker County website (www.bakercounty.org) under the Mason Dam link, for reference. I would also like to add that the December 10th 2009 Work Session minutes will be available soon. We had some equipment issues with the recording device. Baker County looks forward to working with the stakeholders as it develops its License Application and Draft Final Biological Assessment .

Sincerely,

Jason Yencopal



FERC Comments on PLP and BA 1_27_2010 a.pdf



FWS Comments on PLP and BA 1_28_2010 a.pdf



ODFW Comments on PLP and BA 1_28_2010.pdf



USFS Comments on PLP and BA 1_27_2010 a.pdf

This attachment is part of an e-mail later in this consultation log



Bull Trout Information_Powder River Basin Recover Unit a.pdf



Oregon Revised Statutes Chapter 498 and 509.pdf



Oregon Administrative Rules 635_415_0000_0025.pdf



Chapter 18 Code of Federal Regulation 5.16 and 5.18.pdf

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
January 27, 2010

OFFICE OF ENERGY PROJECTS

Project No. 12686-001 – Oregon
Mason Dam Hydroelectric Project
Baker County

Mr. Jason Yencopal
Baker County Project Manager
1995 Third Street
Baker City, OR 97814

Subject: Comments on Preliminary License Proposal

Dear Mr. Yencopal:

Pursuant to 18 CFR § 5.16(e), this letter includes our comments on your Preliminary License Proposal (PLP) and draft biological assessment for the proposed Mason Dam Hydroelectric Project, filed on October 30, 2009.

The Environmental Report of your PLP describes the project's existing facilities and potentially affected environmental resources, and discusses the results obtained from the relicensing studies; however, the PLP does not include all of the information specified in section 5.16 of the Commission's regulations. Most notably, your PLP in some cases lacks a clear description of the potential effects of the proposed project and the proposed PM&E measures [see §5.16(2)]. The Commission's regulations require you to include both the results of all studies and all proposed environmental measures in the license application, as well as an analysis of the anticipated environmental benefits of the proposed measures [see §5.18(b)(B) & (b)(C)]. In the enclosed Schedule A, we provide our detailed comments on your PLP.

Regarding your draft biological assessment, we ask that it be updated to incorporate the U.S. Fish and Wildlife Service's January 14, 2010, proposal to designate approximately 22,679 miles of stream and 533,426 acres of lakes and reservoirs, including the Powder River, as critical habitat for bull trout and incorporate an analysis of the proposed project's effects on the proposed designated critical habitat and its primary constituent elements.

If you have any questions regarding this letter or the enclosed Schedule A, please contact Kenneth Hogan at (202) 502-8434, or via email at kenneth.hogan@ferc.gov.

Sincerely,

Timothy J. Welch, Chief
West Branch 2
Division of Hydropower Licensing

Enclosed: Schedule A

cc: Service List
Mailing List
Public Files

Schedule A

Comments on the Preliminary Licensing Proposal and Draft Biological Assessment

Your Preliminary License Proposal (PLP) did not contain all of the information required by our regulations for your final license application (FLA) (section 5.18). In general, your PLP did not provide a complete analysis of the effects of your proposed protection, mitigation, and enhancement (PM&E) measures.

Below, we identify the areas where additional information and/or environmental analysis will be needed for a complete license application.

General

When filing your final license application, please attach, as appendices, the final study reports for each study conducted under our approved study plan.

Proposed Project Facilities

Section 1.2.1 - Transmission Line – This section says your preferred transmission line grid connection would be with Idaho Power Company’s 138-kV line; however, during the December 10, 2009 teleconference, you stated the preferred grid connection would be the existing Oregon Trail Electric Cooperative (OTEC) transmission line at the base of the dam. Please reconcile this information in your final license application.

Additionally, bullet 7 identifies the project staging area as incorporated into the project boundary. It is not necessary to include the construction staging area into the project boundary, unless this area also is necessary for project operation.

Existing and Proposed Project Operation and Maintenance

Section 2.3 – You say that you propose to operate the project in a “run of the river” mode. The term run-of-river indicates a flow release from the project that corresponds to inflow to the reservoir (“inflow equals outflow”); however, given the U.S. Bureau of Reclamation’s operation of the Mason Dam for irrigation storage and release, and flood control, a “run of the river” operation is unlikely. Based on your description in section 2.3, use of the term “run-of-release,” as agreed to by the stakeholders during the study plan meetings, would be a better descriptor of your proposed operations.

Section 2.5 – Some of your proposed mitigation and enhancement measures identified in the PLP have not been included in the bulleted list in section 2.5, such as the installation of rip-rap in the project’s tailrace. The bulleted list should be a complete list of all PM&E measures proposed. We note that bullets 9 and 12 are nearly identical. Also,

please note that in your final license application, pursuant to section 5.18(b), you are required to provide an estimate of the cost of each proposed PM&E measure.

Section 2.5 – Bullet number 7 shows you plan to develop a “tiered mitigation plan” to address operating criteria in the event dissolved oxygen levels fall below state water quality standards. So that we may analyze the proposed measures and the implementation of the plan in our environmental document, please include the plan in your final license application. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Forest Service, U.S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Geology & Soils

Section 3.1.4 - While this section acknowledges the potential for erosion as a result of construction, there is no discussion or analysis regarding effects of project operation. In section 1.2.4, however, you reference the installation of rip-rap on the slopes of the tailrace, presumably to prevent erosion resulting from project operations. Please explain why you believe this environmental measure is necessary.

Section 3.1.4 –Project Effects - You state that a small amount of soil will be displaced due to construction of the powerhouse, transmission line, and substation. Under *Proposed Protection, Mitigation, and Enhancement Measures*, however, you state that standard erosion control measures will be used to control erosion only in the powerhouse construction area and you do not discuss or propose any such measures for the transmission line and substation areas. Please reconcile this apparent discrepancy. Additionally, so that we have a better understanding of your proposed measures for this resource, please provide an erosion and sediment control plan, describing in detail the best management practices to be implemented during project construction activities. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Forest Service, the Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Aquatic Resources

Section 3.2.1 – Water Quantity – The project has the potential to disrupt flow during construction involving modifications to the existing main discharge pipe and in the event

of turbine shutdown. Please include in your license application a bypass flow plan which describes how downstream flow will be maintained during construction work on the main discharge pipe and in the event of turbine shutdown. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Forest Service, Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Section 3.2.2 - *Proposed Protection, Mitigation, and Enhancement Measures* – You state that it is considered likely that draft tube aspiration will be adequate to meet state dissolved oxygen standards under most conditions. Please include an analysis of the expected effects of the draft tube aspiration. Also, please clearly describe under what conditions draft tube aspiration may not meet state standards.

Section 3.2.2 - *Figures 8 & 9*. Figures 8 and 9 are difficult to read. Please make each graph a ½ page, at a minimum, and fully label each component [e.g. the Y axis label is missing and the dual dashed line indicator (intake) does not seem to be labeled appropriately].

Section 3.2.3 - *Existing Resources* – You describe a 2009 lake-wide netting effort that resulted in 46,500 yellow perch and “1,047 other fish species.” Recognizing that the bycatch of the netting effort resulted in a total of 1,047 fish, not 1,047 species of fish, please list the fish species and the number of individual fish per species captured during the 2009 netting effort in Phillips reservoir.

Section 3.2.3 - *Existing Resources* – You describe four distinct populations of redband trout and the current distribution of bull trout within the Powder River sub-basin. Please include a basin map(s) indicating mentioned dams and tributaries and all known bull trout and redband trout population locations. Providing accurate river basin maps also will aid our review of the proposed project effects on the U.S. Fish and Wildlife Service’s proposal to designate the Powder River as critical habitat for bull trout.

Section 3.2.3 - *Project Effect* – While entrainment is acknowledged as a potential effect in section 3.2.4 *Threatened, Endangered, and Special Status Species*, you provide no recognition or analysis of the effect in section 3.2.3 *Aquatic Resources*. Please provide a discussion and analysis of project related entrainment effects on the aquatic resources of the Powder River. Also, please see our comments below under *Threatened, Endangered and Special Status Aquatic Species*.

Section 3.2.3 – *Project Effects* – In section 3.3.1 *Terrestrial Resources*, you acknowledge that project construction may result in short-term increases in turbidity. Under *Aquatic*

Resources, however, you do not consider the effects of turbidity on aquatic habitats or species. As such, please include an analysis of project construction related effects on downstream aquatic organisms and their habitats and include a detailed description of your proposed PM&E measures in your erosion and sediment control plan, requested above.

Terrestrial Resources

Section 3.3.1 – *Project Effects* - You state that cofferdam construction and excavation for the powerhouse foundation have the potential to cause short-term increases in turbidity in the Powder River, which could adversely affect downstream riparian vegetation. This potential adverse effect can be minimized by use of industry standard erosion control practices. So that we have a better understanding of your proposed PM&E measures for this resource, please include a detailed description of these proposed measures in your erosion and sediment control plan, requested above.

Section 3.3.1 – *Proposed Protection, Mitigation, and Enhancement Measures* - You state that all disturbed areas [resulting from the burying of the transmission line] will be reseeded with native and desirable non-native seeds mixes. So that we have a better understanding of your proposed PM&E measures for this resource, please list the specific types of seeds you plan to use in your erosion and sediment control plan, requested above.

Section 3.3.2 – *Proposed Protection, Mitigation, and Enhancement Measures* - You state that the disturbed [wetland] habitat would be re-contoured and reseeded after construction [of the transmission line]. This impact might be avoided depending on the final selection of a transmission line route. So that we may fully analyze all aspects of your proposed project in our environmental document, please include, as part of your license application, a description of all possible transmission line routing alternatives, including maps.

Section 3.3.3 – *Cumulative Effects* - You state that noxious weed proliferation is an existing problem in the project area. Although you propose PM&E measures to prevent the introduction or spread of noxious weeds during construction, you do not propose any long-term monitoring and/or management measures for the existing noxious weeds in the project area. With your license application, please include a noxious weed management plan that includes protocols and methodologies for managing noxious weed infestations and preventing or reducing the risk of weed establishment and spread. Please prepare the plan after consultation with the U.S. Bureau of Reclamation and the U.S. Forest Service. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Threatened, Endangered and Special Status Aquatic Species

Section 3.2.4 – Project Effects – To evaluate the proposed project’s effect, specifically regarding entrainment of bull trout, you compare entrainment survival through hollow jet valves, as estimated by the U.S Fish and Wildlife Service in its 2005 biological opinion (BO) for the Tieton Project, to entrainment survival rates for your proposed turbine. Your analysis demonstrates that entrained fish would have a lower mortality rate if passed through the proposed turbine than if passed through the existing hollow jet valves. While you conducted a detailed literature review regarding turbine mortality, you did not conduct an equally detailed literature review of survival rates of fish passed through hollow jet valves. You stated that the BO for the Tieton Project indicates a mortality rate of 60 to 80 percent for fish passing through hollow jet valves, similar to those at Phillips dam. How was this estimate reached? What study information supports these mortality estimates? You should conduct an analysis of existing information on jet valve mortality, similar to that conducted for the Francis turbine mortality.

In its revised study plan, filed on February 8, 2007, Baker County proposed the construction and installation of a fish screen on the Phillips dam intake, in lieu of conducting a study to evaluate bull trout and/or redband trout use of Phillips reservoir and an entrainment study to evaluate current levels of entrainment at Mason Dam. In our study plan determination issued on March 9, 2007, our analysis of Baker County’s proposal to screen the Mason Dam intake demonstrated that there is sufficient information on the presence of bull trout and redband trout and their potential use of Phillips reservoir to justify Baker County’s proposal to screen the Mason Dam intake in lieu of conducting the requested studies.

In the PLP, however, you no longer propose the installation of a fish screen. Absent a sufficient analysis or existing information of jet valve mortality to compare with the estimated entrainment mortality of the proposed project, as noted above, we will need specific information on bull trout and/or redband trout use of Phillips reservoir and/or entrainment mortality at the project intake, as indicated in our study plan determination.

Section 3.2.4 – Existing Resources, Project Effect & Cumulative Effects – On January 14, 2010, the U.S. Fish and Wildlife Service proposed to designate approximately 22,679 miles of stream and 533,426 acres of lakes and reservoirs, including the Powder River, in Idaho, Oregon, Washington, Montana, and Nevada as critical habitat for bull trout. Please update section 3.2.4 to reflect this recent development and conduct an analysis of the proposed project’s effects on the proposed designated critical habitat addressing the primary constituent elements.

Recreation

Section 3.4 – Existing Resources - Documentation previously submitted for the record for the proposed Mason Dam Hydroelectric Project, including the Upper Powder River Watershed Assessment, your Pre-Application Document, and your Study Plan 5 Final Report, contains important and insightful information regarding recreation facilities and access, recreation use, and recreation attitudes specific to the proposed project. You have not, however, incorporated this information in your PLP. As required by section 5.18 of our regulations, please include this information in your license application.

Section 3.4 – Project Effects - You state that public parking at the parking area just below the dam may be restricted during construction activities since this parking area is proposed as a construction staging area. Please describe and analyze how this potential restriction will affect recreation access and opportunities within the vicinity of the Mason Dam project during construction.

Historic and Cultural Resources

Section 3.6 – Existing Resources - You state that the Area of Potential Effect (APE) corresponds to the limits of the vegetation survey shown in figure 13; figure 13, however, is a Jet Velocity and Pressure Drop graph and figure 15 appears to be the figure to which you are referring. Please correct this reference to indicate the accurate figure for the APE.

Section 3.6 – Traditional Cultural Properties - You state that the Powder River is a “traditional fishery;” however, you give you no explanation regarding what this means. Please define the term “traditional fishery” and provide a full description of how and why the Powder River is defined as such, including whether the entire Powder River a traditional fishery, or only certain segments.

Section 3.6 – Oregon SHPO Review - You state that Dennis Griffin, Ph.D, RPA reviewed both reports and submitted a letter dated January 13, 2009, stating that he agrees the project will have no effect. Please include this letter with your license application.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

La Grande Field Office
3502 Highway 30
La Grande, Oregon 97850
Phone: (541)962-8584 FAX: (541)962-8581

Reply To: 7455.0091
File Name: FERC12686_FWS PLP_BA com.doc
TAILS: 13420-2007-FA-0151
TS Number: 10-484

JAN 28 2010

Electronically Filed

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Subject: U.S. Fish and Wildlife Service Comments on the Preliminary Licensing Proposal and Draft Biological Assessment for the **Mason Dam Hydroelectric Project; Federal Energy Regulatory Commission Project No. P-12686; Baker County, Oregon**

Dear Secretary Bose:

The Fish and Wildlife Service (Service) has reviewed Baker County's Preliminary Licensing Proposal (PLP) and Draft Biological Assessment (DBA) for the Mason Dam Hydroelectric Project, FERC No. 12686, in Baker County, Oregon. Baker County filed the PLP and DBA with the Federal Energy Regulatory Commission (FERC) on October 30, 2009. The Service is submitting the following comments and recommendations under the authority of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 *et seq.*), and the Federal Power Act (16 U.S.C. 791a, *et seq.*).

Comments on the Preliminary Licensing Proposal

Section 2.5—Summary of Protection, Mitigation, and Enhancement Measures

There is no discussion of a fish screen at the intake as was proposed by Baker County in their revised study plan, filed on February 8, 2007. The fish screen was proposed as an alternative to conducting an entrainment study, yet neither are components of the proposed project. The Service recommends that Baker County have further discussions with the stakeholders to determine an appropriate strategy to resolve the fish screen and entrainment issues prior to filing the License Application.

Printed on 100 percent chlorine free/60 percent post-consumer content paper.



Section 3.2.3—Fishery Resource

Under “Existing Resources”, the 4th full paragraph (second sentence), states that “Bull trout are not known to occur in the immediate study area but do occur in the headwater tributaries of the Powder River.” Further discussion should be provided, incorporating information provided in the Service’s January 8, 2007 letter to FERC regarding Baker County’s revised study plans (portion provided below).

“Although no bull trout have been located to date in Phillips Reservoir, there are no known physical barriers to keep bull trout from utilizing the reservoir. In Buchanan et al. 1997, they stated that bull trout in the upper Powder River could utilize Phillips Reservoir during the fall, winter or spring. As pointed out in Baker County’s revised Study Plan 4 (attached) and revised Alternative Study Plan 8 (attached), some sampling of Phillips Reservoir has occurred, both in 2004 and 2006, with no bull trout being netted. However, no intensive surveys or sampling for bull trout have been conducted in Phillips Reservoir or tributaries to the reservoir. Given the term of the license (30-50 years), the fact that bull trout are known to occur in tributaries above Phillips Reservoir, the ability of bull trout to express both resident and migratory life history forms, and with no physical barriers between the tributary populations and Phillips Reservoir, its likely that bull trout will utilize the reservoir at various times over the life of the project. Any bull trout use of the reservoir would probably be at low levels, given the current information on bull trout distribution and numbers in the adjacent tributaries. Even at low numbers, there is the possibility that bull trout could be entrained through the intake and turbine...”

Section 3.2.4—Threatened, Endangered and Special Status Species

The section under “Bull Trout” should be updated to reflect the Service’s January 14, 2010 proposed rule to designate bull trout critical habitat.

Under “Project Effects”, although there is a discussion of bull trout entrainment through the Tieton Dam in Washington, including an estimate of fish mortality through jet valves, there is no discussion or analysis of what levels of mortality should be expected with the Mason Dam project. A mortality percentage has to be coupled with anticipated numbers of individuals in order to assess potential impacts to the species. This analysis has not been provided. Also, although the case is being made that a greater number of bull trout will survive passage through the turbine than would be the case with passage through the jet valves, both scenarios still anticipate some level of mortality that is not quantified in the document.

Section 3.3.6—Threatened, Endangered and Special Status Animals

The section under “Gray Wolf” should be updated to reflect more recent information on Gray Wolves in Oregon. This information can be found on the Oregon Department of Fish and Wildlife’s web site (<http://www.dfw.state.or.us/Wolves/index.asp>).

Comments on the Draft Biological Assessment

Section 1.0—Introduction

Figure 1-1 needs to be labeled as such.

Section 2.0 – Federal Action and Action Area

Please state in the final Biological Assessment whether the length of the license is 30 years or 50 years. This would better define the proposed action and allow for a more accurate assessment of impacts to listed species.

Figure 2-3 (described in the text on page 2 as the Water Quality Study Area) is incorrectly labeled as 3-3 (Location of New Turbine and Outlet at Mason Dam).

Section 3.4.1—Project Components

There is no mention of a fish screen at the intake to minimize or eliminate fish entrainment.

Section 3.4.3—Proposed Resource Protection, Mitigation and Enhancement Measures

Although a tiered mitigation plan is mentioned to address potential water quality issues, no specific information is provided to allow for an adequate analysis of effects. No other mitigation is provided for any additional impacts (e.g., fish entrainment) and no resource protection (e.g., fish screen) is discussed.

Section 4.0—ESA Consultation

Update the information on bull trout critical habitat (including Table 4-1) to reflect the Service's January 14, 2010 proposed rule for designating bull trout critical habitat. The rule proposes critical habitat within the Mason Dam project vicinity (e.g., Phillips Reservoir and associated streams).

The document states that the gray wolf is state-listed as threatened when it is actually listed as endangered.

Section 5.1 – Listed Fish Species and Critical Habitat

The section under *Critical Habitat* should be updated to reflect the most recent proposal for bull trout critical habitat, published in the Federal Register on January 14, 2010. This new proposed rule includes additional critical habitat in the Powder River subbasin, including Phillips Reservoir and Deer, Lake, Cracker, Little Cracker, Fruit, and Silver Creeks. Baker County should review the proposed rule and include any analysis, and potential impacts to proposed critical habitat from the proposed project. If effects to critical habitat are anticipated, the

Service recommends that the final Biological Assessment provide that analysis and that the request for consultation include a request to conference on proposed critical habitat.

Section 5.2—Listed Wildlife Species and Critical Habitat

Although there is good information provided in this section on Columbia Spotted Frogs, this section is not necessary in the final Biological Assessment as there is no consultation requirement for candidate species.

Section 6.1—Fish

Further discussion should be provided on potential bull trout use of Phillips Reservoir, incorporating information provided in the Service's January 8, 2007 letter to FERC regarding Baker County's revised study plans.

Section 6.1.2—Changes in Entrainment or Mortality Risk

Please see the Service's comments above under the PLP, Section 3.2.4.

Section 7.1—Fish


In the second paragraph, it states that the risk of bull trout entrainment is relatively low (but not zero). In the effects of the action section of the DBA there is a discussion of higher survival of bull trout passing through the turbine than passing through the jet valves, but both situations still cause injury or mortality. Any mortality, if anticipated to occur through entrainment at some time during the life of the project, would be considered an adverse affect and a "take" of bull trout.

Section 8.0—Conclusions

The effects determination for bull trout is unclear. The statement is made that "under current bull trout distribution conditions, the project would not likely adversely affect the bull trout. However, there is the potential for the project to effect the bull trout over the licensing period if DO standards are not met making unsuitable habitat downstream of Mason Dam." The effects determination for an action is based on the project in its entirety (in this case a 30 to 50 year timeframe). There are contradictions between the assessment and conclusion. In one section of the DBA there is discussion that entrainment is highly unlikely, yet an analysis is done on potential mortality rates for passage through turbines and a discussion of dissolved oxygen levels below Mason Dam and how that could affect any bull trout that pass through the facility. If there are any anticipated adverse effects during the life of the project, and adverse effect determination must be made. The Service recommends that a more cohesive analysis be provided to support an appropriate effects determination for bull trout.

If you have any questions regarding this response, please contact me at the above address. I can be reached at (541) 962-8509, by fax at (541) 962-8581, or by email at gary_miller@fws.gov.

Sincerely,



Gary S. Miller
Field Supervisor

Enclosure

cc:

Service list

Preston Sleeper, Office of Environmental Protection, Portland, Oregon

Estyn Mead, Fish and Wildlife Service, Portland, Oregon

Joe Zisa, Fish and Wildlife Service, Portland, Oregon

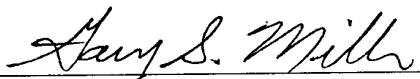
UNITED STATES OF AMERICA
 FEDERAL ENERGY REGULATORY COMMISSION

Baker County	)	FERC Project No. P-12686
)	
)	
Comments on the Preliminary License Proposal And Draft Biological Assessment	)	Mason Dam Hydroelectric Project
)	

Certificate of Service

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding

Dated this 28th day of January, 2010.



 Gary S. Miller
 Field Supervisor
 U.S. Fish and Wildlife Service
 3502 Highway 30
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Theodore R. Kulongoski, Governor

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January 28, 2010

Kimberly D. Bose, Secretary
Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

Subject: Mason Dam Hydroelectric Project (FERC 12686)
ODFW Comments on Preliminary Licensing Proposal

Dear Secretary Bose:

Baker County proposes to construct and operate a 3 MW hydropower facility at the existing U.S. Bureau of Reclamation's Mason Dam in Baker County, Oregon. Baker County filed its Preliminary Licensing Proposal (PLP) and draft Biological Assessment for the Mason Dam Hydroelectric Project on October 30, 2009. Through this letter, the Oregon Department of Fish and Wildlife (ODFW) is providing its comments on the PLP and the draft Biological Opinion.

1.0 Existing and Proposed Project Facilities

Page 1 – Nowak, not Novak, authors the Powder River Subbasin Plan.

Page 1 – The last paragraph infers that the entire Powder River has been thoroughly disturbed by dredge mining and confined by tailings. Clarify what section of the Powder River this is referring to using river miles or other suitable landmarks.

1.2.1 FERC Project Boundary

Transmission line – The Project’s transmission line may go from the powerhouse to a point of interconnect with an existing Idaho Power 138 kV line, but other options still exist. During the December 10, 2009 meeting, Baker County indicated a potential grid connection could be the existing Oregon Trail Electrical Cooperative transmission line at the base of the dam. In its License Application, Baker County needs to provide a complete description of the transmission line that will be constructed and operated as part of the Project, including a thorough analysis of impacts and proposed mitigation.

2.3 Proposed Project Operations

Page 7 – Within the PLP, Baker County inaccurately refers to the proposed project as “run of the river”. Because the project is a storage facility, FERC has indicated that it should be referred to as “run-of- project” or “run-of-release”.

2.5 Summary of Protection, Mitigation, and Enhancement Measures

Baker County should expand the bulleted list to include all mitigation measures identified in the PLP.

Intake Screen – Baker County needs to provide rationale for withdrawing an exclusionary intake screen as a mitigation measure.

Operations and Maintenance – Planned operations and maintenance (O&M) activities are not discussed in the PLP. An O&M Plan needs to be developed in consultation with ODFW. The O&M plan should include 1) methods to minimize impacts to species and habitat; 2) restrictions on the timing and location of O&M activities that may affect wildlife species during critical periods; 3) restrictions on O&M activities that impact nesting habitat of riparian birds and raptor nests; and 4) restrictions on human activities known to disturb bald eagles or that conflict with bald eagle use.

Bullet 5 – The PLP includes some potential erosion control measures. Baker County will need to consult with ODFW to ensure sufficient erosion control and mitigation measures are in place.

Bullet 7 – According to bullet 7, adjustments will be made to operating criteria if dissolved oxygen (DO) levels fall **below** the state water DO standard. ODFW does not consider this protective of the fishery resources in the Project area. Adjustments need to be made prior to any violation of state water quality standards. In addition, Baker County should consult ODFW and the Oregon Department of Environmental Quality (ODEQ) in development of its proposed Tiered Mitigation Plan, with the plan included in the License Application.

Bullet 8 – If the transmission line is constructed above ground, collision and electrocution will need to be addressed. Criteria in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) should be followed. Patrols and monitoring will need to occur to document collision or electrocution mortalities.

Bullet 9 – Baker County will consult with the Forest Service on reseeding disturbed areas. Baker County also needs to consult with ODFW to ensure adequate protection and restoration of areas for terrestrial and aquatic species.

Bullet 10 - Disturbed wetland habitats would be re-contoured and reseeded. Baker County will need to consult with the Oregon Department of State Lands (ODSL) and ODFW if wetland habitat may be impacted by Project construction or operations. At other hydroelectric projects, ODFW has considered wetland habitat to be Category 1 Habitat according to the ODFW's Fish and Wildlife Mitigation Policy. Category 1 Habitat is irreplaceable, essential habitat for fish or wildlife. The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality by avoidance of impacts

through alternatives to the proposed development action. The ODSL will determine if permitting is required.

Bullet 11 – Baker County should develop a Noxious Weed Management Plan, in consultation with ODFW, to help prevent the establishment and spread of noxious weeds and to treat current and future noxious weed infestations in the Project area. Best Management Practices should be developed and included in the plan.

Bullets 13 & 14 – Baker County needs to consult with ODFW to determine when construction, operation, and maintenance activities will have the least impact on aquatic, terrestrial, and recreation resources.

Bullets 16 & 17 – Baker County also needs to consult with the Oregon State Historical Preservation Office.

3.1.1 Climate

Table 1 – Provide reference for data included in Table 1.

3.1.4 Soils

This section of the PLP acknowledges that some erosion will occur from Project construction. However, Baker County does not provide an analysis of the impacts of this erosion or the impacts of erosion that will occur during Project operation.

Baker County also indicates that soil will be displaced to construct the powerhouse, transmission line, and substation. Standard control measures, however, are only proposed in the powerhouse construction area. Baker County needs to provide a rationale for not including erosion control measures during construction of the transmission line and substation. Also, to ensure suitable erosion control measures are put in place, Baker

County should prepare an Erosion Control Plan in consultation with ODFW. The plan should include Best Management Practices for erosion control and mitigation.

If fill or removal of 50 cubic yards or more of material is anticipated, Baker County will need to acquire a permit from ODSL.

3.2.1 Water Quantity

Page 14 – Baker County inaccurately refers to Phillips Reservoir as being owned by the Bureau of Reclamation (BOR). All surface and ground water in Oregon belongs to the public. The Oregon Water Resources Department administers the laws governing its use.

Page 14 – The reference (Reclamation, 2009) is missing from the Bibliography and needs to be included.

Figure 5 – Figure 5 depicts average monthly flows in the Powder River below Mason Dam for low, average, and high water years. Which water year was used for the average water year? Also, the PLP is missing a discussion of how these water years were chosen to represent low, average, and high water years and how many years of data were investigated to make this determination. This information should be provided to ensure representative years were chosen.

Page 16 – Baker County inaccurately refers to the Project as operating in run-of-river mode. The Project should be referred to as run-of-project or run-of-release.

Bypass Plan – Baker County proposes developing a bypass plan, approved by the Bureau of Reclamation, to ensure all required water is delivered downstream. Operation of the Project, however, has the potential to disrupt flow below Mason Dam particularly during construction and turbine shutdown. Therefore, Baker County should develop the Bypass Plan in consultation with ODFW and include it in the License Application.

3.2.2 Water Quality

Table 4 – Table 4 does not accurately reflect 303(d) listings for the Powder River in the Project reach. Instead, the table appears to be a search result of Oregon’s 2004/2006 Integrated Report. The only 303(d) listing for the Powder River in the Project area is summer temperature in Silver Creek, from the mouth to the headwaters. None of the other parameters listed in the table are on Oregon’s 303(d) list. This table needs to be updated to accurately reflect available water quality data.

Tailwater Construction – Tailwater construction will occur under dewatered conditions. Baker County needs to identify impacts from dewatering the tailwater area, such as loss of macroinvertebrates, and develop suitable mitigation measures.

DO – Baker County will develop a tiered mitigation plan for adjustments to operating criteria if DO levels fall below state water quality standards. Included in the plan is the potential construction of one or more aeration weirs below the stilling basin. Measures need to be put in place to ensure DO levels do not fall below state water quality standards. Relying on design and construction of aeration weirs once DO levels fall below standard will result in negative impacts to fishery resources.

Aeration Weirs – Baker County needs to include design drawings and placement location of the proposed aeration weirs in its License Application. Also needed is an assessment of potential negative impacts of construction and operation of these weirs, including dewatering, sedimentation, and blocked passage; and loss of rearing, migration, and spawning habitat. Baker County will need to implement mitigation measures to mitigate for impacts from weir construction and operation.

3.2.3 Fishery Resources

Existing Resources - The PLP includes a list of fish species in Phillips Lake. This list needs to be expanded to include fluvial and adfluvial redband trout, northern

pikeminnow, bridgelip sucker, and largescale sucker (Bailey 2009). ODFW recommends that Baker County reference the Powder River Subbasin Plan (Nowak 2004) and Bailey (2009) as the source of this information.

Yellow Perch Control – Baker County inaccurately reports that there have been several attempts to rid Phillips Lake of yellow perch, with the most recent attempt in 2009. In addition, Baker County describes the netting that occurred in 2009 as lake-wide. However, there have never been any attempts to rid the lake of yellow perch, nor was the netting operation in 2009 lake-wide. Mechanical removal of yellow perch to decrease its density and biomass in Phillips Reservoir occurred by the Idaho Department of Fish and Game (IDFG) in 2004 and 2005 and by ODFW in 2009. IDFG collected yellow perch to restock Lake Cascade. ODFW began implementing The Phillips Reservoir Perch Removal Project in 2009, aimed at reducing the density/biomass of perch in Phillips Reservoir in order to increase trout growth and survival. Gill netting in 2009 only occurred at six locations over a nine-day period. Based on the limited locations and duration of netting, it is not surprising that no bull trout were captured.

Redband Trout Production – ODFW disagrees with the statement that reproduction of redband trout is limited by yellow perch. Population surveys have not been conducted on the subbasin scale, precluding determining population trends. ODFW agrees redband and rainbow trout biomass within Phillips Reservoir is limited by yellow perch. However, redband trout leave Phillips Reservoir to spawn in the Powder River and its tributaries in the spring. If Baker County has data indicating rainbow trout reproduction is impacted by yellow perch, then a reference should be provided.

Bull Trout Populations – Baker County should revise information in the PLP to indicate that 10 local bull trout populations and one potential local bull trout population exist in the Powder River Basin, per the United States Fish and Wildlife Service's (FWS) proposed critical habitat revision.

– In addition to bull trout occurring in the headwater tributaries to the Powder River, spawning and rearing bull trout are also present in Lake Creek, a tributary to Deer Creek, which enters Phillips Reservoir (Buchanan et al. 1997).

DO, Page 28 – Within the PLP, Baker County concludes that there would be no Project effects on fishery resources from water quality. However, Baker County’s DO proposal would not implement some measures until DO standards fall below state standards. Violations of water quality standards will have negative impacts on aquatic resources in the Project area.

Project Effects – This section needs to include a discussion on the impacts to fishery resources from Project construction, such as erosion, sedimentation, turbidity, and dewatering; and from Project operations such as entrainment, erosion, and oil leakage. Baker County identifies all of these impacts, except oil leakage, as Project impacts in other sections of the PLP.

Mitigation Measures – Baker County does not include any mitigation for impacts to fishery resources from Project construction and operation, particularly entrainment, in the PLP. Mitigation measures need to be provided for the impacts identified above and identified in the PLP.

3.2.4 Threatened, Endangered and Special Status Aquatic Species

Bull Trout – Within the PLP, Baker County indicates that each population of bull trout is isolated from every other bull trout population. However, within the FWS’ Proposed Critical Habitat Justification Appendix 2, there is reference to Cracker Creek and Deer Creek providing the necessary habitat components to provide connectivity among local populations above Mason Dam. Baker County should provide specific information to support its contention that the local populations of bull trout above Mason Dam are all isolated from each other.

Project Effects – Within the PLP, Baker County correctly indicates that bull trout surviving entrainment through Mason Dam would not have access to upstream spawning areas. Mason Dam is a complete barrier to upstream migration. Oregon’s fish passage law (ORS 509.580 - 509.645), however, establishes a state policy that upstream and downstream passage is required at all artificial obstructions in those Oregon waters in which migratory native fish are currently or have historically been present.

Mitigation Measures - Because Baker County proposes to retrofit the BOR’s Mason Dam to include hydroelectric power, a change in status has occurred triggering Oregon’s fish passage law with specific provisions applying to the BOR as the owner and operator of the dam. Therefore, ODFW is seeking cooperation and commitment of the BOR in addressing fish passage at Mason Dam.

Addressing fish passage requirements entails 1) providing passage, according to a plan approved by ODFW; 2) receiving a waiver from providing passage from the Oregon Fish and Wildlife Commission (Commission); or 3) receiving an exemption from providing passage from the Commission. Waivers to providing fish passage are allowed if alternative mitigation would provide a net benefit to native migratory fish relative to providing actual fish passage at the site. Exemptions are considered when there would be no appreciable benefit to providing passage and mitigation would not be required.

In this case, over 60 miles of suitable habitat for native trout production is present above Mason Dam, and providing upstream and downstream passage would restore connectivity for redband trout and other resident fish species and potentially bull trout populations. Furthermore, Baker County concludes in the PLP that that the Powder River below Mason Dam lacks many of the required habitat features required by bull trout. Therefore, an “exemption to the fish passage requirement would be unlikely, although a “waiver”, where alternative mitigation is provided, might be possible.

Project Effects – Impacts to bull trout could occur if entrained through Mason Dam. Impacts to bull trout would also occur if entrained and killed.

Jet Valve Mortality – Baker County indicates that mortality through the jet valves at Tieton Dam is 60-80%. However, according to the Biological Opinion for Tieton Dam, rainbow trout mortality is 24%, although fish from below the dam may have inadvertently been included in the estimate. The entrainment rate of fish at Tieton Dam was most related to discharge rate, while pressure differential explained 56% of the variability in daily proportion of dead fish recovered in fyke nets. Mortality rate was at least 60% when pressure differences were 55 psi and dropped to 20% at 30 psi.

Mortality at Mason Dam - Baker County concludes that due to similarity in characteristics between Mason and Tieton dams, it is reasonable to expect a similar mortality rate for the existing jet valves at Mason Dam. However, Baker County presents no information to support the mortality estimates for Mason Dam. No mortality rate information is presented for bull trout or other native migratory fish such as largescale suckers. No information is presented to determine how mortality rate can be affected by fish species and size of fish, or by other factors such as pressure differential.

Francis Turbines – Baker County indicates that studies have shown that mortality rates for fish entrained into Francis turbines are substantially lower than for fish passing through jet valves. In the PLP, however no analysis or information is presented to substantiate this claim. Specific information and the sources of that information need to be provided.

Table 9 - Table 9 includes average estimated mortality for hydroelectric projects. Another column should be added that indicates what species are included in the average mortality estimate and what the estimated mortality was for each.

Table 9 – Based on peripheral runner velocity and mortality at other projects, Baker County estimated that mortality through turbines at Mason Dam will be 28%. Peripheral runner velocity is estimated to explain 58% of the variability in estimated mortality at

projects included in Table 9. Baker County should discuss what other variables are likely to influence mortality at the Project.

Bull Trout – Baker County indicates that bull trout in the river below Mason Dam would have no access to spawning areas and would constitute a “non-reproducing population”. Also, that the habitat conditions in the reach immediately below the dam, including potential DO conditions, would be suitable for survival of this population. However, on Page 29 Baker County indicates that potential habitat below Mason Dam is limited by large fluctuations in reservoir releases and the lack of habitat complexity. Baker County needs to reconcile their opposite conclusions regarding habitat below Mason Dam and provide specific information to support its conclusions. Also, Baker County needs to provide specific information on survival of bull trout in the absence of spawning habitat. Without screening, bull trout may be entrained to unsuitable habitat below the project, resulting in take of a listed species.

Mitigation Measures – There are no protection, mitigation, or enhancement measures proposed for any impacts to aquatic threatened, endangered, or sensitive species in the PLP. According to Baker County, bull trout entrained through the Project and surviving would need to be passed above Mason Dam to access spawning areas. However, no passage of bull trout or other native migratory fish is proposed.

In its revised study plan, February 2007, Baker County proposes to install a fish screen at the intake of Mason Dam for the protection of federally listed bull trout and state sensitive species redband trout, in lieu of conducting an entrainment study. Baker County further indicates that if a screen is not installed for mitigation, then it would conduct an entrainment study.

Within its study plan determination issued on March 9, 2007, FERC concludes that there is sufficient information on the presence of bull trout and redband trout and their potential use of Phillips Reservoir to justify Baker County’s proposal. In the PLP, however, Baker County no longer proposes installation of a fish screen at the intake.

Any person who diverts water from any body of water in Oregon in which any fish, subject to the State Fish and Wildlife Commission's regulatory jurisdiction, exits may be required to install, operate and maintain screening or by-pass devices to provide adequate protection for fish populations present at the water diversion (ORS 498.306). The installation of a screening or by-pass device may be required if: 1) the water diversion is 30 cfs or more; or 2) a new water right is issued for the diversion. Screening or by-pass standards take into account 1) the source of the population (native or introduced); 2) status of the population; and 3) cost effectiveness (ORS 498.321). Exemption from screening or by-pass devices can be granted by the State Fish and Wildlife Commission provided the commission determines other provisions are made that is adequate for the protection of game fish in the body of water from which water is being diverted.

Based on ORS 498.306-498.321, ODFW has determined that screening is required at Mason Dam. Included in ODFW's rationale is 1) the size of the diversion; 2) observations of entrainment occurring at the Project; 3) the high mortality rate estimated with entrainment; 4) the presence of federally listed bull trout in the Project area with access to Phillips Reservoir; 5) the presence of state sensitive redband trout in Phillips Reservoir and in the Powder River and its tributaries above and below Mason Dam; and 6) because upstream passage is not currently provided at Mason Dam.

Per the February 2007 Stud Plan, in the absence of fish screening, Baker County will need to conduct bull trout and redband trout use studies of Phillips Reservoir and entrainment studies at Mason Dam to determine current entrainment and mortality rates. Factors controlling entrainment will also need to be identified. Furthermore, as part of the mitigation measures for the Project, on-going monitoring of mortality and mortality rates per species will need to occur throughout the licensing timeframe. This information will be used to determine the impact of entrainment on populations in Phillips Reservoir and suitable mitigation.

Cumulative Effects – Baker County indicates that hydropower operations could reduce fish mortality compared with existing conditions at Mason Dam. To determine if this is an accurate statement, pre and post turbine-installation testing and monitoring need to occur. The information provided by Baker County is not sufficient to estimate current mortality at Mason Dam or mortality once the turbine is installed, but both will be substantially higher than if the intake is screened.

According to Table 9, Baker County estimates, using a simple regression analysis, that mortality at Mason Dam through the Francis Turbine will be 28%. This mortality rate, however, is higher than the estimated mortality rate for rainbow trout entrained through jet valves at Tieton dam, which is 24%. Mortality rates could be lowered substantially with the installation of an intake screening device. Screening would essentially eliminate any take or potential take of a listed species. ODFW recommends and supports screening the Project intake.

Terrestrial Resources

3.3.1 Vegetation

Page 34 – Detailed habitat descriptions and results from studies should be included in the License Application.

Project Effects – Baker County indicates that project construction will not result in any permanent loss of existing vegetated habitat. Baker County then goes on to say that a small number of trees will need to be removed to accommodate trench evacuation. In addition, that the transmission line evacuation would cross a narrow riparian zone and an estimated 0.2 acres of dry grassland would be permanently lost by construction of the substation. Baker County needs to provide an accurate assessment of impacts to terrestrial species, including acreage of impacts. The impact assessment should include anticipated impacts from O&M activities, such as vegetation clearing along the transmission line.

Mitigation Measures – Baker County only proposes some erosion control measures and reseeding disturbed areas for terrestrial mitigation. Baker County, however, will need to mitigate impacts to fish and wildlife habitat according to ODFW’s Fish and Wildlife Habitat Mitigation Policy (ORS 635-415-0000-0025).

3.3.2 Wetlands

Page 38 – Baker County estimates that 0.48 acres of wetlands are within the potential construction area, then goes on to conclude that no wetland area will be disturbed by any powerhouse or tailrace construction. However, Baker County also estimates that 60 ft² of aspen and alder riparian habitat would be impacted by excavation for burial of the underground transmission line and that the transmission line route would result in disturbance to approximately 60 ft² of wetland habitat. Baker County needs to determine the transmission line route and include it and an assessment of impacts to terrestrial species from its construction, operation, and maintenance, in the License Application.

Mitigation Measures – The only mitigation proposed by Baker County to impacts to wetland and riparian habitat is recontouring and reseeding after construction. According to ODFW’s Fish and Wildlife Habitat Mitigation Policy, wetland habitat in the Project area is considered Category 1 Habitat and riparian habitat is considered Category 2 Habitat. Category 1 Habitat is irreplaceable, essential habitat for a fish or wildlife species. The mitigation goal for Category 1 Habitat is no loss of either habitat quantity or quality by 1) avoidance of impacts through alternatives to the proposed development action or by 2) no authorization of the proposed development action if impacts cannot be avoided. Category 2 Habitat is essential habitat for a fish or wildlife species. The mitigation goal if impacts are unavoidable is to provide a net benefit of habitat quantity or quality.

3.3.3 Noxious Weeds

Baker County needs to develop A Noxious Weed Management Plan in consultation with ODFW. Included in this plan should be Best Management Practices to prevent the establishment and spread of noxious weeds. The plan should also include long-term monitoring and measures to treat noxious weeds that are or become established in the Project area. Baker County needs to consult with ODFW regarding reseeding of any disturbed areas.

3.3.5 Wildlife

Within the PLP, Baker County does not include a sufficient discussion of Project impacts to wildlife species and their habitat, or mitigation measures to address those impacts. Baker County does not identify or evaluate impacts from Project operations and O&M activities. However, within the PLP, Baker County identifies that habitat will be lost, converted, or unavailable for some length of time following initial disturbance. Any impacts to fish and wildlife habitat need to be mitigated according to ODFW's Fish and Wildlife Habitat Mitigation Policy.

3.4 Recreational Resources

Project Effects – Any restrictions on fishing access will need to be evaluated and implemented by ODFW and the USFS.

Mitigation Measures – Baker County needs to consult ODFW regarding construction timelines to ensure impacts to aquatic and terrestrial species and fishers and hunters are minimized.

Draft Biological Assessment

Baker County should update its draft Biological Assessment to incorporate the FWS' January 14, 2010 proposal to revise critical habitat designations for bull trout. Critical habitat designations are proposed in the Powder Basin above Mason Dam, including: Deer, Lake, Cracker, Little Cracker, and Silver creeks, and the Powder River. Baker County should include an analysis of potential impacts from the Project on the proposed critical habitat in the Biological Assessment and its License Application.

Thank you for the opportunity to provide comments on the PLP and the draft Biological Assessment. ODFW looks forward to working with FERC, Baker County, and other agencies and tribes to develop the License Application and Environmental Assessment for the Project.

Sincerely,



Colleen Fagan
NE Region Hydropower Coordinator

Cc: Service List
Mailing List
Mason Dam HART

Literature Cited

- Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.
- Bailey, Time. 2009. Phillips Reservoir Perch Removal Project, 2009 Project Report. Oregon Department of Fish and Wildlife, La Grande, Oregon.
- Buchanan, D. V., M. L. Hanson, and R. M. Hooton. 1997. Status of Oregon's bull trout. Oregon Department of Fish and Wildlife, Portland, OR. 168 p.
- Nowak, M. Cathy. 2004. Powder River Subbasin Plan. Northwest Power and Conservation Council. Portland, Oregon.

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Baker County)	FERC Project No. 12686
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)	
Preliminary Licensing Proposal and Draft Biological Assessment for Mason Dam Hydroelectric Project)	
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**OREGON DEPARTMENT OF FISH AND WILDLIFE
CERTIFICATE OF SERVICE**

I certify that I have served the foregoing OREGON DEPARTMENT OF FISH AND WILDLIFE'S COMMENTS TO THE PRELIMINARY LICENSING PROPOSAL AND DRAFT BIOLOGICAL ASSESSMENT for the Mason Dam Hydroelectric Project, Project No. 12686, upon each person designated on the official service list compiled by the Secretary in this proceeding and by electronic filing to FERC.

DATED: January 28, 2010



Colleen Fagan
NE Region Hydropower Coordinator

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File Code: 2770

Date: January 27, 2010

Electronically Filed

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20246

RE: US Department of Agriculture Forest Service **COMMENTS** on Baker County Preliminary Licensing Proposal and Draft Biological Assessment, Mason Dam Hydroelectric Project, Project No. P-12686

Dear Secretary Bose:

Baker County filed the Preliminary Licensing Proposal and Draft Biological Assessment for the Mason Dam Hydroelectric Project (Project) with the Federal Energy Regulatory Commission (FERC) on October 30, 2009. In response the USDA Forest Service is filing the following comments on the Preliminary Licensing Proposal (PLP) and Draft Biological Assessment (DEA).

<p>USDA FOREST SERVICE COMMENTS ON BAKER COUNTY'S PRELIMINARY LICENSING PROPOSAL</p>

Section 1.1 Project Lands and Waters:

A table that identifies acreage of each landowner within the proposed Project boundary should be provided to among other things, establish the lands of the United States that will be occupied by the Project.

Section 2.5 Proposed Protection, Mitigation and Enhancement Measures:

1. Describe why installation of the proposed exclusionary intake screen has been withdrawn by Baker County.
2. Describe why the measures recommended in the Final Updated Study Report Appendix H (May 2009) for the combined Vegetation and Threatened, Endangered and Sensitive Species Assessments 2 & 3 are not included as part of the noxious weed mitigation measure.
3. Describe why reseeded of all disturbed areas including any wetland habitats is not using locally collected native vegetation.



Section 3.2.4 Threatened Endangered and Special Status Aquatic Species:

On January 13, 2010, the US Fish and Wildlife Service released its proposed critical habitat revision for bull trout. The Powder River, including Phillips reservoir and Deer, Lake, Cracker, Little Cracker, Fruit and Silver Creeks are all proposed critical habitat for bull trout. Baker County will need to include analysis, discussion and any potential impacts from the Project on the proposed critical habitat for bull trout in their Final License Application.

Section 3.2.4 Proposed Protection, Mitigation and Enhancement Measures:

Baker County did not propose to install an exclusionary screen on the Project intake. In the Commission's **Study Plan Determination** issued on March 9, 2007, FERC staff relieved Baker County from conducting two studies to evaluate bull and redband trout use in Phillips reservoir, and the potential for their entrainment based on Baker County's agreement to install the exclusionary screen. In part the Commission stated:

"The Oregon Department of Fish and Wildlife, the Fish and Wildlife Service and the Forest Service requested a study to evaluate bull trout and/or redband trout use of Phillips Reservoir and the potential for their entrainment. The Oregon Department of Fish and Wildlife also requested an entrainment study to evaluate current levels of entrainment at Mason Dam. Baker County presents two studies to address these study requests. However, in lieu of conducting their proposed studies, Baker County proposes to install a fish screen at the intake of Mason Dam for the protection of the federally listed threatened bull trout, and the State listed species of special concern and the Forest Service's sensitive species, the redband trout (emphasis added). Staff, in their analysis of Baker County's proposal to screen the Mason Dam intake (see Appendix A), found that there is sufficient information on the presence of bull trout and redband trout and their potential use of Phillips reservoir to justify Baker County's proposal to screen the Mason Dam intake in lieu of conducting the requested or proposed studies; and therefore, pursuant to section 5.9 (b), Study Criteria 4 staff does not recommend the inclusion of these studies at this time." (Pages 3-4)

Further, **Appendix A**, of the Commission's **Study Plan Determination** (referenced in the above text), Page A-18 states:

"Therefore, for the protection of redband trout populations and more importantly, to prevent "harm" or "take" of bull trout due to the proposed project operations, Commission staff finds that given the existing information on the presence of bull trout and redband trout in the project area, screening of the Mason Dam intake would negate the need for the requested studies. Therefore, in light of this information, we find that implementation of studies that would evaluate bull trout and/or redband trout use of Phillips Reservoir or assess the current levels of entrainment would be unnecessary at this time. However, in the event that Baker County eliminates the construction and installation of a fish screen from their proposal, or is unable to implement the

proposal, Commission staff will re-evaluate the need for this additional information (emphasis added)."

Baker County agreed on an approach to mitigate entrainment via installation of an exclusionary screen on the Project intake in lieu of an entrainment and bull and redband trout at upper confluence of Phillips reservoir study. On three different occasions the USDA Forest Service filed with the Commission comments regarding installation of the exclusionary screen in lieu of studies: On January 8, 2007 in response to the Proposed Study Plan; on February 22, 2007 in response to the Revised Study Plan; and lastly on March 27, 2007 is response to the Study Plan Determination.

In each response the USDA Forest Service either did not oppose construction of an exclusionary screen if it is acceptable to ODFW and the USFWS and if the screen is built to NOAA and ODFW specifications for fish protection or agreed with Commission staff's evaluation and conclusion that installation of the exclusionary screen in lieu of an entrainment study will adequately address agency concerns. Further, the USDA Forest Service maintained its concern that Baker County does not provide a decision making process nor identify agency roles if the exclusionary screen is not installed due to "*unforeseen situations.*"

Baker County offers no analysis or rationale in the PLP as to why the agreed upon protection, mitigation and enhancement measure was not included. Please explain the rationale for not including the exclusionary intake screen as a mitigation measure and the rationale for not proposing to conduct an entrainment study in lieu of installing the exclusionary intake screen.

On December 10, 2009 Baker County hosted a stakeholder meeting, among other items to provide their rationale for not including the exclusionary intake screen as a mitigation measure in the PLP. Further, with stakeholder input Baker County drafted a strategy on how to proceed with the entrainment issue. As of the date of this letter, Baker County has yet to distribute the meeting notes to the USDA Forest Service and other stakeholders.

The USDA Forest Service recommends that Baker County distribute the 12/10/2009 meeting notes and meet again with all stakeholders to determine a strategy to resolve the entrainment and installation of an intake exclusionary screen issues prior to filing of the License Application on April 10, 2010.

Section 3.3.1 Vegetation - Proposed Protection, Mitigation and Enhancement Measures:

Baker County proposes that "*All disturbed areas will be reseeded with native and desirable non-native seed mixes. The seed mix will be determined through consultation with the Forest Service.*" Reseeding of all disturbed areas must be accomplished using on-site locally collected native vegetation in consultation with the USDA Forest Service.

Section 3.3.2 Wetlands:

Existing Conditions identifies Figure 13 for the vegetation map which is incorrect. It should be identified as Figure 15.

“Riparian wetlands also occur along the small unnamed stream east of Black Mountain Road that enters Phillips Lake (Figure 13).” The riparian wetland is not identified on the vegetation map (Figure 16). Please update the vegetation map to include the riparian wetland area.

Section 3.3.2 Wetlands - Proposed Protection, Mitigation and Enhancement Measures:

Baker County proposes that *“The disturbed habitat would be re-contoured and reseeded after construction.”* Baker County will need to work with the USDA Forest Service to mitigate all disturbed riparian wetland vegetation on National Forest System lands. Reseeding of the disturbed sites must be accomplished using on-site locally collected native vegetation in consultation with the USDA Forest Service.

Section 3.3.3 Noxious Weeds - Proposed Protection, Mitigation and Enhancement Measures:

Baker County proposes *“To prevent the introduction of noxious weeds, construction equipment will be cleaned to remove any seeds prior to entry into construction areas.”* While cleaning construction equipment is valid, it is only a part of the total mitigation measure for noxious weeds.

The Final Updated Study Report for Studies 2 and 3 filed with the Commission on May 28, 2009, Appendix H: Noxious Weed Assessment identifies several recommendations for adaptive management for noxious weeds. These include:

*“An adaptive management approach should be implemented consistent with the way Baker County treats other “A” and “B” listed weeds. We propose that the study area will be grid surveyed in June and again in September for the first 2 years post-project completion for all “A” and “B” listed weeds. Within this time frame, all noxious weeds will be treated using site-appropriate herbicides, consistent with the programmatic Forest Service noxious Weeds **USDA Forest Service Programmatic EIS (clarification added).** After the initial 2 years, the site will be monitored and treated using effective methods, timing, and rates of appropriate herbicides.”*

*“Current **USDA Forest Service Programmatic EIS (clarification added)** EIS limitations, Scotch Thistle- *Onopordum ancathium* and Canada thistle- *Cirsium vulgare*, are best treated with a late spring or mid-fall application of Picloram (Tordon 22K). Unfortunately, with current court injunction limitations in place, there are no effective herbicide options available for Whitetop – *Cardia draba*. When the programmatic EIS is finalized and in place, there may be additional options available for treatment of these weeds. For this reason, we highly*

recommend that these options be updated periodically to reflect current available herbicide technologies.”

The USDA Forest Service recommends that the adaptive management approach be included as part of the mitigation measure for management of noxious weeds within the Project boundary.

Baker County also proposes to *“Reseeding of all disturbed area with native and desirable non-native seed mixes will help prevent the spread of noxious weeds. The seed mix will be determined through consultation with the Forest Service.”* Reseeding of all disturbed areas must be accomplished using on-site locally collected native vegetation in consultation with the USDA Forest Service.

In addition to reseeded all disturbed areas with locally collected vegetation, Baker County will need to provide a monitoring and treatment plan for noxious weeds on National Forest System lands consistent with USDA Forest Service policy and include the sites in the adaptive management strategy detailed above.

Section 3.3.5 Wildlife - Proposed Protection, Mitigation and Enhancement Measures:

Baker County proposes to *“All disturbed areas will be reseeded with native and desirable non-native seed mixes in order to restore wildlife habitat.”* Reseeding of all disturbed areas must be accomplished using on-site locally collected native vegetation in consultation with the USDA Forest Service.

Section 3.3.6 Threatened Endangered and Special Status Animals - Proposed Protection, Mitigation and Enhancement Measures:

It should be clearly identified that noise disturbance would be to roosting and foraging bald eagles and not the nest site. Noise disturbance periods will be determined in consultation with the USDA Forest Service and the US Fish and Wildlife Service, and partly dependent on occupancy of the nest site.

Section 3.4 Recreational Resources:

USDA Forest Service agrees with consulting Baker County on time periods that will have the least impact on recreation access and use, and appropriate colors and materials for the facilities.

Section 3.6 Historic and Cultural Resources:

The USDA Forest Service only received the Final Updated Study Report for Archeological Survey of the Mason Dam Hydroelectric Expansion Project filed with the Commission of July 10, 2009 on Wednesday January 20, 2010. Based on very quick review, the USDA Forest Service comments that were provided to Baker County at the March 16, 2009 Updated Study Report meeting (see Baker County meeting notes filed with the Commission on 3/ 31/ 2009) have not been addressed.

USDA Forest Service comments provided to Baker County at the March 16, 2009 meeting were:

Need to have a 7.5', 1:24000 scale map. Source information of map, scale, legend.

Why is acres surveyed less than project acres?

What will actual disturbance be - how deep, machinery to be used, etc.?

Need clarification on sites for pre-field review. Report mentions MANY sites (over 80). Some are probably a long distance from the project area and do not need to be mentioned. Sites "within" project area and sites "within one mile" of project area should be listed in report and shown on map. All other sites should not be mentioned. If site eligibility is known, that should be mentioned. If isolates are included, they should be listed separately from sites.

Were any historic map reviews (GLOs, etc.) completed?

Environmental section could have more detail (is road crowned-and-ditched or native surface, is dam construction earthen or concrete, how extensive is previous ground disturbance in the project area, what is the nature of water in/near the project area, any terraces or good probability areas along the section of creek in the project area, is that a powerline and pole/tower showing on the quad in the project area - if not, what is it?)

What was the survey transect interval?

Report mentions poor surface visibility. Was visibility good enough such that confidence is high any sites would have been located, or is a monitor necessary?

What were isolates in project area? Location should be shown on map. What is explanation for not re-locating?

Conclusion needs to state "No Historic Properties Affected."

Stockhoff Quarry is over 50 miles from this project and should not be mentioned.

The USDA Forest Service recommends that Baker County review and responds to these comments in their Final License Application.

USDA FOREST SERVICE COMMENTS ON BAKER COUNTY'S DRAFT BIOLOGICAL ASSESSMENT

Section 2.0: Federal Action and Action Area:

Baker County needs to identify that the Action Area is primarily National Forest System lands and provide a table of all landowners and acres proposed in the Action Area.

Section 4.0 ESA Consultation:

In the second paragraph, FWS (first time used) should be identified as United States Fish and Wildlife Service (USFWS).

Section 5.1 Listed Fish Species and Critical Habitat:

On January 13, 2010, the US Fish and Wildlife Service release its' proposed critical habitat revision for bull trout. The Powder River, including Phillips reservoir and Deer, Lake, Cracker, Little Cracker, Fruit and Silver Creeks are all proposed critical habitat for bull trout. Baker County will need to include analysis, discussion and any potential impacts from the Project on the proposed critical habitat for bull trout in their Final License Application.

Upper Tributaries-Lake Creek Local Population, Paragraph 2: The USDA Forest Service has concerns about possible water quality impacts and/or fisheries habitat conditions associated with an old mining waste rock site in and adjacent to the Baboon Creek channel (Doolittle 2009). The site is characterized by an abundance of finely crushed limestone. Further investigations are planned in 2010.

Figure 5-2: Suggestion is to increase the size of the graphs for readability.

Section 9.0 References:

Add (here or in text on page 20):

Doolittle, Meg. 2009. Geologist, Whitman Ranger District. Personal communication.

If you have any questions related to these comments please contact Mike Gerdes, Wallowa-Whitman Hydropower Coordinator at 541-416-6521 or by e-mail at mgerdes@fs.fed.us.

Sincerely,

/s/ Ken Anderson
KEN ANDERSON
District Ranger

cc: Service List

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

IN THE MATTER OF THE PRELIMINARY)	Project No. P-12686
LICENSING PROPOSAL AND DRAFT)	
BIOLOGICAL ASSESSMENT)	
FOR THE MASON DAM)	
HYDROELECTRIC PROJECT)	
_____)	

DEPARTMENT OF AGRICULTURE

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have made service of the foregoing USDA FOREST COMMENTS TO THE PRELIMINARY LICENSING PROPOSAL AND DRAFT BIOLOGICAL ASSESSMENT – *Mason Dam Hydroelectric Project - Oregon - FERC Project No. 12686* upon the parties designated on the official service list compiled by the Secretary in this proceeding:

DATED January 27, 2010

SERVICE LIST for FERC P-12686

Carl E. Stiff M.D.
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Baker City, Oregon 97814

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/s/ Michael G. Gerdes

Michael G. Gerdes
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Chapter 498 — Hunting, Angling and Trapping Regulations;
Miscellaneous Wildlife Protective Measures

2007 EDITION

SCREENING AND BY-PASS DEVICES FOR WATER DIVERSIONS OR OBSTRUCTIONS

- 498.301 Policy
- 498.306 Screening or by-pass devices for water diversions; fees; costs
- 498.316 Exemption from screening or by-pass devices
- 498.321 Screening or by-pass standards
- 498.326 Department guidelines for screening and by-pass projects; expenditure of funds
- 498.336 Statutes not construed to limit ability to acquire funding for screening or by-pass devices
- 498.341 Additional funding
- 498.346 Injunction to require compliance with screening or by-pass requirements

498.301 Policy. It is the policy of the State of Oregon to prevent appreciable damage to game fish populations or populations of nongame fish that are classified as sensitive species, threatened species or endangered species by the State Fish and Wildlife Commission as the result of the diversion of water for nonhydroelectric purposes from any body of water in this state. [1993 c.478 §2]

498.305 [Repealed by 1959 c.352 §5]

498.306 Screening or by-pass devices for water diversions; fees; costs. (1) Any person who diverts water from any body of water in this state in which any fish, subject to the State Fish and Wildlife Commission's regulatory jurisdiction, exist may be required to install, operate and maintain screening or by-pass devices to provide adequate protection for fish populations present at the water diversion in accordance with the provisions of this section.

(2)(a) The State Department of Fish and Wildlife shall establish a cost-sharing program to implement the installation of screening or by-pass devices on not less than 150 water diversions or 150 cubic feet per second of diverted water per biennium. The department shall select the water diversions to be screened from the priority listing of diversions established by the department and reviewed by the Fish Screening Task Force. The installation of a screening or by-pass device may be required only if:

(A) The water diversion is 30 cubic feet per second or more;
(B) A new water right is issued for the water diversion;
(C) The point of water diversion is transferred as described in ORS 540.525;
(D) Fewer than 150 persons per biennium volunteer to request such installation on the diversions for which they are responsible; or
(E) The Fish Screening Task Force has reviewed and approved the department's request to require installation of screening or by-pass devices in order to complete the screening of a stream system or stream reach.

(b) The limitations on the number of diversions or cubic feet per second of diverted water to be screened as provided in this section do not prevent the installation of screening and by-pass devices for diversions by persons responsible for diversions who are willing to pay the full cost of installing screening and by-pass devices.

(c) Cost-sharing program funds may not be provided under this subsection for screening or by-pass devices on a water diversion involving water rights issued on or after January 1, 1996, unless the Fish Screening Task Force finds there is good cause to allow an exception. The department shall give preference to diversions of 30 cubic feet per second or less when making cost-sharing program funds available.

(3) When selecting diversions to be equipped with screening or by-pass devices, the department shall attempt to solicit persons who may volunteer to request the installation of such devices on the diversions for which they are responsible. When selecting diversions to be equipped with screening or by-pass devices, the department shall select those diversions that will provide protection to the greatest number of indigenous naturally spawning fish possible.

(4) If the department constructs and installs the screening or by-pass device, a fee shall be assessed against the person responsible for the diversion in an amount that does not exceed 40 percent of the construction and installation costs of the device. The fee shall be paid into the Fish Screening Subaccount. If the person responsible for the diversion constructs and installs the by-pass or screening device, the person shall be reimbursed from the Fish Screening Subaccount or other state funds in an amount that does not exceed 60 percent of the actual construction and installation costs of the device.

(5) The department's cost of major maintenance and repair of screening or by-pass devices shall be paid from the Fish Screening Subaccount.

(6) The department is responsible for major maintenance and repair of screening or by-pass devices at water diversions of less than 30 cubic feet per second, and if failure by the department to perform major maintenance on or repair such devices results in damage or blockage to the water diversion on which a device has been installed, the person responsible for the water diversion shall give written notice of such damage or blockage to the department. If within seven days of the notice, the department fails to take appropriate action to perform major maintenance on or repair the device, and to repair any damage that has occurred, the person responsible for the water diversion may remove the device. If an emergency exists that will result in immediate damage to livestock or crops, the person responsible for the water diversion may remove the screening or by-pass device. A person required to comply with this section is responsible for minor maintenance and shall, in a timely manner, notify the department of the need for activities associated with major maintenance.

(7) A person who diverts water at a rate of 30 cubic feet per second or more is responsible for all maintenance of an installed screening or by-pass device.

(8) A person required to comply with this section may design, construct and install screening

or by-pass devices adequate to prevent fish from leaving the body of water and entering the diversion or may request the department to design, construct and install such devices. However, if a person required to comply with this section fails to comply within 180 days after notice to comply by the department, the department shall design, install, operate and maintain on that person's water diversion appropriate screening or by-pass devices and shall charge and collect from the person the actual costs thereof in an amount not to exceed the average cost for diversions of that size.

(9) If the diversion requiring screening or by-pass devices is located on public property, the department shall obtain from the property owner approval or permits necessary for such devices. Activities of the department pursuant to this section may not interfere with existing rights of way or easements of the person responsible for the diversion.

(10)(a) The department or its agent has the right of ingress and egress to and from those places where screening or by-pass devices are required, doing no unnecessary injury to the property of the landowner, for the purpose of designing, installing, inspecting, performing major maintenance on or repairing such devices.

(b) If a screening or by-pass device installed by the department must be removed or replaced due to inadequate design or faulty construction, the person responsible for the diversion shall bear no financial responsibility for its replacement or reconstruction.

(c) If a screening or by-pass device installed by the person responsible for the diversion must be removed or replaced due to faulty construction, the person shall bear full financial responsibility for its replacement or reconstruction.

(d) If the person responsible for a diversion on which a screening or by-pass device is installed fails to conduct appropriate inspection and minor maintenance, the department may perform such activities and charge and collect from the person responsible a fee not to exceed \$150 for each required visit to the location of the screening or by-pass device.

(e) If the department determines that a person must install, operate, maintain, repair or replace a screening or by-pass device under this section, the department shall notify the person, by registered mail, of the specific action the person is required to take. The person may request a contested case hearing before the State Fish and Wildlife Commission, to be conducted as provided in ORS chapter 183.

(11) A person may not interfere with, tamper with, damage, destroy or remove in any manner not associated with regular and necessary maintenance procedures any screening or by-pass devices installed pursuant to this section.

(12) The department may maintain an action to cover any costs incurred by the department when a person who is required to comply with this section fails to comply. Such action shall be brought in the circuit court for the county in which the screening or by-pass device is located.

(13) Upon receiving notice from the department to comply with this section, a person responsible for a water diversion may be excused from compliance if the person demonstrates to the Fish Screening Task Force that:

(a) The installation and operation of screening or by-pass devices would not prevent appreciable damage to the fish populations in the body of water from which water is being diverted.

(b) Installation and operation of screening or by-pass devices would not be technically feasible.

(c) Installation of screening or by-pass devices would result in undue financial hardship.

(14)(a) Not later than January 1, 1996, the department, with the assistance of the Fish

Screening Task Force and the Water Resources Department, shall establish and publish an updated priority listing of 3,500 water diversions in the state that should be equipped with screening or by-pass devices. Changes may be made to the list whenever deletions are made for any reason. The priority listing shall include the name and address of the person currently responsible for the water diversion, the location of the diversion, size of the diversion, type of screening or by-pass device required, estimated costs for construction and installation of screening or by-pass devices for the individual diversion and species of fish present in the water body. When developing the priority listing, the department shall base priorities for the installation of screening or by-pass devices on unscreened diversions on the following criteria:

(A) Fish species status.

(B) Fish numbers.

(C) Fish migration.

(D) Diversion size.

(E) Diversion amount.

(F) Any other criteria that the department, in consultation with the Fish Screening Task Force, considers appropriate.

(b) Criteria identified in this subsection shall be given appropriate consideration by the department when updating its priority listing. The priority listing will be updated to give the highest priority to those diversions that save the greatest number of fish and simultaneously protect the greatest number of threatened or endangered fish species.

(c) After the priority listing has been updated, the persons responsible for the diversions on the list shall be notified that their diversions appear on the list. Such persons also shall be furnished a description of the fish screening cost-sharing program.

(d)(A) The department shall notify, by means of registered mail, each person responsible for the first 250 diversions on the priority listing on or before January 1, 1996. The department shall furnish information regarding the fish screening cost-sharing program to each person responsible for a diversion included in the first 250 diversions on the priority listing on or before January 1, 1996. A person may not be required to install a screening or by-pass device unless previously notified by the department of the requirement to install such devices.

(B) On January 1 of each even-numbered year, the department shall notify each person responsible for a diversion included in the first 250 diversions on the priority listing. However, the department is not required to notify in a subsequent year any person previously notified. The department shall include with such notification information regarding the fish screening cost-sharing program.

(C) Before any person is required to install a screening or by-pass device, the department shall confirm the need for the device through a visual, on-site inspection by appropriate staff of the fish screening division of the department, or a district biologist of the department.

(15) As used in this section:

(a) "Behavioral barrier" means a system that utilizes a stimulus to take advantage of natural fish behavior to attract or repel fish. A behavioral barrier does not offer a physical impediment to fish movement, but uses such means as electricity, light, sound or hydraulic disturbance to move or guide fish.

(b) "Body of water" includes but is not limited to irrigation ditches, reservoirs, stock ponds and other artificially created structures or impoundments.

(c) "By-pass device" means any pipe, flume, open channel or other means of conveyance that transports fish back to the body of water from which the fish were diverted but does not include

fishways or other passages around a dam.

(d) “Fish screen” means a screen, bar, rack or other barrier, including related improvements necessary to ensure its effective operation, to provide adequate protection for fish populations present at a water diversion.

(e) “Major maintenance” means all maintenance work done on a screening or by-pass device other than minor maintenance.

(f) “Minor maintenance” means periodic inspection, cleaning and servicing of screening or by-pass devices at such times and in such manner as to ensure proper operation of the screening or by-pass device.

(g) “Person” means any person, partnership, corporation, association, municipal corporation, political subdivision or governmental agency.

(h) “Screening device” means a fish screen or behavioral barrier. [1991 c.858 §2; 1993 c.478 §4; 1995 c.426 §1; 2005 c.22 §370; 2007 c.625 §1]

498.310 [Repealed by 1973 c.723 §130]

498.311 [Formerly 498.248; repealed by 2007 c.625 §16]

498.315 [Repealed by 1973 c.723 §130]

498.316 Exemption from screening or by-pass devices. ORS 498.306 does not require the installation of screening or by-pass devices in those water diversions for which the State Fish and Wildlife Commission, by contract or other form of agreement with the person diverting the water, has made such other provision as the commission determines is adequate for the protection of the game fish in the body of water from which water is being diverted. [Formerly 498.262; 2007 c.625 §6]

498.321 Screening or by-pass standards. (1) In order to carry out the provisions of ORS 498.301 and 498.306, the following minimum standards and criteria apply to actions of the State Fish and Wildlife Commission and the State Department of Fish and Wildlife with regard to fish screening or by-pass devices:

(a) Standards and criteria shall address the overall level of protection necessary at a given water diversion and may not favor one technology or technique over another.

(b) Standards and criteria shall take into account at least the following factors relating to the fish populations present at a water diversion:

(A) The source of the population, whether native or introduced and whether hatchery or wild.

(B) The status of the population, whether endangered, threatened or sensitive.

(c) Standards and criteria may take into account the cumulative effects of other water diversions on the fish populations being protected.

(d) Design and engineering recommendations shall consider cost-effectiveness.

(e) Alternative design and installation proposals must be approved if they can be demonstrated to provide an equal level of protection to fish populations as those recommended by the department.

(2) In order to maximize effectiveness and promote consistency relating to the protection of fish at nonhydroelectric water diversions, the department shall establish a single organizational entity to administer all agency activities related to fish screening and by-pass devices.

(3) The department shall emphasize cooperative effort and mutual understanding with those responsible for water diversions that need fish screening or by-pass devices.

(4) The department shall aggressively investigate and encourage the development of new technologies and techniques to provide protection for fish populations at water diversions in order to reduce initial costs, reduce operating costs and improve cost-effectiveness. [1993 c.478 §3; 2005 c.22 §371]

498.326 Department guidelines for screening and by-pass projects; expenditure of funds. (1) The State Department of Fish and Wildlife shall establish guidelines to determine the need for and location of potential fish screening and by-pass projects. The guidelines shall include a plan to be used for determining priorities for and expected costs of installing and maintaining the fish screening and by-pass devices.

(2) Nothing in subsection (1) of this section is intended to prevent the State Department of Fish and Wildlife from expending federal or other funds if such funds become available for the installation and maintenance of fish screening and by-pass projects. [Formerly 498.256]

Note: 498.326 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 498 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

498.331 [1993 c.478 §11; 1995 c.426 §18; 2001 c.822 §9; repealed by 2007 c.625 §16]

498.336 Statutes not construed to limit ability to acquire funding for screening or by-pass devices. Nothing in ORS 498.306 or 509.585 shall be construed:

(1) To limit the eligibility of a person required to install and operate screening or by-pass devices to obtain funding from the Water Development Fund pursuant to ORS 541.700 to 541.855.

(2) To limit the acquisition or acceptance of any federal funds available for the installation, operation, maintenance, improvement or repair of screening or by-pass devices on water diversions in this state. [Formerly 498.276; 2001 c.923 §6; 2007 c.625 §9]

498.341 Additional funding. Notwithstanding the limitations imposed by ORS 498.306, if sufficient funds are made available in the Fish Screening Subaccount of the Fish and Wildlife Account, by allocation from the Administrative Services Economic Development Fund or from other sources, the State Department of Fish and Wildlife may provide financial assistance for construction and installation of screening or by-pass devices on additional water diversions. [1993 c.478 §8; 2001 c.822 §10; 2005 c.22 §372; 2007 c.625 §7]

498.346 Injunction to require compliance with screening or by-pass requirements. The State Fish and Wildlife Commission may maintain a suit to enjoin any person, including governmental agencies of this state and political subdivisions of this state, from violating the provisions of ORS 498.306. The circuit court for any county in which are situated any waters in which any such violations are threatened has jurisdiction of the suit authorized by this section. [Formerly 498.274; 2001 c.923 §7; 2007 c.625 §8]

498.351 [Formerly 498.268; repealed by 2001 c.923 §21]

543.015 Policy. The Legislative Assembly declares that it is the policy of the State of Oregon:

(1) To protect the natural resources of this state from possible adverse impacts caused by the use of the waters of this state for the development of hydroelectric power.

(2) To permit siting of hydroelectric projects subject to strict standards established to protect the natural resources of Oregon.

(3) To require the Water Resources Commission, the Energy Facility Siting Council, the Department of Environmental Quality and other affected state agencies to participate to the fullest extent in any local, state or federal proceedings related to hydroelectric power development in order to protect the natural resources of Oregon. [1985 c.569 §2]

543.017 Minimum standards for development of hydroelectric power; public interest considerations; rules. (1) In order to carry out the policy set forth in ORS 543.015, the following minimum standards shall apply to any action of the Water Resources Commission relating to the development of hydroelectric power in Oregon:

(a) The anadromous salmon and steelhead resources of Oregon shall be preserved. The commission shall not approve activity that may result in mortality or injury to anadromous salmon and steelhead resources or loss of natural habitat of any anadromous salmon and steelhead resources except when an applicant proposes to modify an existing facility or project in such a manner that can be shown to restore, enhance or improve anadromous fish populations within that river system.

(b) Any activity related to hydroelectric development shall be consistent with the provisions of the Columbia River Basin Fish and Wildlife Program providing for the protection, mitigation and enhancement of the fish and wildlife resources of the region as adopted by the Pacific Northwest Electric Power and Conservation Planning Council pursuant to Public Law 96-501.

(c) Except as provided in this paragraph, no activity may be approved that results in a net loss of wild game fish or recreational opportunities. If a proposed activity may result in a net loss of any of the above resources, the commission may allow mitigation if the commission finds the proposed mitigation in the project vicinity is acceptable. Proposed mitigation that may result in a wild game fish population, or the fishery the wild game fish population provides, being converted to a hatchery dependent resource is not acceptable mitigation. A water dependent recreational opportunity must be mitigated by another water dependent recreational opportunity. Mitigation of water dependent recreational opportunities that, in the judgment of the commission, are of statewide significance with a recreational opportunity that is readily available on other waters of this state is not acceptable mitigation. In deciding whether mitigation is acceptable, the commission shall consult with other local, state and federal agencies.

(d) Other natural resources in the project vicinity, including water quality, wildlife, scenic and aesthetic values, and historic, cultural and archaeological sites, shall be maintained or enhanced. No activity may be approved that, in the judgment of the commission after balancing gains and losses to all affected natural resources, may result in a net loss of natural resources. In determining whether the proposed activity may result in a net loss of natural resources, the commission may consider mitigation if the commission determines the proposed mitigation in the project vicinity is acceptable. Mitigation may include appropriate measures considered necessary to meet the net loss standard. In determining whether mitigation is acceptable, the commission shall consult with appropriate state, federal and local agencies.

(e) In determining whether it is in the public interest to allocate water for a proposed

hydroelectric development, the commission shall consider present and future power needs and shall make a finding on the need for the power. For a hydroelectric project with a nominal electric generating capacity of 25 megawatts or more, the Water Resources Commission shall consider any recommendation by the Energy Facility Siting Council. The Energy Facility Siting Council's recommendation shall be based solely on information contained in the hearing record of the Water Resources Commission. The commission's order on the proposed hydroelectric development shall describe the Energy Facility Siting Council's recommendations on the need for the power. If the commission's decision on the need for power is contrary to the Energy Facility Siting Council's recommendation, the commission's order shall explain the commission's failure to follow the recommendation of the Energy Facility Siting Council. The commission also shall consult with the Energy Facility Siting Council on other matters within the expertise of the Energy Facility Siting Council.

(2) The commission shall adopt all necessary rules to carry out the policy set forth in ORS 543.015 and to implement the minimum standards set forth in subsection (1) of this section. In the absence of implementing rules, any action of the commission relating to hydroelectric development shall comply with the standards as set forth in this section.

(3) Nothing in this section limits the authority of any state agency to make recommendations regarding appropriate license conditions during the consideration of the issuance of a license or permit for an existing hydroelectric project. [1985 c.569 §3; 1993 c.544 §6; 1995 c.229 §2; 2007 c.71 §176]

543.020 [Repealed by 1961 c.224 §20]

Chapter 509 — General Protective Regulations

2009 EDITION

FISH PASSAGE; FISHWAYS; SCREENING DEVICES; HATCHERIES NEAR DAMS

- 509.580 Definitions for ORS 509.580 to 509.590, 509.600 to 509.645 and 509.910; rules
- 509.585 Fish passage required for artificial obstructions; statewide inventory; waiver of requirement by commission; rules; exemptions
- 509.590 Fish Passage Task Force; reports to legislature
- 509.595 Director to report on fish passage rules, adequacy and implementation
- 509.600 Destroying, injuring or taking fish near fishway; permits to take fish
- 509.610 Maintenance of fish passage required
- 509.620 Condemning inadequate or nonfunctioning fish passage; requiring new fish passage
- 509.625 Power of department to inspect artificial obstructions and have fish passage constructed or remove obstruction
- 509.630 Power of department to establish fish passage in natural stream obstructions
- 509.635 Oregon City fishway under control of commission; removal of obstructions
- 509.645 Filing protest with commission; review and determination by commission; alternative dispute resolution

509.580 Definitions for ORS 509.580 to 509.590, 509.600 to 509.645 and 509.910; rules. As used in ORS 509.580 to 509.590, 509.600 to 509.645 and 509.910:

(1) “Artificial obstruction” means any dam, diversion, culvert or other human-made device placed in the waters of this state that precludes or prevents the migration of native migratory fish.

(2) “Construction” means:

(a) Original construction;

(b) Major replacement;

(c) Structural modifications that increase storage or diversion capacity; or

(d) For purposes of culverts, installation or replacement of a roadbed or culvert.

(3) “Emergency” means unforeseen circumstances materially related to or affected by an artificial obstruction that, because of adverse impacts to a population of native migratory fish, requires immediate action. The State Fish and Wildlife Director may further define the term “emergency” by rule.

(4) “Fundamental change in permit status” means a change in regulatory approval for the operation of an artificial obstruction where the regulatory agency has discretion to impose additional conditions on the applicant, including but not limited to licensing, relicensing,

reauthorization or the granting of new water rights, but not including water right transfers or routine maintenance permits.

(5) “In-proximity” means within the same watershed or water basin and having the highest likelihood of benefiting the native migratory fish populations directly affected by an artificial obstruction.

(6) “Native migratory fish” means those native fish that migrate for their life cycle needs and that are listed in the rules of the State Fish and Wildlife Director.

(7) “Net benefit” means an increase in the overall, in-proximity habitat quality or quantity that is biologically likely to lead to an increased number of native migratory fish after a development action and any subsequent mitigation measures have been completed.

(8) “Oregon Plan” means the guidance statement and framework described in ORS 541.405. [2001 c.923 §1]

Note: 509.580 to 509.595 were enacted into law by the Legislative Assembly but were not added to or made a part of ORS chapter 509 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

509.585 Fish passage required for artificial obstructions; statewide inventory; waiver of requirement by commission; rules; exemptions. (1) It is the policy of the State of Oregon to provide for upstream and downstream passage for native migratory fish and the Legislative Assembly finds that cooperation and collaboration between public and private entities is necessary to accomplish the policy goal of providing passage for native migratory fish and to achieve the enhancement and restoration of Oregon’s native salmonid populations, as envisioned by the Oregon Plan. Therefore, except as provided in ORS chapter 509, fish passage is required in all waters of this state in which native migratory fish are currently or have historically been present.

(2) Except as otherwise provided by this section or ORS 509.645, a person owning or operating an artificial obstruction may not construct or maintain any artificial obstruction across any waters of this state that are inhabited, or historically inhabited, by native migratory fish without providing passage for native migratory fish.

(3) The State Department of Fish and Wildlife shall complete and maintain a statewide inventory of artificial obstructions in order to prioritize enforcement actions based on the needs of native migratory fish. This prioritization shall include, but need not be limited to, the degree of impact of the artificial obstruction on the native migratory fish, the biological status of the native migratory fish stocks in question and any other factor established by the department by rule. The department shall establish a list of priority projects for enforcement purposes. Priority artificial obstructions are subject to the State Fish and Wildlife Commission’s authority as provided in ORS 509.625. Unless requested by persons owning or operating an artificial obstruction, the department shall primarily direct its enforcement authority toward priority projects, emergencies and projects described in subsection (4) of this section. The priority project list shall be subject to periodic review and amendment by the department and to formal review and amendment by the commission no less frequently than once every five years.

(4) A person owning or operating an artificial obstruction shall, prior to construction, fundamental change in permit status or abandonment of the artificial obstruction in any waters of this state, obtain a determination from the department as to whether native migratory fish are or historically have been present in the waters. If the department determines that native migratory

fish are or historically have been present in the waters, the person owning or operating the artificial obstruction shall either submit a proposal for fish passage to the department or apply for a waiver pursuant to subsection (7) of this section. Approval of the proposed fish passage facility or of the alternatives to fish passage must be obtained from the department prior to construction, permit modification or abandonment of the artificial obstruction.

(5) Consistent with the purpose and goals of the Oregon Plan, the department shall seek cooperative partnerships to remedy fish passage problems and to ensure that problems are corrected as soon as possible. The department and the person owning or operating the artificial obstruction are encouraged to negotiate the terms and conditions of fish passage or alternatives to fish passage, including appropriate cost sharing. The negotiations may include, but are not limited to, consideration of equitable factors.

(6) The department shall submit a proposed determination of the required fish passage or alternatives to fish passage to the commission for approval. The determination may be the result of the negotiations described in subsection (5) of this section or, if no agreement was reached in the negotiations, a determination proposed by the department. If a protest is not filed within the time period specified in ORS 509.645, the proposed determination shall become a final order.

(7)(a) The commission shall waive the requirement for fish passage if the commission determines that the alternatives to fish passage proposed by the person owning or operating the artificial obstruction provide a net benefit to native migratory fish.

(b) Net benefit to native migratory fish is determined under this subsection by comparing the benefit to native migratory fish that would occur if the artificial obstruction had fish passage to the benefit to native migratory fish that would occur using the proposed alternatives to fish passage. Alternatives to fish passage must result in a benefit to fish greater than that provided by the artificial obstruction with fish passage. The net benefit to fish shall be determined based upon conditions that exist at the time of comparison.

(c) The State Fish and Wildlife Director shall develop rules establishing general criteria for determining the adequacy of fish passage and of alternatives to fish passage. The general criteria shall include, but not be limited to:

- (A) The geographic scope in which alternatives must be conducted;
- (B) The type and quality of habitat;
- (C) The species affected;
- (D) The status of the native migratory fish stocks;
- (E) Standards for monitoring, evaluating and adaptive management;
- (F) The feasibility of fish passage and alternatives to fish passage;
- (G) Quantified baseline conditions;
- (H) Historic conditions;
- (I) Existing native migratory fish management plans;
- (J) Financial or other incentives and the application of incentives;
- (K) Data collection and evaluation; and
- (L) Consistency with the purpose and goals of the Oregon Plan.

(d) To the extent feasible, the department shall coordinate its requirements for adequate fish passage or alternatives to fish passage with any federal requirements.

(8) A person owning or operating an artificial obstruction may at any time petition the commission to waive the requirement for fish passage in exchange for agreed-upon alternatives to fish passage that provide a net benefit to native migratory fish as determined in subsection (7) of this section.

(9)(a) Artificial obstructions without fish passage are exempt from the requirement to provide fish passage if the commission:

- (A) Finds that a lack of fish passage has been effectively mitigated;
- (B) Has granted a legal waiver for the artificial obstruction; or
- (C) Finds there is no appreciable benefit to providing fish passage.

(b) The commission shall review, at least once every seven years, the artificial obstructions exempted under this subsection that do not have an exemption expiration date to determine whether the exemption should be renewed. The commission may revoke or amend an exemption if it finds that circumstances have changed such that the relevant requirements for the exemption no longer apply. The person owning or operating the artificial obstruction may protest the decision by the commission pursuant to ORS 509.645.

(10) If the fundamental change in permit status is an expiration of a license of a federally licensed hydroelectric project, the commission's determination shall be submitted to the Federal Energy Regulatory Commission as required by ORS 543A.060 to 543A.410.

(11) To the extent that the requirements of this section are preempted by the Federal Power Act or by the laws governing hydroelectric projects located in waters governed jointly by Oregon and another state, federally licensed hydroelectric projects are exempt from the requirements of this section.

(12) A person subject to a decision of the commission under this section shall have the right to a contested case hearing according to the applicable provisions of ORS chapter 183. [2001 c.923 §2]

Note: See note under 509.580.

509.590 Fish Passage Task Force; reports to legislature. (1) The State Fish and Wildlife Director shall establish a Fish Passage Task Force to advise the director and the State Department of Fish and Wildlife on matters related to fish passage in Oregon, including but not limited to funding, cost sharing and prioritization of efforts. The director shall determine the members and the specific duties of the task force by rule.

(2) The department shall provide staff necessary for the performance of the functions of the task force.

(3) A member of the task force may not receive compensation for services as a member of the task force. In accordance with ORS 292.495, a member of the task force may receive reimbursement for actual and necessary travel or other expenses incurred in the performance of official duties.

(4) The task force shall report semiannually to the appropriate legislative committee with responsibility for salmon restoration or species recovery, to advise the committee on matters related to fish passage. [2001 c.923 §3; 2007 c.354 §17]

Note: See note under 509.580.

509.595 Director to report on fish passage rules, adequacy and implementation. The State Fish and Wildlife Director shall report to the Governor, the Speaker of the House of Representatives, the President of the Senate and the appropriate legislative committee with responsibility for salmon restoration or species recovery:

- (1) Prior to the adoption of rules relating to fish passage;

(2) Prior to the establishment of the general criteria for determining the adequacy of fish passage and of alternatives to fish passage required to be established under ORS 509.585 (7)(c); and

(3) Semiannually on the progress that the director has made in implementing ORS 509.580 to 509.590. [2001 c.923 §20; 2007 c.354 §18]

Note: See note under 509.580.

509.600 Destroying, injuring or taking fish near fishway; permits to take fish. (1) A person may not willfully or knowingly destroy, injure or take fish within 600 feet of any fishway, except as permitted by subsection (2) of this section. Actions that violate this section include, but are not limited to:

(a) Hindering, annoying or disturbing fish entering, passing through, resting in or leaving such fishway, or obstructing the passage of fish through the fishway at any time or in any manner.

(b) Placing anything in the fishway.

(c) Using any fishing gear within 600 feet of the fishway.

(d) Taking fish at any time anywhere within 600 feet of the fishway.

(e) Doing any injury to the fishway.

(2) The State Fish and Wildlife Commission may by rule or by issuance of permits authorize the taking of fish within 600 feet of any fishway. [1965 c.570 §104; 1973 c.723 §122; 1981 c.646 §6; 2001 c.923 §8]

509.605 [Amended by 1955 c.707 §49; 1963 c.178 §1; 1965 c.570 §131; 1973 c.723 §123; repealed by 2001 c.923 §21]

509.610 Maintenance of fish passage required. (1) Subject to ORS 509.645, when the State Department of Fish and Wildlife requires fish passage to be provided pursuant to ORS 509.585, the person owning or operating an artificial obstruction shall keep the fish passage in such repair as to provide adequate fish passage of native migratory fish at all times.

(2) Each day of neglect or refusal to comply with subsection (1) of this section, after notification in writing by the department, constitutes a separate offense.

(3) A person owning or operating an artificial obstruction is responsible for maintaining, monitoring and evaluating the effectiveness of fish passage or alternatives to fish passage. [Amended by 1955 c.707 §52; 1965 c.570 §132; 2001 c.923 §9]

509.615 [Amended by 1957 c.135 §1; 1963 c.111 §1; 1965 c.570 §135; 1987 c.488 §2; 1993 c.478 §9; 1995 c.426 §6; repealed by 2007 c.625 §16]

509.620 Condemning inadequate or nonfunctioning fish passage; requiring new fish passage. If, in the judgment of the State Department of Fish and Wildlife, fish passage is not functioning as intended or is inadequate, as constructed under ORS 509.585, the State Fish and Wildlife Commission may condemn the fish passage and order new fish passage installed in accordance with plans and specifications determined by the department. [Amended by 2001 c.923 §10]

509.625 Power of department to inspect artificial obstructions and have fish passage constructed or remove obstruction. (1) The State Department of Fish and Wildlife may determine or ascertain by inspection of any artificial obstruction whether it would be advisable to construct fish passage, or order the construction pursuant to ORS 509.585 of fish passage, at the artificial obstruction. Without affecting other remedies to enforce the requirement to install fish passage, if the State Fish and Wildlife Commission determines that an emergency exists, the commission may order the construction, pursuant to ORS 509.585, of fish passage in the waters of this state inhabited by native migratory fish as deemed adequate to provide passage for native migratory fish.

(2) Where fish passage has previously been constructed with or without the approval of the commission and has proved useless or inadequate for the purposes for which it is intended, the commission may improve or rebuild such fish passage. However, such construction or reconstruction shall not interfere with the prime purpose of the artificial obstruction. This subsection may not be construed to require the improvement or rebuilding of fish passage by the commission.

(3)(a) The commission may order a person owning or operating an artificial obstruction on the priority list created pursuant to ORS 509.585 who has been issued a water right, owners of lawfully installed culverts or owners of other lawfully installed obstructions to install fish passage or to provide alternatives to fish passage if the commission can arrange for nonowner or nonoperator funding of at least 60 percent of the cost.

(b) Notwithstanding paragraph (a) of this subsection, the commission may order installation of fish passage or alternatives to fish passage without regard to funding sources:

(A) If the person owning or operating the artificial obstruction is already subject to an obligation to install fish passage or to provide alternatives to fish passage under ORS 509.585;

(B) If the commission declares an emergency under this section; or

(C) If the person owning or operating the artificial obstruction has not been issued a water right or if the artificial obstruction has been otherwise unlawfully installed.

(4) If a person who owns or operates an artificial obstruction and who is required to provide fish passage under ORS 509.585 fails to provide fish passage in the manner and time required by the State Department of Fish and Wildlife, the commission may remove, replace or repair the artificial obstruction or any parts of the obstruction at the expense of the owner or operator. [Amended by 1955 c.707 §53; 1963 c.232 §1; 1965 c.570 §133; 2001 c.923 §11]

509.630 Power of department to establish fish passage in natural stream obstructions. The State Department of Fish and Wildlife may determine or ascertain by inspection of any natural obstruction whether it would be advisable to construct fish passage over or around such natural obstruction. If it is deemed advisable the State Fish and Wildlife Commission may construct fish passage that provides adequate passage for native migratory fish in the waters of this state inhabited by native migratory fish. [Amended by 1965 c.570 §134; 2001 c.923 §12]

509.635 Oregon City fishway under control of commission; removal of obstructions. (1) The fishways over the falls in the Willamette River, near Oregon City, are under the care and control of the State Fish and Wildlife Commission, which may make any extensions, additions, alterations or repairs to the same that become necessary.

(2) The commission, or its duly authorized representatives, may remove any artificial obstructions placed in the Willamette River above the falls which would prevent the free passage of fish up the river. [Amended by 1965 c.570 §136]

509.640 [Amended by 1955 c.707 §54; repealed by 2001 c.923 §21]

509.645 Filing protest with commission; review and determination by commission; alternative dispute resolution. (1) A person owning or operating an artificial obstruction may request alternative dispute resolution at any point in the process of determining fish passage requirements.

(2) A person owning or operating an artificial obstruction may file a protest with the State Fish and Wildlife Commission within 30 days from the receipt of the State Department of Fish and Wildlife determinations under ORS 509.585. The person shall identify the grounds for protesting the department's determinations.

(3) The commission may, after sufficient opportunity for public review and comment, approve, deny or modify the proposed determinations. [1955 c.707 §51; 1973 c.723 §124; 2001 c.923 §13]

**The Oregon Administrative Rules contain OARs filed through December 15,
2009**

DEPARTMENT OF FISH AND WILDLIFE

DIVISION 415

FISH AND WILDLIFE HABITAT MITIGATION POLICY

635-415-0000

Purpose

The purpose of these rules is to further the Wildlife Policy (ORS 496.012) and the Food Fish Management Policy (506.109) of the State of Oregon through the application of consistent goals and standards to mitigate impacts to fish and wildlife habitat caused by land and water development actions. The policy provides goals and standards for general application to individual development actions, and for the development of more detailed policies for specific classes of development actions or habitat types.

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

635-415-0005

Definitions

For the purposes of OAR 635-415-0000 through 635-415-0025 only:

- (1) "Department" means the Oregon Department of Fish and Wildlife.
- (2) "Development Action" means any activity subject to regulation by local, state, or federal agencies that could result in the loss of fish and wildlife habitat. Development actions may include, but are not limited to, the planning, construction, and operational activities of local, state, and federal agencies. Development actions also include subsequent re-permitting for activities with new impacts or continued impacts that have not been mitigated consistent with current standards.
- (3) "Essential Habitat" means any habitat condition or set of habitat conditions which, if diminished in quality or quantity, would result in depletion of a fish or wildlife species.

- 4) "Fish and Wildlife" means all fish, shellfish, intertidal animals, wild birds, amphibians, reptiles, and wild mammals over which the Fish and Wildlife Commission has jurisdiction.
- (5) "Habitat" means the physical and biological conditions within the geographic range of occurrence of a species, extending over time, that affect the welfare of the species or any sub-population or members of the species.
- (6) "Habitat Quantity" means the amount of a given habitat type.
- (7) "Habitat Quality" means the relative importance of a habitat with regard to its ability to influence species presence and support the life-cycle requirements of the fish and wildlife species that use it.
- (8) "Habitat Type" means the classification of a site or area based on its dominant plant, soil, and water associations or other salient features (e.g. tidal influence, salinity, substrate, alkalinity, etc.) of value to the support and use by fish and wildlife.
- (9) "Home Range" means the area that a species traverses in the scope of normal life-cycle activities.
- (10) "Impact" means an adverse effect of a development action upon fish and wildlife habitat.
- (11) "Important Habitat" means any habitat recognized as a contributor to sustaining fish and wildlife populations on a physiographic province basis over time.
- (12) "In-kind Habitat Mitigation" means habitat mitigation measures which recreate similar habitat structure and function to that existing prior to the development action.
- (13) "In-proximity Habitat Mitigation" means habitat mitigation measures undertaken within or in proximity to areas affected by a development action. For the purposes of this policy, "in proximity to" means within the same home range, or watershed (depending on the species or population being considered) whichever will have the highest likelihood of benefiting fish and wildlife populations directly affected by the development.
- (14) "Irreplaceable" means that successful in-kind habitat mitigation to replace lost habitat quantity and/or quality is not feasible within an acceptable period of time or location, or involves an unacceptable level of risk or uncertainty, depending on the habitat under consideration and the fish and wildlife species or populations that are affected. "Acceptable", for the purpose of this definition, means in a reasonable time frame to benefit the affected fish and wildlife species.
- (15) "Limited habitat" means an amount insufficient or barely sufficient to sustain fish and wildlife populations over time.
- (16) "Mitigation" means taking one or more of the following actions listed in order of priority:

(a) Avoiding the impact altogether by not taking a certain development action or parts of that action;

(b) Minimizing impacts by limiting the degree or magnitude of the development action and its implementation;

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the development action and by monitoring and taking appropriate corrective measures;

(e) Compensating for the impact by replacing or providing comparable substitute resources or environments.

(17) "Mitigation Bank" means fish and/or wildlife habitat that is restored, created, or enhanced for the purpose of selling habitat credits in exchange for anticipated unavoidable future habitat losses due to development actions.

(18) "Mitigation Plan" means a written plan or statement that thoroughly describes the manner in which the impact of a development action will be reduced or eliminated over time, avoided, and/or minimized; and the affected environment, including fish and wildlife habitat, monitored, restored, rehabilitated, repaired and/or replaced or otherwise compensated for in accordance with OAR 635-415-0010 of these rules.

(19) "Native" means fish and wildlife species, subspecies or populations that occur currently or historically in Oregon through natural (i.e. nonhuman) colonization or immigration, rather than by human action or intervention.

(20) "Nonnative" means a fish or wildlife species not native to Oregon; foreign or introduced.

(21) "Net Benefit" means an increase in overall in-proximity habitat quality or quantity after a development action and any subsequent mitigation measures have been completed and monitored.

(22) "Net Loss" means a loss of habitat quantity and/or habitat quality resulting from a development action despite mitigation measures having been taken.

(23) "Off-site" means outside the boundary of the development action.

(24) "Off-proximity Habitat Mitigation" means habitat mitigation measures undertaken outside the area that would constitute "in-proximity mitigation" but within the same physiographic province as the development action.

(25) "Out-of-kind Habitat Mitigation" means habitat mitigation measures which result in different habitat structure and function that may benefit fish and wildlife species other than those existing at the site prior to the development action.

(26) "Physiographic Province" means any one of ten major geographical areas within the State of Oregon based on differences in topography, climate, and vegetation as defined in the Oregon Wildlife Diversity Plan (OAR 635-100-0001 through 0040).

(27) "Project Life" means the period of time during which a development action is subject to regulation by local, state, or federal agencies.

(28) "Project Proponent" means any individual, corporation, association or agency or their delegated representative that proposes a development action.

(29) "Reliable Method" means a mitigation method that has been tested in areas with site factors similar to those affected by a development action and the area in which the mitigation action is being proposed and that has been found (e.g., through field trials, demonstration projects or scientific studies) to produce the habitat effects required to meet the mitigation goal for that action.

(30) "Site Factors" means climate, soil series, sediments, hydrology, salinity, pH, DO, plant community, fish and wildlife use, or other characteristics of an area that determine its capacity to produce vegetation or maintain habitat features valuable to fish and wildlife.

(31) "Watershed" means a drainage basin encompassing a stream, its tributaries, and associated uplands at the USGS 4th Field Hydrologic Unit level.

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

635-415-0010

Fish and Wildlife Habitat Mitigation Policy

It is the fish and wildlife habitat mitigation policy of the Oregon Department of Fish and Wildlife to require or recommend, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions. Priority for mitigation actions shall be given to habitat for native fish and wildlife species. Mitigation actions for nonnative fish and wildlife species may not adversely affect habitat for native fish and wildlife.

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119

Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

635-415-0015

Application of Fish and Wildlife Habitat Mitigation Policy

(1) The Department shall work with regulatory and planning agencies, land management agencies, private developers, operators, public interest groups, and the public to implement this Fish and Wildlife Habitat Mitigation Policy.

(2) The Department shall apply the requirements of this division when implementing its own development actions, and when developing recommendations to other state, federal, or local agencies regarding development actions for which mitigation for impacts to fish and wildlife habitat is authorized or required by federal, state, or local environmental laws or land use regulations.

(3) In applying this policy, the Department shall identify and utilize the habitat protection and mitigation opportunities provided by applicable federal, state, and local environmental laws and land use regulations, and shall participate throughout the duration of these regulatory processes to coordinate Department mitigation requirements or recommendations with those of other agencies. If the regulatory authority of an agency provides for mitigation of cumulative or historic losses, the Department shall apply the standards of OAR 635-415-0025 in making its recommendations.

(4) When making recommendations on local land use actions, the Department shall follow the provisions of its certified State Agency Coordination Program and OAR Chapter 635 Division 405.

(5) Unless required by statute, the Department may elect not to recommend or require mitigation for a development action if, in the opinion of the Department, the impacts to fish and wildlife habitat are expected to be inconsequential in either nature, extent, or duration; or if staff resources are not available.

(6) Nothing in this policy shall be construed to vest authority in the Department where no such statutory or regulatory authority has been granted.

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119
Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

635-415-0020

Implementation of Department Habitat Mitigation Requirements

- (1) The Department shall provide mitigation consistent with the goals and standards of OAR 635-415-0025 for Department development actions that impact fish and wildlife habitat.
- (2) The Department shall require mitigation consistent with the goals and standards of OAR 635-415-0025 for development actions that impact fish and wildlife habitat for which the Department has statutory authority to require mitigation as a condition of a permit or order.
- (3) The Department shall recommend mitigation consistent with the goals and standards of OAR 635-415-0025 for development actions which impact fish and wildlife habitat for other than Department actions when:
 - (a) Federal or state environmental laws or land use regulations authorize or require mitigation for impacts to fish and wildlife; or
 - (b) Local environmental laws or land use regulations authorize or require mitigation for impacts to fish and wildlife habitat; or
 - (c) The proposed development action requires either an amendment to an acknowledged comprehensive plan or land use regulation relating to fish and wildlife habitat protection, or adoption of a new land use regulation relating to fish and wildlife habitat protection, and the Department believes that mitigation is necessary to comply with Statewide Planning Goal 5 or other applicable statewide planning goal requirements for fish and wildlife habitat protection.
- (4) The Department's recommendations or requirements for mitigating the impacts of a development action shall be based on the following considerations:
 - (a) The location, physical and operational characteristics, and duration of the proposed development action; and
 - (b) The alternatives to the proposed development action; and
 - (c) The fish and wildlife species and habitats which will be affected by the proposed development action; and
 - (d) The nature, extent, and duration of impacts expected to result from the proposed development action.
- (5) The Department shall require the project proponent to prepare a written mitigation plan approved by the Department if required by an ODFW implemented statute; or recommend or require a written plan approved by the Department if the impacts of the proposed development action may, in the opinion of the Department, be so significant in nature, extent, or duration that mitigation measures to achieve the goals and standards of OAR 635-415-0025 cannot be identified without the evaluation that would be provided in a written mitigation plan.
- (6) The Department may recommend or require the posting of a bond, or other financial instrument acceptable to the Department, to cover the cost of mitigation actions based on the

nature, extent, and duration of the impact and/or the risk of the mitigation plan not achieving mitigation goals.

(7) The Department may consider the use of mitigation banks or payment-to-provide mitigation based on the nature, extent, and duration of the impact and/or the risk of the mitigation plan not achieving mitigation goals.

(a) The Department may consider the use of mitigation banks and payment-to-provide mitigation only for habitat categories two through six and only if they are consistent with the mitigation goals and standards identified in OAR 635-415-0025.

(b) The amount of payment-to-provide mitigation, recommended or required, shall include at a minimum the cost of property acquisition, mitigation actions, maintenance, monitoring, and any other actions needed for the long-term protection and management of the mitigation site.

(8) In addition to any other information that may be required by law, a written mitigation plan prepared for the Department shall:

(a) Include the information required in OAR 635-415-0020(4)(a)–(d); and

(b) Describe the mitigation actions which shall be taken to achieve the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025; and

(c) Describe and map the location of the development action and mitigation actions including the latitude and longitude, township, range, section, quartersection and county; and

(d) Complement and not diminish mitigation provided for previous development actions; and

(e) Include protocols and methods, and a reporting schedule for monitoring the effectiveness of mitigation measures. Monitoring efforts shall continue for a duration and at a frequency needed to ensure that the goals and standards in OAR 635-415-0025 are met, unless the Department determines that no significant benefit would result from such monitoring; and

(f) Provide for future modification of mitigation measures that may be required to meet the goals and standards of OAR 635-415-0025; and

(g) Be effective throughout the project life or the duration of project impacts whichever is greater.

(h) Contain mitigation plan performance measures including:

(A) Success Criteria. The mitigation plan must clearly define the methods to meet mitigation goals and standards and list the criteria for measuring success;

(B) Criteria and a timeline for formal determination that the mitigation goals and standards have been met;

(C) Provisions for long-term protection and management of the site if appropriate;

(D) A reporting schedule for identifying progress toward achieving the mitigation goals and standards and any modification of mitigation measures. Mitigation goals and standards must be achieved within a reasonable time frame to benefit the affected fish and wildlife species.

(9) The requirement for a mitigation plan pursuant to OAR 635-415-0020(8) may, at the discretion of the Department, be partially or entirely fulfilled by incorporation of environmental assessments or environmental impact statements prepared for the proposed development action; or by local government land use regulations which implement the requirements of Statewide Planning Goals 5, 8, 15, 16, or 17 pertaining to fish and wildlife habitat protection.

(10) The project proponent is responsible for the expenses of developing, evaluating, and implementing the mitigation plan and monitoring the mitigation site; however, to the extent that available resources allow, the Department may take one or more of the following actions to assist in the development of a mitigation plan:

(a) Identify fish and wildlife species and habitats to be affected by the proposed development action;

(b) Determine the Habitat Categories that are likely to be affected by the proposed development action;

(c) Identify the nature, extent, and duration of potential impacts upon fish and wildlife habitat resulting from the proposed development action;

(d) Identify mitigation measures to achieve the goals and standards of OAR 635-415-0025.

(e) Furnish any information or counsel to further the purpose of OAR Chapter 635 Division 415

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119

Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119

Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

635-415-0025

Implementation of Department Habitat Mitigation Recommendations

(1) "Habitat Category 1" is irreplaceable, essential habitat for a fish or wildlife species, population, or a unique assemblage of species and is limited on either a physiographic province or site-specific basis, depending on the individual species, population or unique assemblage.

(a) The mitigation goal for Category 1 habitat is no loss of either habitat quantity or quality.

(b) The Department shall act to protect Category 1 habitats described in this subsection by recommending or requiring:

(A) Avoidance of impacts through alternatives to the proposed development action; or

(B) No authorization of the proposed development action if impacts cannot be avoided.

(2) "Habitat Category 2" is essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.

(a) The mitigation goal if impacts are unavoidable, is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.

(b) The Department shall act to achieve the mitigation goal for Category 2 habitat by recommending or requiring:

(A) Avoidance of impacts through alternatives to the proposed development action; or

(B) Mitigation of impacts, if unavoidable, through reliable in-kind, in-proximity habitat mitigation to achieve no net loss of either pre-development habitat quantity or quality. In addition, a net benefit of habitat quantity or quality must be provided. Progress towards achieving the mitigation goals and standards shall be reported on a schedule agreed to in the mitigation plan performance measures. The fish and wildlife mitigation measures shall be implemented and completed either prior to or concurrent with the development action.

(c) If neither 635-415-0025(2)(b)(A) or (B) can be achieved, the Department shall recommend against or shall not authorize the proposed development action.

(3) "Habitat Category 3" is essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.

(a) The mitigation goal is no net loss of either habitat quantity or quality.

(b) The Department shall act to achieve the mitigation goal for Category 3 habitat by recommending or requiring:

(A) Avoidance of impacts through alternatives to the proposed development action; or

(B) Mitigation of impacts, if unavoidable, through reliable in-kind, in-proximity habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality. Progress towards achieving the mitigation goals and standards shall be reported on a schedule agreed to in the mitigation plan performance measures. The fish and wildlife mitigation measures shall be implemented and completed either prior to or concurrent with the development action.

(c) If neither 635-415-0025(3)(b)(A) or (B) can be achieved, the Department shall recommend against or shall not authorize the proposed development action.

(4) "Habitat Category 4" is important habitat for fish and wildlife species.

(a) The mitigation goal is no net loss in either existing habitat quantity or quality.

(b) The Department shall act to achieve the mitigation goal for Category 4 habitat by recommending or requiring:

(A) Avoidance of impacts through alternatives to the proposed development action; or

(B) Mitigation of impacts, if unavoidable, through reliable in-kind or out-of-kind, in-proximity or off-proximity habitat mitigation to achieve no net loss in either pre-development habitat quantity or quality. Progress towards achieving the mitigation goals and standards shall be reported on a schedule agreed to in the mitigation plan performance measures. The fish and wildlife mitigation measures shall be implemented and completed either prior to or concurrent with the development action.

(c) If neither 635-415-0025(4)(b)(A) or (B) can be achieved, the Department shall recommend against or shall not authorize the proposed development action.

(5) "Habitat Category 5" is habitat for fish and wildlife having high potential to become either essential or important habitat.

(a) The mitigation goal, if impacts are unavoidable, is to provide a net benefit in habitat quantity or quality.

(b) The Department shall act to achieve the mitigation goal for Category 5 habitat by recommending or requiring:

(A) Avoidance of impacts through alternatives to the proposed development action; or

(B) Mitigation of impacts, if unavoidable, through actions that contribute to essential or important habitat.

(c) If neither 635-415-0025(5)(b)(A) or (B) can be achieved, the Department shall recommend against or shall not authorize the proposed development action.

(6) "Habitat Category 6" is habitat that has low potential to become essential or important habitat for fish and wildlife.

(a) The mitigation goal is to minimize impacts.

(b) The Department shall act to achieve the mitigation goal for Category 6 habitat by recommending or requiring actions that minimize direct habitat loss and avoid impacts to off-site habitat.

Stat. Auth.: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119

Stats. Implemented: ORS 496.012, ORS 496.138, ORS 496.171, ORS 506.109 & ORS 506.119

Hist.: FWC 133-1991, f. & cert. ef. 11-19-91; DFW 47-1998, f. & cert. ef. 6-15-98; DFW 25-2000, f. 4-26-00, cert. ef. 5-1-00

If you have any questions regarding this letter or the enclosed Schedule A, please contact Kenneth Hogan at (202) 502-8434, or via email at kenneth.hogan@ferc.gov.

Sincerely,

Timothy J. Welch, Chief
West Branch 2
Division of Hydropower Licensing

Enclosed: Schedule A

cc: Service List
Mailing List
Public Files

Schedule A

Comments on the Preliminary Licensing Proposal and Draft Biological Assessment

Your Preliminary License Proposal (PLP) did not contain all of the information required by our regulations for your final license application (FLA) (section 5.18). In general, your PLP did not provide a complete analysis of the effects of your proposed protection, mitigation, and enhancement (PM&E) measures.

Below, we identify the areas where additional information and/or environmental analysis will be needed for a complete license application.

General

When filing your final license application, please attach, as appendices, the final study reports for each study conducted under our approved study plan.

Proposed Project Facilities

Section 1.2.1 - Transmission Line – This section says your preferred transmission line grid connection would be with Idaho Power Company’s 138-kV line; however, during the December 10, 2009 teleconference, you stated the preferred grid connection would be the existing Oregon Trail Electric Cooperative (OTEC) transmission line at the base of the dam. Please reconcile this information in your final license application.

Additionally, bullet 7 identifies the project staging area as incorporated into the project boundary. It is not necessary to include the construction staging area into the project boundary, unless this area also is necessary for project operation.

Existing and Proposed Project Operation and Maintenance

Section 2.3 – You say that you propose to operate the project in a “run of the river” mode. The term run-of-river indicates a flow release from the project that corresponds to inflow to the reservoir (“inflow equals outflow”); however, given the U.S. Bureau of Reclamation’s operation of the Mason Dam for irrigation storage and release, and flood control, a “run of the river” operation is unlikely. Based on your description in section 2.3, use of the term “run-of-release,” as agreed to by the stakeholders during the study plan meetings, would be a better descriptor of your proposed operations.

Section 2.5 – Some of your proposed mitigation and enhancement measures identified in the PLP have not been included in the bulleted list in section 2.5, such as the installation of rip-rap in the project’s tailrace. The bulleted list should be a complete list of all PM&E measures proposed. We note that bullets 9 and 12 are nearly identical. Also,

please note that in your final license application, pursuant to section 5.18(b), you are required to provide an estimate of the cost of each proposed PM&E measure.

Section 2.5 – Bullet number 7 shows you plan to develop a “tiered mitigation plan” to address operating criteria in the event dissolved oxygen levels fall below state water quality standards. So that we may analyze the proposed measures and the implementation of the plan in our environmental document, please include the plan in your final license application. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Forest Service, U.S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Geology & Soils

Section 3.1.4 - While this section acknowledges the potential for erosion as a result of construction, there is no discussion or analysis regarding effects of project operation. In section 1.2.4, however, you reference the installation of rip-rap on the slopes of the tailrace, presumably to prevent erosion resulting from project operations. Please explain why you believe this environmental measure is necessary.

Section 3.1.4 –Project Effects - You state that a small amount of soil will be displaced due to construction of the powerhouse, transmission line, and substation. Under *Proposed Protection, Mitigation, and Enhancement Measures*, however, you state that standard erosion control measures will be used to control erosion only in the powerhouse construction area and you do not discuss or propose any such measures for the transmission line and substation areas. Please reconcile this apparent discrepancy. Additionally, so that we have a better understanding of your proposed measures for this resource, please provide an erosion and sediment control plan, describing in detail the best management practices to be implemented during project construction activities. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Forest Service, the Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Aquatic Resources

Section 3.2.1 – Water Quantity – The project has the potential to disrupt flow during construction involving modifications to the existing main discharge pipe and in the event

of turbine shutdown. Please include in your license application a bypass flow plan which describes how downstream flow will be maintained during construction work on the main discharge pipe and in the event of turbine shutdown. Please prepare the plan after consultation with the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Forest Service, Oregon Department of Fish and Wildlife, and the Oregon Department of Environmental Quality. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Section 3.2.2 - *Proposed Protection, Mitigation, and Enhancement Measures* – You state that it is considered likely that draft tube aspiration will be adequate to meet state dissolved oxygen standards under most conditions. Please include an analysis of the expected effects of the draft tube aspiration. Also, please clearly describe under what conditions draft tube aspiration may not meet state standards.

Section 3.2.2 - *Figures 8 & 9*. Figures 8 and 9 are difficult to read. Please make each graph a ½ page, at a minimum, and fully label each component [e.g. the Y axis label is missing and the dual dashed line indicator (intake) does not seem to be labeled appropriately].

Section 3.2.3 - *Existing Resources* – You describe a 2009 lake-wide netting effort that resulted in 46,500 yellow perch and “1,047 other fish species.” Recognizing that the bycatch of the netting effort resulted in a total of 1,047 fish, not 1,047 species of fish, please list the fish species and the number of individual fish per species captured during the 2009 netting effort in Phillips reservoir.

Section 3.2.3 - *Existing Resources* – You describe four distinct populations of redband trout and the current distribution of bull trout within the Powder River sub-basin. Please include a basin map(s) indicating mentioned dams and tributaries and all known bull trout and redband trout population locations. Providing accurate river basin maps also will aid our review of the proposed project effects on the U.S. Fish and Wildlife Service’s proposal to designate the Powder River as critical habitat for bull trout.

Section 3.2.3 - *Project Effect* – While entrainment is acknowledged as a potential effect in section 3.2.4 *Threatened, Endangered, and Special Status Species*, you provide no recognition or analysis of the effect in section 3.2.3 *Aquatic Resources*. Please provide a discussion and analysis of project related entrainment effects on the aquatic resources of the Powder River. Also, please see our comments below under *Threatened, Endangered and Special Status Aquatic Species*.

Section 3.2.3 – *Project Effects* – In section 3.3.1 *Terrestrial Resources*, you acknowledge that project construction may result in short-term increases in turbidity. Under *Aquatic*

Resources, however, you do not consider the effects of turbidity on aquatic habitats or species. As such, please include an analysis of project construction related effects on downstream aquatic organisms and their habitats and include a detailed description of your proposed PM&E measures in your erosion and sediment control plan, requested above.

Terrestrial Resources

Section 3.3.1 – *Project Effects* - You state that cofferdam construction and excavation for the powerhouse foundation have the potential to cause short-term increases in turbidity in the Powder River, which could adversely affect downstream riparian vegetation. This potential adverse effect can be minimized by use of industry standard erosion control practices. So that we have a better understanding of your proposed PM&E measures for this resource, please include a detailed description of these proposed measures in your erosion and sediment control plan, requested above.

Section 3.3.1 – *Proposed Protection, Mitigation, and Enhancement Measures* - You state that all disturbed areas [resulting from the burying of the transmission line] will be reseeded with native and desirable non-native seeds mixes. So that we have a better understanding of your proposed PM&E measures for this resource, please list the specific types of seeds you plan to use in your erosion and sediment control plan, requested above.

Section 3.3.2 – *Proposed Protection, Mitigation, and Enhancement Measures* - You state that the disturbed [wetland] habitat would be re-contoured and reseeded after construction [of the transmission line]. This impact might be avoided depending on the final selection of a transmission line route. So that we may fully analyze all aspects of your proposed project in our environmental document, please include, as part of your license application, a description of all possible transmission line routing alternatives, including maps.

Section 3.3.3 – *Cumulative Effects* - You state that noxious weed proliferation is an existing problem in the project area. Although you propose PM&E measures to prevent the introduction or spread of noxious weeds during construction, you do not propose any long-term monitoring and/or management measures for the existing noxious weeds in the project area. With your license application, please include a noxious weed management plan that includes protocols and methodologies for managing noxious weed infestations and preventing or reducing the risk of weed establishment and spread. Please prepare the plan after consultation with the U.S. Bureau of Reclamation and the U.S. Forest Service. You shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with your final license application with the Commission. If you do not adopt a recommendation, the plan must include your reasons, based on project-specific information.

Threatened, Endangered and Special Status Aquatic Species

Section 3.2.4 – Project Effects – To evaluate the proposed project’s effect, specifically regarding entrainment of bull trout, you compare entrainment survival through hollow jet valves, as estimated by the U.S Fish and Wildlife Service in its 2005 biological opinion (BO) for the Tieton Project, to entrainment survival rates for your proposed turbine. Your analysis demonstrates that entrained fish would have a lower mortality rate if passed through the proposed turbine than if passed through the existing hollow jet valves. While you conducted a detailed literature review regarding turbine mortality, you did not conduct an equally detailed literature review of survival rates of fish passed through hollow jet valves. You stated that the BO for the Tieton Project indicates a mortality rate of 60 to 80 percent for fish passing through hollow jet valves, similar to those at Phillips dam. How was this estimate reached? What study information supports these mortality estimates? You should conduct an analysis of existing information on jet valve mortality, similar to that conducted for the Francis turbine mortality.

In its revised study plan, filed on February 8, 2007, Baker County proposed the construction and installation of a fish screen on the Phillips dam intake, in lieu of conducting a study to evaluate bull trout and/or redband trout use of Phillips reservoir and an entrainment study to evaluate current levels of entrainment at Mason Dam. In our study plan determination issued on March 9, 2007, our analysis of Baker County’s proposal to screen the Mason Dam intake demonstrated that there is sufficient information on the presence of bull trout and redband trout and their potential use of Phillips reservoir to justify Baker County’s proposal to screen the Mason Dam intake in lieu of conducting the requested studies.

In the PLP, however, you no longer propose the installation of a fish screen. Absent a sufficient analysis or existing information of jet valve mortality to compare with the estimated entrainment mortality of the proposed project, as noted above, we will need specific information on bull trout and/or redband trout use of Phillips reservoir and/or entrainment mortality at the project intake, as indicated in our study plan determination.

Section 3.2.4 – Existing Resources, Project Effect & Cumulative Effects – On January 14, 2010, the U.S. Fish and Wildlife Service proposed to designate approximately 22,679 miles of stream and 533,426 acres of lakes and reservoirs, including the Powder River, in Idaho, Oregon, Washington, Montana, and Nevada as critical habitat for bull trout. Please update section 3.2.4 to reflect this recent development and conduct an analysis of the proposed project’s effects on the proposed designated critical habitat addressing the primary constituent elements.

Recreation

Section 3.4 – Existing Resources - Documentation previously submitted for the record for the proposed Mason Dam Hydroelectric Project, including the Upper Powder River Watershed Assessment, your Pre-Application Document, and your Study Plan 5 Final Report, contains important and insightful information regarding recreation facilities and access, recreation use, and recreation attitudes specific to the proposed project. You have not, however, incorporated this information in your PLP. As required by section 5.18 of our regulations, please include this information in your license application.

Section 3.4 – Project Effects - You state that public parking at the parking area just below the dam may be restricted during construction activities since this parking area is proposed as a construction staging area. Please describe and analyze how this potential restriction will affect recreation access and opportunities within the vicinity of the Mason Dam project during construction.

Historic and Cultural Resources

Section 3.6 – Existing Resources - You state that the Area of Potential Effect (APE) corresponds to the limits of the vegetation survey shown in figure 13; figure 13, however, is a Jet Velocity and Pressure Drop graph and figure 15 appears to be the figure to which you are referring. Please correct this reference to indicate the accurate figure for the APE.

Section 3.6 – Traditional Cultural Properties - You state that the Powder River is a “traditional fishery;” however, you give you no explanation regarding what this means. Please define the term “traditional fishery” and provide a full description of how and why the Powder River is defined as such, including whether the entire Powder River a traditional fishery, or only certain segments.

Section 3.6 – Oregon SHPO Review - You state that Dennis Griffin, Ph.D, RPA reviewed both reports and submitted a letter dated January 13, 2009, stating that he agrees the project will have no effect. Please include this letter with your license application.

Title 18: Conservation of Power and Water Resources
PART 5—INTEGRATED LICENSE APPLICATION PROCESS

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§ 5.16 Preliminary licensing proposal.

(a) No later than 150 days prior to the deadline for filing a new or subsequent license application, if applicable, the potential applicant must file for comment a preliminary licensing proposal.

(b) The preliminary licensing proposal must:

(1) Clearly describe, as applicable, the existing and proposed project facilities, including project lands and waters;

(2) Clearly describe, as applicable, the existing and proposed project operation and maintenance plan, to include measures for protection, mitigation, and enhancement measures with respect to each resource affected by the project proposal; and

(3) Include the potential applicant's draft environmental analysis by resource area of the continuing and incremental impacts, if any, of its preliminary licensing proposal, including the results of its studies conducted under the approved study plan.

(c) A potential applicant may elect to file a draft license application which includes the contents of a license application required by §5.18 instead of the Preliminary Licensing Proposal. A potential applicant that elects to file a draft license application must include notice of its intent to do so in the updated study report required by §5.15(f).

(d) A potential applicant that has been designated as the Commission's non-Federal representative may include a draft Biological Assessment, draft Essential Fish Habitat Assessment, and draft Historic Properties Management Plan with its Preliminary Licensing Proposal or draft license application.

(e) Within 90 days of the date the potential applicant files the Preliminary Licensing Proposal or draft license application, participants and the Commission staff may file comments on the Preliminary Licensing Proposal or draft application, which may include recommendations on whether the Commission should prepare an Environmental Assessment (with or without a draft Environmental Assessment) or an Environmental Impact Statement. Any participant whose comments request new information, studies, or other amendments to the approved study plan must include a demonstration of extraordinary circumstances, pursuant to the requirements of §5.15(f).

(f) A waiver of the requirement to file the Preliminary Licensing Proposal or draft license application may be requested, based on a consensus of the participants in favor of such waiver.

§ 5.18 Application content.

(a) *General content requirements.* Each license application filed pursuant to this part must:

(1) Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project;

(2) Identify (providing names and mailing addresses):

(i) Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located;

(ii) Every city, town, or similar local political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

(B) That has a population of 5,000 or more people and is located within 15 miles of the project dam;

(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located; or

(B) That owns, operates, maintains, or uses any project facilities that would be used by the project;

(iv) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application; and

(v) All Indian tribes that may be affected by the project.

(3)(i) For a license (other than a license under section 15 of the Federal Power Act) state that the applicant has made, either at the time of or before filing the application, a good faith effort to give notification by certified mail of the filing of the application to:

(A) Every property owner of record of any interest in the property within the bounds of the project, or in the case of the project without a specific project boundary, each such owner of property which would underlie or be adjacent to any project works including any impoundments; and

(B) The entities identified in paragraph (a)(2) of this section, as well as any other Federal, state, municipal or other local government agencies that there is reason to believe would likely be interested in or affected by such application.

(ii) Such notification must contain the name, business address, and telephone number of the applicant and a copy of the Exhibit G contained in the application, and must state that a license application is being filed with the Commission.

(4)(i) As to any facts alleged in the application or other materials filed, be subscribed and verified under oath in the form set forth in paragraph (a)(3)(B) of this Section by the person filing, an officer thereof, or other person having knowledge of the matters set forth. If the subscription and verification is by anyone other than the person filing or an officer thereof, it must include a statement of the reasons therefor.

(ii) This application is executed in the:

State of _____
County of _____
By: _____
(Name) _____
(Address) _____

being duly sworn, depose(s) and say(s) that the contents of this application are true to the best of (his or her) knowledge or belief. The undersigned Applicant(s) has (have) signed the application this ___ day of _____, 2___.

(Applicant(s))

By: _____

Subscribed and sworn to before me, a [Notary Public, or title of other official authorized by the state to notarize documents, as appropriate] this ___ day of _____, 2___.

/SEAL [if any]

(Notary Public, or other authorized official)

(5) Contain the information and documents prescribed in the following Sections of this chapter, except as provided in paragraph (b) of this Section, according to the type of application:

(i) License for a minor water power project and a major water power project 5 MW or less: §4.61 (General instructions, initial statement, and Exhibits A, F, and G);

(ii) License for a major unconstructed project and a major modified project: §4.41 of this chapter (General instructions, initial statement, Exhibits A, B, C, D, F, and G);

(iii) License for a major project—existing dam: §4.51 of this chapter (General instructions, initial statement, Exhibits A, B, C, D, F, and G); or

(iv) License for a project located at a new dam or diversion where the applicant seeks PURPA benefits: §292.208 of this chapter.

(b) *Exhibit E—Environmental Exhibit.* The specifications for Exhibit E in §§4.41, 4.51, or 4.61 of this chapter shall not apply to applications filed under this part. The Exhibit E included in any license application filed under this part must address the resources listed in the Pre-Application Document provided for in §5.6; follow the Commission's "Preparing Environmental Assessments: Guidelines for Applicants, Contractors, and Staff," as they may be updated from time-to-time; and meet the following format and content requirements:

(1) *General description of the river basin.* Describe the river system, including relevant tributaries; give measurements of the area of the basin and length of stream; identify the project's river mile designation or other reference point; describe the topography and climate; and discuss major land uses and economic activities.

(2) *Cumulative effects.* List cumulatively affected resources based on the Commission's Scoping Document, consultation, and study results. Discuss the geographic and temporal scope of analysis for those resources. Describe how resources are cumulatively affected and explain the choice of the geographic scope of analysis. Include a brief discussion of past, present, and future actions, and their effects on resources based on the new license term (30–50 years). Highlight the effect on the cumulatively affected resources from reasonably foreseeable future actions. Discuss past actions' effects on the resource in the Affected Environment Section.

(3) *Applicable laws.* Include a discussion of the status of compliance with or consultation under the following laws, if applicable:

(i) *Section 401 of the Clean Water Act.* The applicant must file a request for a water quality certification (WQC), as required by Section 401 of the Clean Water Act no later than the deadline specified in §5.23(b). Potential applicants are encouraged to consult with the certifying agency or tribe concerning information requirements as early as possible.

(ii) *Endangered Species Act (ESA).* Briefly describe the process used to address project effects on Federally listed or proposed species in the project vicinity. Summarize any anticipated environmental effects on these species and provide the status of the consultation process. If the applicant is the Commission's non-Federal designee for informal consultation under the ESA, the applicant's draft biological assessment must be included.

(iii) *Magnuson-Stevens Fishery Conservation and Management Act.* Document from the National Marine Fisheries Service (NMFS) and/or the appropriate Regional Fishery Management Council any essential fish habitat (EFH) that may be affected by the project. Briefly discuss each managed species and life stage for which EFH was designated. Include, as appropriate, the abundance, distribution, available habitat, and habitat use by the managed species. If the project may affect EFH, prepare a draft "EFH Assessment" of the impacts of the project. The draft EFH Assessment should contain the information outlined in 50 CFR 600.920(e).

(iv) *Coastal Zone Management Act (CZMA).* Section 307(c)(3) of the CZMA requires that all Federally licensed and permitted activities be consistent with approved state Coastal Zone Management Programs. If the project is located within a coastal zone boundary or if a project affects a resource located in the boundaries of the designated coastal zone, the applicant must certify that the project is consistent with the state Coastal Zone Management Program. If the project is within or affects a resource within the coastal zone, provide the date the applicant sent the consistency certification information to the state agency, the date the state agency received the certification, and the date and action taken by the state agency (for example, the agency will either agree or disagree with the consistency statement, waive it, or ask for additional information). Describe any conditions placed on the state agency's concurrence and assess the conditions in the appropriate section of the license application. If the project is not in or would not affect the coastal zone, state so and cite the coastal zone program office's concurrence.

(v) *National Historic Preservation Act (NHPA).* Section 106 of NHPA requires the Commission to take into account the effect of licensing a hydropower project on any historic properties, and allow the Advisory Council on Historic Preservation (Advisory Council) a reasonable opportunity to comment on the proposed action. "Historic Properties" are defined as any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places (NRHP). If there would be an adverse effect on historic properties, the applicant may include a Historic Properties Management Plan (HPMP) to avoid or mitigate the effects. The applicant must include documentation of consultation with the Advisory Council, the State Historic Preservation Officer, Tribal Historic Preservation Officer, National Park Service, members of the public, and affected Indian tribes, where applicable.

(vi) *Pacific Northwest Power Planning and Conservation Act (Act).* If the project is not within the Columbia River Basin, this section shall not be included. The Columbia River Basin Fish and Wildlife Program (Program) developed under the Act directs agencies to consult with Federal and state fish and wildlife agencies, appropriate Indian tribes, and the Northwest Power Planning Council (Council) during the study, design, construction, and operation of any hydroelectric development in the basin. Section 12.1A of the Program outlines conditions that should be provided for in any original or new license. The program also designates certain river reaches as protected from development. The applicant must document consultation with the Council, describe how the act applies to the project, and how the proposal would or would not be consistent with the program.

(vii) *Wild and Scenic Rivers and Wilderness Acts.* Include a description of any areas within or in the vicinity of the proposed project boundary that are included in, or have been designated for study for inclusion in, the National Wild and Scenic Rivers System, or that have been designated as wilderness area, recommended for such designation, or designated as a wilderness study area under the Wilderness Act.

(4) *Project facilities and operation.* Provide a description of the project to include:

(i) Maps showing existing and proposed project facilities, lands, and waters within the project boundary;

(ii) The configuration of any dams, spillways, penstocks, canals, powerhouses, tailraces, and other structures;

(iii) The normal maximum water surface area and normal maximum water surface elevation (mean sea level), gross storage capacity of any impoundments;

(iv) The number, type, and minimum and maximum hydraulic capacity and installed (rated) capacity of existing and proposed turbines or generators to be included as part of the project;

(v) An estimate of the dependable capacity, and average annual energy production in kilowatt hours (or mechanical equivalent);

(vi) A description of the current (if applicable) and proposed operation of the project, including any daily or seasonal ramping rates, flushing flows, reservoir operations, and flood control operations.

(5) *Proposed action and action alternatives.* (i) The environmental document must explain the effects of the applicant's proposal on resources. For each resource area addressed include:

(A) A discussion of the affected environment;

(B) A detailed analysis of the effects of the applicant's licensing proposal and, if reasonably possible, any preliminary terms and conditions filed with the Commission; and

(C) Any unavoidable adverse impacts.

(ii) The environmental document must contain, with respect to the resources listed in the Pre-Application Document provided for in §5.6, and any other resources identified in the Commission's scoping document prepared pursuant to the National Environmental Policy Act and §5.8, the following information, commensurate with the scope of the project:

(A) *Affected environment.* The applicant must provide a detailed description of the affected environment or area(s) to be affected by the proposed project by each resource area. This description must include the information on the affected environment filed in the Pre-Application Document provided for in §5.6, developed under the applicant's approved study plan, and otherwise developed or obtained by the applicant. This section must include a general description of socio-economic conditions in the vicinity of the project including general land use patterns (e.g., urban, agricultural, forested), population patterns, and sources of employment in the project vicinity.

(B) *Environmental analysis.* The applicant must present the results of its studies conducted under the approved study plan by resource area and use the data generated by the studies to evaluate the beneficial and adverse environmental effects of its proposed project. This section must also include, if applicable, a description of any anticipated continuing environmental impacts of continued operation of the project, and the incremental impact of proposed new development of project works or changes in project operation. This analysis must be based on the information filed in the Pre-Application Document provided for in §5.6, developed under the applicant's approved study plan, and other appropriate information, and otherwise developed or obtained by the Applicant.

(C) *Proposed environmental measures.* The applicant must provide, by resource area, any proposed new environmental measures, including, but not limited to, changes in the project design or operations, to address the environmental effects identified above and its basis for proposing the measures. The applicant must describe how each proposed measure would protect or enhance the existing environment, including, where possible, a non-monetary quantification of the anticipated environmental benefits of the measure. This section must also include a statement of existing measures to be continued for the purpose of protecting and improving the environment and any proposed preliminary environmental measures received from the consulted resource agencies, Indian tribes, or the public. If an applicant does not adopt a preliminary environmental measure proposed by a resource agency, Indian tribe, or member of the public, it must include its reasons, based on project-specific information.

(D) *Unavoidable adverse impacts.* Based on the environmental analysis, discuss any adverse impacts that would occur despite the recommended environmental measures. Discuss whether any such impacts are short- or long-term, minor or major, cumulative or site-specific.

(E) *Economic analysis.* The economic analysis must include annualized, current cost-based information. For a new or subsequent license, the applicant must include the cost of operating and maintaining the project under the existing license. For an original license, the applicant must estimate the cost of constructing, operating, and maintaining the proposed project. For either type of license, the applicant should estimate the cost of each proposed resource protection, mitigation, or enhancement measure and any specific measure filed with the Commission by agencies, Indian tribes, or members of the public when the application is filed. For an existing license, the applicant's economic analysis must estimate the value of developmental resources associated with the project under the current license and the applicant's proposal. For an original license, the applicant must estimate the value of the developmental resources for the proposed project. As applicable, these developmental resources may include power generation, water supply, irrigation, navigation, and flood control. Where possible, the value of developmental resources must be based on market prices. If a protection, mitigation, or enhancement measure reduces the amount or value of the project's developmental resources, the applicant must estimate the reduction.

(F) *Consistency with comprehensive plans.* Identify relevant comprehensive plans and explain how and why the proposed project would, would not, or should not comply with such plans and a description of any relevant resource agency or Indian tribe determination regarding the consistency of the project with any such comprehensive plan.

(G) *Consultation Documentation.* Include a list containing the name, and address of every Federal, state, and interstate resource agency, Indian tribe, or member of the public with which the applicant consulted in preparation of the Environmental Document.

(H) *Literature cited.* Cite all materials referenced including final study reports, journal articles, other books, agency plans, and local government plans.

(2) The applicant must also provide in the Environmental Document:

(A) Functional design drawings of any fish passage and collection facilities or any other facilities necessary for implementation of environmental measures, indicating whether the facilities depicted are existing or proposed (these drawings must conform to the specifications of §4.39 of this chapter regarding dimensions of full-sized prints, scale, and legibility);

(B) A description of operation and maintenance procedures for any existing or proposed measures or facilities;

(C) An implementation or construction schedule for any proposed measures or facilities, showing the intervals following issuance of a license when implementation of the measures or construction of the facilities would be commenced and completed;

(D) An estimate of the costs of construction, operation, and maintenance, of any proposed facilities, and of implementation of any proposed environmental measures.

(E) A map or drawing that conforms to the size, scale, and legibility requirements of §4.39 of this chapter showing by the use of shading, cross-hatching, or other symbols the identity and location of any measures or facilities, and indicating whether each measure or facility is existing or proposed (the map or drawings in this exhibit may be consolidated).

(c) *Exhibit H.* The information required to be provided by this paragraph (c) must be included in the application as a separate exhibit labeled "Exhibit H."

(1) *Information to be provided by an applicant for new license: Filing requirements —(i) Information to be supplied by all applicants.* All Applicants for a new license under this part must file the following information with the Commission:

(A) A discussion of the plans and ability of the applicant to operate and maintain the project in a manner most likely to provide efficient and reliable electric service, including efforts and plans to:

- (1) Increase capacity or generation at the project;
- (2) Coordinate the operation of the project with any upstream or downstream water resource projects; and
- (3) Coordinate the operation of the project with the applicant's or other electrical systems to minimize the cost of production.

(B) A discussion of the need of the applicant over the short and long term for the electricity generated by the project, including:

(1) The reasonable costs and reasonable availability of alternative sources of power that would be needed by the applicant or its customers, including wholesale customers, if the applicant is not granted a license for the project;

(2) A discussion of the increase in fuel, capital, and any other costs that would be incurred by the applicant or its customers to purchase or generate power necessary to replace the output of the licensed project, if the applicant is not granted a license for the project;

(3) The effect of each alternative source of power on:

(i) The applicant's customers, including wholesale customers;

(ii) The applicant's operating and load characteristics; and

(iii) The communities served or to be served, including any reallocation of costs associated with the transfer of a license from the existing licensee.

(C) The following data showing need and the reasonable cost and availability of alternative sources of power:

(1) The average annual cost of the power produced by the project, including the basis for that calculation;

(2) The projected resources required by the applicant to meet the applicant's capacity and energy requirements over the short and long term including:

(i) Energy and capacity resources, including the contributions from the applicant's generation, purchases, and load modification measures (such as conservation, if considered as a resource), as separate components of the total resources required;

(ii) A resource analysis, including a statement of system reserve margins to be maintained for energy and capacity; and

(iii) If load management measures are not viewed as resources, the effects of such measures on the projected capacity and energy requirements indicated separately;

(iv) For alternative sources of power, including generation of additional power at existing facilities, restarting deactivated units, the purchase of power off-system, the construction or purchase and operation of a new power plant, and load management measures such as conservation: The total annual cost of each alternative source of power to replace project power; the basis for the determination of projected annual cost; and a discussion of the relative merits of each alternative, including the issues of the period of availability and dependability of purchased power, average life of alternatives, relative equivalent availability of generating alternatives, and relative impacts on the applicant's power system reliability and other system operating characteristics; and the effect on the direct providers (and their immediate customers) of alternate sources of power.

(D) If an applicant uses power for its own industrial facility and related operations, the effect of obtaining or losing electricity from the project on the operation and efficiency of such facility or related operations, its workers, and the related community.

(E) If an applicant is an Indian tribe applying for a license for a project located on the tribal reservation, a statement of the need of such Indian tribe for electricity generated by the project to foster the purposes of the reservation.

(F) A comparison of the impact on the operations and planning of the applicant's transmission system of receiving or not receiving the project license, including:

(1) An analysis of the effects of any resulting redistribution of power flows on line loading (with respect to applicable thermal, voltage, or stability limits), line losses, and necessary new construction of transmission facilities or upgrading of existing facilities, together with the cost impact of these effects;

(2) An analysis of the advantages that the applicant's transmission system would provide in the distribution of the project's power; and

(3) Detailed single-line diagrams, including existing system facilities identified by name and circuit number, that show system transmission elements in relation to the project and other principal interconnected system elements. Power flow and loss data that represent system operating conditions may be appended if applicants believe such data would be useful to show that the operating impacts described would be beneficial.

(G) If the applicant has plans to modify existing project facilities or operations, a statement of the need for, or usefulness of, the modifications, including at least a reconnaissance-level study of the effect and projected costs of the proposed plans and any alternate plans, which in conjunction with other developments in the area would conform with a comprehensive plan for improving or developing the waterway and for other beneficial public uses as defined in Section 10(a)(1) of the Federal Power Act.

(H) If the applicant has no plans to modify existing project facilities or operations, at least a reconnaissance-level study to show that the project facilities or operations in conjunction with other developments in the area would conform with a comprehensive plan for improving or developing the waterway and for other beneficial public uses as defined in Section 10(a)(1) of the Federal Power Act.

(I) A statement describing the applicant's financial and personnel resources to meet its obligations under a new license, including specific information to demonstrate that the applicant's personnel are adequate in number and training to operate and maintain the project in accordance with the provisions of the license.

(J) If an applicant proposes to expand the project to encompass additional lands, a statement that the applicant has notified, by certified mail, property owners on the additional lands to be encompassed by the project and governmental agencies and subdivisions likely to be interested in or affected by the proposed expansion.

(K) The applicant's electricity consumption efficiency improvement program, as defined under Section 10(a)(2)(C) of the Federal Power Act, including:

(1) A statement of the applicant's record of encouraging or assisting its customers to conserve electricity and a description of its plans and capabilities for promoting electricity conservation by its customers; and

(2) A statement describing the compliance of the applicant's energy conservation programs with any applicable regulatory requirements.

(L) The names and mailing addresses of every Indian tribe with land on which any part of the proposed project would be located or which the applicant reasonably believes would otherwise be affected by the proposed project.

(ii) *Information to be provided by an applicant licensee.* An existing licensee that applies for a new license must provide:

(A) The information specified in paragraph (c)(1) of this section.

(B) A statement of measures taken or planned by the licensee to ensure safe management, operation, and maintenance of the project, including:

(1) A description of existing and planned operation of the project during flood conditions;

(2) A discussion of any warning devices used to ensure downstream public safety;

(3) A discussion of any proposed changes to the operation of the project or downstream development that might affect the existing Emergency Action Plan, as described in subpart C of part 12 of this chapter, on file with the Commission;

(4) A description of existing and planned monitoring devices to detect structural movement or stress, seepage, uplift, equipment failure, or water conduit failure, including a description of the maintenance and monitoring programs used or planned in conjunction with the devices; and

(5) A discussion of the project's employee safety and public safety record, including the number of lost-time accidents involving employees and the record of injury or death to the public within the project boundary.

(C) A description of the current operation of the project, including any constraints that might affect the manner in which the project is operated.

(D) A discussion of the history of the project and record of programs to upgrade the operation and maintenance of the project.

(E) A summary of any generation lost at the project over the last five years because of unscheduled outages, including the cause, duration, and corrective action taken.

(F) A discussion of the licensee's record of compliance with the terms and conditions of the existing license, including a list of all incidents of noncompliance, their disposition, and any documentation relating to each incident.

(G) A discussion of any actions taken by the existing licensee related to the project which affect the public.

(H) A summary of the ownership and operating expenses that would be reduced if the project license were transferred from the existing licensee.

(I) A statement of annual fees paid under part I of the Federal Power Act for the use of any Federal or Indian lands included within the project boundary.

(iii) *Information to be provided by an applicant who is not an existing licensee.* An applicant that is not an existing licensee must provide:

(A) The information specified in paragraph (c)(1) of this section.

(B) A statement of the applicant's plans to manage, operate, and maintain the project safely, including:

(1) A description of the differences between the operation and maintenance procedures planned by the applicant and the operation and maintenance procedures of the existing licensee;

(2) A discussion of any measures proposed by the applicant to implement the existing licensee's Emergency Action Plan, as described in subpart C of part 12 of this chapter, and any proposed changes;

(3) A description of the applicant's plans to continue safety monitoring of existing project instrumentation and any proposed changes; and

(4) A statement indicating whether or not the applicant is requesting the licensee to provide transmission services under section 15(d) of the Federal Power Act.

(d) *Consistency with comprehensive plans.* An application for license under this part must include an explanation of why the project would, would not, or should not, comply with any relevant comprehensive plan as defined in §2.19 of this chapter and a description of any relevant resource agency or Indian tribe determination regarding the consistency of the project with any such comprehensive plan.

(e) *Response to information requests.* An application for license under this Section must respond to any requests for additional information-gathering or studies filed with comments on its preliminary licensing proposal or draft license application. If the license applicant agrees to do the information-gathering or study, it must provide the information or include a plan and schedule for doing so, along with a schedule for completing any remaining work under the previously approved study plan, as it may have been amended. If the applicant does not agree to any additional information-gathering or study requests made in comments on the draft license application, it must explain the basis for declining to do so.

(f) *Maps and drawings.* All required maps and drawings must conform to the specifications of §4.39 of this chapter.

[Order 2002, 68 FR 51121, Aug. 25, 2003; 68 FR 61742, Oct. 30, 2003; 68 FR 69957, Dec. 16, 2003; Order 699, 72 FR 45324, Aug. 14, 2007]



Federal Register

**Thursday,
January 14, 2010**

Part III

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

**Endangered and Threatened Wildlife and
Plants; Revised Designation of Critical
Habitat for Bull Trout in the Coterminous
United States; Proposed Rule**

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17**

[Docket No. FWS-R1-ES-2009-0085]

[[MO 92210-0-0009]

[RIN 1018-AW88]

Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Bull Trout in the Coterminous United States**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule, announcement of public hearing, and announcement of availability of draft economic analysis.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to revise the designation of critical habitat for the bull trout (*Salvelinus confluentus*) under the Endangered Species Act of 1973, as amended. In total, approximately 36,498 kilometers (km) (22,679 miles (mi)) of streams (which includes 1,585.7 km (985.30 mi) of marine shoreline area in the Olympic Peninsula and Puget Sound), and 215,870 hectares (ha) (533,426 acres (ac)) of reservoirs or lakes are being proposed for the revised critical habitat designation. The revised proposed critical habitat is located in Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Canyon, Clearwater, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Lewis, Nez Perce, Owyhee, Shoshone, Valley, and Washington counties in Idaho; Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, and Sanders counties in Montana; Baker, Clatsop, Columbia, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler counties in Oregon; Asotin, Benton, Chelan, Clallam, Clark, Columbia, Cowlitz, Douglas, Franklin, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kittitas, Klickitat, Mason, Okanogan, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, Walla Walla, Whatcom, Whitman, and Yakima counties in Washington; and Elko county, Nevada.

DATES: *Written Comments:* We will accept comments received or postmarked on or before March 15, 2010. Because of the anticipated interest in this proposed designation, we are planning on holding a public hearing and several public meetings.

Public Hearing: We will hold a public hearing in Boise, Idaho on February 25, 2010, from 7 p.m. to 9 p.m.; and public meetings in:

- Bend, Oregon on February 2, 2010, 5:30 p.m. to 7:30 p.m.;
- Chiloquin, Oregon on February 3, 2010, 6 p.m. to 8 p.m.;
- LaGrande, Oregon on February 4, 2010, 5:30 p.m. to 7:30 p.m.;
- Post Falls, Idaho on February 11, 2010, 4 p.m. to 7 p.m.;
- Missoula, Montana on February 16, 2010, 3 p.m. to 8 p.m.;
- Elko, Nevada on February 17, 2010, 5 p.m. to 7 p.m.;
- Wenatchee, Washington on February 23, 2010, 6 p.m. to 8 p.m.; and
- Boise, Idaho on February 25, 2010, 4 p.m. to 6 p.m.

ADDRESSES: You may submit comments by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Search for docket FWS-R1-ES-2009-0085 and then follow the instructions for submitting comments.
- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: FWS-R1-ES-2009-0085; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.
- *Public Hearing:* We will hold the public hearing at Boise Centre on the Grove, 850 W. Front Street, Boise, Idaho.
- *Public Meetings:* We will hold the public meetings at:
 - o Hollingshead Barn, 1235 NE Jones Road, Bend Oregon;
 - o Chiloquin Community Center, 140 S. 1st Street, Chiloquin, Oregon;
 - o Blue Mountain Conference Center, 404 12th Street, la Grande, Oregon;
 - o Red Lion Templins Inn, 414 East 1st Avenue, Post Falls, Idaho;
 - o Montana Fish, Wildlife, and Parks Headquarters, 3201 Spurgin Road, Missoula, Montana;
 - o Elko Convention Center, Gold Room, 700 Moren Way, Elko, Nevada;
 - o Wenatchee-Okanogan National Forest Headquarters, 215 Melody Lane, Wenatchee, Washington; and
 - o Boise Centre on the Grove, 850 W. Front Street, Boise, Idaho.

We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the **Public Comments** section below for more information).

FOR FURTHER INFORMATION CONTACT: Jeff Foss, Field Supervisor, U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, 1387 South Vinnell Way, Boise, ID 83702; telephone 208-

378-5243; facsimile 208-378-5262. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:**Public Comments**

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from the public, other concerned government agencies, the scientific community, industry, or other interested parties concerning this proposed rule. Verbal testimony or written comments may also be presented during the public hearing (see the **Public Hearing** section below for more information). We will consider information and recommendations from all interested parties. We particularly seek comments concerning:

(1) The reasons why we should or should not designate habitat as "critical habitat" under section 4 of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*), including whether there are threats to the species from human activity, the degree to which threats can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation;

(2) Specific information on:

- The amount and distribution of bull trout habitat,
- What areas occupied at the time of listing that contain features essential to the conservation of the species should be included in the designation and why,
- Special management considerations or protections that the features essential to the conservation of the bull trout that have been identified in this proposal may require, including managing for the potential effects of climate change, and
- What areas not occupied at the time of listing are essential to the conservation of the species and why;

(3) Land use designations and current or planned activities in the areas occupied by the species, and their possible impacts on proposed critical habitat;

(4) Any foreseeable economic, national security, or other relevant impacts of designating any area that may be included in the final designation. We are particularly interested in any impacts on small entities, and the benefits of including or excluding areas that exhibit these impacts;

(5) Whether the benefits of excluding any particular area from critical habitat

outweigh the benefits of including that area as critical habitat under section 4(b)(2) of the Act, after considering the potential impacts and benefits of the proposed critical habitat designation. Under section 4(b)(2) of the Act, we may exclude an area from critical habitat if we determine that the benefits of such exclusion outweigh the benefits of including that particular area as critical habitat, unless failure to designate that specific area as critical habitat will result in the extinction of the species. We request specific information on:

- The benefits of including specific areas in the final designation and supporting rationale,
- The benefits of excluding specific areas from the final designation and supporting rationale, and
- Whether any specific exclusions may result in the extinction of the species and why (see Exclusions section below).

(6) Whether our exemptions under section 4(a)(3)(B) of the Act of the lands on Department of Defense (DOD) land at the Bayview Acoustic Research Detachment (ARD) Naval Surface Warfare Center, Bayview Idaho; Naval Radio Station Jim Creek in western Washington; Naval Station Everett in western Washington; Naval Air Station Whidbey Island in western Washington, and U.S. Army Fort Lewis Installation in western Washington, are or are not appropriate, and why;

(7) Specific information on the following areas considered to be essential to the conservation of the species:

- Mainstem and tributary habitats within the White Salmon River Critical Habitat Subunit (CHSU) that are believed to be unoccupied, but which are considered essential for providing foraging, migration, and overwintering (FMO) habitat or spawning and rearing areas to reestablish a population within this system;
- Unoccupied tributaries within the Lake Pend Oreille, Pend Oreille River, and lower Priest River CHSU that are considered essential for providing spawning and rearing areas to reestablish a population within the Pend Oreille River; and
- Areas of mainstem habitat in the Yakima River (Yakima River Critical Habitat Unit (CHU)) and Touchet River (Walla Walla River Basin CHU) for which we have limited or no documented evidence of occupancy, but which are currently believed to be essential for providing connectivity to the mainstem Columbia River and Walla Walla River, respectively, for the fluvial life-history form;

(8) Specific information on areas of habitat that were historically occupied, or areas for which we have limited evidence of occupancy, which we do not consider to be essential to the conservation of the species in this proposed rule. These areas include Okanogan River; Lake Chelan and Stehekin River; west side tributaries to Hood Canal (e.g., Dosewallips River, Duckabush River, Quilcene River); and Willapa River;

(9) Specific information on areas believed to be unoccupied in the Klamath River basin, but essential for FMO habitat;

(10) Specific information as to whether the six recovery units identified in the “Critical Habitat Background” section accurately reflect the conservation needs of bull trout;

(11) Information on the projected and reasonably likely impacts of climate change on bull trout, and any special management needs or protections that may be needed in the critical habitat areas we are proposing.

(12) Information on the extent to which the description of potential economic impacts in the DEA is complete and accurate, and specifically:

- Whether regulatory protections and conservation activities already being implemented for salmon, steelhead, bull trout, other species, or other concerns (e.g., water quality) in areas proposed as critical habitat are appropriate to include as baseline costs (e.g., costs that would occur regardless of critical habitat designation for bull trout) for purposes of our economic analysis, and if not, why not;
- Whether there are incremental costs of critical habitat designation (e.g., costs attributable solely to critical habitat designation) that have not been appropriately identified or considered in our economic analysis, including costs associated with future administrative costs or project modifications that may be required by Federal agencies related to section 7 consultation under the Act;
- Whether there are incremental economic benefits of critical habitat designation that have not been appropriately identified or considered in our economic analysis.

(13) Information on whether existing special management considerations or protections being implemented in areas designated as critical habitat for salmon by the National Marine Fisheries Service (NOAA Fisheries) are adequate for conserving essential bull trout habitat where proposed bull trout critical habitat overlaps, and if not, why not.

(14) We have organized the Primary Constituent Elements (PCEs) of bull trout critical habitat based on the life-history needs of the species. We are considering reorganizing the PCEs in order to improve clarity, into broad habitat attributes (water bodies and migratory corridors), and identify specific needs of bull trout within these broad categories. This approach would likely require repetition of specific features, but may be more understandable by making clear the relationships between the needs of the species and the specific locations where those needs are provided. We request comments on whether this reorganization would improve clarity of the PCEs.

(15) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments; and

(16) Specific information on ways to improve the clarity of this rule as it pertains to completion of consultations under section 7 of the Endangered Species Act.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section.

We will post your entire comment—including your personal identifying information—on <http://www.regulations.gov>. If you provide personal identifying information, in addition to the required items specified in the previous paragraphs, such as your street address, phone number, or e-mail address, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

We are holding a public hearing on the date listed in the **DATES** section at the address listed in the **ADDRESSES** section. We are holding this public hearing to provide interested parties an opportunity to present verbal testimony (formal, oral comments) or written comments regarding the proposed critical habitat designation and the associated Draft Economic Analysis. An informational session will precede the hearing from 4 p.m. to 6 p.m. During

this session, Service biologists will be available to provide information and address questions on the proposed rule in advance of the formal hearing.

People needing reasonable accommodations in order to attend and participate in the public hearings should contact Jeff Foss, Idaho Fish and Wildlife Office, at 208-378-5243 as soon as possible (see **FOR FURTHER INFORMATION CONTACT** section). In order to allow sufficient time to process requests, please call no later than one week before the hearing date.

We are also holding public meetings on the dates listed in the **DATES** section at the addresses listed in the **ADDRESSES** section. During the public meetings, Service biologists will be available to provide information and address questions on the proposed rule. However, we will not accept verbal testimony at these public meetings.

Information regarding this notice is available in alternative formats upon request.

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For further information on the bull trout biology and habitat, population abundance and trend, distribution, demographic features, habitat use and conditions, threats, and conservation measures, please see the Bull Trout 5-year Review Summary and Evaluation, completed April 25, 2008. This document is available on the Idaho Fish and Wildlife Office web site at http://ecos.fws.gov/docs/five_year_review/doc1907.pdf.

Description, Distribution, Habitat and Recovery

Bull trout have more specific habitat requirements than most other salmonids (Rieman and McIntyre 1993, p. 4). Habitat components that particularly influence their distribution and abundance include water temperature, cover, channel form and stability, spawning and rearing substrate conditions, and migratory corridors (Fraley and Shepard 1989, p. 138; Goetz 1989, p. 19; Watson and Hillman 1997, p. 247). This proposed rule identifies those physical and biological features essential to bull trout conservation.

Bull trout are members of the char subgroup of the family Salmonidae and are native to waters of western North America. Bull trout range throughout the Columbia River and Snake River basins, extending east to headwater streams in Montana and Idaho, into Canada, and in the Klamath River basin of south-central Oregon. The

distribution of populations, however, is scattered and patchy (Goetz 1989, p. 4; Ziller 1992, p. 6; Rieman and McIntyre 1993, p. 3; Light *et al.* 1996, p. 44; Quigley and Arbelbide 1997, p. 1176).

Bull trout exhibit a number of life-history strategies. Stream-resident bull trout complete their entire life cycle in the tributary streams where they spawn and rear. Most bull trout are migratory, spawning in tributary streams where juvenile fish usually rear from one to four years before migrating to either a larger river (fluvial) or lake (adfluvial) where they spend their adult life, returning to the tributary stream to spawn (Fraley and Shepard 1989, p. 133). Resident and migratory forms may be found together, and either form can produce resident or migratory offspring (Rieman and McIntyre 1993, p. 2).

Bull trout, coastal cutthroat trout (*Oncorhynchus clarki clarki*), Pacific salmon (*Oncorhynchus* spp.), and some other species are commonly referred to as anadromous (fish that can migrate from saltwater to freshwater to reproduce). However, bull trout, coastal cutthroat trout, and some other species that enter the marine environment are more properly termed amphidromous. Unlike strictly anadromous species, such as Pacific salmon, amphidromous species often return seasonally to fresh water as subadults, sometimes for several years, before returning to spawn (Wilson 1997, p. 5). The amphidromous life-history form of bull trout is unique to the Coastal-Puget Sound population (64 FR 58921; November 1, 1999). For additional information on the biology of this life form, see our June 25, 2004, proposed critical habitat designation for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout (69 FR 35767).

The decline of bull trout is primarily due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management practices, impoundments, dams, water diversions, and the introduction of nonnative species (63 FR 31647; June 10, 1998; 64 FR 17112; April 8, 1999). Finalization of the 2002 draft recovery plan was held in abeyance pending completion of the 5-year review process, and was also affected by resource demands associated with the litigation discussed below. The bull trout 5-year review (Service 2008, p. 45) recommended that the recovery units identified in the 2002 draft recovery plan be updated throughout their range based on assemblages of bull trout core areas (metapopulations or interacting breeding populations) that retain genetic and ecological integrity and are significant to the distribution of

bull trout throughout the conterminous United States. After consulting with biologists from states, Federal agencies, and Native American tribes, and applying the best scientific information available, we identified six recovery units for bull trout in the conterminous United States. Please refer to the "Critical Habitat" section below for additional information on this topic.

Previous Federal Actions

On November 29, 2002, we proposed to designate critical habitat for the Klamath River and Columbia River bull trout populations (67 FR 71235). On October 6, 2004, we finalized the critical habitat designation for the Klamath River and Columbia River bull trout populations (69 FR 59995). On June 25, 2004, we proposed to designate critical habitat for the Jarbidge, Coastal-Puget Sound, and Saint Mary-Belly River bull trout populations (69 FR 35767). On September 26, 2005, we designated critical habitat for the Klamath River, Columbia River, Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout (70 FR 56212). Please refer to the above-mentioned rules for a detailed summary of previous Federal actions completed prior to publication of this proposed rule.

On January 5, 2006, a complaint was filed in Federal district court by the Alliance for the Wild Rockies, Inc. and Friends of the Wild Swan, alleging the Service failed to designate adequate critical habitat, failed to rely on the best scientific and commercial data available, failed to consider the relevant factors that led to listing, and failed to properly assess the economic benefits and costs of critical habitat designation. Other allegations included an inadequate analysis and the unlawful use of exclusions. On March 23, 2009, the Service provided notice to the U.S. District Court for the District of Oregon that we would seek remand of the final critical habitat rule for bull trout based on the findings of an Investigative Report by the Department of the Interior Inspector General (USDI 2008, pp. 10–38). On July 1, 2009, the court granted our request for a voluntary remand of the 2005 final rule and directed the Service to submit a new proposed rule to the **Federal Register** by December 31, 2009, and to submit a final decision on that proposed rule to the **Federal Register** by September 30, 2010 (*Alliance for the Wild Rockies v. Allen*, 2009 U.S. Dist. LEXIS 63122 (D. Or., July 1, 2009)). The court directed that the existing critical habitat rule shall remain in effect until completion of the remanded decision.

Summary of Changes from Previously Designated Critical Habitat

Approximately 36,498 km (22,679 mi) of streams (which includes 1,585.7 km (985.3 mi) of marine shoreline area, and 215,870 ha (533,426 ac) of reservoirs or lakes) are being proposed as revised critical habitat in this rule. Areas that were proposed as critical habitat in the

November 29, 2002, proposed designation for the Klamath River and Columbia River bull trout populations (67 FR 71235) and the June 25, 2004, proposed designation for the Jarbidge, Coastal–Puget Sound, and Saint Mary–Belly River bull trout populations (69 FR 35767) are identified in Table 1 below. Based on better occupancy data

and refined information on the importance of certain habitats, we are proposing to designate 3 percent more critical habitat in streams (measured on a linear basis) and 10 percent less critical habitat in lakes and reservoirs (measured by area) than were proposed in the combined 2002 and 2004 proposed rules.

TABLE 1.—EXTENT OF PROPOSED BULL TROUT CRITICAL HABITAT IN THE COMBINED 2002 AND 2004 PROPOSED RULES (67 FR 71235; 69 FR 35767)

Bull Trout Population	Stream length		Lakes, Reservoirs and Marshes		Marine shoreline		States
	km	mi	ha	ac	km	mi	
Klamath DPS	476	296	13,735	33,939	.....	.....	OR
Columbia River DPS (CDPS)	14,416	8,958	83,219	205,639	.....	.....	ID
CDPS	5,341	3,319	88,051	217,577	.....	.....	MT
CDPS	5,460	3,391	18,077	44,670	.....	.....	OR
CDPS	4,034	2,507	12,503	30,897	.....	.....	WA
Jarbidge	211	131	.....	.....	.....	.....	ID/NV
Coastal–Puget Sound	3,685	2,290	21,262	52,540	1,585	985	WA
St. Mary–Belly	142	88	2,548	6,295	.....	.....	MT
Total	33,765	20,980	239,395	591,577	1,585	985	

This proposed rule differs from the September 26, 2005, final critical habitat designation for bull trout (70 FR 56212) in the following ways:

In the 2005 final rule, we designated approximately 6,161 km (3,828 mi) of streams and 57,9578 ha (143,218 ac) of lakes in Idaho, Montana, Oregon, and Washington; and 1,585 km (985 mi) of shoreline paralleling marine habitat in Washington as critical habitat (70 FR 56212). No critical habitat was designated in the Jarbidge River basin (70 FR 56249–56251). In this rule, we are proposing to designate 36,498 km (22,679 mi) of streams (which includes 1,585.7 km (985.3 mi) of marine shoreline area in the Olympic Peninsula and Puget Sound), and 215,870 ha (533,426 ac) of lakes and reservoirs as critical habitat, which includes 266.9 km (165.9 mi) of streams in the Jarbidge River basin.

In the 2005 final rule, we did not designate any unoccupied critical habitat because the Secretary concluded that it was not possible to make a determination that such lands were essential to the conservation of the species (70 FR 56232). In this rule, we are proposing to designate 1,495 km (929 mi) of streams (four percent of the total) that are outside the geographical area occupied by the species at the time it was listed that have been determined to be essential for the conservation of the species.

In the 2005 rule, a variety of areas were exempted from critical habitat designation under section 4(a)(3) of the Act or excluded from designation as

critical habitat under section 4(b)(2) of the Act (70 FR 56232). These areas included several DOD facilities; certain Tribal lands; Nisqually National Wildlife Refuge lands; lands subject to Habitat Conservation Plans (HCPs); lands subject to Federal or State management plans (including PACFISH, INFISH, Interior Columbia Basin Ecosystem Management Project, Northwest Forest Plan, Southwest Idaho Land and Resource Management Plan, Southeast Oregon Resource Management Plan, Federal Columbia River Power System, Snake River Basin Adjudication); waters impounded behind dams; and all lands that were proposed as critical habitat in the Jarbidge River in Nevada.

Federal agencies have an independent responsibility under section 7(a)(1) of the Act to use their programs in furtherance of the Act and to utilize their authorities to carry out programs for the conservation of endangered and threatened species. We consider the development and implementation of land management plans by Federal agencies to be consistent with this statutory obligation under section 7(a)(1) of the Act. For this reason, Federal land management plans, in and of themselves, are generally not an appropriate basis for excluding essential habitat, thus this rule does not propose to exclude any Federal lands under section 4(b)(2) of the Act. However, in some areas, Federal land management agencies actively manage for bull trout and its habitat and conduct specific

conservation actions for the species. Therefore, in this proposed rule, we are asking for specific information regarding whether the effects of these actions are such that the benefits of excluding these particular areas from critical habitat outweigh the benefits of including these area as critical habitat under section 4(b)(2) of the Act (see “Application of Section 4(b)(2) of the Act” below).

In addition, we are exempting several DOD facilities under section 4(a)(3) of the Act based on existing Integrated Natural Resource Management Plans that provide a benefit to bull trout, and we are considering excluding certain non-Federal lands under section 4(b)(2) of the Act based on other conservation management considerations (see “Exemptions under Section 4(a)(3) of the Act” and “Application of Section 4(b)(2) of the Act” below). We are also proposing to designate 266.9 km (165.9 mi) of streams in the Jarbidge River basin.

Two economic analyses related to previous bull trout critical habitat proposed rules were prepared in 2004 and 2005, which followed a co-extensive analytical approach, consistent with recent court rulings. Those analyses considered conservation and protection activities for bull trout, without distinguishing between impacts associated with listing the species and those associated with the designation of critical habitat. The economic analysis prepared for this proposed rule does not follow the coextensive analytical approach, and differentiates between

baseline and incremental economic impacts. Under this approach, because of the conservation measures already in place for salmon, steelhead, the Klamath suckers, and other protected fish species, our analysis indicates that the incremental economic impact in areas occupied by bull trout will be small, and the most significant incremental effect will be in those areas not currently occupied (less than four percent of the areas being proposed as critical habitat). The majority of forecast incremental costs are associated with unoccupied critical habitat in the Upper Willamette River Basin and are associated with conservation efforts undertaken at flood control facilities. The discussion under "Draft Economic Analysis" below provides additional information in this regard.

The PCEs in this rule are similar to those described in the 2005 final designation (70 FR 56236); however, we are proposing an additional PCE related to the presence of nonnative fish that may prey on, compete with, or inbreed with, bull trout. In addition, we are considering reorganizing the PCEs, as noted above, into broad habitat attributes (water bodies and migratory corridors), and identify specific needs of bull trout within these broad categories. This reorganization would keep all of the PCEs presented in this proposal intact, but organizing them in such a way as to show the most important broad categories first, and then breaking them down into specific descriptions.

A small proportion of critical habitat designated in the 2005 final rule is not being proposed as critical habitat in this revision. These areas include streams and lakes determined either not to include bull trout or any of their PCEs, or not to be essential to their conservation. For example, Sycan Marsh in the Klamath River basin no longer holds enough water to support bull trout, so we propose the stream channels through the marsh as critical habitat, allowing connectivity among populations, instead of the entire marsh. The remainder of the areas designated in the 2005 final rule would remain designated as critical habitat if this proposed revision is finalized. A similarly small proportion of habitat proposed in this rule was not designated in the 2005 final rule. These areas include streams and lakes since determined to be occupied by bull trout, to provide one or more PCEs, or as essential to their conservation. For example, the mainstem Columbia River and the lower portions of connecting tributaries such as the John Day River have been found to be more important for FMO habitat for bull trout than was

previously understood. All areas known to contain the most important bull trout habitat and PCEs, or that may be unoccupied but essential to their conservation, are proposed in this rule.

Copies of the previous proposed and final bull trout critical habitat rules and a map showing the relationship of the 2005 final rule and this proposed rule are available on the Idaho Fish and Wildlife Office web site at <http://www.fws.gov/pacific/bulltrout>.

Critical Habitat

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) essential to the conservation of the species, and

(b) which may require special management considerations or protection; and

(2) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration,

recovery, or enhancement measures by the landowner. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply but even in the event of a destruction or adverse modification finding, the Federal action agency's and the applicant's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must contain the physical and biological features that are essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify habitat areas that provide essential life cycle needs of the species (areas on which are found the physical and biological features (PBFs) laid out in the appropriate quantity and spatial arrangement for the conservation of the species), based on the best scientific data available. Under the regulation at 50 CFR 424.12(e), we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species and that designation limited to those areas occupied at the time of listing would be inadequate to ensure the conservation of the species. When the best available scientific data do not demonstrate that the conservation needs of the species require such additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species at the time of listing. An area currently occupied by the species but that was not occupied at the time of listing may, however, be essential to the conservation of the species and may be included in the critical habitat designation.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific and commercial data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria,

establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be proposed as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species, based on scientific data not now available to the Service. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of the species.

Areas that are important to the conservation of the species, but are outside the critical habitat designation, will continue to be subject to conservation actions Federal agencies implement under section 7(a)(1) of the Act. Areas that support populations are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of

designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Relationship of Critical Habitat to Recovery Planning

In developing this proposed rule, we considered the conservation relationship between the proposed critical habitat designation and recovery planning. Although recovery plans formulate the recovery strategy for a species, they are not regulatory documents, and there are no specific protections, prohibitions, or requirements afforded a species based solely on a recovery plan. Furthermore, although critical habitat designation can contribute to the overall recovery strategy for a species, it does not, by itself, achieve recovery plan goals. The Act states in section 3(5)(C), "except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species." In most cases, it is not the intent of the Act to designate critical habitat for every population and every documented historical location of a species. Instead, the focus of critical habitat designation is on habitat that contains the physical and biological features essential to conservation of the species.

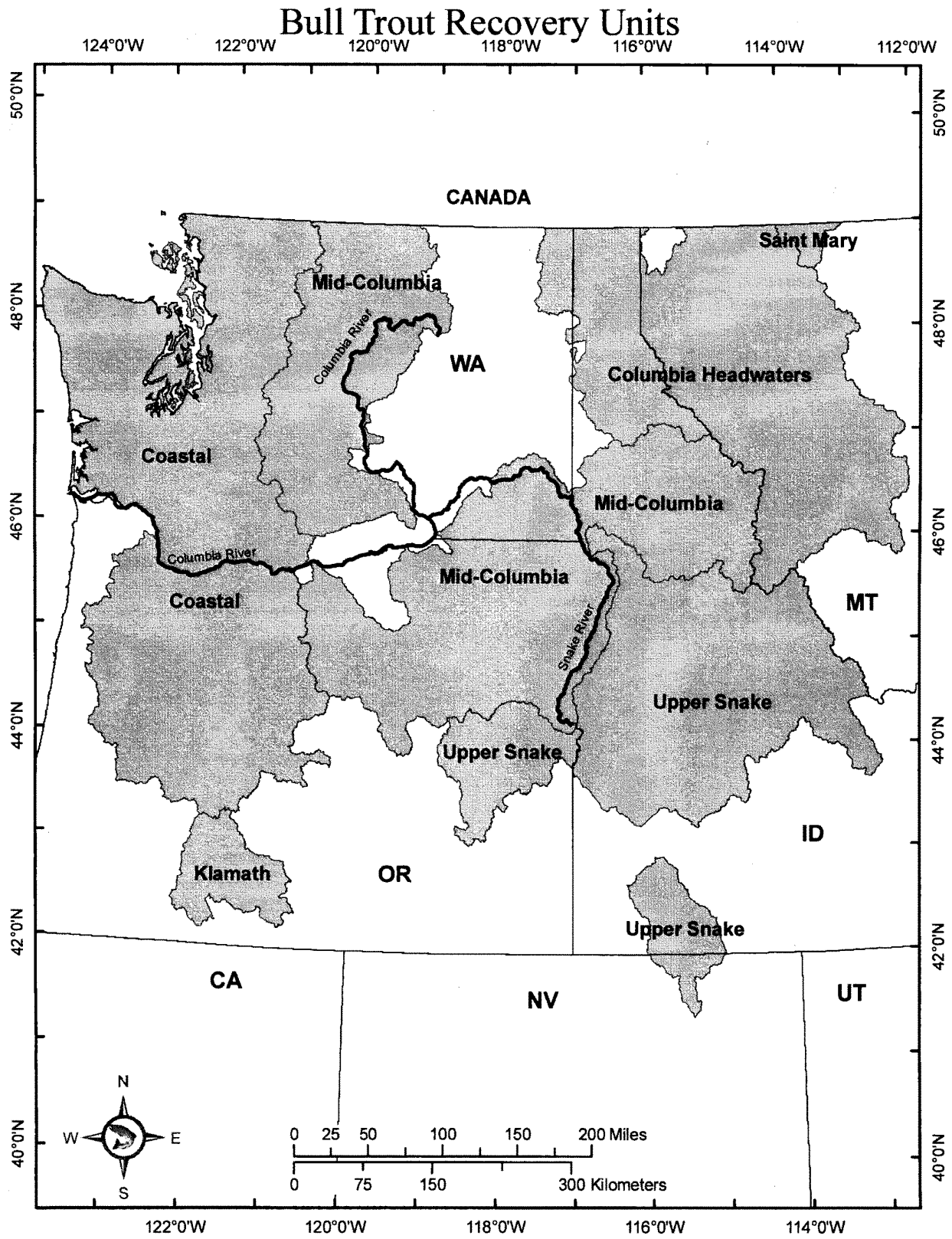
The 5-year review (Service 2008, p. 45) recommended, in part, that we update recovery units from the 2002 draft recovery plan for bull trout throughout their range (Service 2002), based on assemblages of bull trout core areas (metapopulations or interacting breeding populations) that retain genetic and ecological integrity and are significant to the distribution of bull trout throughout the conterminous United States. To complete the recovery unit update, we consulted with biologists from States, Federal agencies, and Native American tribes, using the best scientific information available. Factors that were considered in

determining the geographic arrangement of the updated recovery units included ensuring (1) resiliency by protecting large areas of high-quality habitat; (2) redundancy by protecting multiple populations; and (3) representation by protecting diverse genetic and life-history aspects of bull trout populations distributed throughout the range of the listed entity (Tear *et al.* 2005, p. 841).

Bull trout are listed under the Act as "Threatened" throughout the coterminous United States primarily due to habitat threats. In 2008 the Service completed a 5-year review of bull trout status and concluded in part that it should reevaluate the number of bull trout Distinct Population Segments (DPSs), and consider reclassifying bull trout into separate DPSs. The Service subsequently recommended not immediately pursuing reclassification due to time and cost constraints, but applied relevant factors in its 1996 DPS policy. As a result, six draft recovery units (RUs) were identified. Subsequent to identifying these six RUs, we evaluated each RU and determined that they were needed to ensure a resilient, redundant, and representative distribution of bull trout populations throughout the range of the listed entity. To accomplish these goals, we need to protect large areas of high-quality habitat, protect multiple populations, and protect diverse genetic and life-history aspects.

The six draft recovery units identified for bull trout in the conterminous United States include: Mid-Columbia recovery unit; Saint Mary recovery unit; Columbia Headwaters recovery unit; Coastal recovery unit; Klamath recovery unit; and Upper Snake recovery unit (Figure 1). Conserving each RU is essential to conserving the listed entity as a whole. These six new biologically based recovery units will be proposed to replace the 27 recovery units previously identified in the bull trout draft recovery plan (Service 2002, Chapter 1, p. 3).

Figure 1. Map of bull trout draft recovery units



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Areas that support populations, but are outside the critical habitat designation, may continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, HCPs, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by section 4(b)(2) of the Act, we use the best scientific data available in determining areas that contain the features that are essential to the conservation of bull trout. Data sources include research published in peer-reviewed journals and previous Service documents on the species, including the final listing determination (FR 64 58909–58933; November 1, 1999), the bull trout draft recovery plan (Service 2002), and the bull trout 5-year review (Service 2008). Additionally, we utilized regional Geographic Information System (GIS) shape files for area calculations and mapping.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas occupied at the time of listing to propose as critical habitat, we consider the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These features are the PCEs laid out in the appropriate quantity and spatial arrangement for conservation of the species. These include, but are not limited to:

- (1) Space for individual and population growth and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, or rearing (or development) of offspring; and
- (5) Habitats that are protected from disturbance or are representative of the

historic, geographical, and ecological distributions of a species.

As discussed in greater detail below, we derived nine specific PCEs required for bull trout from the biological needs of the species as described or referred to in the **Background** section of this proposed rule and the following information. The nine PCEs relate to (1) water quality; (2) migration corridors; (3) food availability; (4) instream habitat; (5) water temperature; (6) substrate characteristics; (7) stream flow; (8) water quantity; and (9) nonnative species.

Space for Individual and Population Growth and for Normal Behavior

Streams and groundwater sources with high water quality and cold temperatures, complex habitat, and migratory corridors provide space for individual and population growth and for normal behavior for bull trout.

Bull trout exhibit a number of life-history strategies. Stream-resident bull trout complete their entire life cycle in the tributary streams where they spawn and rear. Some bull trout are migratory, spawning in tributary streams where juvenile fish usually rear from one to four years before migrating to either a larger river (fluvial form) or lake (adfluvial form) where they spend their adult life, returning to the tributary stream to spawn (Fraley and Shepard 1989, p. 133). These migratory forms occur in areas where conditions allow for movement from upper watershed spawning streams to larger downstream waters that contain greater foraging opportunities (Dunham and Rieman 1999, p. 646). Resident and migratory forms may be found together, and either form can produce resident or migratory offspring (Rieman and McIntyre 1993, p. 2). Where ocean environments are accessible to bull trout they may also migrate to and from salt water (amphidromy).

The ability to migrate is important to the persistence of bull trout local populations (Rieman and McIntyre 1993, p. 2; Gilpin 1997, p. 4; Rieman and Clayton 1997, p. 6; Rieman *et al.* 1997, p. 1121). Bull trout rely on migratory corridors to move from spawning and rearing habitats to foraging and overwintering habitats and back. Migratory bull trout become much larger than resident fish in the more productive waters of larger streams and lakes, leading to increased reproductive potential. Stream resident populations are associated with headwater streams in mountainous regions where cold water and velocity barriers are common. Typically, these streams are smaller and have higher gradients than those

occupied by adfluvial and fluvial populations. In these headwater streams, resident bull trout are associated with deep pools and instream cover, and most stream-resident populations are dwarfed (McPhail and Baxter 1996, p. 12). The use of migratory corridors by bull trout also results in increased dispersion, facilitating gene flow among local populations (interbreeding groups) when individuals from different local populations interbreed, stray, or return to non-natal streams. Also, local populations that have been extirpated by catastrophic events may become reestablished because of movements by bull trout through migratory corridors (Rieman and McIntyre 1993, p. 7; MBTSG 1998, p. 45).

Lakes and reservoirs also figure prominently in meeting the life-cycle requirements of bull trout. For adfluvial (migrating between lakes and rivers or streams) bull trout populations, lakes and reservoirs provide an important component of the core FMO habitat and are integral to maintaining the adfluvial life-history strategy that is commonly exhibited by bull trout. When juvenile bull trout emigrate downstream to a lake or reservoir from the spawning and rearing streams in its headwaters, they enter a more productive lentic (still or slow-moving water) environment that allows them to achieve rapid growth and energy storage.

Some reservoirs may have adversely affected bull trout, while others have provided benefits. For example, the basin of Hungry Horse Reservoir has functioned adequately for 50 years as a surrogate home for stranded Flathead Lake bull trout trapped upstream of the dam when it was completed. While this is an artificial impoundment, the habitat the reservoir provides and the presence of an enhanced prey base of native minnows, suckers, and whitefish within the reservoir sustain a large adfluvial bull trout population. Additionally, while barriers to migration are often viewed as a negative consequence of dams, the connectivity barrier at Hungry Horse Dam has served an important, albeit unintended, function in restricting the proliferation of nonnative *Salvelinus* species (including brook trout (*Salvelinus fontinalis*) and lake trout (*Salvelinus namaycush*)) from downstream areas upstream above the dam.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Bull trout are opportunistic feeders that prey upon other organisms. Prey selection is primarily a function of size

and life-history strategy. Resident and juvenile migratory bull trout prey on terrestrial and aquatic insects, macrozooplankton, and small fish (Donald and Alger 1993, p. 244; McPhail and Baxter 1996, p. 15). Adult migratory bull trout feed almost exclusively on other fish (Rieman and McIntyre 1993, p. 3). Habitats must provide the necessary aquatic and adjacent terrestrial conditions to harbor prey species in sufficient quantity and diversity to meet the physiological requirements necessary to maintain bull trout populations. An abundant food base, including a broad array of terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish, supports individual and population growth and allows for normal bull trout behavior.

Cover or Shelter

At all life stages, bull trout require complex forms of cover, including large woody debris, undercut banks, boulders, and pools (Fraley and Shepard 1989, pp. 137-138; Watson and Hillman 1997, p. 249). Juveniles and adults frequently inhabit side channels, stream margins, and pools with suitable cover (Sexauer and James 1997, p. 368). McPhail and Baxter (1996, p. 11) reported that newly emerged fry are secretive and hide in gravel along stream edges and side channels. They also reported that juveniles are found mainly in pools but also in riffles and runs, maintain focal sites near the bottom, and are strongly associated with instream cover, particularly overhead cover such as woody debris or riparian vegetation. Bull trout have been observed overwintering in deep beaver ponds or pools containing large woody debris (Jakober 1995, p. 90). Adult bull trout migrating to spawning areas have been recorded as staying two to four weeks at the mouths of spawning tributaries in deeper holes or near logs or cover debris (Fraley and Shepard 1989, p. 137). Bull trout may also use lotic (swift-flowing water) and in some cases saltwater environments seasonally for reasons that include use as cover. Riparian vegetation; large wood; variable stream channel morphology including deep pools, side-channels, undercut banks and substrates; and in some cases access to downstream environments provide cover and shelter, which support individual and population growth and allow for normal bull trout behavior.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Bull trout have more specific habitat requirements than most other salmonids

(Rieman and McIntyre 1993, p. 4). Habitat components that particularly influence their distribution and abundance include water temperature, cover, channel form and stability, spawning and rearing substrate conditions, and migratory corridors (Fraley and Shepard 1989, p. 138; Goetz 1989, p. 19; Watson and Hillman 1997, p. 247).

Watson and Hillman (1997, p. 248) concluded watersheds must have specific physical characteristics to provide the necessary habitat requirements for bull trout spawning and rearing, and that the characteristics are not necessarily ubiquitous throughout the watersheds in which bull trout occur. The preferred spawning habitat of bull trout consists of low-gradient stream reaches with loose, clean gravel (Fraley and Shepard 1989, p. 133). Bull trout typically spawn from August to November during periods of decreasing water temperatures (Swanberg 1997, p. 735). However, migratory forms are known to begin spawning migrations as early as April and to move upstream as much as 250 km (155 mi) to spawning areas (Fraley and Shepard 1989 p. 138; Swanberg 1997, p. 735).

Fraley and Shepard (1989, p. 137) reported that initiation of spawning by bull trout in the Flathead River system appeared to be related largely to water temperature, with spawning initiated when water temperatures dropped below 10 °Celsius (°C) (50 °Fahrenheit (°F)). Goetz (1989, pp. 22-32) reported a temperature range from 4 to 10 °C (39 to 50 °F). Such areas often are associated with cold-water springs or groundwater upwelling (Rieman *et al.* 1997, p. 1121; Baxter *et al.* 1999, p. 137). Fraley and Shepard (1989, p. 137) also found that groundwater influence and proximity to cover are important factors influencing spawning site selection. They reported the combination of relatively specific requirements resulted in a restricted spawning distribution in relation to available stream habitat.

Depending on water temperature, egg incubation is normally 100 to 145 days (Pratt 1992, p. 5). Water temperatures of 1.2 to 5.4 °C (34.2 to 41.7 °F) have been reported for incubation, with an optimum (best embryo survivorship) temperature reported to be from 2 to 4 °C (36 to 39 °F) (Fraley and Shepard 1989, p. 138; McPhail and Baxter 1996, p. 10). Juveniles remain in the substrate after hatching, such that the time from egg deposition to emergence of fry can exceed 200 days. During the relatively long incubation period in the gravel, bull trout eggs are especially vulnerable to fine sediments and water quality

degradation (Fraley and Shepard 1989, p. 141). Increases in fine sediment appear to reduce egg survival and emergence (Pratt 1992, p. 6). Juveniles are likely also affected. High juvenile densities have been reported in areas characterized by a diverse cobble substrate and a low percent of fine sediments (Shepard *et al.* 1984, p. 6). Habitats with cold water temperature, appropriately-sized stream substrate, and stream substrate with a low level of fine material (i.e., less than 12 percent of fine substrate less than 0.85 millimeter (mm) (0.03 inch (in.)) in diameter) are necessary factors for egg incubation and juvenile rearing that supports individual and population growth (WFPB 1997, pp. 98, F-25).

Habitats Protected from Disturbance or Representative of the Historic, Geographical, and Ecological Distributions of the Species

There are some habitats throughout the range of the species that are well protected from disturbance and representative of ideal ecological conditions of the species. These areas mainly include wilderness, national parks, and other public lands specifically protected from most human disturbance (e.g., State parks), and often constitute bull trout "strongholds" with robust, well-distributed populations. Some populations outside of these areas may still be well protected for other reasons (e.g., conservation easements, Habitat Conservation Plans, Safe Harbor Agreements), but many other populations are threatened by human actions.

Water diversion and reservoir development can reduce stream flow, reduce the amount of water available in a stream channel, change water quality, and alter groundwater regimes. These changes may collectively impact habitat and passage for bull trout and can cause increases in water temperatures.

Impoundments may also increase nonnative species predation and competition, which can significantly affect bull trout populations. Some nonnative fish species that prey on bull trout include lake trout, walleye (*Sander vitreum*), northern pike (*Esox lucius*), smallmouth bass (*Micropterus dolomieu*), and brown trout (*Salmo trutta*). Brown trout or other introduced salmonids such as rainbow trout (*Oncorhynchus mykiss*), as well as smallmouth bass, northern pike, walleye, and other species also compete with bull trout for limited resources. Brook trout commonly hybridize with bull trout (Ratliff and Howell 1992, p. 16; Leary *et al.* 1993, p. 857).

The stability of stream channels and stream flows are important habitat characteristics for bull trout populations (Rieman and McIntyre 1993, p. 5). The side channels, stream margins, and pools with suitable cover for bull trout are sensitive to activities that directly or indirectly affect stream channel stability and alter natural flow patterns. For example, altered stream flow in the fall may disrupt bull trout during the spawning period, and channel instability may decrease survival of eggs and young juveniles in the gravel during winter through spring (Fraleigh and Shepard 1989, p. 141; Pratt 1992, p. 6; Pratt and Huston 1993, p. 70). Streams with a natural hydrograph (those with normal discharge variations over time as a response to seasonal precipitation); permanent water; and an absence of nonnative species are representative of the highest quality ecological habitat of the species. Streams with these characteristics provide space for individual and population growth.

We propose bull trout habitats of two primary use types: spawning and rearing (SR), and foraging, migration, and overwintering (FMO). All nine PCEs listed below may be found in, or be essential to, bull trout in each of these two habitat use types. This proposed rule identifies over 3,500 water body segments as either SR or FMO habitat. Due to a lack of sufficiently detailed data, we do not identify the specific PCEs present for each water body segment. Future consultations with the Service on specific agency actions will help identify those PCEs that are most important in a specific water body segment. Factors such as time of year, seasonal precipitation, drought conditions, and other phenomenon can influence the essential physical and biological features present at any particular location at any particular time across its range given the variability of habitats used by bull trout. In addition, attributes such as stream flow and substrate size and composition are influenced by stream order and gradient. Accordingly, establishing an upper and lower range of conditions for specific attributes in some cases may be impracticable.

Primary Constituent Elements for Bull Trout

Based on the above needs and our current knowledge of the life-history, biology, and ecology of the species and the characteristics of the habitat necessary to sustain the essential life-history functions of the species, we have identified the following PCEs for bull trout critical habitat.

(1) Springs, seeps, groundwater sources, and subsurface water connectivity (hyporeic flows) to contribute to water quality and quantity and provide thermal refugia.

(2) Migratory habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.

(3) An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.

(4) Complex river, stream, lake, reservoir, and marine shoreline aquatic environments and processes with features such as large wood, side channels, pools, undercut banks and substrates, to provide a variety of depths, gradients, velocities, and structure.

(5) Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures at the upper end of this range. Specific temperatures within this range will vary depending on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shade, such as that provided by riparian habitat; and local groundwater influence.

(6) Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount (e.g., less than 12 percent) of fine substrate less than 0.85 mm (0.03 in.) in diameter and minimal embeddedness of these fines in larger substrates are characteristic of these conditions.

(7) A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, they minimize departures from a natural hydrograph.

(8) Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.

(9) Few or no nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass; inbreeding (e.g., brook trout); or competitive (e.g., brown trout) species present.

Criteria Used To Identify Critical Habitat

As required by section 4(b) of the Act, we used the best scientific and commercial data available in determining areas that contain the physical and biological features essential to the conservation of bull trout that may require special

management considerations or protection, and areas outside of the geographical area occupied at the time of listing that are essential for bull trout conservation (Service 2009; also see "Previous Federal Actions" section). The steps we followed in identifying critical habitat were:

(1) Our initial step in identifying critical habitat was to determine, in accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, the physical and biological habitat features essential to the conservation of the species, as explained in the previous section. We reviewed the best available scientific data pertaining to the habitat requirements of this species, including consulting with biologists from partner agencies and entities including Federal, State, tribal, and private biologists; experts from other scientific disciplines such as hydrology and forestry; resource users; and other stakeholders with an interest in bull trout and the habitats they depend on for survival and recovery. We also reviewed available data concerning bull trout habitat use and preferences, habitat conditions, threats, limiting factors, population demographics, and known locations, distribution, and abundances of bull trout.

(2) We then identified the geographical areas occupied by bull trout at the time of listing and areas not occupied that may be essential for the conservation of bull trout. We used data gathered during the bull trout recovery planning process and the bull trout draft recovery plan (Service 2002), and supplemented that data with recent data developed by State agencies, tribes, the U.S. Forest Service (USFS), and other entities. This data was used to update bull trout status and distribution data for purposes of the proposed critical habitat designation. For areas where we had data gaps, we solicited expert opinions from knowledgeable fisheries biologists in the local area. Material reviewed included data in reports submitted during section 7 consultations, reports from biologists holding section 10(a)(1)(A) recovery permits, research published in peer-reviewed scientific journals, academic theses, State and Federal government agency reports, and regional GIS overlays.

(3) We identified specific areas within each of the six new draft recovery units described above that contain the physical and biological features essential to bull trout conservation, considering distribution, abundance, trend, and connectivity needs. The objective was to ensure the areas proposed for designation as critical

habitat would effectively serve the goals we believe are important for recovery: (a) conserve the opportunity for diverse life-history expression; (b) conserve the opportunity for genetic diversity; (c) ensure that bull trout are distributed across representative habitats; (d) ensure sufficient connectivity among populations; (e) ensure sufficient habitat to support population viability (e.g., abundance, trend indices); (f) address threats (see “Special Management Considerations or Protection” below), including climate change (see below); and (g) ensure sufficient redundancy in conserving population units. The above recovery goals take into account the threats and physical and biological needs of the species throughout its range, and focus on its range-wide recovery needs.

All critical habitat areas being proposed occur within the six new draft recovery units described above. Some areas contained the physical and biological features, but did not meet one or more of the above recovery goals because those features were not present in an appropriate quantity and spatial arrangement. Accordingly, we determined that such areas are not essential to bull trout conservation. For example, some areas contained spawning habitat (PCEs 5 and 6), but are disconnected from other populations and not large enough to support viable bull trout populations. Other areas were not included in this proposal because of limited habitat, marginal habitat, low bull trout density, or only sporadic presence of bull trout recorded.

Predicted global climate change appears likely to pose additional threats to bull trout in many parts of their range in the coterminous United States; downscaled regional climate models for the Columbia River basin predict a general air temperature warming of 1.0 to 2.5 °C (33.8 to 36.5 °F) or more by 2050 (Reiman *et al.* 2007, p. 1,552). This predicted temperature trend will have important effects on the regional distribution and local extent of habitats available to salmonids (Rieman *et al.* 2007, p. 1,552). The optimal water temperatures for bull trout appear to be substantially lower than those for other salmonids (Rieman *et al.* 2007, p. 1,553). Coldwater fish do not physically adapt well to thermal increases (McCullough *et al.* 2009, pp. 96–101). Instead, they are more likely to change their behavior, alter the timing of certain behaviors, experience increased physical and biochemical stress, and exhibit reduced growth and survival (McCullough *et al.* 2009, pp. 98–100). Bull trout spawning and initial rearing areas are currently largely constrained

by low fall and winter water temperatures, and existing thermally suitable habitat patches are often isolated from one another (Rieman *et al.* 2007, p. 1,553). With a warming climate, thermally suitable bull trout spawning and rearing areas are predicted to shrink during warm seasons, in some cases very dramatically, becoming even more isolated from one another under moderate climate change scenarios (Rieman *et al.* 2007, pp. 1,558–1,562; Porter and Nelitz 2009, pp. 5–7).

Climate change will likely interact with other stressors, such as habitat loss and fragmentation (Rieman *et al.* 2007, pp. 1,558–1,560; Porter and Nelitz 2009, p. 3); invasions of nonnative fish (Rahel *et al.* 2008, pp. 552–553); diseases and parasites (McCullough *et al.* 2009, p. 104); predators and competitors (McMahon *et al.* 2007, pp. 1,313–1,323; Rahel *et al.* 2008, pp. 552–553); and flow alteration (McCullough *et al.* 2009, pp. 106–108), to render some current spawning, rearing, and migratory habitats marginal or wholly unsuitable. For example, introduced congeneric populations of brook trout are widely distributed throughout the range of bull trout. McMahon *et al.* (2007, p. 1,320) demonstrated the presence of brook trout has a marked negative effect on bull trout, an effect that is magnified at higher water temperatures (16–20 °C (60–68 °F)). Changes and complex interactions are difficult to predict at a spatial scale relevant to bull trout conservation efforts, and key gaps exist in our understanding of whether bull trout (and other coldwater fishes) can behaviorally adapt to climate change.

We considered probable effects of climate change on bull trout by first qualitatively screening core areas to assess those which might be most vulnerable to climate change effects, and highlighting them in our 2008 update of status and threats data in the core area template documents (Service 2008, p. 15). For example, in many locations we prioritized cold water spring habitats for conservation because they may be among the most resistant habitats to climate change effects. In other locations we deemphasized protection of some already low-elevation, warmer, marginal bull trout habitats, anticipating that they would become even less valuable for the future conservation of bull trout. Over a period of decades, climate change may directly threaten the integrity of the essential physical and biological features described in PCEs 1, 2, 3, 5, 7, 8 and 9. Protecting bull trout strongholds and cold water refugia from disturbance and ensuring connectivity among populations were important

considerations in addressing this potential impact.

Over 30 years of research into wildlife population sizes required for long-term viability (avoiding extinction) suggests that a minimum number of 5,000 individuals may be needed in light of rapidly changing environmental conditions such as accelerated climate change (Traill *et al.* 2009, p. 3). Although the minimum number of individuals may vary depending on the species involved, for bull trout, we have included additional unoccupied habitats in those areas where occupied habitats currently support far less than this number of individuals, so there are adequate PCEs for those small populations to recover. For example, in the Klamath basin where bull trout status is weak and threats are high (that is, where there are low number of individuals or populations, and poor habitat quality), we are proposing to designate all occupied habitat and some unoccupied habitat to ensure sufficient connectivity among existing bull trout populations. Unoccupied habitat proposed for protection is in FMO habitat, and is intended to ensure connectivity among existing, currently isolated bull trout populations. Conversely, examples of occupied areas that are not proposed as critical habitat include those where bull trout occur in low densities in very isolated or tenuous populations, areas where bull trout are heavily compromised by nonnative species, or areas where available habitat is restricted.

(4) In selecting areas to propose as critical habitat, we considered factors specific to each river system, such as size (i.e., stream order), gradient, channel morphology, connectivity to other aquatic habitats, and habitat complexity and diversity, as well as range-wide recovery considerations. We took into account the fact that bull trout habitat preference ranges from small headwater streams used largely for spawning and rearing, to downstream mainstem portions of river networks used for rearing, foraging, migration, or overwintering.

To help determine which of these specific areas are essential to bull trout conservation, we considered the species' status in each recovery unit by evaluating whether: (a) bull trout are rare and exposed to threats, such that recovery needs include removing threats from essentially all existing occurrences and restoring bull trout to portions of their historic range, or (b) bull trout are declining and exposed to threats, such that recovery needs include stopping the decline and eliminating threats

across key portions of their range, such as currently occupied strongholds.

NatureServe is a nonprofit conservation organization whose mission is to provide the scientific basis for effective conservation action. The NatureServe database is sometimes used as one of several factors in identifying species which may warrant listing under the Act, but in other cases the information in the NatureServe database is limited in its usefulness for that purpose. Additionally, NatureServe has developed a computer spreadsheet tool used world-wide for evaluating a suite of factors related to rarity, trends, and threats to assess the extinction or extirpation risk of species and ecosystems. We did use this spreadsheet tool in analyzing the data we have for the bull trout. The protocol for assigning a conservation status rank to a species or population of a species is based on using biological data to derive a score for each of ten conservation status factors, which are grouped into three categories based on the characteristic of the factor: rarity (six factors such as population size or habitat area), trends (two factors), and threats (two factors) (Master *et al.* 2007, pp. 6–11). By inserting extensive biological data for bull trout collected by the Service and its partners through 2007 into the NatureServe status assessment ranking tool spreadsheet for each of 118 bull trout core areas or watersheds throughout their range, we were able to determine the relative status and threats within each of the 118 bull trout core areas or watersheds and each of the 6 draft recovery units.

The proposed critical habitat designation identifies specific areas essential to the conservation of the bull trout local populations and spawning and rearing streams of highest conservation value. Factors taken into account at the smaller local population scale included the largest areas or populations, most highly connected populations, and areas with the highest conservation potential (i.e., the quantity and quality of physical and biological features present). At the larger core area scale, the proposed designation also focuses on areas having the highest conservation value by applying the factors that were applied at the local population scale. At both the local population and core area scales, the proposed designation emphasizes essential FMO habitats of highest conservation value, such as habitats that connect local populations and core areas and provide required space for life-history functions. In some areas, specific areas outside the geographical area occupied by bull trout at the time

of listing have been determined to be essential for the conservation of the species and are being proposed as critical habitat. In those areas, bull trout habitat and population loss over time necessitates reestablishing bull trout in currently unoccupied habitat areas to achieve recovery.

Based on the considerations described above, we propose a greater proportion of occupied habitat and more unoccupied habitat for protection in areas where bull trout demonstrate less resiliency, redundancy, and representation, and less critical habitat elsewhere. We find that areas occupied at the time of listing are inadequate to ensure the conservation of the species. Therefore, we are proposing additional areas outside the geographical area occupied by the species at the time it is listed. For example, in the Klamath Basin Recovery Unit where threats to bull trout are greatest, we are proposing to designate all habitat known to be occupied at the time of listing that contains the physical and biological features essential to the conservation of the species and which may require special management considerations or protection, and we propose designating a substantial proportion of unoccupied habitat outside of the geographical area occupied by the species at the time of listing that has been determined to be essential for bull trout conservation. Our primary consideration in proposing critical habitat for occupied areas is to protect species strongholds for spawning and rearing and FMO habitats. Our primary consideration for most unoccupied areas is restoring connectivity among populations by protecting FMO habitats.

When determining proposed critical habitat boundaries within this proposed rule, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical and biological features essential for bull trout. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect

the physical and biological features in the adjacent critical habitat.

We are proposing for designation of critical habitat lands that we have determined were occupied at the time of listing and contain sufficient PBFs to support life-history functions essential for the conservation of the species and lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of bull trout.

We are proposing to designate 32 critical habitat units (CHUs) within the geographical area occupied by the species at the time of listing. These units have an appropriate quantity and spatial arrangement of physical and biological features present that supports bull trout metapopulations, life processes, and overall species conservation. Twenty-nine of the units contain all of the physical and biological features identified in this proposed rule, supporting multiple life-history requirements. Three of the mainstem river units in the Columbia and Snake River basins contain most of the physical and biological features necessary to support the bull trout's particular use of that habitat, other than those associated with PCEs 5 and 6, which relate to breeding habitat. Lakes and reservoirs within these units also contain most of the physical and biological features necessary to support bull trout, other than those associated with PCEs 1, 4, and 6. Marine nearshore habitats within the Olympic Peninsula and Puget Sound CHUs contain only a subset of the identified physical and biological features for bull trout (PCEs 2, 3, 5, and 8). However, these habitats are important to conserving a diverse life-history expression and representative habitats.

Special Management Considerations or Protection

The term critical habitat is defined in section 3(5)(A) of the Act, in part, as geographical areas on which are found those physical and biological features essential to the conservation of the species and which may require special management considerations or protections. Accordingly, when designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or protection. Although the determination that special management considerations or protection may be required is not a prerequisite to designating critical

habitat in areas essential to the conservation of the species that were unoccupied at the time of listing, all areas being proposed as critical habitat require some level of management to address current and future threats to bull trout, to maintain or enhance the physical and biological features essential to its conservation, and to ensure the recovery of the species.

The primary land and water management activities impacting the physical and biological features essential to the conservation of bull trout which may require special management considerations within the proposed critical habitat units include timber harvest and road building (forest management practices), agriculture and agricultural diversions, livestock grazing, dams, mining, and nonnative species presence or introduction (Beschta *et al.* 1987, p. 194; Chamberlin *et al.* 1991, p. 194; Furniss *et al.* 1991, p. 297; Meehan 1991, pp. 6–10; Nehlsen *et al.* 1991, p. 4; Sedell and Everest 1991, p. 6; Craig and Wissmar 1993, p. 18; Frissell 1993, p. 350; Henjum *et al.* 1994, p. 6; McIntosh *et al.* 1994, p. 37; Wissmar *et al.* 1994, p. 28; MBTSG 1995a, p. i; MBTSG 1995b, p. i; MBTSG 1995c, p. i; MBTSG 1995d, p. 1; USDA and USDI 1995, p. 8, 1997, pp. 132–144; Light *et al.* 1996, p. 6; MBTSG 1996a, p. ii; MBTSG 1996b, p. 1; MBTSG 1996c, p. i; MBTSG 1996d, p. i; MBTSG 1996e, p. i; MBTSG 1996f, p. 1; MBTSG 1996g, p. 7; MBTSG 1996h, p. 7). Urbanization and residential development may also impact the physical and biological features, and these features may require special management considerations or protections due to these development impacts.

Timber harvest and road building in, or close to, riparian areas can immediately reduce stream shading and cover, channel stability, and large woody debris recruitment, and it can increase sedimentation and peak stream flows (Chamberlin *et al.* 1991, p. 180). These activities can subsequently lead to increased stream temperatures and bank erosion and decreased long-term stream productivity. The effects of road construction and associated maintenance account for a majority of sediment loads to streams in forested areas. In addition, stream crossings also can impede fish passage (Shepard *et al.* 1984, p. 1; Cederholm and Reid 1987, p. 392; Furniss *et al.* 1991, p. 301). Sedimentation affects streams by reducing pool depth, altering substrate composition, reducing interstitial space, and causing braiding of channels (Rieman and McIntyre 1993, p. 6), which reduce carrying capacity. Sedimentation negatively affects bull

trout embryo survival and juvenile bull trout rearing densities (Shepard *et al.* 1984, p. 6; Pratt 1992, p. 6). An assessment of the interior Columbia Basin ecosystem revealed that increasing road densities were associated with declines in four nonanadromous salmonid species (bull trout; Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*); westslope cutthroat trout (*O. c. lewisi*); and redband trout (*O. mykiss* ssp.)) within the Columbia River basin, likely through a variety of factors associated with roads. Bull trout were less likely to use highly roaded basins for spawning and rearing and, if present, were likely to be at lower population levels (Quigley and Arbelbide 1997, p. 1183). These activities can directly and immediately threaten the integrity of the essential physical and biological features described in PCEs 1–6. Special management considerations or protections that may be needed for the essential features include the implementation of best management practices that could result in project modifications specifically designed to reduce these impacts in streams with bull trout, particularly in spawning and rearing habitat. Such best management practices could result in project modifications that require measures to ensure that road stream crossings do not impede fish migration or occur in or near spawning/rearing areas, or increase road surface drainage.

Agricultural practices and associated activities adjacent to streams and in upland portions of watersheds also can adversely affect the physical and biological features essential to bull trout conservation. Irrigation withdrawals, including diversions, can dewater spawning and rearing streams, impede fish passage and migration, and entrain fish into the irrigation ditch from the river. Discharging pollutants such as nutrients, agricultural chemicals, animal waste, and sediment into spawning and rearing waters is also detrimental (Spence *et al.* 1996, p. 128). Agricultural practices regularly include stream channelization and diking, large woody debris and riparian vegetation removal, and bank armoring (Spence *et al.* 1996, p. 127). Improper livestock grazing can promote streambank erosion and sedimentation and limit the growth of riparian vegetation important for temperature control, streambank stability, fish cover, and detrital input (Platts 1991, pp. 397–399). In addition, grazing often results in increased organic nutrient input in streams (Platts 1991, p. 423). These activities can directly and immediately threaten the

integrity of the essential physical and biological features described in PCEs 1–8. Special management for the essential features could include best management practices that could include project modifications specifically designed to reduce these types of impacts in streams with bull trout, such as fencing livestock from streamsides, moving animal feeding operations away from surface waters, using riparian buffer strips near crop fields, minimizing water withdrawal from streams, avoiding stream channel and spring head manipulation, and avoiding stream dewatering.

Dams constructed without fish passage features, or with poorly designed fish passage features, create barriers to migratory bull trout, precluding access to suitable spawning, rearing, and migration habitats. Dams disrupt the connectivity within and between watersheds essential for maintaining aquatic ecosystem function (Naiman *et al.* 1992, p. 127; Spence *et al.* 1996, p. 141) and bull trout subpopulation interaction (Rieman and McIntyre 1993, p. 15). Natural recolonization of historically occupied sites can be precluded by migration barriers (e.g., McCloud Dam in California). These activities can directly and immediately threaten the integrity of the essential physical and biological features described in PCEs 2–7 and 9. Special management considerations that may be needed for the essential features include the implementation of best management practices that could result in project modifications, such as providing fish passage, specifically designed to reduce these impacts in streams with bull trout.

Mining can degrade aquatic systems by generating sediment and heavy metals pollution, altering water pH levels, and changing stream channels and flow (Martin and Platts 1981, p. 2). These activities can directly and immediately threaten the integrity of the essential physical and biological features described in PCEs 1, 6, 7, and 8, even if they occur some distance upstream from critical habitat. Special management for these essential features could require best management practices that could result in project modifications specifically designed to reduce these impacts in streams with bull trout, such as avoiding surface water impacts from mining activities and neutralizing or containing toxic materials generated.

Introductions of nonnative species by the Federal Government, State fish and game departments, and unauthorized private parties across the range of bull trout have resulted in predation,

declines in abundance, local extirpations, and hybridization of bull trout (Bond 1992, p. 3; Howell and Buchanan 1992, p. viii; Donald and Alger 1993, p. 245; Leary *et al.* 1993, p. 857; Pratt and Huston 1993, p. 75; MBTSG 1995b, p. 10; MBTSG 1995d, p. 21; Platts *et al.* 1995, p. 9; MBTSG 1996g, p. 7; Palmisano and Kaczynski, in litt.1997, p. 29). Nonnative species may exacerbate stresses on bull trout from habitat degradation, fragmentation, isolation, and species interactions (Rieman and McIntyre 1993, p. 3). These activities can, over time, directly threaten the integrity of the essential physical and biological features described in PCE 9. Special management needs and considerations for this essential feature could require the implementation of best management practices that could result in project modifications specifically designed to reduce these impacts in streams with bull trout, such as avoiding future introductions, eradicating or controlling introduced species, and managing habitat to favor bull trout over other species.

Urbanization and residential development in watersheds has led to decreased habitat complexity (uniform stream channels and simple nonfunctional riparian areas), impediments and blockages to fish passage, increased surface runoff (more frequent and severe flooding), and decreased water quality and quantity (Spence *et al.* 1996, pp. 130–134). In

nearshore marine areas, urbanization and residential development has led to significant loss or physical alteration of intertidal and shoreline habitats, as well as led to the contamination of many estuarine and nearshore areas (PSWQAT 2000, p. 47; BMSL *et al.* 2001, ch. 10, pp. 1–27 ; Fresh *et al.* 2004, p. 1). Activities associated with urbanization and residential development can incrementally threaten the integrity of the essential physical and biological features described in PCEs 1–5, 7, and 8. Special management for these essential features could require best management practices that could result in project modifications specifically designed to reduce these impacts in streams with bull trout, such as setting back developments from riparian areas, minimizing water runoff from urban areas directly to streams, minimizing hard surfaces such as pavement in watersheds, and minimizing impacts related to fertilizer application.

Proposed Critical Habitat Designation

We are proposing 32 critical habitat units in 6 recovery units for bull trout. Each CHU is comprised of a number of specific streams or reservoir/lake areas, which are identified as subunits in this proposed rule.

In freshwater areas, critical habitat includes the stream channels within the designated stream reaches and a lateral extent as defined by the bankfull elevation on one bank to the bankfull elevation on the opposite bank. If

bankfull elevation is not evident on either bank, the ordinary high-water line determines the lateral extent of critical habitat. The lateral extent of critical habitat in lakes is defined by the perimeter of the water body as mapped on standard 1:24,000 scale topographic maps. In marine nearshore areas, the inshore extent of critical habitat is the mean higher high-water (MHHW) line, including tidally influenced freshwater heads of estuaries. Critical habitat extends offshore to the depth of 10 meters (m) (33 feet (ft)) relative to the mean low low-water (MLLW) line.

The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for bull trout. A total of 36,497.70 km (22,678.5 mi) of streams (which includes 1,587.7 km (985.3 mi) of marine shoreline area (Table 2), and 215,870.1 ha (533,426.4 ac) of reservoir and lake surface area (Table 3) are proposed as bull trout critical habitat. A total of 1,495 km (929 mi; four percent) of stream and marine shoreline distance was unoccupied at the time of listing, with the remainder occupied. A total of 17,422 km (10,825 mi; 48 percent) of stream habitat is used for spawning and rearing, with the remainder—and all reservoirs and lakes—used for FMO. Tables 4 and 5 present total stream shoreline distance and reservoir and lake surface area proposed in each state. Table 6 presents the ownership for all stream shoreline distances proposed as critical habitat.

TABLE 2.—STREAM/SHORELINE DISTANCE PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY CRITICAL HABITAT UNIT AND REFERENCING RECOVERY UNIT

Recovery Unit	Critical habitat unit	Kilo-meters	Miles
Coastal	1.Olympic Peninsula	1,292.9	803.4
	1.Olympic Peninsula (Marine)	673.8	418.7
	2.Puget Sound	2,737.3	1,700.8
	2.Puget Sound (Marine)	911.9	566.6
	3.Lower Columbia River Basins	360.9	224.3
	4.Upper Willamette River	304.9	189.5
	5.Hood River	113.1	70.3
	6.Lower Deschutes River	463.2	287.8
Klamath	7.Odell Lake	27.4	17.0
	8.Mainstem Lower Columbia River	342.2	212.6
Mid-Columbia	9.Klamath River Basin	440.0	273.4
	10.Upper Columbia River Basins	1,125.9	699.6
	11.Yakima River	1,191.4	740.3
	12.John Day River	1,176.4	731.0
	13.Umatilla River	211.8	131.6
	14.Walla Walla River Basin	452.7	281.3
	15.Lower Snake River Basins	284.2	176.6
	16.Grande Ronde River	1,057.7	657.2
	17.Imnaha River	285.7	177.5
	18.Sheep and Granite Creeks	47.9	29.7
	19.Hells Canyon Complex	399.3	248.1
	20.Powder River Basin	404.3	251.2
	21.Clearwater River	2,702.1	1,679.0
	22.Mainstem Upper Columbia River	522.7	324.8
	23.Mainstem Snake River	552.2	343.1

TABLE 2.—STREAM/SHORELINE DISTANCE PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY CRITICAL HABITAT UNIT AND REFERENCING RECOVERY UNIT—Continued

Recovery Unit	Critical habitat unit	Kilo-meters	Miles
Upper Snake	24. Malheur River Basin	250.7	155.8
	25. Jarbidge River	266.9	165.9
	26. Southwest Idaho River Basins	2,716.7	1,688.1
	27. Salmon River Basin	8,119.4	5,045.1
Columbia Headwaters	28. Little Lost River	206.6	128.4
	29. Coeur d'Alene River Basin	819.6	509.3
	30. Kootenai River Basin	587.0	364.7
Saint Mary	31. Clark Fork River Basin	5,332.1	3,313.2
	32. Saint Mary River Basin	116.8	72.6
	Total	36,497.7	22,678.5

TABLE 3.—AREA OF RESERVOIRS OR LAKES PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY CRITICAL HABITAT UNIT

Critical habitat unit	Hectares	Acres
1. Olympic Peninsula	3,366.2	8,318.1
2. Puget Sound	17,890.5	44,208.3
3. Lower Columbia River Basins	4,856.1	11,999.7
4. Upper Willamette River	3,601.5	8,899.6
5. Hood River	36.9	91.1
6. Lower Deschutes River	1,670.2	4,127.3
7. Odell Lake	1,387.1	3,427.6
9. Klamath River Basin	3,775.5	9,329.5
10. Upper Columbia River Basins	1,033.2	2,553.1
11. Yakima River	6,285.2	15,531.0
16. Grande Ronde River	605.2	1,495.5
21. Clearwater River	6,721.9	16,610.2
24. Malheur River Basin	715.9	1,768.9
26. Southwest Idaho River Basins	15,540.2	38,400.6
27. Salmon River Basin	1,659.5	4,100.6
29. Coeur d'Alene River Basin	12,606.9	31,152.2
30. Kootenai River Basin	12,089.2	29,873.1
31. Clark Fork River Basin	119,473.5	295,225.5
32. Saint Mary River Basin	2,555.4	6,314.5
Total	215,870.1	533,426.40

TABLE 4.—STREAM/SHORELINE DISTANCE PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY STATE

State	Kilometers	Miles
Idaho	15,563.4	9,670.6
Montana	4,978.8	3,093.7
Nevada	137.3	85.3
Oregon	4,988.3	3,099.6
Oregon/Idaho	273.8	170.1
Washington	8,421.1	5,232.6
Washington Marine	1,585.7	985.3
Washington/Idaho	59.9	37.2
Washington/Oregon	489.0	303.9
Total	36,497.30	22,678.30

TABLE 5.—AREA OF RESERVOIRS OR LAKES PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY STATE

State	Hectares	Acres
Idaho	80,093.2	19,7914.7
Montana	90,553.3	22,3762.2
Oregon	11,792.3	29,139.5
Washington	33,431.2	82,610.3
Total	215,870.1	533,426.40

TABLE 6.—STREAM/SHORELINE DISTANCE PROPOSED FOR DESIGNATION AS BULL TROUT CRITICAL HABITAT BY OWNERSHIP

Ownership	Kilometers	Miles
Federal	21,276	13,220
Federal/Private	422	262
Federal/State	4	2
State	889	552
Tribal	683	424
Private	13,223	8,216
Total	36,497	22,676

We present a brief description of all critical habitat designated in each of 32 units below, organized by recovery unit. Maps depicting the units and subunits are included with the proposed amendatory language below. For a more detailed textual and graphic description of all units and subunits, please see our website at <http://www.fws.gov/pacific/bulltrout>, or contact the Idaho Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT** above). The areas being proposed as critical habitat below satisfy each of the above “Criteria Used to Identify Critical Habitat” considerations, and will conserve the opportunity for diverse life-history expression and genetic diversity; ensure that bull trout are distributed across representative habitats; ensure sufficient connectivity among populations; ensure sufficient habitat to support population viability; address threats; and ensure sufficient redundancy in conserving population units. The characteristics of each Critical Habitat Unit, Subunit, and in some cases water body segment that establish why a specific area is essential to the conservation of bull trout are identified in the reference (Service 2009). Examples of attributes that were considered include habitat use (FMO, spawning and rearing), occupancy data, geographic limits, accessibility, presence or absence of barriers, genetic analysis (used in metapopulation context), population data, habitat condition, and presence of anadromous salmonids.

Coastal Recovery Unit

Unit 1: Olympic Peninsula Unit

The Olympic Peninsula CHU is located in northwestern Washington. Bull trout populations inhabiting the Olympic Peninsula comprise the coastal component of the Coastal–Puget Sound population. The unit includes approximately 1,292.9 km (803.4 mi) of stream, 3,366.2 ha (8,318.1 ac) of lake surface area, and 673.8 km (418.7 mi) of marine shoreline proposed as critical habitat. This CHU is bordered by Hood Canal to the east, Strait of Juan de Fuca

to the north, the Pacific Ocean to the west, and the Lower Columbia River Basins and Puget Sound CHUs to the south. It extends across portions of Grays Harbor, Clallam, Mason, Pacific, and Jefferson Counties. All of the major river basins initiate from the Olympic Mountains. The Olympic Peninsula CHU is divided into 10 CHSUs. Although delta areas and small islands are difficult to map and may not be specifically identified by name, included within the critical habitat proposal are delta areas where streams form sloughs and braids and the nearshore of small islands found within the proposed marine areas. The State of Washington has assigned most streams a stream catalog number. Typically, if an unnamed stream or stream with no official U.S. Geological Survey name is proposed for critical habitat within the Puget Sound CHU, the stream catalog number is provided for reference. In those cases where tributary streams do not have a catalog number, they are referred to as “unnamed” or a locally accepted name is used. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 9–11), or <http://www.fws.gov/pacific/bulltrout>.

Unit 2: Puget Sound Unit

The Puget Sound CHU includes approximately 2,737.3 km (1,700.8 mi) of streams; 17,890.5 ha (44,208.3 ac) of lake surface area; and 911.9 km (566.6 mi) of marine shoreline proposed as critical habitat. The CHU is bordered by the Cascade Range to the east, Puget Sound to the west, Lower Columbia River Basins and Olympic Peninsula CHUs to the south, and the U.S.–Canada border to the north. The CHU extends across Whatcom, Skagit, Snohomish, King, Pierce, Thurston, and Island

Counties in Washington. The major river basins initiate from the Cascade Range and flow west, discharging into Puget Sound, with the exception of the Chilliwack River system, which flows northwest into British Columbia, discharging into the Fraser River. The Puget Sound CHU is divided into 13 CHSUs. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 11–13), or <http://www.fws.gov/pacific/bulltrout>.

Unit 3: Lower Columbia River Basins Unit

The Lower Columbia River Basins CHU consists of portions of the Lewis, White Salmon, and Klickitat Rivers and associated tributaries in southwestern and south-central Washington. The CHU extends across Clark, Cowlitz, Klickitat, Skamania, and Yakima Counties. Approximately 360.9 km (224.3 mi) of stream and 4,856.1 ha (11,999.7 ac) of reservoir surface area are proposed as critical habitat. There are three bull trout local populations in the Lewis River watershed and one in the Klickitat River watershed. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 14), or <http://www.fws.gov/pacific/bulltrout>.

Unit 4: Upper Willamette River Unit

The Upper Willamette River CHU includes 304.9 km (189.5 mi) of streams and 3,601.5 ha (8,899.6 ac) of lake surface area is proposed as critical

habitat in the McKenzie River and Middle Fork Willamette River subbasins of western Oregon. This unit is located primarily within Lane County, but also extends into Linn County.

There are three known bull trout local populations in the McKenzie River subbasin and one bull trout local population in the Middle Fork Willamette River subbasin. With the exception of a short reach of the mainstem Willamette River and the mainstem Middle Fork Willamette River (including reservoirs) below Hills Creek Dam, segments proposed as critical habitat are occupied by bull trout. The stream segments that make up the Willamette River Unit are described below. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 14–15), or <http://www.fws.gov/pacific/bulltrout>.

Unit 5: Hood River Unit

The Hood River CHU includes the mainstem Hood River and three major tributaries: Clear Branch Hood River, West Fork Hood River, and East Fork Hood River. A total of 113.1 km (70.3 mi) of stream and 36.9 ha (91.1 ac) of lake surface is proposed as critical habitat. Portions of the mainstem Columbia River utilized as FMO by Hood River bull trout are discussed in the Lower Mainstem Columbia River section of this document.

The Hood River CHU, located on the western slopes of the Cascades Mountains in northwest Oregon, lies entirely within Hood River County, Oregon. There are two local populations identified as essential: (1) Clear Branch Hood River above Clear Branch Dam and (2) Hood River and tributaries below Clear Branch Dam. This unit provides spawning and rearing habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 15), or <http://www.fws.gov/pacific/bulltrout>.

Unit 6: Lower Deschutes River Unit

The Lower Deschutes River CHU is located in Wasco, Sherman, Jefferson, Deschutes, and Crook Counties in central Oregon. There are five known local population in the lower Deschutes River basin: (1) Warm Springs River; (2)

Shitike Creek; (3) Whitewater River; (4) Jefferson Creek–Candle Creek Complex; and (5) Jack Creek–Canyon Creek–Heising Spring Complex.

The Lower Deschutes River CHU includes (1) the Metolius River basin, consisting of Canyon Creek, Jack Creek, Heising Spring, Candle Creek, Jefferson Creek, Whitewater River, the mainstem Metolius River, and Lake Billy Chinook; (2) the mainstem Deschutes River from Lake Billy Chinook to Big Falls; (3) Whychus Creek upstream to the USFS 6360 Road crossing; (4) Crooked River from its confluence with Lake Billy Chinook upstream to Highway 97; (5) Shitike Creek; (6) Warm Springs River; and (7) mainstem Deschutes River from the Pelton Regulating Dam downstream to the Columbia River.

Approximately 463.2 km (287.8 mi) of streams and 1,670.2 ha (4,127.3 ac) of lake and reservoir surface area in the lower Deschutes River basin are proposed as critical habitat. A portion of the reaches occur on the Confederated Tribes of Warm Springs lands. The following stream segments are included in the Lower Deschutes River CHU. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 15), or <http://www.fws.gov/pacific/bulltrout>.

Unit 7: Odell Lake Unit

The Odell Lake CHU lies entirely within the Deschutes National Forest in Deschutes and Klamath Counties, Oregon. Total proposed critical habitat in this unit includes 27.4 km (17.0 mi) of streams and 1,387.1 ha (3,427.6 ac) of lake surface area. The single Odell Lake bull trout population has been isolated from the Deschutes River population by a lava flow that impounded Odell Creek and formed Davis Lake approximately 5,500 years ago. Odell Lake is the only remaining natural adfluvial population of bull trout in Oregon. The following lake area and stream segments are included in this CHU. This unit provides spawning and rearing habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 16), or <http://www.fws.gov/pacific/bulltrout>.

Unit 8: Mainstem Lower Columbia River Unit

The Mainstem Lower Columbia River CHU extends from the mouth of the Columbia River to John Day Dam and is located in the states of Oregon and Washington. It includes Clatsop, Columbia, Multnomah, Hood River, Wasco, and Sherman Counties in Oregon and Pacific, Wahkiakum, Cowlitz, Clark, Skamania, and Klickitat Counties in Washington. A total of 342.2 km (212.6 mi) of stream are being proposed as critical habitat. This unit provides connecting habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 16), or <http://www.fws.gov/pacific/bulltrout>.

Unit 9: Klamath River Basin Unit (Klamath Recovery Unit)

The Klamath River Basin CHU is located in south-central Oregon and includes three CHSUs: (1) Upper Klamath Lake CHSU; (2) Sycan River CHSU; and (3) Upper Sprague River CHSU. It includes portions of Klamath and Lake Counties in Oregon. Total proposed critical habitat in this unit includes 440.0 km (273.4 mi) of streams and 3,775.5 ha (9,329.5 ac) of lake surface area. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 16–18), or <http://www.fws.gov/pacific/bulltrout>.

Unit 10: Upper Columbia River Basins Unit (Mid-Columbia Recovery Unit)

The Upper Columbia River Basins CHU includes the entire drainages of three CHSUs in central and north-central Washington on the east slopes of the Cascade Range and east of the Columbia River between Wenatchee, Washington, and the Okanogan River drainage: (1) Wenatchee River CHSU in Chelan County; (2) Entiat River CHSU in Chelan County; and (3) Methow River CHSU in Okanogan County. The Upper Columbia River Basins CHU also includes the Lake Chelan basin (with some proposed critical habitat and Okanogan River basin) which historically provided spawning and rearing and FMO habitat. But it is unclear what role these drainages may play in recovery. A total of 1,125.9 km

(699.6 mi) of streams and 1,033.2 ha (2,553.1 ac) of lake surface area in this CHU are proposed as critical habitat to provide for spawning and rearing, FMO habitat to support three core areas essential for conservation and recovery. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 18–19), or <http://www.fws.gov/pacific/bulltrout>.

Unit 11: Yakima River Unit

The Yakima River CHU supports adfluvial, fluvial, and resident life-history forms of bull trout. This CHU includes the mainstem Yakima River and tributaries from its confluence with the Columbia River upstream from the mouth of the Columbia River upstream to its headwaters at the crest of the Cascade Range. The Yakima River CHU is located on the eastern slopes of the Cascade Range in south-central Washington and encompasses the entire Yakima River basin located between the Klickitat and Wenatchee Basins. The Yakima River basin is one of the largest basins in the State of Washington; it drains southeast into the Columbia River near the town of Richland, Washington. The basin occupies most of Yakima and Kittitas Counties, about half of Benton County, and a small portion of Klickitat County. This CHU does not contain any subunits because it supports one core area. A total of 1,191.4 km (740.3 mi) of stream habitat and 6,285.2 ha (15,531.0 ac) of lake and reservoir surface area in this CHU are proposed as critical habitat. One of the largest populations of bull trout (South Fork Tieton River population) in central Washington is located above the Tieton Dam and supports the core area. This CHU supports two potential resident local populations identified in the U.S. Fish and Service's 2008 five year review (Service 2008, p. 6). This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 19–20), or <http://www.fws.gov/pacific/bulltrout>.

Unit 12: John Day River Unit

The John Day River CHU in the John Day River basin in eastern Oregon

includes portions of the mainstem John Day River, North Fork John Day River, Middle Fork John Day River, and their tributary streams within Wheeler, Grant, and Umatilla Counties in Oregon. A total of 1,176.4 km (731.0 mi) of streams are proposed as critical habitat.

Four CHSUs are defined for the John Day River CHU: Lower Mainstem John Day River, Upper Mainstem John Day River, North Fork John Day River, and Middle Fork John Day River. The latter three generally correspond to core areas. All proposed critical habitat designations are essential to the long-term conservation of the species. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 20), or <http://www.fws.gov/pacific/bulltrout>.

Unit 13: Umatilla River Unit

The Umatilla River CHU is located in northeastern Oregon in Umatilla and Union Counties. There are two local populations in this unit: one in the North Fork Umatilla River and one in North Fork Meacham Creek. Bull trout in this basin are primarily fluvial migrants that overwinter in middle and lower sections of the mainstem Umatilla River.

Approximately 211.8 km (131.8 mi) of stream is proposed as critical habitat for bull trout in the Umatilla River basin. Approximately 48.7 km (30.3 mi) of stream within the Confederated Tribes of the Umatilla Indian Reservation lands is being proposed as critical habitat. The stream segments that make up the Umatilla River CHU are described below. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 21), or <http://www.fws.gov/pacific/bulltrout>.

Unit 14: Walla Walla River Basin Unit

The Walla Walla River Basin CHU straddles the Oregon–Washington State line in the eastern part of both States and includes two CHSUs. The unit includes 452.7 km (281.3 mi) of stream, extending across portions of Umatilla and Wallowa Counties in Oregon and Walla Walla and Columbia Counties in

Washington. There are five known bull trout local populations in this unit: two in the Walla Walla River basin and three in the Touchet River basin. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 21), or <http://www.fws.gov/pacific/bulltrout>.

Unit 15: Lower Snake River Basins Unit

The Lower Snake River Basins CHU is located in southeast Washington and contains two CHSUs: (1) Tucannon River basin CHSU located in Columbia and Garfield Counties and (2) Asotin Creek basin CHSU within Garfield and Asotin Counties. Approximately 284.2 km (176.6 mi) of stream are proposed as critical habitat for bull trout within this unit. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 21–22), or <http://www.fws.gov/pacific/bulltrout>.

Unit 16: Grande Ronde River Unit

The Grande Ronde River CHU is located in northeast Oregon and southeast Washington and includes the Grande Ronde core area and the Little Minam core area. The Grande Ronde core area includes large portions of Union and Wallowa Counties and a small portion of Umatilla County in Oregon and about one-third of Asotin County and small portions of Columbia and Garfield Counties in Washington. The Little Minam core area is located entirely within the Eagle Cap Wilderness on the western edge of the Wallowa subbasin in both Union and Wallowa Counties in Oregon.

The Grande Ronde River CHU contains at least ten local populations in the Grande Ronde River basin: (1) Upper Grande Ronde; (2) Catherine; (3) Indian; (4) Minam/Deer; (5) Lostine/Bear; (6) Upper Hurricane; (7) North Fork Wenaha; (8) South Fork Wenaha; (9) Butte and West Fork Butte; and (10) Lookingglass. The Little Minam River, a separate core area and a tributary to the Minam River, encompasses tributaries containing one local population located above a barrier falls at approximately

9.0 km (5.6 mi) upstream, as well as the Little Minam River below the barrier to its confluence with the Minam River. The Grande Ronde River CHU includes 1,057.7 km (657.2 mi) of streams and 605.2 ha (1,495.5 ac) of lakes and reservoirs proposed as critical habitat. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 22–23), or <http://www.fws.gov/pacific/bulltrout>.

Unit 17: Imnaha River Unit

The Imnaha River CHU extends across Wallowa, Baker, and Union Counties in northeastern Oregon. The CHU contains approximately 285.7 km (177.5 mi) of river proposed as critical habitat and four local populations: (1) Mainstem Imnaha River; (2) Big Sheep Creek and tributary streams (Big Sheep Creek is considered to be one local population above and below the Wallowa Valley Irrigation Canal); (3) Little Sheep Creek and tributary streams; and (4) McCully Creek, which could be considered one or two local populations depending if Big Sheep Creek above and below the diversion are separated. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 23), or <http://www.fws.gov/pacific/bulltrout>.

Unit 18: Sheep and Granite Creeks Unit

This CHU is located within Adams and Idaho Counties in Idaho, approximately 21.0 km (13.0 mi) east of Riggins, Idaho. In the Sheep and Granite Creeks CHU, 47.9 km (29.7 mi) of streams are proposed as critical habitat. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 23), or <http://www.fws.gov/pacific/bulltrout>.

Unit 19: Hells Canyon Complex Unit

The Hells Canyon Complex is located in Adams County, Idaho, and Baker County, Oregon. This CHU contains 399.3 km (248.1 mi) of streams proposed

as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 23–24), or <http://www.fws.gov/pacific/bulltrout>.

Unit 20: Powder River Basin Unit

The Powder River Basin CHU includes approximately 404.3 km (251.2 mi) of stream proposed as critical habitat and is located within Baker, Union, and Wallowa Counties in northeastern Oregon. This unit is thought to contain 10 local populations of bull trout and 1 potential local population. Several unoccupied sections of the Powder River mainstem have been proposed to provide connectivity and recovery opportunities for local populations. The stream segments that make up the Powder River Basin CHU are described below. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 24), or <http://www.fws.gov/pacific/bulltrout>.

Unit 21: Clearwater River Unit

The Clearwater River CHU is located east of Lewiston, Idaho, and extends from the Snake River confluence at Lewiston on the west to headwaters in the Bitterroot Mountains along the Idaho–Montana border on the east in Nez Perce, Latah, Lewis, Clearwater, Idaho, and Shoshone Counties. This unit includes five CHSUs: Lower/Middle Fork Clearwater River; North Fork Clearwater River (and Fish Lake); South Fork Clearwater River; Lochsa River (and Fish Lake); and the Selway River. In the Clearwater River CHU, 2,702.1 km (1,679.0 mi) of streams and 6,721.9 ha (16,610.2 ac) of lake and reservoir surface area are proposed as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service

(2009 pp. 24–26), or <http://www.fws.gov/pacific/bulltrout>.

Unit 22: Mainstem Upper Columbia River Unit

The Mainstem Upper Columbia River CHU includes the Columbia River from John Day Dam upstream 522.7 km (324.8 mi) to Chief Joseph Dam. The Columbia River generally flows south from Canada, southwest through Washington, and west through Oregon. The Columbia River drains from its headwaters in Alberta, Canada, and the west slopes of the Rocky Mountains in Montana. This reach of river is heavily influenced by Grand Coulee Dam operations, which provide hydroelectricity and irrigation water. The Mainstem Upper Columbia River CHU supports FMO habitat for fluvial bull trout; several accounts exist of bull trout in the Columbia River between the Yakima and John Day Rivers. The Mainstem Upper Columbia River CHU provides connectivity to the Mainstem Lower Columbia River CHU and 13 additional CHUs (Clearwater River, Powder River Basin, Imnaha River, Grande Ronde River, Walla Walla River Basin, Umatilla River, John Day River, Yakima River, Mainstem Snake River, Lower Snake River Basins, Hells Canyon Complex, Sheep and Granite Creeks, and Upper Columbia River Basins). The Mainstem Upper Columbia River CHU is located in north-central, central, and south-central Washington and north-central and northeast Oregon. This CHU is within Klickitat, Franklin, Benton, Grant, Yakima, Kittitas, Chelan, Douglas, and Okanogan Counties in Washington and Sherman, Gilliam, Morrow, and Umatilla Counties in Oregon. Several dams, all of which have reports of bull trout using their ladders, are located throughout this portion of the Columbia River, including John Day, McNary, Priest Rapids, Wanapum, Rock Island, Rocky Reach, and Wells Dams. For a justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 26), or <http://www.fws.gov/pacific/bulltrout>.

Unit 23: Mainstem Snake River Unit

The Mainstem Snake River CHU is located from the confluence with the Columbia River upstream to the head of Brownlee Reservoir. The Snake River is the largest tributary to the Columbia River and forms the border between Washington and Idaho from Clarkston/Lewiston upstream to Oregon. The Snake River also forms the boundary between Idaho and Oregon, and at that

point upstream to the upper limit of Brownlee Reservoir, forms this CHU. The Snake River is within Franklin, Walla Walla, Columbia, Whitman, and Asotin Counties in Washington; Wallowa, Whitman, Baker, and Malheur Counties in Oregon; and Nez Perce, Idaho, Adams, and Washington Counties in Idaho.

In the lower section of the Snake River are a series of dams and locks built by the U.S. Army Corps of Engineers (COE). The Lower Granite, Little Goose, Lower Monumental, and Ice Harbor Dams generate hydroelectric power and provide barge traffic navigation to Lewiston, Idaho. The major features in the Hells Canyon Hydroelectric Complex reach of the Snake River are Hells Canyon, Oxbow, and Brownlee Dams and their reservoirs. These projects are owned and operated by the Idaho Power Company to produce electrical power. The Mainstem Snake River CHU includes 552.2 km (343.1 mi) of streams proposed as critical habitat. This unit provides foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 26), or <http://www.fws.gov/pacific/bulltrout>.

Unit 24: Malheur River Basin Unit (Upper Snake Recovery Unit)

The Malheur River Basin CHU is in eastern Oregon within Grant, Baker, Harney, and Malheur Counties. A total of 250.7 km (155.8 mi) of streams and 715.9 ha (1,768.9 ac) of reservoir surface area are proposed as critical habitat. There are two local bull trout populations (Upper Malheur and North Fork Malheur Rivers (Service 2002, pp. 34–35)). The Bull Trout Draft Recovery Plan also identified several streams, including Bosonberg Creek, McCoy Creek, and Corral Basin Creek, for expansion of bull trout range within the upper Malheur River local population (Service 2002, pp. 34–35). Summit Creek is considered potential suitable bull trout habitat and is included in the proposed designation. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 27), or <http://www.fws.gov/pacific/bulltrout>.

Unit 25: Jarbidge River Unit

The Jarbidge River CHU encompasses the Jarbidge and Bruneau River basins, which drain into the Snake River within C.J. Strike Reservoir upstream of Grand View, Idaho. The Jarbidge River CHU is located approximately 70 miles north of Elko within Owyhee County in southwestern Idaho and Elko County in northeastern Nevada.

The Jarbidge River CHU includes 266.9 km (165.9 mi) of streams proposed as critical habitat. The Jarbidge River CHU contains six local populations of resident and migratory bull trout and the stream segments in the Jarbidge River CHU provide either FMO or spawning and rearing habitat. These habitats maintain the population and the migratory life-history form essential to the species' long-term conservation and provide habitat necessary for the recovered distribution of bull trout (Service 2004b, pp. 7–9). The stream segments that make up the Jarbidge Unit are described below. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 27), or <http://www.fws.gov/pacific/bulltrout>.

Unit 26: Southwest Idaho River Basins Unit

The Southwest Idaho River Basins CHU is located in southwest Idaho in the following counties: Adams, Boise, Camas, Canyon, Elmore, Gem, Valley, and Washington. This unit includes eight CHSUs: Anderson Ranch, Arrowrock Reservoir, South Fork Payette River, Deadwood River, Middle Fork Payette River, North Fork Payette River, Squaw Creek, and Weiser River. The Southwest Idaho River Basins CHU includes approximately 2,716.7 km (1,688.1 mi) of streams and 15,540.2 ha (38,400.6 ac) of lake and reservoir surface area proposed as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 27–28), or <http://www.fws.gov/pacific/bulltrout>.

Unit 27: Salmon River Basin Unit

The Salmon River basin extends across central Idaho from the Snake River to the Montana–Idaho border. The Salmon River Basin CHU extends across portions of Adams, Blaine, Custer, Idaho, Lemhi, Nez Perce, and Valley Counties in Idaho. There are 10 CHSUs: Little-Lower Salmon River, Opal Lake, Lake Creek, South Fork Salmon River, Middle Salmon–Panther River, Middle Fork Salmon River, Middle Salmon Chamberlain River, Upper Salmon River, Lemhi River, and Pahsimeroi River. The Salmon River Basin CHU includes 8,119.4 km (5,045.1 mi) of stream and 1,659.5 ha (4,100.6 ac) of lake and reservoir surface area proposed as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 29–30), or <http://www.fws.gov/pacific/bulltrout>.

Unit 28: Little Lost River Unit

Located within Butte, Custer, and Lemhi Counties in east-central Idaho, near the town of Arco, Idaho, designated critical habitat in the Little Lost River CHU includes 206.6 km (128.4 mi) of streams proposed as critical habitat. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 30), or <http://www.fws.gov/pacific/bulltrout>.

Unit 29: Coeur d'Alene River Basin Unit (Columbia Headwaters Recovery Unit)

Located in Kootenai, Shoshone, Benewah, Bonner, and Latah Counties in Idaho, the Coeur d'Alene River Basin CHU includes the entire Coeur d'Alene Lake basin in northern Idaho. A total of 819.6 km (509.3 mi) of streams and 12,606.9 ha (31,152.2 ac) of lake surface area are proposed as critical habitat. There are no subunits within the Coeur d'Alene River Basin CHU. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for

documentation of occupancy by bull trout, see Service (2009 p. 31), or <http://www.fws.gov/pacific/bulltrout>.

Unit 30: Kootenai River Basin Unit

The Kootenai River Basin CHU is located in the northwestern corner of Montana and the northeastern tip of the Idaho panhandle and includes the Kootenai River watershed upstream and downstream of Libby Dam. The Kootenai River flows in a unique horseshoe configuration, entering the United States from British Columbia, Canada, and then traversing across northwest Montana and the northern Idaho panhandle before returning to British Columbia from Idaho where it eventually joins the upper Columbia River drainage. The Kootenai River Basin CHU includes two CHSUs: the downstream Kootenai River CHSU in Boundary County, Idaho, and Lincoln County, Montana, and the upstream Lake Koocanusa CHSU in Lincoln County, Montana. The entire Kootenai River Basin CHU includes 587.0 km (364.7 mi) of streams and 12,089.2 ha (29,873.1 ac) of lake and reservoir surface area proposed as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 31–32), or <http://www.fws.gov/pacific/bulltrout>.

Unit 31: Clark Fork River Basin Unit

The Clark Fork River Basin CHU includes the northeastern corner of Washington (Pend Oreille County), the panhandle portion of northern Idaho (Boundary, Bonner, and Kootenai Counties), and most of western Montana (Lincoln, Flathead, Sanders, Lake, Mineral, Missoula, Powell, Lewis and Clark, Ravalli, Granite, and Deer Lodge Counties). This unit includes 12 CHSUs, organized primarily on the basis of major watersheds: Lake Pend Oreille, Pend Oreille River, and lower Priest River (Lake Pend Oreille); Priest Lakes and Upper Priest River (Priest Lakes); Lower Clark Fork River; Middle Clark Fork River; Upper Clark Fork River; Flathead Lake, Flathead River, and Headwater Lakes (Flathead); Swan River and Lakes (Swan); Hungry Horse Reservoir, South Fork Flathead River, and Headwater Lakes (South Fork Flathead); Bitterroot River; Blackfoot River; Clearwater River and Lakes; and Rock Creek. The Clark Fork River Basin CHU includes 5,332.1 km (3,313.2 mi)

of streams and 119,473.5 ha (295,225.5 ac) of 45 lakes and reservoirs proposed as critical habitat. The subunits within this unit provide spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit and subunits, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 pp. 32–36), or <http://www.fws.gov/pacific/bulltrout>.

Unit 32: Saint Mary River Basin Unit (Saint Mary Recovery Unit)

We are proposing to designate critical habitat for bull trout in identified stream segments and lakes in the Saint Mary River Basin CHU in Montana. The entire U.S. portion of the Saint Mary River drainage, which forms the Saint Mary River Basin CHU, is located in Glacier County, Montana. The total stream distance proposed for designation as critical habitat in Montana is about 116.8 km (72.6 mi), and the five lakes have a surface area of about 2,555.4 ha (6,314.5 ac).

Most high-elevation waters in Glacier National Park were historically fishless. Due to natural migration barriers, bull trout occupancy in the headwaters of the Belly River drainage (directly west of and adjacent to the Saint Mary River drainage) was confined to only a very minor portion of the U.S. habitat near the international border. Due to this restricted U.S. distribution and the fact that all FMO habitat for these populations is in Alberta, Canada, the Belly River headwaters in unroaded backcountry of Glacier National Park are not included in this proposed critical habitat designation. This unit provides spawning, rearing, foraging, migratory, connecting, and overwintering habitat. For a detailed description of this unit, for justification of why this CHU, included CHSUs, or in some cases individual water bodies are proposed as critical habitat, and for documentation of occupancy by bull trout, see Service (2009 p. 36), or <http://www.fws.gov/pacific/bulltrout>.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Decisions by the U.S. Courts of Appeal for the Fifth and Ninth Circuits have invalidated our definition of “destruction or adverse modification”

(50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004) and *Sierra Club v. U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442 (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain those physical or biological features that relate to the ability of the area to periodically support the species) to serve its intended conservation role for the species.

Federal activities that may affect bull trout or its designated critical habitat require section 7 consultation under the Act. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local or private lands that are not federally funded, authorized, or permitted do not require section 7 consultation.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure the activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely

modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define “reasonable and prudent alternatives” at 50 CFR 402.02 as alternative actions identified during consultation that:

- Can be implemented in a manner consistent with the intended purpose of the action;
- Can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction;
- Are economically and technologically feasible; and
- Would, in the Director’s opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinstate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency’s discretionary involvement or control is authorized by law). Consequently, Federal agencies may sometimes need to request reinstatement of consultation with us on actions for which consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the “Jeopardy” and “Adverse Modification” Standards

Jeopardy Standard

Currently, the Service applies an analytical framework for bull trout jeopardy analysis that relies heavily on the importance of known core area populations to the survival and recovery of bull trout. The section 7(a)(2) of the Act analysis is focused not only on these populations, but also on the habitat conditions that support them.

The jeopardy analysis usually expresses the survival and recovery needs of bull trout in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, the jeopardy analysis focuses on the range-wide status of bull trout, the factors responsible for that condition, and what is necessary for this

species to survive and recover. An emphasis is also placed on characterizing the condition of bull trout in the area affected by the proposed Federal action and the role of affected populations in the survival and recovery of bull trout. That context is then used to determine the significance of adverse and beneficial effects of the proposed Federal action and any cumulative effects for purposes of making the jeopardy determination. Core areas form the building blocks that provide for conserving the bull trout’s evolutionary legacy as represented by major genetic groups. The jeopardy analysis also considers any conservation measures that may be proposed by a Federal action agency to minimize or compensate for adverse project effects to the bull trout or to promote its recovery.

If a proposed Federal action is incompatible with the viability of the affected core area population(s), inclusive of associated habitat conditions, a jeopardy finding may be warranted, because of the relationship of each core area population to the survival and recovery of the species as a whole.

Adverse Modification Standard

The analytical framework described in the Director’s December 9, 2004, memorandum is used to complete section 7(a)(2) analyses for Federal actions affecting bull trout critical habitat. The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or retain those physical and biological features that relate to the ability of the area to periodically support the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for bull trout. As discussed above, the role of critical habitat is to support the life-history needs of the species and provide for the conservation of the species. Generally, the conservation role of bull trout critical habitat units is to support viable core area populations.

Since the primary threat to bull trout is habitat loss or degradation, the jeopardy analysis under section 7 of the Act for a project with a Federal nexus will most likely evaluate the effects of the action on the conservation or functionality of the habitat for the bull trout. Because of this, we believe that in many cases the analysis of the project to address designated critical habitat will

be comparable. As such, we do not anticipate, for many circumstances, that the outcome of the consultation to address critical habitat will result in any significant additional project modifications or measures.

When consulting under section 7(a)(2) in designated critical habitat, independent analyses are conducted for jeopardy to the species and adverse modification of critical habitat. In occupied bull trout habitat, any adverse modification determination would likely also result in a jeopardy determination for the same action. As such, project modifications that may be needed to minimize impacts to the species would coincidentally minimize impacts to critical habitat. Accordingly, in occupied critical habitat it is unlikely that an analysis would identify a difference between measures needed to avoid the destruction or adverse modification of critical habitat from measures needed to avoid jeopardizing the species. Alternatively, in unoccupied critical habitat, we would not conduct a jeopardy analysis, however, measures to avoid the destruction or adverse modification may be necessary to ensure that the affected critical habitat area can continue to serve its intended conservation role for the species, or retain the physical and biological features related to the ability of the area to periodically support the species.

The adverse modification analysis focuses on the range-wide status of critical habitat, the factors responsible for that condition, and what is necessary for critical habitat to provide the necessary conservation value to the bull trout. An emphasis is placed on characterizing the functional condition of critical habitat PCEs in the area affected by the proposed Federal action. This analysis then addresses how the critical habitat PCEs will be affected, and in turn, how this will influence the conservation role of critical habitat units in support of viable core area populations. That context is then used to determine the significance of adverse and beneficial effects of the proposed Federal action and any cumulative effects for purposes of making the adverse modification determination at the range-wide scale. If a proposed Federal action would alter the physical or biological features of critical habitat to an extent that appreciably reduces the conservation function of critical habitat for the bull trout, an adverse modification finding for the proposed action is considered to be warranted. The intended purpose of critical habitat to support viable core areas establishes a sensitive scale for relating effects of an

action on CHUs or subunits to the conservation function of the entire designated critical habitat.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and, therefore, result in consultation for the bull trout include, but are not limited to:

(1) Detrimental alteration of the minimum flow or the natural flow regime of any of the designated stream segments. Possible actions would include groundwater pumping, impoundment, water diversion, and hydropower generation. We note that such flow alterations resulting from actions affecting tributaries of the designated stream reaches may also destroy or adversely modify critical habitat.

(2) Alterations to the designated stream segments that could indirectly cause significant and detrimental effects to bull trout habitat. Possible actions include vegetation manipulation, timber harvest, road construction and maintenance, prescribed fire, livestock grazing, off-road vehicle use, powerline or pipeline construction and repair, mining, and development. Riparian vegetation profoundly influences instream habitat conditions by providing shade, organic matter, root strength, bank stability, and large woody debris inputs to streams. These characteristics influence water temperature, structure and physical attributes (useable habitat space, depth, width, channel roughness, cover complexity), and food supply.

(3) Detrimental alteration of the channel morphology of any of the designated stream segments. Possible actions would include channelization; impoundment; road and bridge construction; deprivation of substrate source; destruction and alteration of aquatic or riparian vegetation; reduction of available floodplain; removal of gravel or floodplain terrace materials; and excessive sedimentation from mining, livestock grazing, road construction, timber harvest, off-road vehicle use, and other watershed and floodplain disturbances. We note that such actions in the upper watershed (beyond the riparian area) may also destroy or adversely modify critical habitat. For example, timber harvest activities and associated road construction in upland areas can lead to

changes in channel morphology by altering sediment production, debris loading, and peak flows.

(4) Detrimental alterations to the water chemistry in any of the designated stream segments. Possible actions would include release of chemical or biological pollutants into the surface water or connected groundwater at a point source or by dispersed releases (nonpoint).

(5) Proposed activities that are likely to result in the introduction, spread, or augmentation of nonnative species in any of the designated stream segments. Possible actions would include fish stocking, use of live bait fish, aquaculture, improper construction and operation of canals, and interbasin water transfers.

(6) Proposed activities that are likely to create significant instream barriers to bull trout movement. Possible actions would include water diversions, impoundments, and hydropower generation where effective fish passage facilities, mechanisms, or procedures are not provided.

We consider all 32 CHUs to contain features essential to the conservation of the bull trout. All units are within the geographic range of the species, and portions of all units were occupied by the species at the time of listing (based on observations made within the last 20 years). All units are likely to be used by the bull trout for foraging, migrating, overwintering, spawning, or rearing.

Federal agencies already consult with us on activities in areas currently occupied by the bull trout to ensure that their actions do not jeopardize the continued existence of the bull trout. These agencies may need to request reinitiation on some of their existing activities if the agency has continued discretionary involvement or control and if the activity may affect designated critical habitat. However, we anticipate the burden of reinitiation will be minor because of the aforementioned similarity between measures needed to avoid the destruction or adverse modification of critical habitat and measures needed to avoid jeopardizing the species. In addition, consultation tools such as streamlining and programmatic consultations are commonly implemented to minimize the administrative costs associated with consultation within the range of the bull trout. We expect these tools will continue to be used for any reinitiations of consultation for bull trout critical habitat, thereby minimizing any additional administrative costs associated with designating the critical habitat.

Exemptions

Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. § 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an Integrated Natural Resources Management Plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

- An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- A statement of goals and priorities;
- A detailed description of management actions to be implemented to provide for these ecological needs; and

A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Publ. L. 108–136) amended the Act to limit areas eligible for designation of critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. § 1533(a)(3)(B)(i)) now provides, “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. § 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.”

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the Columbia and Coastal-Puget Sound populations of bull trout and which contain those features essential to the species’ conservation, to determine if these installations may warrant consideration for exemption under section 4(a)(3) of the Act. Each of the

Department of Defense (DOD) installations identified below has been conducting surveys and habitat management to benefit the bull trout, and reporting the results of their efforts to the Service. Cooperation between the DOD installations and the Service on specific conservation measures continues.

Approved Integrated Natural Resources Management Plans

We have examined the INRMPs for each of these military installations to determine whether they provide benefits to bull trout.

Acoustic Research Detachment (ARD) Naval Surface Warfare Center

The Bayview Acoustic Research Detachment (ARD) Naval Surface Warfare Center, Bayview, Idaho, has an approved INRMP. This property includes approximately 9.0 ha (22.0 ac) of developed land on the shore of Lake Pend Oreille and 7.0 ha (17.3 ac) of lake area. There are no tributary streams within this area utilized by bull trout for spawning or early life rearing, but the lake area does contain important FMO habitat for bull trout.

Bayview ARD's INRMP outlines protection and management strategies for natural resources on the center, including fish species and their habitats. The plan benefits bull trout through the protection of kokanee salmon spawning habitat, a primary food source for bull trout. The Bayview ARD property in Scenic Bay hosts from 40 to 70 percent of the kokanee spawning activity in Lake Pend Oreille, depending on the year. The INRMP includes measures to minimize impacts to kokanee habitat by limiting facility boat traffic during spawning periods (November–December) and implementing sediment control measures. Furthermore, interpretive signs have been placed throughout the property to educate employees and the public regarding various aspects of the region's natural resources, threatened or endangered species (including bull trout), and geological history. The INRMP requires the natural resource manager to provide ARD INRMP awareness training to facilitate INRMP implementation.

Based on the above considerations and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands are subject to the Bayview ARD INRMP and that conservation efforts identified in the INRMP will provide a benefit to bull trout occurring in habitats within or adjacent to Bayview ARD. Therefore, lands within this installation are exempt from critical habitat designation under

section 4(a)(3) of the Act. We are not including approximately 7 ha (16 ac) of habitat in this proposed critical habitat designation because of this exemption.

Naval Radio Station Jim Creek, Naval Station Everett, Naval Air Station Whidbey Island, and U.S. Army Fort Lewis Installation

Naval Radio Station Jim Creek in western Washington has an approved INRMP. The Naval Radio Station Jim Creek occurs in the Jim Creek watershed. The lower reaches of Jim Creek provide foraging habitat for subadult and adult bull trout. The Naval Radio Station Jim Creek INRMP provides benefits to bull trout through (1) restoration of riparian buffers along Jim Creek, (2) protection of Jim Creek from erosion and sedimentation, and (3) protection of Jim Creek from contaminants and herbicides.

Naval Station Everett in western Washington has an approved INRMP. The Naval Station Everett property includes land on or near the shores of Puget Sound that contain important foraging and migration habitat for amphidromous (fish that move between fresh and salt water but not to breed) bull trout. The Naval Station Everett's INRMP benefits bull trout by providing (1) protection to bull trout in the marine environment from oil spills around berthing naval vessels; (2) bioswales to prevent the release of toxins, contaminants, and oils from reaching the water column through storm drains; and (3) restoration of riparian habitat on Navy lands located along the Middle Fork Quilceda Creek.

Naval Air Station Whidbey Island in western Washington has an approved INRMP. The Naval Station Whidbey Island property includes land on or near the shores of Puget Sound that contain important foraging and migration habitat for amphidromous bull trout. Naval Aviation Station Whidbey Island's INRMP benefits bull trout through (1) monitoring and managing livestock grazing, (2) managing road building and maintenance to prevent erosion and sedimentation of bull trout habitat, (3) assuring proper disposal of hazardous materials, and (4) implementation of their Integrated Pest Management Plan's best management practices to protect aquatic environments.

The U.S. Army Fort Lewis Installation (Fort Lewis) located in western Washington has an approved INRMP. Fort Lewis borders the Nisqually River and Puget Sound near important foraging and migration habitat for amphidromous bull trout. The INRMP for Fort Lewis benefits bull trout

through (1) protecting and enhancing wetlands (e.g., all wetlands–marshes, lakes, rivers, and streams are protected with 300-foot-wide riparian buffers to maintain cold water temperatures, prevent sediment from entering the streams, and to provide for woody debris); (2) controlling invasive plant species that often diminish water quality and impact native plants and animals; and (3) restoring salmon spawning habitat and access to increase salmon productivity, which contributes to and enhances the bull trout prey base.

Habitat features essential to bull trout conservation are present within or immediately adjacent to each of these DOD installations, and each installation has an approved INRMP. Activities occurring on these installations are being conducted in a manner that provides a benefit to bull trout. In addition, these installations already consult with us under section 7 of the Act on their actions (including those occurring in the open water training and testing areas) that may adversely affect bull trout and their habitat.

Based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands are subject to the Naval Radio Station Jim Creek, Naval Station Everett, Naval Air Station Whidbey Island, and U.S. Army Fort Lewis Installation INRMPs and that conservation efforts identified in the INRMPs will provide a benefit to bull trout occurring in habitats within or adjacent to DOD installations. Therefore, lands within these installations are exempt from critical habitat designation under section 4(a)(3) of the Act. We are not including approximately a total of 40 km (24.9 mi) of habitat determined to contain features essential to the conservation of the bull trout in this proposed critical habitat designation because of these exemptions.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary must designate or make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impacts of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific

data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the legislative history is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts to national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If based on this analysis, we make this determination, then we can exclude the area only if such exclusion would not result in the extinction of the species.

When considering the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When considering the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in the overall conservation of the bull trout through the continuation, strengthening, or encouragement of partnerships and the implementation of management plans or programs that provide equal to or more conservation for the bull trout than could be achieved through a designation of critical habitat.

In the case of bull trout, where there may be little additional regulatory effects in areas occupied by the species resulting from the designation, the benefits of critical habitat include educational benefits resulting from identification of the features essential to the conservation of bull trout and the delineation of the areas important for its recovery. Further, there may be additional benefits realized by providing landowners, stakeholders, and project proponents greater certainty about which specific areas are important for bull trout that should be effectively addressed through coordination and consultation of activities that may affect those areas or essential features contained therein. Thus, critical habitat designation increases public awareness

of bull trout presence and the importance of habitat protection and, in cases where a Federal nexus exists, increases habitat protection for bull trout due to the protection from adverse modification or destruction of critical habitat.

When we evaluate the existence of a conservation plan when considering the benefits of exclusion, we consider a variety of factors including, but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical and biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

The Secretary can consider the existence of conservation agreements and other land management plans with Federal, private, State, and Tribal entities when making decisions under section 4(b)(2) of the Act. The Secretary may also consider voluntary partnerships and conservation plans, and weigh the implementation and effectiveness of these against that of designation. Consideration of relevant impacts of designation or exclusion under section 4(b)(2) may include, but is not limited to, any of the following factors: (1) whether the plan provides specific information on how it protects the species and the physical and biological features, and whether the plan is at a geographic scope commensurate with the species; (2) whether the plan is complete and will be effective at conserving and protecting of the physical and biological features; (3) whether a reasonable expectation exists that conservation management strategies and actions will be implemented, that those responsible for implementing the plan are capable of achieving the objectives, that an implementation schedule exists, and that adequate funding exists; (4) whether the plan provides assurances that the conservation strategies and measures will be effective (i.e., identifies biological goals, has provisions for reporting progress, and is of a duration sufficient to implement the plan); (5) whether the plan has a monitoring program or adaptive management to ensure that the conservation measures are effective; (6) the degree to which the record supports a conclusion that a critical habitat

designation would impair the benefits of the plan; (7) the extent of public participation; (8) demonstrated track record of implementation success; (9) level of public benefits derived from encouraging collaborative efforts and encouraging private and local conservation efforts; and (10) the effect designation would have on partnerships.

After evaluating the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to determine whether the benefits of excluding a particular area outweigh the benefits of its inclusion in critical habitat. If we determine that the benefits of excluding a particular area outweigh the benefits of its inclusion, then the Secretary can exercise his discretion to exclude the area, provided that the exclusion will not result in the extinction of the species.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we will evaluate whether certain lands in proposed critical habitat may be appropriate for exclusion from the final designation. If our analysis results in a determination that the benefits of excluding particular areas from the final designation outweigh the benefits of designating those areas as critical habitat, then the Secretary may exercise his discretion to exclude the particular areas from the final designation.

Under section 4(b)(2) of the Act, we must consider all relevant impacts, including economic impacts. In addition to economic impacts (discussed in **Economics Analysis** section below), we consider a number of factors in a section 4(b)(2) analysis. For example, we consider whether there are lands owned by the DOD where a national security impact might exist. We also consider whether Federal or private landowners or other public agencies have developed management plans or HCPs for the area or whether there are conservation partnerships that would be encouraged or discouraged by designation of, or exclusion from, critical habitat in an area. In addition, we look at the presence of tribal lands or Tribal trust resources that might be affected, and consider the government-to-government relationship of the United States with the tribal entities. We also consider any social impacts that might occur because of the designation. To ensure that our final determination is based on the best available information, we are inviting comments on any foreseeable economic, national security, or other potential impacts resulting from this proposed designation

of critical habitat from governmental, business, or private interests and, in particular, any potential impacts on small businesses.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense where a national security impact might exist. The Navy conducts essential training and testing within the marine waters of Crescent Harbor and Dabob Bay in western Washington. These activities are conducted in open marine waters not controlled by the military and are not included in adjacent military INRMPs. However, because these training and testing activities may be essential for national security, we are evaluating whether it may be appropriate to consider the particular areas where these activities occur for exclusion from the final designation of critical habitat under section 4(b)(2) of the Act.

Exclusions Based on Other Relevant Factors

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts to national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any Tribal issues, and consider the government-to-government relationship of the United States with Tribal entities. We also consider any social impacts that might occur because of the designation.

Most federally-listed species in the United States will not recover without cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (Lubowski *et al.* 2006, p. 35), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002, p. 720). Stein *et al.* (1995, p. 400) found that only about 12 percent of listed species were found almost exclusively on Federal lands (90 to 100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally-listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to landownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide

variety of entities and the voluntary cooperation of many non-Federal landowners (Wilcove and Chen 1998, p. 1407; Crouse *et al.* 2002, p. 720; James 2002, p. 271). Building partnerships and promoting voluntary cooperation of landowners is essential to understanding the status of species on non-Federal lands and necessary to implement recovery actions, such as the reintroduction of listed species, habitat restoration, and habitat protection.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. Conservation agreements with non-Federal landowners, safe harbor agreements, other conservation agreements, easements, and State and local regulations enhance species conservation by extending species protections beyond those available through section 7 consultations. We encourage non-Federal landowners to enter into conservation agreements based on a view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through regulatory methods (61 FR 63854).

Many private landowners, however, are wary of the possible consequences of attracting endangered species to their property. Mounting evidence suggests that some regulatory actions by the government, while well intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996, pp. 5–6; Bean 2002, pp. 2–3; Conner and Mathews 2002, pp. 1–2; James 2002, pp. 270–271; Koch 2002, pp. 2–3; Brook *et al.* 2003, pp. 1639–1643). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where threatened or endangered species are found. Consequently, harboring endangered species is viewed by many landowners as a liability. This perception results in anti-conservation incentives because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main *et al.* 1999, pp. 1264–1265; Brook *et al.* 2003, pp. 1644–1648).

According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999, p. 1263; Bean 2002, p. 2; Brook *et al.* 2003, pp. 1644–1648). The magnitude of this negative outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, and

control of invasive species) are necessary for species conservation (Bean 2002, pp. 3–4). We believe the judicious exclusion of specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation than critical habitat alone.

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7(a)(2) of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus, the benefits of excluding areas that are covered by partnerships or voluntary conservation efforts can, in specific circumstances, be high.

Benefits of Excluding Lands with Habitat Conservation Plans

The benefits of excluding lands with approved HCPs from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed as a result of the critical habitat designation. Many HCPs take years to develop and, upon completion, are consistent with the recovery objectives for listed species covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species.

A related benefit of excluding lands covered by approved HCPs from critical habitat designation is that it can make it easier for us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. HCPs often cover a wide range of species, including species that are not State and federally-listed and would otherwise receive little protection from development. By excluding these lands, we preserve our current partnerships and encourage additional future conservation actions.

We also note that permit issuance in association with HCP applications requires consultation under section 7(a)(2) of the Act, which would include the review of the effects of all HCP-covered activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of

“harm” at 50 CFR 17.3), even without the critical habitat designation. In addition, all other Federal actions that may affect the listed species would still require consultation under section 7(a)(2) of the Act, and we would review these actions for possible significant habitat modification in accordance with the definition of harm referenced above.

For the reasons discussed under the “Application of Section 4(b)(2) of the Act” section of this rule, if the Secretary decides to exercise his discretion under section 4(b)(2) of the Act, we have identified certain areas that we are considering excluding from the final revised critical habitat designation for bull trout. However, we solicit comments on the inclusion or exclusion of such particular areas (see Public Comments section). During the development of the final revised designation, we will consider economic impacts, public comments, and other new information. As a result, additional particular areas, in addition to those identified below for potential exclusion in this proposed rule, may be excluded from the final critical habitat designation under section 4(b)(2) of the Act.

We consider a current plan to be appropriate for consideration for exclusion from a final critical habitat designation under section 4(b)(2) of the Act if:

- (1) It provides for the conservation of the essential physical and biological features;
- (2) there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; and
- (3) the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

Below is a brief description of each plan and the lands proposed as critical habitat covered by each plan that we are considering for exclusion from critical habitat designation under section 4(b)(2) of the Act.

Plum Creek Native Fish Habitat Conservation Plan

The Service is considering excluding bull trout habitat occurring on lands managed under the Plum Creek Native Fish Habitat Conservation Plan in the Kootenai and Clark Fork CHUs in the Columbia Headwaters draft recovery unit in Montana. Plum Creek Timber Company initiated an effort in 1997 to develop a conservation strategy for

native salmonids (including bull trout) occurring on 647,500 ha (1.6 million ac) of Plum Creek’s timberlands in Montana, Idaho, and Washington. The stated purpose of the Plum Creek Native Fish Habitat Conservation Plan (NFHCP) was to help conserve native salmonids and their ecosystems while allowing Plum Creek to continue to conduct commercial timber harvest within a framework of long-term regulatory certainty and flexibility. The NFHCP was permitted in 2000; Plum Creek no longer owns any of the lands that were covered under that HCP in the States of Idaho and Washington.

Currently, there are 392,393 ha (969,624 ac) of remaining Plum Creek land in Montana that are still covered by the original permit under the NFHCP. The NFHCP provisions cover approximately 550,700 ha (1.4 million ac) in western Montana and within its headwaters of the Columbia River basin (Clark Fork and Kootenai River watersheds). In 2003–2004, when the Stimson Lumber Company (Stimson) acquired about 32,650 ha (80,681 ac) of lands previously owned by Plum Creek, Stimson legally assumed all of the Plum Creek NFHCP commitments in that area by executing an assignment and assumption agreement. In 2008, the Montana Working Forests Project was initiated, which will result in the transfer of over 125,580 ha (310,312 ac) of Plum Creek NFHCP lands to The Nature Conservancy (TNC). Funds for the acquisition were obtained through a provision within the 2008 Farm Bill, and most of those lands are destined to eventually be transferred to either the Service or the Montana Department of Natural Resources and Conservation (DNRC) and Montana Fish, Wildlife, and Parks (FWP). Phase III of the Montana Working Forests Project is expected to close at the end of 2010 and will include an additional 28,135 ha (69,522 ac). Similar to Stimson, and through an agreement, TNC assumed the NFHCP commitments on previously owned Plum Creek lands for the first two phases of the Montana Working Forests Project and is anticipated to do the same for Phase III.

Montana Department of Natural Resources and Conservation Habitat Conservation Plan

The Service is considering excluding bull trout habitat occurring on 175,263 ha (433,084 ac) of lakes managed under the proposed DNRC Habitat Conservation Plan in the Kootenai, Clark Fork and Saint Mary CHUs in the Columbia Headwaters draft recovery unit, contingent on the compatibility of timing between the final HCP and the

final bull trout revised critical habitat rule. The DNRC is developing an HCP for forest management activities on its forested State trust lands in Montana, which are managed by the Trust Lands Management Division (TLMD). The mission of the TLMD is to manage trust land resources to produce revenues for the trust beneficiaries while considering environmental factors and protecting the future income-generating capacity of the land. Under its forest management program, the TLMD generates revenues for trust beneficiaries through timber harvest on classified forest trust lands. DNRC manages its forested trust lands in accordance with the State Forest Land Management Plan (SFLMP) (DNRC 1996) and the Administrative Rules of Montana (ARMs) for Forest Management (ARMs 36.11.401–456) (Forest Management ARMs). DNRC’s forested trust lands also support Federally-listed threatened species. The ARMs direct DNRC to confer with the Service to develop habitat mitigation measures to address the needs of listed species.

This proposed HCP is a programmatic plan that identifies DNRC’s proposal for managing federally-listed species on DNRC’s forested trust lands. Species covered under the HCP include bull trout, westslope cutthroat trout, Columbia redband trout, grizzly bear (*Ursus arctos*), and Canada lynx (*Lynx canadensis*). DNRC has proposed that a permit be issued under section 10(a)(1)(B) of the Act by the Service for a period of 50 years, and views the HCP as a long-term program for addressing and improving habitat needs across the landscape. DNRC evaluated which trust lands to include in the HCP by assessing where species overlapped with trust lands containing appreciable amounts of manageable forest area. This approach was adopted to ensure those lands facing the greatest risk of impacts from forest management actions were included in the plan so risks could be mitigated.

The HCP project area includes primarily forested trust lands, but it contains other non-forested trust lands that are portions of, or are needed to access, forested parcels included in the HCP project area. The DNRC HCP would cover forest management activities on forested trust lands that provide habitat for the HCP species and include timber harvest (commercial timber, salvage harvest, and silvicultural treatments such as thinning); other forest management activities (slash disposal, prescribed burning, site preparation, reforestation, fertilization, forest inventory, and access to forested lands for weed control); roads (forest management road construction,

reconstruction, maintenance, use, and associated gravel quarrying for forest road surface materials, as well as installation, removal, and replacement of stream crossing structures); and livestock grazing (grazing licenses on classified forest trust lands).

The public comment period for the DNRC HCP closed October 6, 2009; the current schedule calls for publishing the Final Environmental Impact Statement (FEIS) in October 2010. The Record of Decision (ROD) would be finalized 30 days after publication of the FEIS, and a section 10(a)(1)(B) permit could be issued at that time, if the Service determines that issuance of a permit is appropriate. To be considered for exclusion from the final designation of critical habitat for the bull trout, the DNRC HCP will need to be completed and finalized prior to the finalization of critical habitat, which is due by September 30, 2010.

Washington Department of Natural Resources Habitat Conservation Plan

The Service is considering excluding lands managed under the Washington Department of Natural Resources (WDNR) HCP in the Coastal Recovery Unit: Puget Sound, Olympic Peninsula, and Lower Columbia CHUs. The WDNR HCP covers State forest trust lands within the range of the northern spotted owl (*Strix occidentalis caurina*) in the State of Washington. The majority of the lands covered by the HCP (approximately 526,100 ha (1.3 million ac) is west of the Cascade Crest and includes the Olympic Peninsula and southwest Washington. The remainder of the lands are on the east side of the Cascade Range within the range of the northern spotted owl. The HCP covers activities primarily associated with commercial forest management. West of the Cascade Crest, the HCP covers all species, including bull trout and other salmonids. On the east side of the Cascade Crest, bull trout and other aquatic species are not covered under the HCP, and DNR follows State forest practice rules for riparian management and other forestry activities. The DNR HCP lands on the west side of the Olympic Peninsula are managed as the Olympic Experimental State Forest. The multispecies portion of the HCP depends upon several broad-scale conservation approaches: spotted owl conservation, marbled murrelet (*Brachyramphus marmoratus*) conservation, riparian conservation, certain species-specific protection measures, protection of uncommon habitats, and provisions to maintain a range of forest types across the HCP landscape.

Green Diamond Habitat Conservation Plan

The Service is considering excluding bull trout habitat on lands managed under the Green Diamond Habitat Conservation Plan in Coastal Recovery Unit, Olympic Peninsula CHU. In October 2000, Simpson Timber Company (now Green Diamond), completed an HCP, and we issued a permit authorizing incidental take associated with forestry operations on the company's Washington timberlands located on or adjacent to the Olympic Peninsula in Mason, Thurston, and Grays Harbor Counties. The HCP is designed to conserve riparian forests, improve water quality, prevent management-related hill-slope instability, and address hydrological maturity of small subbasins. The HCP addresses five listed species, including bull trout, and 46 non-listed species. The HCP covers the land owned by Green Diamond along the lower reaches of the North and South Fork Skokomish Rivers, the upper South Fork Skokomish River, West Fork Satsop River, and Canyon River.

City of Seattle Cedar River Watershed Habitat Conservation Plan

The Service is considering excluding bull trout habitat on lands managed under the City of Seattle Cedar River Watershed HCP in the Coastal Recovery Unit, Puget Sound CHU. In April 2000, the City of Seattle completed an HCP, and we issued an incidental take permit authorizing water withdrawal and water supply activities affecting flows in the lower Cedar River and reservoir levels in Chester Morse Lake. The plan provides for forestry restoration activities, including riparian thinning, road abandonment, and timber stand improvement in the upper Cedar River Watershed in King County. The HCP is designed to provide adequate fish flows in the lower Cedar River for the spawning and rearing of several salmonid species, manage water levels in Chester Morse Lake and Masonry Dam Reservoir to benefit instream flows in the lower Cedar River and bull trout spawning access to lake tributaries, and manage these lands in the upper Cedar River as an ecological reserve. Several research actions are directed at understanding how all life stages of bull trout use Chester Morse Lake and Masonry Pool and how adult bull trout use tributaries to the lake for spawning. The HCP covers 83 species of fish and wildlife, including bull trout and 6 other listed species.

Tacoma Water Green River Water Supply Operations and Watershed Protection Habitat Conservation Plan

The Service is considering excluding bull trout habitat on lands managed under the Tacoma Green River Water Supply Operations and Watershed Protection HCP in the Coastal Recovery Unit, Puget Sound CHU. The Tacoma Water Green River Water Supply Operations and Watershed Protection HCP was completed in July 2001, addressing upstream and downstream fish passage issues, flows in the Middle and lower Green River, and timber and watershed management activities on Tacoma-owned land in the upper Green River Watershed. The HCP covers 32 species (including bull trout), and includes an upstream fish passage facility that will open up 57,000 ha (140,800 ac) of previously blocked fish habitat, sponsorship and funding for a downstream fish-passage facility at the Corps of Engineers' Howard Hanson Dam, water-flow improvements, improved riparian forest management on Tacoma's lands, and several major habitat restoration projects.

Washington State Forest Practices Rules and Forest Practices Regulations

The Service is considering excluding all public and private lands in the State of Washington that would be managed under the Washington forest practice rules. These lands occur in the Coastal Recovery Unit (Puget Sound, Olympic Peninsula, and Lower Columbia CHUs), Mid-Columbia Recovery Unit (Snake River Basin, Walla Walla River Basins, Yakima River, and Upper Columbia River CHUs), and the Columbia Headwaters Recovery Unit (Clark Fork River Basin CHU). Beginning in late 1996, faced with the imminent listing of several salmonid species under the Act, including bull trout, a diverse group of stakeholders in Washington State agreed to address emerging riparian habitat issues. The effort resulted in the Forests and Fish Report (FFR) in April 1999. Later that year, the Washington State Legislature passed the Forest Practices Salmon Recovery Act (Engrossed Substitute House Bill 2091), which directed the Washington Forest Practices Board to adopt new rules, encouraging the Forest Practices Board to follow the recommendations of the FFR. To further the purpose of regulatory stability, the Forest Practices Salmon Recovery Act also limited future changes to the new rules so that, outside of a court order or legislative directive, new rules could be adopted by the Forest Practices Board only if the changes or new rules are consistent with

the recommendations resulting from the scientifically based adaptive management process included in the FFR. The language further solidified the adaptive management process as a key component of the FFR conservation program.

Following the passage in 1999 of emergency forest practices rules based on the FFR, the Washington Forest Practices Board adopted new permanent rules in May 2001. Effective July 2001, these rules cover a wide variety of forest practices and include (1) a new, more functional, classification of rivers and streams on non-Federal and non-tribal forestland; (2) improved plans for properly designing, maintaining, and upgrading existing and new forest roads; (3) additional protections for unstable slopes; and (4) greater protections for riparian areas intended to restore or maintain properly functioning aquatic and riparian habitat conditions. In addition to these substantive provisions, the rules adopted the procedural recommendations of the FFR that address adaptive management, training, and other features. The Washington State Legislature and the U.S. Congress continued to support the collaboration with significant funding for the research, monitoring, and adaptive management activities called for in the FFR. In May 2006, the State forest practice rules were formally incorporated into the Washington State Forest Practices HCP.

Conservation Partnerships on Non-Federal Lands

Lewis River Hydroelectric Project Conservation Easements

The Service is considering excluding 48 km (30 mi) of bull trout habitat associated with the Lewis River Hydroelectric Project Conservation Easements in the Coastal Recovery Unit, Columbia River Basin CHU. PacifiCorp manages four projects and three dams impounding river habitat on the Lewis River in Washington, located in portions of Clark, Cowlitz, and Skamania Counties. Bull trout are present in all of the reservoirs; the upper two reservoirs are used by the majority of individuals within the spawning populations. A settlement agreement (Agreement) for the relicensing of the Yale, Merwin, Swift No. 1, and Swift No. 2 Hydroelectric Projects was signed on November 30, 2004. Conservation measures are incorporated in the Agreement to minimize or compensate for the effects of the projects on listed species, including bull trout. Conservation measures for bull trout include: perpetual conservation

covenants on PacifiCorp's lands in the Cougar/Panamaker Creek area and PacifiCorp and Cowlitz PUD's lands along the Swift Creek arm of Swift Creek Reservoir, upstream and downstream fish passage improvements at all reservoirs, limiting factors analysis for bull trout to determine additional enhancement measures, public information program to protect bull trout, and monitoring and evaluation efforts for bull trout conservation measures. This agreement will also restore anadromous salmon to the upper Lewis River system, restoring a significant part of the historic forage base for bull trout.

Snake River Basin Adjudication

The Service is considering excluding bull trout habitat on 18,615,000 ha (46 million ac) of lands managed under the Snake River Basin Adjudication agreement in central Idaho. The stream flows in the basin were subject to litigation for 21 years. Litigants were the Federal Government, Nez Perce Tribe, and State of Idaho. In 2004, a settlement was reached by the parties in the proceeding. A Mediator's Term Sheet was developed to guide the settlement of the case, which identifies the responsibilities of the parties over the 30-year term of the agreement. The settlement was announced on May 15, 2004, by the Secretary of the Interior, Nez Perce Tribal Executive Committee Chairman, and Governor of Idaho.

As part of the settlement, the parties agreed to establish a habitat fund under two separate accounts, one for the Nez Perce Tribe and one for the State. The State account is managed through cooperative agreements under section 6 of the Act, and addresses off-reservation stream flow and forestry programs. The funds will be used to conduct habitat protection and restoration projects in the Salmon and Clearwater River basins (tributaries to the Snake River), including programs intended to protect and restore listed fish and their habitat. The United States will contribute \$38 million to these accounts according to a schedule determined by Congress in the enacting legislation. To date, the State has received \$5 million per year for 3 years and is expected to receive an additional \$5 million for the next 2 years. Most of the funds have been used to acquire conservation easements on lands with anadromous habitat and some limited habitat restoration.

On December 8, 2004, the Snake River Water Rights Act of 2004 was enacted to resolve outstanding issues; reach a final settlement of tribal claims; authorize, ratify, and confirm the Agreement among the parties; direct Federal

agencies to execute and perform necessary actions to carry out the agreement; and authorize actions and appropriations under the Snake River Basin Adjudication (SRBA) and the Act for the United States to meet its obligations. On March 31, 2005, a Memorandum of Agreement was signed between the State of Idaho, Nez Perce Tribe, Service, and National Marine Fisheries Service (NMFS) to establish a process for using the habitat trust fund accounts for habitat protection and restoration projects in the Salmon and Clearwater River basins in Idaho.

In a March 2005 letter, in response to a request from the State of Idaho, the Service and NMFS provided specific information as to the standard that would be the basis for the cooperative agreement under section 6 of the Act to implement the term sheet. In that letter, the two agencies indicated that meeting the express statutory requirements in section 6 of the Act for an adequate and active program for the conservation of the species, in this case, bull trout and salmon, would be required.

The Service, the National Marine Fisheries Service (NMFS), and the State are in the process of developing a Draft EIS for entering into a Cooperative Agreement on the Idaho Forestry Program. This Program would apply to private and State lands in the Clearwater and Salmon River basins. The Service will evaluate whether the Idaho Forestry Program will meet the requirements of section 6 and section 7 of the Act.

At the time the negotiations on the adjudication were completed, the bull trout was a listed species, but critical habitat had not been designated. The negotiations culminating in the final term sheet were completed prior to designation of critical habitat.

Tribal Lands—Exclusions under Section 4(B)(2) of the Act

In accordance with the Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997); the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951); Executive Order 13175; and the relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2), we believe that fish, wildlife, and other natural resources on tribal lands may be better managed under tribal authorities, policies, and programs than through Federal regulation where tribal management addresses the conservation needs of listed species. Based on this

philosophy, we believe that, in many cases, designation of tribal lands as critical habitat may provide little additional benefit to threatened and endangered species. In addition, such designation may be viewed by tribes as unwarranted and an unwanted intrusion into tribal self-governance, thus compromising the government-to-government relationship essential to achieving our mutual goals of managing for healthy ecosystems upon which the viability of threatened and endangered species populations depend.

We will take into consideration our partnerships and existing conservation actions that tribes have or are currently implementing when conducting our exclusion analysis in the final critical habitat designation. If the Secretary decides to exercise his discretion under section 4(b)(2) of the Act, we are considering lands covered by the tribes identified below for possible exclusion from final critical habitat. We are requesting comments regarding these areas and will continue to investigate whether any Indian lands overlap, and may warrant exclusion from, critical habitat for bull trout. We also request comments and information concerning other tribal activities that may be

affected in areas proposed as critical habitat on lands other than tribal lands.

For this proposed critical habitat designation for bull trout, we reviewed maps indicating that some areas under consideration as critical habitat overlap with Indian lands. Indian lands are those defined in the Secretarial Order "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997), including: (1) lands held in trust by the United States for the benefit of any Indian tribe; (2) lands held in trust by the United States for any Indian Tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and (4) fee lands within the reservation boundaries owned by individual Indians.

Our preliminary assessment indicates that the federally-recognized tribes in Table 7 have lands that may include or be adjacent to waterbodies under consideration for designation as critical habitat for bull trout. Based on the best available information, there are approximately 683 kilometers (424 miles) of streams and shoreline areas in or adjacent to Tribal lands being

proposed as critical habitat for bull trout (Table 6).

Tribes have played a significant role in the development of HCPs, local watershed plans, or other habitat plans and have conducted numerous habitat restoration and research projects designed to protect or improve habitat for listed species. If such lands are identified, the benefits of exclusion could include: (1) the furtherance of established national policies, our Federal trust obligations and our deference to management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote species conservation on an ecosystem-wide basis; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs. A list of tribal lands meeting the criteria of a tribal management or conservation plan, with proposed critical habitat unit and water body name, follows in Table 7.

TABLE 7.—TRIBAL LANDS MEETING THE CRITERIA OF A TRIBAL MANAGEMENT OR CONSERVATION PLAN AND THE PROPOSED CRITICAL HABITAT UNIT AND WATER BODY AFFECTED

Tribal Nation	Critical habitat unit	Stream/water body name
Confederated Tribes of Warm Springs	Deschutes River Basin	Deschutes River, Shitike Creek, Jefferson Creek, Warm Springs River, Metolius River
Confederated Tribes of the Umatilla	Umatilla River and Walla Walla River Basin	Umatilla River, South Fork Touchet River, Meacham Creek, Squaw Creek
Burns Paiute Tribe	Malheur River Basin	Malheur River
Nez Perce Tribe	Clearwater River	Mainstem, North Fork, Middle Fork, and South Fork Clearwater River, Lolo Creek, Clear Creek, and Dworshak Reservoir
Coeur d'Alene Tribe	Coeur d'Alene River Basin	Lake Coeur d'Alene and tributaries
Blackfeet Nation	Saint Mary River Basin	Saint Mary River
Confederated Salish and Kootenai Tribes	Clark Fork River Basin	Flathead Lake, Lower Flathead River, Jocko River, Mission Creek, Post Creek
Kalispel Tribe	Clark Fork River Basin	Pend Oreille River
Yakama Nation	Yakima and Lower Columbia River Basins	Yakima River, Ahtanum Creek, and South Fork Ahtanum Creek, West Fork Klikitat River, Little Muddy Creek, Crawford Creek, Clearwater Creek, Trappers Creek, Fish Lake Stream, unnamed tributary that meets Fish Lake Stream, and Two Lakes Stream
Confederated Tribes of the Chehalis	Olympic Peninsula	Chehalis River
Hoh Tribe	Olympic Peninsula	Hoh River and Pacific Coast nearshore
Jamestown S'Klallam Tribe	Olympic Peninsula	Dungeness River
Lower Elwha Klallam Tribe	Olympic Peninsula	Elwha River and Strait of Juan De Fuca Nearshore

TABLE 7.—TRIBAL LANDS MEETING THE CRITERIA OF A TRIBAL MANAGEMENT OR CONSERVATION PLAN AND THE PROPOSED CRITICAL HABITAT UNIT AND WATER BODY AFFECTED—Continued

Tribal Nation	Critical habitat unit	Stream/water body name
Quileute Tribe	Olympic Peninsula	Pacific Coast Nearshore
Quinault Nation	Olympic Peninsula	Quinault River, Lake Quinault, Pacific Coast nearshore, Raft River, Queets River, Salmon River, Moclips River, and Cook Creek
Skokomish Tribe	Olympic Peninsula	Skokomish River, Nalley Slough, Skobob Creek, and Hood Canal nearshore
Lummi Nation	Puget Sound	Nooksack River and Puget Sound nearshore
Muckleshoot Tribe	Puget Sound	White River
Nisqually Tribe	Puget Sound	Nisqually River
Nooksack Tribe	Puget Sound	Nooksack River
Puyallup Tribe	Puget Sound	Puyallup River and Puget Sound nearshore
Sauk-Suiattle Tribe	Puget Sound	Sauk River
Swinomish Tribe	Puget Sound	Swinomish Channel and Puget Sound nearshore
Tulalip Tribes	Puget Sound	Puget Sound nearshore

Federal Lands-Exclusions under Section 4(B)(2) of the Act

As noted above, Federal agencies have an independent responsibility under section 7(a)(1) of the Act to use their programs in furtherance of the Act and to utilize their authorities to carry out programs for the conservation of endangered and threatened species. We consider the development and implementation of land management plans by Federal agencies to be consistent with this statutory obligation under section 7(a)(1) of the Act. Therefore, Federal land management plans, in and of themselves, are generally not an appropriate basis for excluding essential habitat. Some broad-scale Federal resource management plans (e.g., INFISH, PACFISH, and the Northwest Forest Plan) may provide conservation benefits to bull trout as well as all other aquatic species within the plan boundaries. In addition, in some places, Federal land management agencies may actively manage for bull trout and conduct specific conservation actions for the species. We are therefore requesting comments regarding existing specific conservation actions that Federal land management agencies have or are currently implementing on their lands, and will take this information into account when conducting our exclusion analysis in the final critical habitat designation.

Draft Economic Analysis

Section 4(b)(2) of the Act requires that we designate or revise critical habitat

based upon the best scientific data available, after taking into consideration the economic impact, impact on national security, or any other relevant impact of specifying any particular area as critical habitat.

We have prepared a Draft Economic Analysis (DEA), which identifies and analyzes the potential economic impacts associated with the proposed designation of critical habitat for bull trout. The DEA quantifies the economic impacts of all potential conservation efforts for bull trout; some of these costs would likely be incurred regardless of whether or not we designate critical habitat. The economic impact of the proposed critical habitat designation is analyzed by comparing scenarios both “with critical habitat” and “without critical habitat.” The “without critical habitat” scenario represents the baseline for the analysis, considering protections already in place for the species (e.g., under the Federal listing and other Federal, State, and local regulations). The baseline, therefore, represents the costs incurred regardless of whether critical habitat is designated. The “with critical habitat” scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat above and

beyond the baseline costs; these are the costs we may consider in the final designation of critical habitat. The analysis looks retrospectively at baseline impacts incurred since the species was listed, and forecasts both baseline and incremental impacts likely to occur if we finalize the proposed critical habitat designation.

The DEA estimates impacts based on activities that are reasonably foreseeable, including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. The DEA provides estimated costs of the foreseeable potential economic impacts of the proposed critical habitat designation for bull trout over the next 20 years, which was determined to be the appropriate period for analysis because limited planning information was available for most activities to reasonably forecast activity levels for projects beyond a 20-year timeframe. The DEA identifies potential incremental costs as a result of the proposed critical habitat designation; these are those costs attributed to critical habitat over and above those baseline costs attributed to listing. The DEA quantifies economic impacts of conservation efforts for bull trout associated with the following categories of activity: (1) forest management practices (timber sales, fuel reduction, salvage logging); (2) residential and commercial development; (3) dams (hydropower and others); (4) agriculture

and agricultural diversions; (5) roads; (6) mining; (7) livestock grazing; and (8) other activities (utilities, restoration, nonnative species management, recreation, other instream activities).

Of the currently proposed critical habitat areas, nearly 31,865 km (19,800 mi), or 87 percent, were previously proposed as bull trout critical habitat. Two detailed economic analyses of those past proposals were conducted in 2004 and 2005. Both of these analyses were made available for, and received, public comment. Due to extensive overlap between the current proposed critical habitat and the past proposals, the economic analysis prepared for this proposal draws heavily on still-valid data contained within the two prior economic analyses. Costs associated with bull trout conservation efforts estimated in the earlier economic analyses have been updated to current dollars, adjusted to reflect the currently proposed unit boundaries, and reported to provide context for the reported incremental costs associated with the currently proposed critical habitat designation.

Total future (2012-2032) baseline impacts are estimated to be \$96.3 million to \$103.0 million annually (assuming a 7 percent discount rate); discount rates express future costs and benefits at today's equivalent value. This estimate includes not only conservation activity costs resulting from the bull trout being listed under the Act, but also estimated costs of related conservation activities for salmon, steelhead, and other fish species, along with water quality and habitat protection, in overlapping areas where other protected species occur with bull trout. Under the baseline scenario, nearly half of all estimated costs are due to conservation efforts imposed on forest management activities. Costs imposed on development activities and dam operations make up most of the remaining estimated costs. Costs associated with project modifications to forest management activities account for nearly 44 percent of estimated baseline impacts. These costs are expected to be associated with conservation measures imposed on timber harvest activities, including efforts to reduce sedimentation timing restrictions, elimination of fish barriers, and changes to harvest methods. Under the high cost scenario, costs associated with project modifications imposed on development activities account for 25 percent of projected baseline impacts. These costs result from implementation of stormwater control requirements. Costs associated with project modifications

imposed on dam operations account for 18 percent of estimated baseline impacts under the high cost scenario. These costs result from projected conservation efforts, including providing fish passage (fish ladder or trap and haul operations), temperature control projects, habitat acquisition, and seasonal adjustments of flow.

Because of all conservation measures in place for salmon, steelhead, the Klamath suckers, and other protected fish species, we believe the incremental regulatory and economic effect of critical habitat designation in areas occupied by bull trout will be small, and the most significant incremental effect will be in those areas not currently occupied (less than 4 percent of the proposed critical habitat) by the species. As a result, the DEA estimates that total potential incremental economic impacts in areas proposed as critical habitat over the next 20 years will be \$4.97 million to \$7.13 million annually (assuming a 7 percent discount rate); the range of costs represents uncertainty in the types and costs of project modifications. The majority of forecast incremental costs are associated with unoccupied critical habitat in the Upper Willamette River Basin, and are associated with conservation efforts undertaken at flood control facilities. For unoccupied areas overlapping with previous bull trout critical habitat proposals, cost estimates are drawn from the previous economic analyses and assigned to the critical habitat units proposed in this rule. For newly proposed unoccupied areas, the analysis focuses on identifying additional conservation efforts that may be expected as a result of critical habitat designation for bull trout. The 116 km (72 mi) of newly proposed unoccupied critical habitat that is already designated as critical habitat for listed salmon were not included in the incremental analysis. Existing (baseline) conservation efforts required in designated salmon critical habitat areas would generally be adequate to address bull trout conservation needs, and no significant additional conservation efforts are expected to be necessary. Dam operations are expected to incur the greatest incremental economic impacts, followed by forest management and administrative costs. Estimated incremental costs associated with dam project modifications range from \$2.12 million to \$2.52 million annually, and are primarily related to conservation efforts in the Upper Willamette River Basin. Project modifications could include fish passage (such as fish ladders and trap and haul operations),

temperature control projects, and seasonal changes to flow. Estimated incremental costs associated with forest management projects range from \$0.41 million to \$1.65 million annually, associated with efforts to reduce sedimentation, timing restrictions, elimination of fish barriers (e.g., culverts), and changes to harvest methods.

Estimated incremental costs associated with additional section 7 administrative efforts (Federal agency consultations) are expected to be \$1.99 million annually. Absent reasonably foreseeable economic impacts that are distinctly attributable to the critical habitat portion of the analysis, economic impacts from conservation efforts that avoid adverse modification of critical habitat coincidental to avoiding jeopardizing the species would be coextensive with the impacts of bull trout listing and within the regulatory baseline.

Benefits, as well as costs, can result from critical habitat designation. Bull trout conservation efforts for critical habitat may lead to improved water quality, increased open space, flood control, or aesthetic benefits. Indirect use benefits may also result (e.g., increased hiking or wildlife-viewing activities). Conservation efforts for bull trout critical habitat have the potential to result in increased bull trout populations, which in turn could result in increases in recreational fishing opportunities over the long term. In addition, increased bull trout population size could result in enhanced non-use value by the public (e.g., existence value). Existing studies support the conclusion that preservation of fish species in general is likely to generate substantial benefits to the public. However, absent information on the long term biological or physical changes expected to occur in bull trout critical habitat areas as a result of critical habitat designation, the DEA does not quantify these benefits.

The DEA is available for review at <http://www.regulations.gov>. We are seeking data and comments from the public on the DEA, as well as all aspects of the proposed rule and our amended required determinations. We may revise the proposed rule or supporting documents to incorporate or address information we receive during the public comment period, including information received during, or in response to, the public hearing.

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek

the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed designation of critical habitat.

We will consider all comments and information we receive during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the **Federal Register**. Such requests must be sent to the address shown in the **ADDRESSES** section. In anticipation of the interest in this proposed rule, we have already scheduled the public hearing and several public meetings. See the **DATES** and **ADDRESSES** section of this proposed rule for information regarding the scheduled public hearing and public meetings.

Required Determinations

Regulatory Planning and Review—Executive Order 12866

The Office of Management and Budget (OMB) has determined that this rule is significant and has reviewed this proposed rule under Executive Order 12866 (E.O. 12866). OMB based its determination upon the following four criteria:

- (1) Whether the rule will have an annual effect of \$100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government;
- (2) Whether the rule will create inconsistencies with other Federal agencies' actions;
- (3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients; or
- (4) Whether the rule raises novel legal or policy issues.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency must

publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

Small entities include small organizations, such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; as well as small businesses. Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine whether potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

To determine whether a designation of critical habitat could significantly affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities (e.g., housing development, grazing, oil and gas production, timber harvesting). We apply the "substantial number" test individually to each industry to determine if certification is appropriate. However, the SBREFA does not explicitly define "substantial number" or "significant economic impact."

Consequently, to assess whether a "substantial number" of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in an area. In some circumstances, especially with critical habitat

designations of limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the number of small entities potentially affected, we also consider whether their activities have any Federal involvement.

Under the Act, designation of critical habitat only affects activities carried out, funded, or permitted by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so would not result in any additional effects under the Act. However, there are some state laws that limit activities in designated critical habitat even where there is no federal nexus. If there is a Federal nexus, Federal agencies will be required to consult with us under section 7 of the Act on activities they fund, permit, or carry out that may affect critical habitat. If we conclude, in a biological opinion, that a proposed action is likely to destroy or adversely modify critical habitat, we can offer "reasonable and prudent alternatives." Reasonable and prudent alternatives are alternative actions that can be implemented in a manner consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid destroying or adversely modifying critical habitat.

A Federal agency and an applicant may elect to implement a reasonable and prudent alternative associated with a biological opinion that has found adverse modification of critical habitat. An agency or applicant could alternatively choose to seek an exemption from the requirements of the Act or proceed without implementing the reasonable and prudent alternative. However, unless an exemption were obtained, the Federal agency or applicant would be at risk of violating section 7(a)(2) of the Act if it chose to proceed without implementing the reasonable and prudent alternatives. We may also identify discretionary conservation recommendations designed to minimize or avoid the adverse effects of a proposed action on critical habitat, help implement recovery plans, or to develop information that could contribute to the recovery of the species.

Within the proposed critical habitat designation, the types of actions or authorized activities that we have identified as potential concerns and that may be subject to consultation under section 7 if there is a Federal nexus are: operation of dams; forest management practices; livestock grazing; agriculture and irrigation diversions; management

of roads; mining; and management of nonnative species.

Any existing and planned projects, land uses, and activities that could affect the proposed critical habitat but have no Federal involvement would not require section 7 consultation with the Service, so they are not restricted by the requirements of the Act. Federal agencies may need to reinitiate a previous consultation if discretionary involvement or control over the Federal action has been retained or is authorized by law and the activities may affect critical habitat.

The DEA and its associated Initial Regulatory Flexibility Analysis (IRFA) estimate that total potential incremental economic impacts in areas proposed as critical habitat over the next 20 years will be \$4.97 to \$7.13 million annually, assuming a 7 percent discount rate. Incremental impacts are expected to consist of: (1) project modifications occurring within newly proposed unoccupied areas; and (2) administrative costs associated with consultations under section 7 of the Act. In total, third parties (some of which may be small entities) may bear a total annual impact of up to \$5.6 million in incremental impacts. In unoccupied areas, project modifications may be associated with dam modifications, bridge replacement, grazing lease modification, road maintenance, and changes to timber harvest. In total, annual incremental costs associated with project modifications are forecast at \$5.1 million (discounted at 7 percent). The DEA also forecasts the number of additional section 7 consultations that may take place as a result of critical habitat. Based on this forecast, annual incremental consultation costs that may be borne by third parties are forecast at \$441,000 in total (discounted at 7 percent). Of the potentially affected entities in the proposed critical habitat areas, 97 percent are small entities, and depending on the unit, small entities may bear between 93 and 100 percent of the estimated impacts. The Small Business Size Standard for the industry sectors that could potentially be affected by the proposed critical habitat designation are as follows:

- **Dams and Water Diversions Category:** Electric Power Generation, Transmission and Distribution—4 million megawatts for the preceding year, and Water supply and Irrigation Systems—\$7.0 million average annual receipts.
- **Agriculture Category:** Crop Production (Oilseed and Grain Farming; Vegetable and Melon Farming; and Fruit and Tree Nut Farming—\$750,000 average

annual receipts; and Food Manufacturing—500 employees.

- **Grazing Category:** Beef Cattle Ranching and Farming—\$750,000 average annual receipts.
- **Roads Category:** Highway, Street and Bridge Construction—\$33.5 million average annual receipts.
- **Development Category:** New Single-Family Housing Construction (except Operative Builders); New Multifamily Housing Construction (except Operative Builders); New Housing Operative Builders—\$33.5 million average annual receipts; and Land Subdivision—\$7.0 million.
- **Forest Management Category:** Logging—500 employees; Timber Tract Operations, and Support Activities for Forestry—\$7.0 million average annual receipts.
- **Mining Category:** Mining (except Oil and Gas), and Construction Sand and Gravel Mining—500 employees.
- **Other Activities Category:** Oil and Gas Pipeline and Related Structures Construction; Power and Communication Line and Related Structures Construction; and Other Heavy and Civil Engineering Construction—\$33.5 million average annual receipts; Marinas—\$7.0 million average annual receipts; Water and Sewer Line and Related Structures Construction—\$33.5 million average annual receipts; and Sewage Treatment Facilities—\$7.0 million average annual receipts.

If each of the 23,800 small entities located within the study area were to share the annualized costs, they could bear from \$0 up to \$60,300 per entity, depending on the affected industry. This would translate into an annual average cost of \$234 per entity. This in turn translates into a projected range of impacts from 0.0007 to 0.03 percent, or in other words, less than 1 percent impact for all sectors. The expected annual impacts to the affected industries are significantly less than the annual revenues that could be garnered by a single small operator in those industries, and as such, impacts are low relative to potential revenues. We are seeking public comments regarding the estimated incremental impacts of this critical habitat designation on small entities. Specifically, we are interested in whether there is evidence suggesting that the economic impact of section 7(a)(2) consultations in areas currently occupied by the species is expected to be larger or smaller than estimated in this analysis.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(a) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)-(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or Tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding,” and the State, local, or Tribal governments “lack authority” to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.”

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the

Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(b) As discussed in the DEA of the proposed designation of critical habitat for bull trout, we do not believe that this rule would significantly or uniquely affect small governments because it would not produce a Federal mandate of \$100 million or greater in any year; that is, it is not a "significant regulatory action" under the Unfunded Mandates Reform Act. The DEA concludes that incremental impacts may occur due to project modifications occurring within newly proposed, unoccupied areas and administrative costs associated with section 7 consultations. The DEA estimates that total potential incremental economic impacts in areas proposed as critical habitat over the next 20 years will be \$4.97 to \$7.13 million annually, assuming a 7 percent discount rate. Based on the range of potential incremental costs that have been identified, we do not believe that this rule will significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

Takings

In accordance with Executive Order (E.O.) 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for bull trout in a takings implications assessment. The takings implications assessment concludes that this designation of critical habitat for bull trout does not pose significant takings implications for lands within or affected by the designation.

Federalism

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant federalism effects. A federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Washington, Oregon, Idaho, Montana, and Nevada. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of

the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Executive Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the physical and biological features within the designated areas to assist the public in understanding the habitat needs of the bull trout.

Paperwork Reduction Act of 1995

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses as defined by National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We

published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).]

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

- (a) Be logically organized;
- (b) Use the active voice to address readers directly;
- (c) Use clear language rather than jargon;
- (d) Be divided into short sections and sentences; and
- (e) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the "**ADDRESSES**" section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the names of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Government-to-Government Relationship with Tribes

Our preliminary assessment indicates that 24 Federally-recognized Tribes in Table 7 have lands that may include or be adjacent to waterbodies under consideration for designation as critical habitat for bull trout. Based on the best available information, there are approximately 683 kilometers (424 miles) of streams and shoreline areas in or adjacent to Tribal lands being proposed as critical habitat for bull trout (Table 6).

In accordance with the President's memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act", we readily acknowledge our responsibilities to work directly with Tribes in developing programs for

healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

Maintaining an effective trust relationship between the Federal government and Tribes promotes (1) the furtherance of established national policies, our Federal trust obligations and our deference to management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote species conservation on an ecosystem-wide basis; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species on an ecosystem-wide basis; and (4) continued respect for Tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs. We have engaged in preliminary discussions and coordination with our Tribal partners during development of the proposed rule, and are soliciting specific comments and information from tribes on areas being proposed as critical habitat on tribal land and on lands other than Tribal lands. The final rule will fully consider the Federal government's obligations to Federally-recognized Tribes, and comments and information received from the Tribes regarding the actions being implemented to conserve bull trout on Tribal lands and lands other than Tribal lands.

Energy Supply, Distribution, or Use

Executive Order E.O. 13211 pertains to regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. The Office of Management and Budget (OMB) provides guidance for implementing this Executive Order, outlining nine outcomes (criteria) that may constitute "a significant adverse effect" when

compared with the regulatory action under consideration. Two of these criteria are relevant to the bull trout economic analysis: (1) reduction in electricity production in excess of one billion kilowatts-hours per year or in excess of 500 megawatts of installed capacity and (2) increases in the cost of energy production in excess of one percent. The two primary activities that might lead to reduced energy generation are operation of the Federal Columbia River Power System (FCRPS) and operation of FERC-licensed hydroelectric dams. Incremental impacts to dam operations are expected to consist largely of the costs of installing fish passage capabilities. Some dam operators may also undertake relatively minor movements of peak energy production during the year. This practice does not reduce average energy production, but rather changes the temporal distribution of that power. Therefore, no impacts to electricity production or installed capacity are forecast. Given the high thresholds defined in the OMB guidance (i.e., reduction in electricity production in excess of one billion kilowatts-hours per year, increases in the cost of energy production in excess of one percent) and the fact that bull trout is unlikely to be the primary species leading to changes in flow regimes (because of the presence of listed salmon), it is unlikely the electricity industry will experience a "significant adverse effect" as a result of critical habitat designation for bull trout. The protection of bull trout stream and lake habitats should not require significant changes to energy management, and because bull trout have been listed under the Endangered Species Act for the past 10 years, with critical habitat designated over parts of its range for the past four years, and there have been no actions that have significantly affected energy supply, distribution or use over that time. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we

will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

References Cited

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Idaho Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Author(s)

The primary authors of this package are the staff members of the following Fish and Wildlife Offices: Idaho, Montana, Washington, Oregon, Nevada, and Klamath Falls.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17; subchapter B of Chapter I, title 50 of the Code of Federal Regulations as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.95(e) by revising critical habitat for "Bull Trout (*Salvelinus confluentus*)" as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *
(e) Fishes.
* * * * *

Bull trout (*Salvelinus confluentus*)

(1) *Locations of critical habitat:* Critical habitat units are depicted in the following States and counties on the maps and as described below:

State	Counties
(i) Idaho	Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Canyon, Clearwater, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Lewis, Nez Perce, Owyhee, Shoshone, Valley, Washington
(ii) Montana	Deer, Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders
(iii) Nevada	Elko
(iv) Oregon	Baker, Clatsop, Columbia, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler
(v) Washington	Asotin, Benton, Chelan, Clallam, Clark, Columbia, Cowlitz, Douglas, Franklin, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kittitas, Klickitat, Mason, Okanogan, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, Walla Walla, Whatcom, Whitman, Yakima

(2) *Topographic features included in the critical habitat designation.* Critical habitat includes the stream channels within the designated stream reaches; designated lakes and reservoirs; and inshore portions of marine nearshore areas, including tidally influenced freshwater heads of estuaries indicated on the maps beginning with paragraph (e)(6) of this section.

(i) Critical habitat includes the stream channels within the designated stream reaches and a lateral extent as defined by the bankfull elevation on one bank to the bankfull elevation on the opposite bank. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge that generally has a recurrence interval of 1 to 2 years on the annual flood series. If bankfull elevation is not evident on either bank, the ordinary high-water line must be used to determine the lateral extent of critical habitat. The lateral extent of designated lakes is defined by the perimeter of the water body as mapped on standard 1:24,000 scale topographic maps.

(ii) Critical habitat includes the inshore extent of critical habitat for marine nearshore areas (the mean higher high-water (MHHW) line), including tidally influenced freshwater heads of estuaries. The MHHW line refers to the average of all the higher high-water heights of the two daily tidal levels. Adjacent shoreline riparian areas, bluffs, and uplands are not designated as critical habitat. However, it should be recognized that the quality of marine habitat along shorelines is intrinsically related to the character of these adjacent features, and human activities that occur outside of the MHHW line can have major effects on physical and biological features of the marine environment. The offshore extent of critical habitat for marine nearshore areas is based on the extent of the photic zone, which is the layer of water in which organisms are exposed to light. Critical habitat extends offshore to the depth of 10 meters (m) (33 feet (ft)) relative to the mean low low-water (MLLW) line (average of all the lower low-water heights of the two daily tidal

levels). This equates to the average depth of the photic zone and is consistent with the offshore extent of the nearshore habitat identified National Oceanic and Atmospheric Administration in the National Tidal Datum 1983 Through 2001. This area between the MHHW line and minus 10 MLLW line is considered the habitat most consistently used by bull trout in marine waters based on known use, forage fish availability, and ongoing migration studies and captures geological and ecological processes important to maintaining these habitats. This area contains essential foraging habitat and migration corridors such as estuaries, bays, inlets, shallow subtidal areas, and intertidal flats.

(3) *The Primary Constituent Elements (PCEs) of critical habitat.* Within the critical habitat, the PCEs for bull trout are those habitat components that are essential for the primary biological needs of foraging, reproducing, rearing of young, dispersal, genetic exchange, or sheltering. The PCEs are as follows:

(i) Springs, seeps, groundwater sources, and subsurface water connectivity (hyporehic flows) to contribute to water quality and quantity and provide thermal refugia.

(ii) Migratory habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.

(iii) An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.

(iv) Complex river, stream, lake, reservoir, and marine shoreline aquatic environments and processes with features such as large wood, side channels, pools, undercut banks and substrates, to provide a variety of depths, gradients, velocities, and structure.

(v) Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures at the upper end of this range. Specific temperatures within this range will vary depending on bull trout

life-history stage and form; geography; elevation; diurnal and seasonal variation; shade, such as that provided by riparian habitat; and local groundwater influence.

(vi) Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount (e.g., less than 12 percent) of fine substrate less than 0.85 mm (0.03 in.) in diameter and minimal embeddedness of these fines in larger substrates are characteristic of these conditions.

(vii) A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, they minimize departures from a natural hydrograph.

(viii) Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.

(ix) Few or no nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass; inbreeding (e.g., brook trout); or competitive (e.g., brown trout) species present.

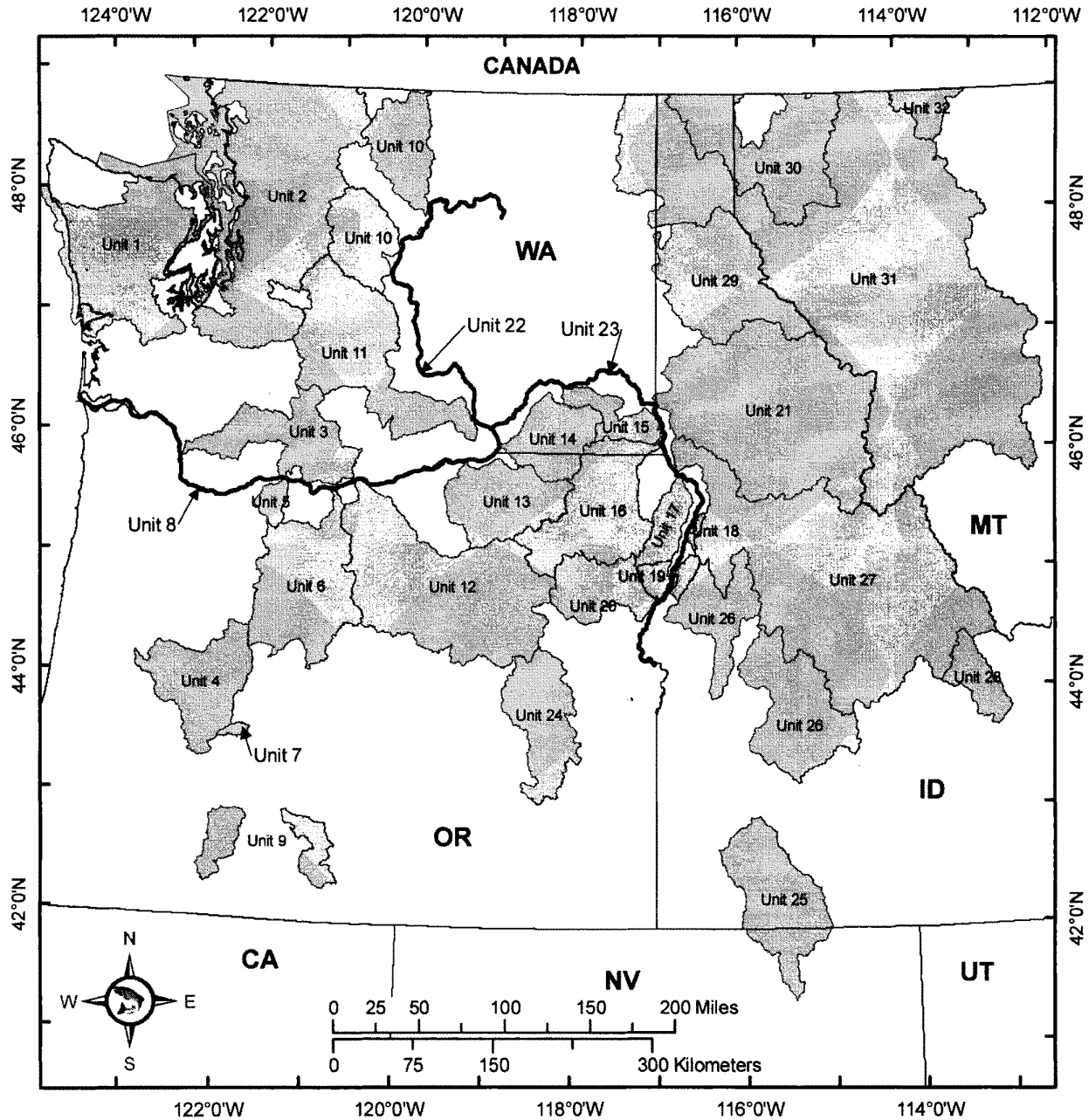
(4) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(5) Critical habitat map units. Data layers defining map units were created using U.S. Geological Survey (USGS) Hydrologic Unit Code maps (HUCs) at a scale of 1:250,000 down to the 4th level cataloging unit. In some cases, 5th and 6th level HUCs were also used and some finer scale watersheds developed using United States Geological Survey 10-meter Digital Elevation Model and 1:24,000 scale hydrography layers. The marine boundaries for the Puget Sound and Olympic Peninsula critical habitat unit (CHU) were based on Washington Department of Natural Resources 1:24,000 scale county boundaries and HUCs.

(6) Index map of critical habitat units for bull trout follows:

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Index Map: Critical Habitat Units



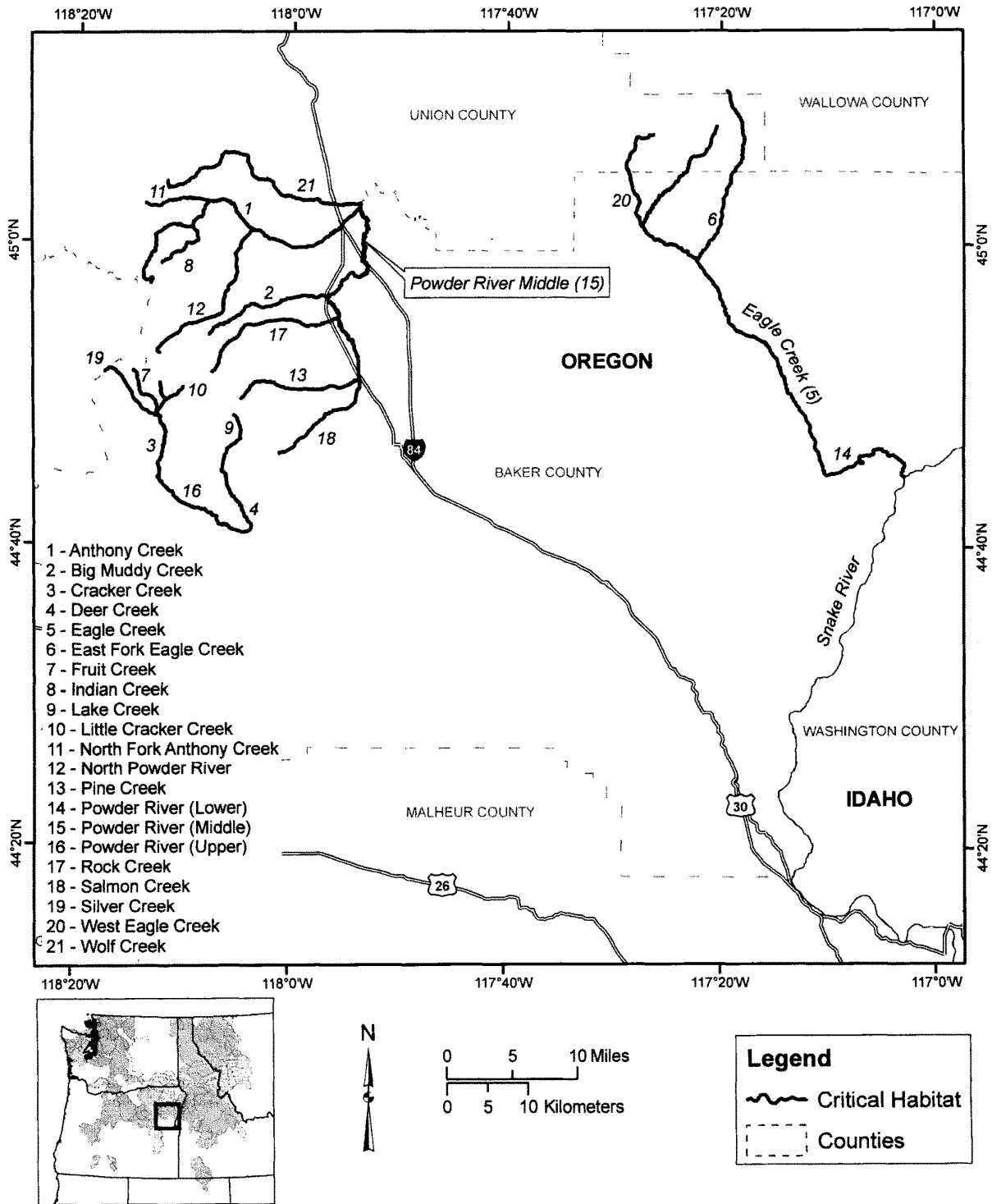
- | | | |
|---------------------------------|-----------------------------|----------------------------------|
| 1 Olympic Peninsula | 11 Yakima River | 22 Mainstem Upper Columbia River |
| 2 Puget Sound | 12 John Day River | 23 Mainstem Snake River |
| 3 Lower Columbia River Basins | 13 Umatilla River | 24 Malheur River Basin |
| 4 Upper Willamette River | 14 Walla Walla River Basin | 25 Jarbidge River |
| 5 Hood River | 15 Lower Snake River Basins | 26 Southwest Idaho River Basins |
| 6 Lower Deschutes River | 16 Grande Ronde River | 27 Salmon River Basin |
| 7 Odell Lake | 17 Imnaha River | 28 Little Lost River |
| 8 Mainstem Lower Columbia River | 18 Sheep / Granite Creeks | 29 Coeur d'Alene River Basin |
| 9 Klamath River Basin | 19 Hells Canyon Complex | 30 Kootenai River Basin |
| 10 Upper Columbia River Basins | 20 Powder River Basin | 31 Clark Fork River Basin |
| | 21 Clearwater River | 32 Saint Mary River Basin |

(26) Unit 20: Powder River Basin Unit, Oregon.

(i) [Reserved for textual description of unit.]

(ii) **Note:** Map of Critical Habitat for the bull trout (*Salvelinus confluentus*), Powder River Basin Unit, follows:

Critical Habitat for Bull Trout (*Salvelinus confluentus*) Unit: 20, Powder River Basin



**BULL TROUT PROPOSED CRITICAL HABITAT
JUSTIFICATION:
RATIONALE FOR WHY HABITAT IS ESSENTIAL, AND
DOCUMENTATION OF OCCUPANCY**

**U.S. Fish & Wildlife Service
Idaho Fish and Wildlife Office, Boise, Idaho
Pacific Region, Portland, Oregon**

November 10, 2009

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Appendix 1—Evaluating bull trout core areas and foraging, migration, and overwintering habitat in each of six recovery units using the seven guiding principles for bull trout conservation

Appendix 2—Water body segments proposed as critical habitat for bull trout, including documentation of occupancy and site-specific rationale

INTRODUCTION

The U.S. Fish & Wildlife Service (Service) has prepared this document to support the rationale for why bull trout habitats are essential for the conservation of the species and therefore should be proposed as critical habitat and to document the basis for identifying habitat occupancy by bull trout.

We have organized the document by six draft Recovery Units (RUs), 32 Critical Habitat Units (CHUs), and 99 Critical Habitat Subunits (CHSUs) (see text below for more detail).

Rationale for why habitat is essential may be applied across an entire watershed, a portion of a watershed, or an individual stream reach or water body segment, depending on the refinement and quality of available data. Similarly, scientific observations of bull trout occupancy may be documented only broadly within a watershed or specifically within a stream reach, depending on available data.

The text portion of this document captures a broader rationale for why habitat is essential at the level of the 32 CHUs and 99 CHSUs. Appendix 1 captures rationale for why each of the 118 core areas is or is not essential. Appendix 2 documents occupancy as specifically as possible for each of more than 3,500 water body segments and, if available, any specific rationale for why that segment is essential. However, in the majority of cases, there is no stream-specific rationale and the reader is referred back to the text for the entire CHSU. Also, the same citation of occupancy may be frequently repeated for individual stream reaches if that is the only citation that provides documentation across a broad area.

METHOD FOR DETERMINING CRITICAL HABITAT

The Service met internally on July 6–7, 2009 to develop specific guidance for identifying bull trout critical habitat consistent with Service policies. We evaluated six possible approaches and determined to *propose to designate all habitat important to the conservation (i.e., recovery) of the species*. This approach would provide broad added protection for occupied habitats necessary for recovery and a significant regulatory tool for protecting important unoccupied habitats and help focus recovery actions on those habitats of greatest importance for recovery.

In addition, the Service broadly considered status and threats of bull trout across six draft recovery units (see below) consistent with seven guiding principles for bull trout conservation (also see below). We determined that in some portions of the bull trout range, status was sufficiently weak and threats sufficiently high (e.g., low numbers of individuals or populations and poor habitat quality, such as in the Klamath River Basin) that protecting all occupied habitat and some unoccupied habitat may be necessary to achieve recovery. In other areas, status was sufficiently strong and threats low (e.g., portions of the Clark Fork and Kootenai CHUs) that protecting most occupied and relatively less unoccupied habitat may be necessary to achieve recovery. Two key habitat use types for bull trout are spawning and rearing habitat and foraging, migration, and overwintering (FMO) habitat. Much unoccupied habitat proposed for protection is in FMO habitat and is intended to ensure connectivity among existing, currently isolated bull trout populations. Our proposal for designating critical habitat and our geographic-specific rationales below, reflect this broad evaluation.

SIX RECOVERY UNITS ARE ESSENTIAL

Bull trout are listed under the Endangered Species Act (ESA) as “Threatened” throughout the coterminous United States, primarily due to habitat threats. In 2008, the Service completed a 5-year review¹ of bull trout status and concluded in part that the Service should reevaluate the number of bull trout Distinct Population Segments (DPSs) and consider reclassifying bull trout into separate DPSs. The Service subsequently recommended not immediately pursuing reclassification due to time and cost constraints. Instead, the Service used four relevant factors under two of the three criteria in its 1996 DPS policy to identify the following six draft RUs:

- A. Coastal Recovery Unit
- B. Klamath Recovery Unit
- C. Mid-Columbia Recovery Unit
- D. Upper Snake Recovery Unit
- E. Columbia Headwaters Recovery Unit
- F. Saint Mary Recovery Unit

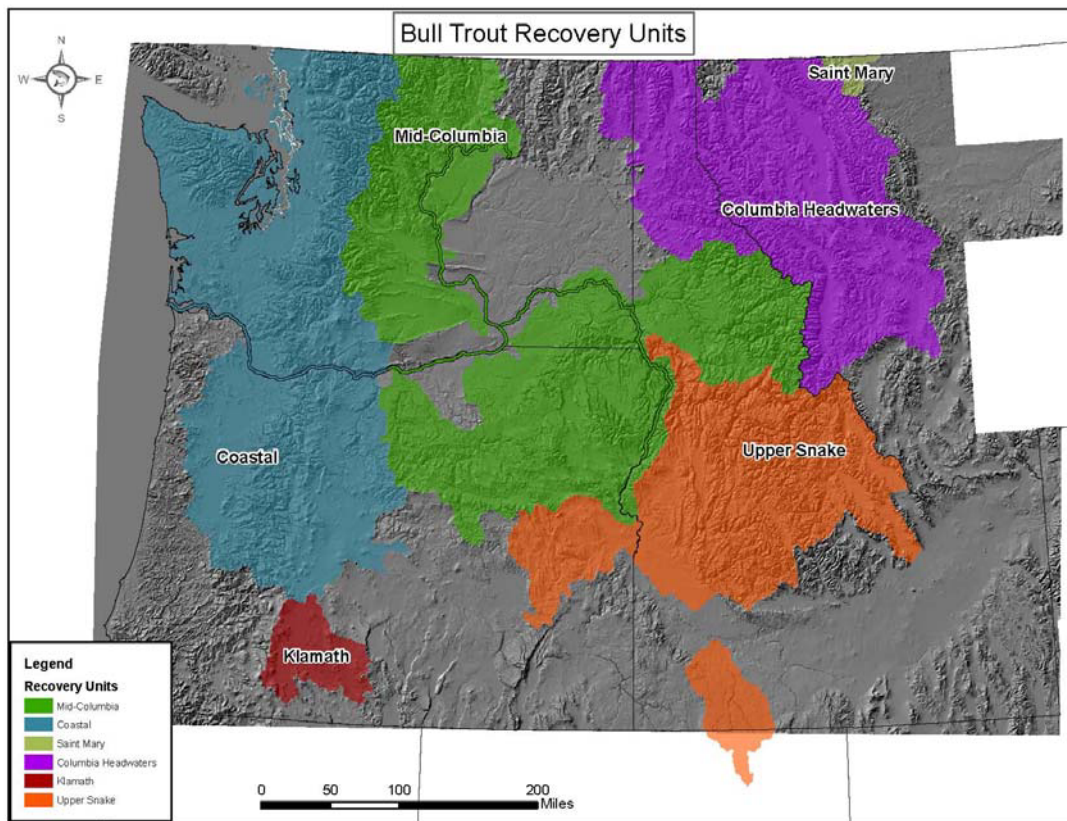


Figure 1. Six draft bull trout recovery units in the Pacific Northwest of the United States

¹ U.S. Fish and Wildlife Service (Service). 2008. Bull trout (*Salvelinus confluentus*) 5-year review: Summary and evaluation. U.S. Fish and Wildlife Service, Portland, OR. 55 p.

Based on meeting these four relevant factors from two of the criteria in the DPS policy, the Service concluded that conserving each RU was essential for the conservation of the listed entity as a whole because of their individual value as defined by the policy criteria. The two criteria and four factors that were relevant to evaluating bull trout recovery units were:

Discreteness: A population segment of a vertebrate species may be considered discrete if:

1. It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation.

Significance: If a population segment is considered discrete under the above condition, its biological and ecological significance will then be considered in light of Congressional guidance that the authority to list DPSs be used "sparingly" while encouraging the conservation of genetic diversity. In carrying out this examination, the Services considered available scientific evidence of the DPS's importance to the taxon to which it belonged. This consideration included, but was not limited to, the following:

1. Persistence of the DPS in an ecological setting unusual or unique for the taxon,
2. Evidence that loss of the DPS would result in a significant gap in the range of a taxon,
3. Evidence that the DPS differed markedly from other populations of the species in its genetic characteristics.

The Service then developed a rule set for each of the four factors for evaluating each potential RU against these four factors. This rule set included

1. Markedly Separate
 - a. Divergence measured by mitochondrial or microsatellite deoxyribonucleic acid (DNA)—*Low, Medium, High*
 - b. Isolation from nearest population—*Low, Medium, High*
 - c. Life-history difference
2. Ecological Setting
 - a. Life-history strategy
 - b. Species assemblage
 - c. Ecological zone
3. Significant Gap
 - a. Loss of population throughout any major drainage basins (Puget Sound, Klamath, Saint Mary) or major portion of the Columbia Basin (lower Columbia, Snake, middle Columbia, Kootenai/Clark Fork)
4. Differs Markedly
 - a. Divergence measured by mitochondrial or microsatellite DNA—*Low, Medium, High*
 - b. Shared evolutionary future

Subsequent to identifying these six RUs using the approach outlined above, we evaluated each RU and determined that they fulfilled the need to ensure a resilient (protect large areas of high-quality habitat), redundant (protect multiple populations), and representative (protect diverse genetic and life-history aspects) distribution of bull trout populations throughout the range of the listed entity. We also found them to be consistent with the seven guiding principles

(below). For each RU, we determined why it should be considered a separate RU and justified why it was essential based on the following rationale:

A. Coastal Recovery Unit

The Coastal RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the four RUs east of the Cascade Range and at the microsatellite DNA level from the Klamath RU; in the Olympic Peninsula and Puget Sound areas, they are almost completely isolated from other RUs and are partially isolated from other RUs in the lower Columbia River; some populations within this RU exhibit amphidromous (move to and from salt water from fresh water) life history form; they co-occur with Dolly varden (*Salvelinus malma*) in the northern portion of the RU and coastal populations of anadromous salmonids elsewhere; they occur in a coastal climate and vegetative condition west of the Cascade Range, different from the four RUs to the east; loss of this RU would result in a significant gap in the range of bull trout; and the entire RU has or could have a shared evolutionary future by migrating among populations over long periods of time.

B. Klamath Recovery Unit

The Klamath RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the four RUs east of the Cascade Range and at the microsatellite DNA level from the Coastal RU; they are highly isolated from all other RUs; populations currently persist almost solely in a resident life history form (though migratory forms would likely reoccur given suitable habitat conditions); they co-occur with species not found in other RUs, such as indigenous suckers (*Catostomus* spp.); they occur in a relatively warmer and drier inland climate that is different from the Coastal RU and farther south than most other inland populations; loss of this RU would result in a significant gap in the range of bull trout; and the entire RU has or could have a shared evolutionary future by migrating among populations over long periods of time.

C. Mid-Columbia Recovery Unit

The Mid-Columbia RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the two recovery units west of the Cascade Range and at the microsatellite DNA level from the three other RUs east of the Cascade Range; they are mostly isolated from other RUs due to distance and partial dispersal barriers, including the Columbia Gorge downstream and Hells Canyon and ancient waterfalls in the upper Columbia River basin upstream; they co-occur with anadromous Columbia River basin salmonids similar to the Upper Snake RU but different from the other RUs; they occur inland, in a lower elevation climate and different vegetative conditions than the two RUs west of the Cascade Range and three RUs upstream closer to the Continental Divide; loss of this RU would result in a significant gap in the range of bull trout; and the entire RU has or could have a shared evolutionary future by migrating among populations over long periods of time.

D. Upper Snake Recovery Unit

The Upper Snake RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the two RUs west of the Cascade Range and at the microsatellite DNA level from the three RUs east of the Cascade Range; they are mostly isolated from other RUs in the headwaters of the Snake River basin due to distance in the lower Salmon River and a partial dispersal barrier in Hells Canyon; they co-occur with anadromous Columbia River basin salmonids similar to the Mid-Columbia RU but different from the other RUs; they occur inland in a lower elevation climate and different vegetative condition than the two RUs west of the Cascade Range and three RUs upstream closer to the Continental Divide; loss of this RU would result in a significant gap in the range of bull trout; and the entire RU has or could have a shared evolutionary future by migrating among populations over long periods of time.

E. Columbia Headwaters Recovery Unit

The Columbia Headwaters RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the two RUs west of the Cascade Range and at the microsatellite DNA level from the three other RUs east of the Cascade Range; they are mostly isolated from other RUs in the headwaters of the Columbia River basin by ancient waterfalls downstream; most populations occur in the adfluvial migratory form; they evolved in the absence of anadromous salmonids; they occur inland in a cooler and drier climate and different vegetative conditions than the two RUs west of the Cascade Range and the Mid-Columbia RU; loss of this RU would result in a significant gap in the range of bull trout; and populations within each of three different, isolated watersheds have or could have a shared evolutionary future by migrating among populations over long periods of time.

F. Saint Mary Recovery Unit

The Saint Mary RU is essential to the conservation of bull trout because populations are significantly different at the mitochondrial DNA level from the two RUs west of the Cascade Range and at the microsatellite DNA level from the three other RUs east of the Cascade Range; they are highly isolated east of the Continental Divide from all other RUs to the west; they evolved in the presence of lake trout (*Salvelinus namaycush*) and other species found only east of the Continental Divide; they occur inland in a cooler and drier climate and different vegetative conditions than the two RUs west of the Cascade Range and the Mid-Columbia RU; loss of this RU would result in a significant gap in the range of bull trout; and the entire RU has or could have a shared evolutionary future by migrating among populations over long periods of time.

SEVEN GUIDING PRINCIPLES FOR BULL TROUT CONSERVATION

To identify those habitats within each RU essential to the conservation of bull trout, the Service used the Four Biological Indicators derived from the 2002 and 2004 bull trout draft

recovery plans²³⁴ and seven newly developed “Guiding Principles” to help ensure conservation of bull trout and their habitat identified below. The Service developed Appendix 1 evaluating bull trout core areas and FMO habitat in each of six recovery units using the seven guiding principles for bull trout conservation. Using the four criteria below, the Service then identified occupied habitat with primary constituent elements (PCEs) and unoccupied habitat that are essential for bull trout conservation within each RU. These habitat are proposed to be designated as critical habitat.

Four Biological Indicators

1. Distribution
2. Abundance
3. Trend
4. Connectivity

Seven Guiding Principles:

1. Conserve opportunity for diverse life-history expression
2. Conserve opportunity for genetic diversity
3. Ensure bull trout are distributed across representative habitats
4. Ensure sufficient connectivity among populations
5. Ensure sufficient habitat to support population viability (e.g., abundance, trend indices)
6. Consider threats (e.g., climate change)
7. Ensure sufficient redundancy in conserving population units

² U.S. Fish and Wildlife Service (Service). 2002. Draft recovery plan for bull trout (*Salvelinus confluentus*) in the coterminous United States: Klamath River, Columbia River, and St. Mary-Belly River Distinct Population Segments. Service, Portland, OR.

³ U.S. Fish and Wildlife Service (Service). 2004a. Draft recovery plan for the Coastal-Puget Sound distinct population segment of bull trout (*Salvelinus confluentus*). Service, Puget Sound Management Unit, Portland, OR. 389 + xvii p.

⁴ U.S. Fish and Wildlife Service (Service). 2004b. Draft recovery plan for the Jarbidge River distinct population segment of bull trout (*Salvelinus confluentus*). Service, Portland, OR. 132 + xiii p.

Four criteria for focusing habitat protection were developed and applied by the Service to identify those habitats essential to the conservation of bull trout:

1. Map bull trout habitat occupancy for each RU; evaluate all habitats to determine how they may be essential to the conservation of the species.
2. Where there may be more occupied habitat than necessary to achieve recovery, prioritize critical habitat designations on the following:
 - i. **Emphasize** areas as essential to those local populations and/or spawning and rearing streams of **highest conservation value** such as:
 1. Largest areas or populations
 2. Most highly connected populations
 3. Areas that are that can contribute to bull trout conservation
 4. Areas with highest conservation potential (e.g., quantity or quality of PCEs)
 - ii. **Emphasize** as essential those core areas of **highest conservation value** such as:
 1. Largest areas or populations
 2. Most highly connected populations
 3. Areas that are that can contribute to bull trout conservation
 4. Areas with highest conservation potential (e.g., quantity or quality of PCEs)
 - iii. **Emphasize** essential FMO habitats of **highest conservation value**, such as:
 1. Habitats that connect populations and core areas
 2. Habitat that enhances the conservation of a core area or local population
3. Identify any unoccupied habitat essential for bull trout conservation using the guidance above.
4. Evaluate each RU to ensure that the seven guiding principles are met and sufficient critical habitat has been identified to ensure the conservation of bull trout at that scale.

THIRTY-TWO CRITICAL HABITAT UNITS AND NINETY-NINE SUBUNITS CONTRIBUTE TO CONSERVATION

We identified 32 CHUs and 99 CHSUs within each of the 6 draft RUs throughout the range of bull trout based on distribution, connectivity, and proximity among populations.

- A. Coastal Recovery Unit
 1. Olympic Peninsula
 2. Puget Sound

3. Lower Columbia River Basins
 4. Upper Willamette River
 5. Hood River
 6. Lower Deschutes River
 7. Odell Lake
 8. Mainstem Lower Columbia River
- B. Klamath Recovery Unit
9. Klamath River Basin
- C. Mid-Columbia Recovery Unit
10. Upper Columbia River Basins
 11. Yakima River
 12. John Day River
 13. Umatilla River
 14. Walla Walla River Basin
 15. Lower Snake River Basins
 16. Grande Ronde River
 17. Imnaha River
 18. Sheep and Granite Creeks
 19. Hells Canyon Complex
 20. Powder River Basin
 21. Clearwater River
 22. Mainstem Upper Columbia River
 23. Mainstem Snake River
- D. Upper Snake Recovery Unit
24. Malheur River Basin
 25. Jarbidge River Basin
 26. Southwest Idaho River Basins
 27. Salmon River Basin
 28. Little Lost River
- E. Columbia Headwaters Recovery Unit
29. Coeur d'Alene River Basin
 30. Kootenai River Basin
 31. Clark Fork River Basin
- F. Saint Mary Recovery Unit
32. Saint Mary River Basin

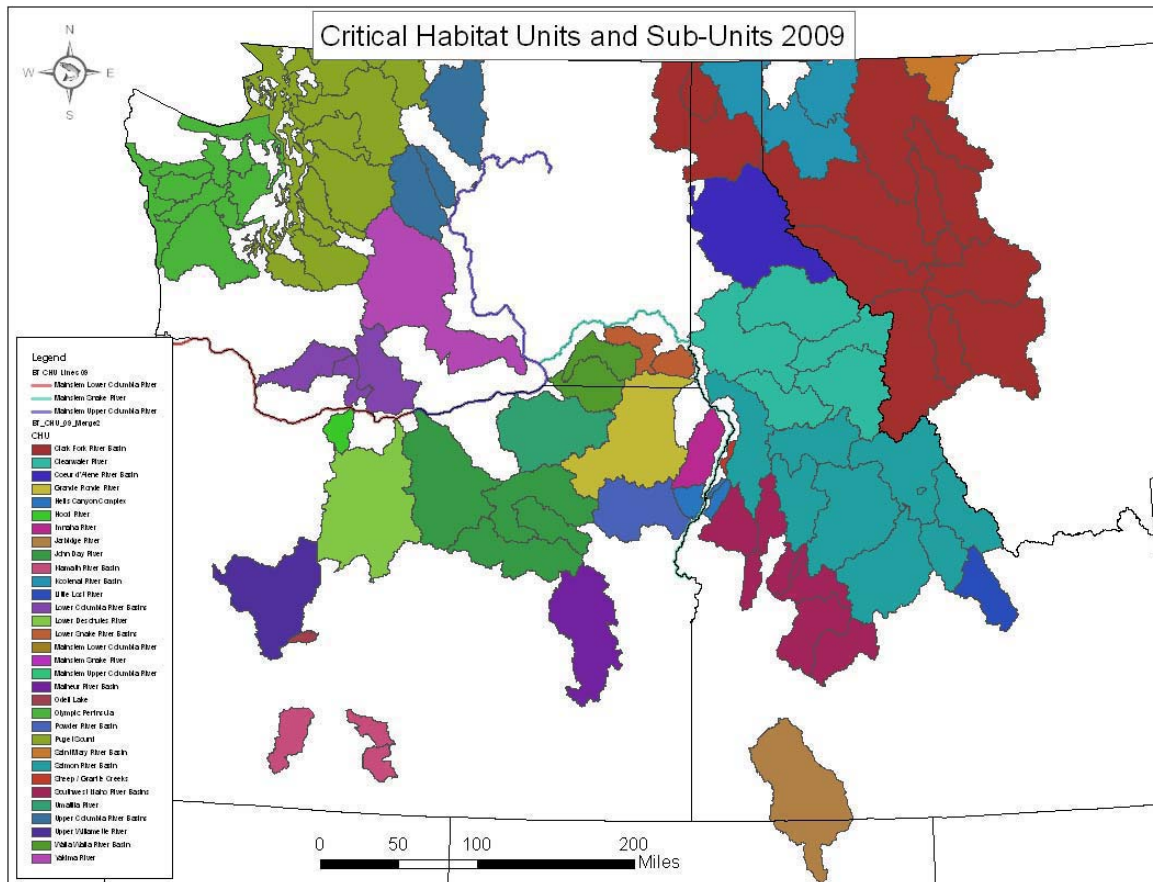


Figure 2. Thirty-two bull trout Critical Habitat Units with subunits delineated

We determined individually that each of the 32 CHUs and 99 CHSUs are essential for the conservation of the species based on the rationales outlined below that are consistent with the seven guiding principles. For all units we used the best data available to inform our rationale for why it is essential; for some units fewer data were available than for others. Please see Appendix 2 for more detailed information on occupancy for each of over 3,500 water body segments and in some cases, segment-specific rationale for why those habitats are proposed for designation as critical habitat.

A. Coastal Recovery Unit

1. Olympic Peninsula Critical Habitat Unit

The Olympic Peninsula CHU is essential for maintaining bull trout distribution within this unique geographic region of the RU. Watersheds on the Olympic Peninsula drain to marine waters in the Hood Canal, Strait of Juan de Fuca, and Pacific Ocean. Sixty major glaciers still cover the Olympic Mountains, providing sources of cold water to the glacially fed rivers on the Olympic Peninsula. The Olympic Peninsula supports one of the few temperate rain forests in the world, much of which is contained within the Olympic National Park, which is also designated as a World Biosphere Reserve and World Heritage Site.

the Klamath RU. Migratory bull trout are able to grow larger than their resident counterparts, resulting in greater fecundity and higher reproduction potential. Migratory life history forms also have been shown to be important for population persistence and resilience (see Appendices 1 and 2 for more detailed information).

C. Mid-Columbia Recovery Unit

10. Upper Columbia River Basins Critical Habitat Unit

The Upper Columbia River Basins CHU is essential for maintaining bull trout distribution within this unique geographic region of the Mid-Columbia RU and conserving multiple life history types. It is located in the most northern geographical area for the Mid-Columbia River RU and has been impacted by glacial movements from Canada and floods from Glacial Lake Missoula. It is essential for maintaining broad distribution within the Columbia River basin. This CHU supports populations in core areas that exhibit unique adfluvial, fluvial, and alluustrine life history movements between lakes, rivers, and the mainstem Columbia River and includes several unique resident populations that are unique in genetic diversity and distribution. Modeling efforts for climate change identify several important areas in this CHU associated with glacially fed systems that will be essential for recovery during warming periods. This CHU contributes substantially to bull trout population numbers likely because this is a high-producing amphidromous portion of the Columbia River and habitat remains physically connected to natural lakes and large rivers. FMO habitat between core areas and habitat within the mainstem Columbia River is essential for conservation by providing year-round connectivity and the expression of migratory life history forms. See Appendices 1 and 2 for more detailed information.

a. Methow River Critical Habitat Subunit

The Methow River CHSU is essential for bull trout conservation in the Methow core area. It represents the northernmost distribution of bull trout in the Mid-Columbia RU. The Methow River drains an area of approximately 4,895 km² (1, 890 mi²). Spawning areas are mostly within Okanogan-Wenatchee National Forest Wilderness and are managed by standards and guidelines in the U.S. Forest Service's forest plan. Modeling efforts indicate the unique association of bull trout with glacially fed streams persisting through climate change as long as the glaciers themselves persist. The Methow River supports two alluustrine populations: one in Black Lake within the Chewuch River drainage and one in the Lost River, a tributary to the upper Methow River. Populations of bull trout in this CHSU rely heavily on mainstem rivers, including the Columbia River mainstem, for connectivity, forage, and overwintering, which are essential for conservation. This CHSU supports a group of long-range moving bull trout where one adult was found moving between the Okanogan River and below the Priest Rapids Dam in the mainstem Columbia River (see Appendices 1 and 2 for more detailed information).

b. Chelan River Critical Habitat Subunit

The Chelan River CHSU is essential for bull trout conservation and recovery of all migratory local populations in the Upper Columbia River Basins CHU using the Columbia River mainstem, which includes most populations. It includes the area below the dam on Lake Chelan, downstream to the Columbia River. It lies mostly adjacent to private or State lands and includes a management plan operated by the Chelan County Public Utilities District as part of the

CHU also represents the southeasternmost extent of the Middle Columbia RU. See Appendices 1 and 2 for more detailed information.

a. Indian Creek Critical Habitat Subunit

The Indian Creek CHSU is essential to the conservation of bull trout because it represents one of the most southwestern areas of the Mid-Columbia RU and has fluvial life history forms that are important for the long-term recovery of the species (see Appendices 1 and 2 for more detailed information).

b. Pine Creek Critical Habitat Subunit

The Pine Creek CHSU is essential to the conservation of bull trout because it has many individuals and a large amount of habitat. This CHSU also occurs in the easternmost extent of the RU. This CHSU has fluvial life history forms that are important for the long-term recovery of the species (see Appendices 1 and 2 for more detailed information).

c. Wildhorse River Critical Habitat Subunit

The Wildhorse River CHSU is essential to the conservation of bull trout because it represents one of the most southwestern areas of the Mid-Columbia RU and has fluvial life history forms that are important for the long-term recovery of the species (see Appendices 1 and 2 for more detailed information).

20. Powder River Critical Habitat Unit

The Powder River CHU is essential to the conservation of bull trout because isolated populations represent a genetically distinct population in this part of the Hells Canyon reach of the Snake River. All remaining populations are located in headwater streams that drain the Elkhorn Mountain Range and persist in areas where the habitat is still suitable. Additional, currently unoccupied FMO habitat may be necessary to achieve recovery here. The entire CHU is essential because it provides redundancy across the Powder River basin and to the CHU. The presence of multiple local populations distributed throughout a watershed provides a mechanism for spreading risk. See Appendices 1 and 2 for more detailed information.

21. Clearwater River Critical Habitat Unit

The Clearwater River CHU is essential for maintaining bull trout distribution within this unique geographic region of the Mid-Columbia RU. This CHU extends from the Snake River confluence at Lewiston, Idaho, on the west to headwaters in the Bitterroot Mountains along the Idaho and Montana border. The Clearwater River CHU represents the easternmost extent of the Mid Columbia RU. This CHU is among the largest CHU in the Mid Columbia RU and contains several large and stable core area populations of bull trout. Fluvial and resident bull trout are the predominant life history forms known to occur within this CHU with several adfluvial populations occurring in headwater lakes. This CHU includes five critical habitat subunits: Middle–Lower Fork Clearwater River; South Fork Clearwater River; Selway River; Lochsa River (and Fish Lake); and the North Fork Clearwater River (and Fish Lake). See Appendices 1 and 2 for more detailed information.

adfluvial population of bull trout that is the sole life history form present in the CHSU originated from Flathead Lake from adult and juvenile fish trapped upstream of Hungry Horse Dam, which adapted to the new habitat and have provided a strong and resilient core area population. Few nonnative fish occur in this CHSU, and most of the spawning and rearing habitat is in protected and unaltered habitat within the Bob Marshall Wilderness, including two of three core areas. The strong bull trout population and high level of habitat security has provided an opportunity to allow anglers to utilize the bull trout resource, harvesting a closely regulated number of fish, despite ESA listing. An extensive network of high-quality spawning and rearing habitat, including many streams with groundwater influence, makes this CHSU one of the more resistant systems under a variety of changing climate scenarios. See Appendices 1 and 2 for more detailed information.

F. Saint Mary Recovery Unit

32. Saint Mary River Basin Critical Habitat Unit

The Saint Mary River Basin CHU is essential maintaining bull trout distribution within this unique geographic region of the Saint Mary RU because it represents the only bull trout population east of the Continental Divide in the United States. The genetic information to date indicates bull trout in the Saskatchewan River basin (primarily of Alberta, Canada) originated from a cross-divide transfer of fish from the Columbia Basin, probably during the Wisconsin Glaciation, which ended about 10,000 years ago. The headwaters of the South Saskatchewan system include the Crowsnest, Carbondale, Castle, Belly, and Saint Mary Rivers. Of these, only the Saint Mary River system has extensive bull trout habitat in the United States, with much of the spawning and rearing habitat occurring in Montana. FMO habitat occurs primarily downstream in portions of the watershed in southwestern Alberta. Thus, preservation of the southernmost extension of bull trout east of the Continental Divide is dependent on actions in the Saint Mary River Basin CHU. See Appendices 1 and 2 for more detailed information.

BULL TROUT HABITAT OCCUPANCY

Bull trout occupied many habitats at the time of listing that include some or all of the nine PCEs. There is additional habitat not occupied at the time of listing that may be essential for recovery, and is proposed as critical habitat by the Service. Appendix 2 lists over 3,500 specific water bodies organized by RU, CHU, and CHSU and includes the following site-specific information: name; location; occupancy status with citations; and any water body-specific rationale, if available.

**BULL TROUT PROPOSED CRITICAL HABITAT
JUSTIFICATION:
RATIONALE FOR WHY HABITAT IS ESSENTIAL, AND
DOCUMENTATION OF OCCUPANCY**

**APPENDIX 1—
EVALUATING BULL TROUT CORE AREAS AND FORAGING, MIGRATION, AND
OVERWINTERING HABITAT IN EACH OF SIX RECOVERY UNITS USING THE
SEVEN GUIDING PRINCIPLES FOR BULL TROUT CONSERVATION**

**U.S. Fish & Wildlife Service
Pacific Region, Portland, Oregon**

November 10, 2009

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ABBREVIATIONS, ACRONYMS, AND UNITS OF MEASURE

AR	allelic richness
CA	core area
CHU	Critical Habitat Unit
CHSU	Critical Habitat Subunit
CSE	Cavalli-Sforza and Edwards
FMO	foraging, migration, and overwintering
GP	guiding principles
He	heterozygosity
km	kilometer
RU	Recovery Unit
SR	spawning and rearing

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) evaluated bull trout core areas and foraging, migration, and overwintering (FMO) habitat in each of the following 6 Recovery Units (RUs) (Figure 1) and 32 Critical Habitat Units (CHUs) (Figure 2):

- A. Coastal Recovery Unit
 - 1. Olympic Peninsula
 - 2. Puget Sound
 - 3. Lower Columbia River Basins
 - 4. Upper Willamette River
 - 5. Hood River
 - 6. Lower Deschutes River
 - 7. Odell Lake
 - 8. Mainstem Lower Columbia River
- B. Klamath Recovery Unit
 - 9. Klamath River Basin
- C. Mid-Columbia Recovery Unit
 - 10. Upper Columbia River Basins
 - 11. Yakima River
 - 12. John Day River
 - 13. Umatilla River
 - 14. Walla Walla River Basin
 - 15. Lower Snake River Basins
 - 16. Grande Ronde River
 - 17. Imnaha River
 - 18. Sheep and Granite Creeks
 - 19. Hells Canyon Complex
 - 20. Powder River Basin
 - 21. Clearwater River
 - 22. Mainstem Upper Columbia River
 - 23. Mainstem Snake River
- D. Upper Snake Recovery Unit
 - 24. Malheur River Basin
 - 25. Jarbidge River Basin
 - 26. Southwest Idaho River Basins
 - 27. Salmon River Basin
 - 28. Little Lost River
- E. Columbia Headwaters Recovery Unit
 - 29. Coeur d'Alene River Basin
 - 30. Kootenai River Basin
 - 31. Clark Fork River Basin
- F. Saint Mary Recovery Unit
 - 32. Saint Mary River Basin

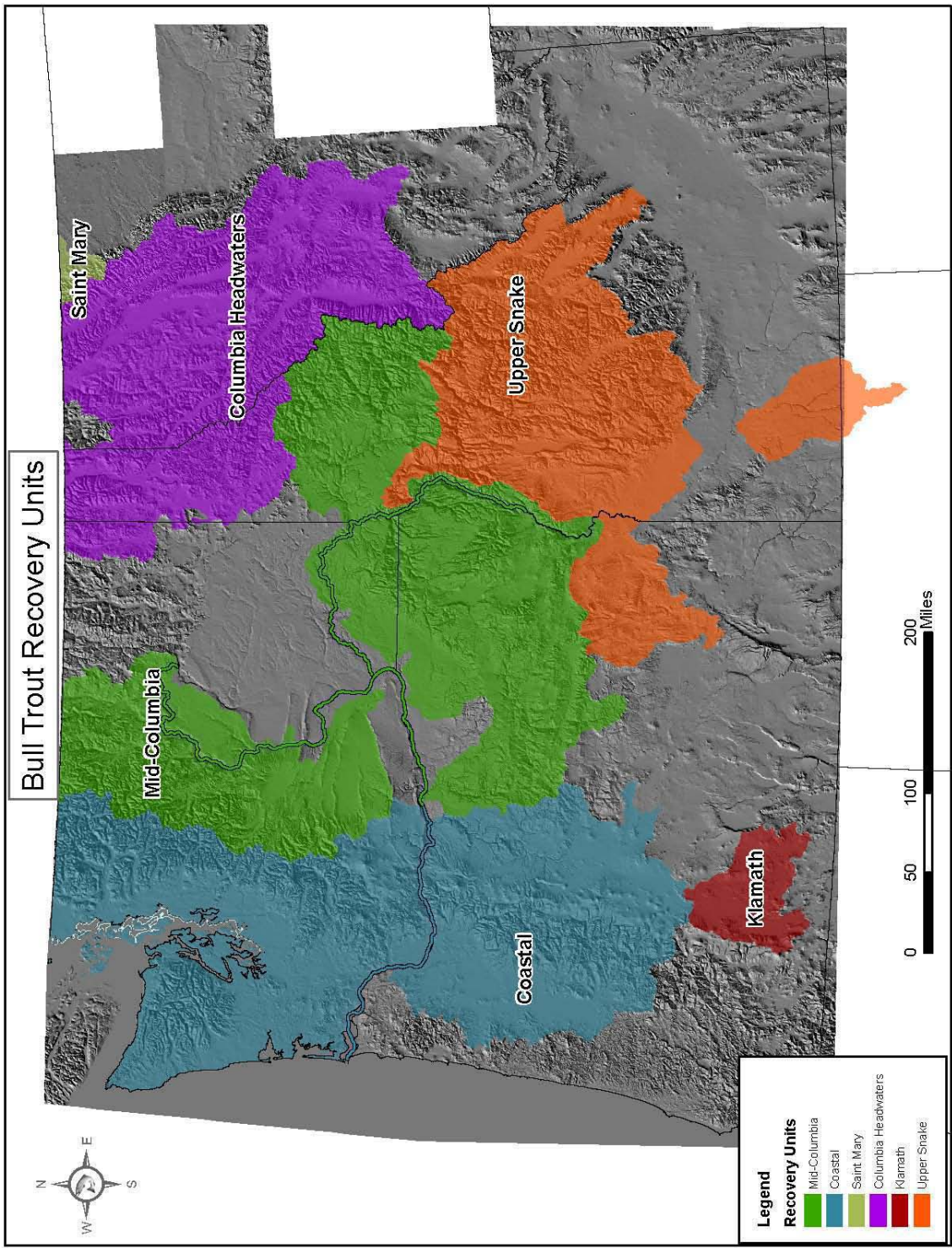


Figure 1. Six draft bull trout Recovery Units in the Pacific Northwest of the United States

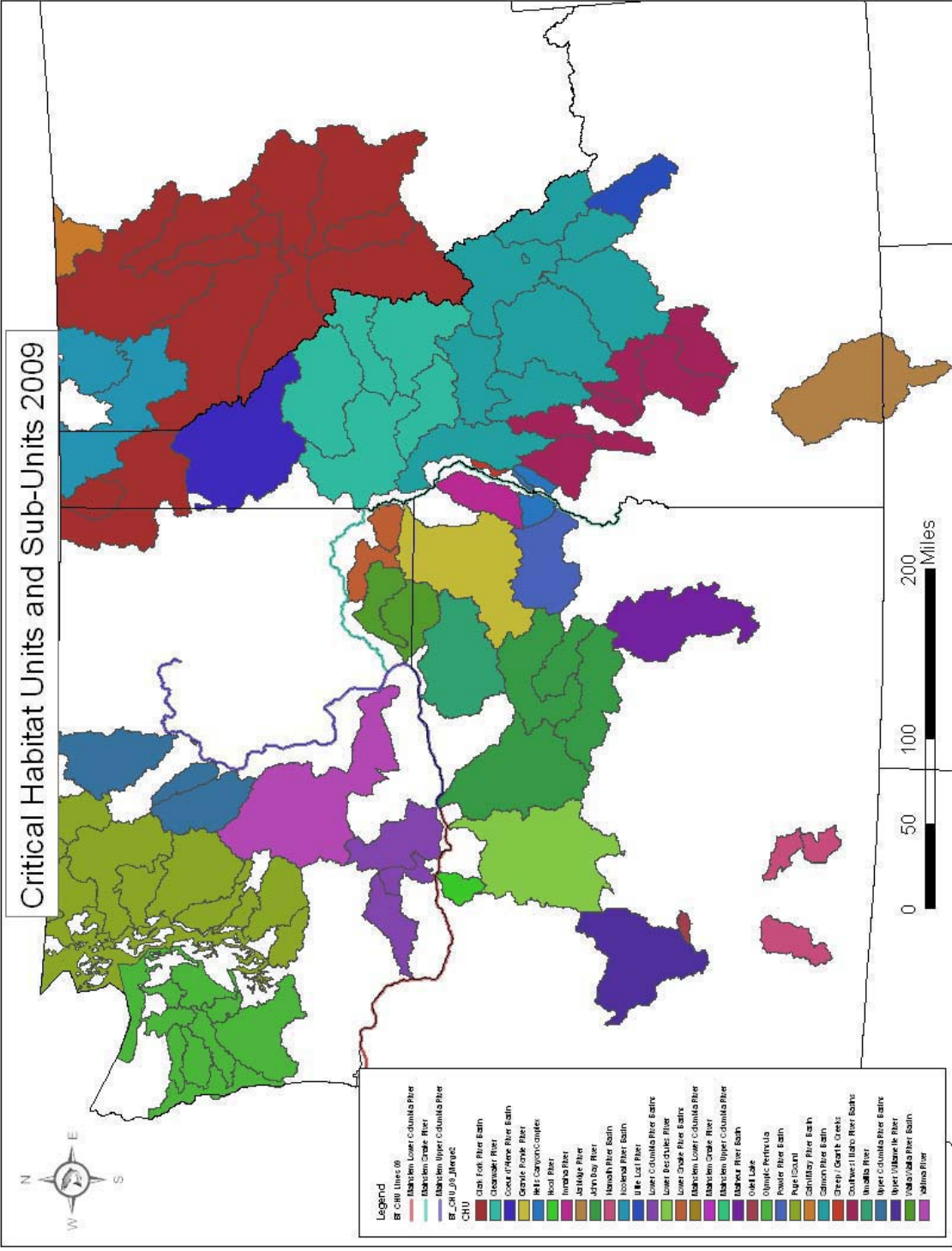


Figure 2. Thirty-two bull trout Critical Habitat Units (colored polygons) with 99 Critical Habitat Subunits delineated within each Unit

EVALUATION TABLES

Areas were evaluated using the following seven Guiding Principles (GPs) for Bull Trout Conservation.

1. Conserve opportunity for diverse life-history expression
2. Conserve opportunity for genetic diversity
3. Ensure bull trout are distributed across representative habitats
4. Ensure sufficient connectivity among populations
5. Ensure sufficient habitat to support population viability (e.g., abundance, trend indices)
6. Consider threats (e.g., climate change)
7. Ensure sufficient redundancy in conserving population units

Some areas may be essential for conservation due to life history, genetic, or habitat value or uniqueness or in their connection to adjacent core areas. Beyond these first four guiding principles, we can then use population or habitat quantity, threats, and relative distribution measures to prioritize core areas for protection. The tables below detail the evaluation and contain the following information:

- Column 1—Name of CHU within the RU and critical habitat subunit (CHUSU) within the CHU
- Column 2—Provides the name of the core area or shared FMO habitat
- Column 3—GP 1, Predominant Life-History, states if the population is resident or migratory and the migratory form (amphidromous, adfluvial, fluvial, allacustrine) in order of dominance
- Column 4—GP 2a, Gene Diversity (H_e) states the expected heterozygosity of the population (blank = no data; multiple numbers = multiple samples within that area)
- Column 5—GP 2b, Allelic Richness (AR) provides the number of alleles within a population corrected for sample size (blank = no data; multiple numbers = multiple samples within that area)
- Column 6—GP 2c, Genetic Uniqueness (CSE Chord Distance) gives the mean distance of a population compared to all other populations within the Recovery Unit (blank = no data)
- Column 7—GP3, Unique Habitat Type includes unusual habitat type for the RU (e.g., warm, arid climate; natural isolation; unique species assemblage; glacial river system)
- Column 8—GP4, Connectivity to Other Core Areas states the degree to which fish may emigrate from and immigrate to the core area
- Column 9—GP5, Population Size provides a range of the number of adults in the population
- Column 10—GP 5, Area of Occupancy provides the linear distance of stream or shoreline habitat occupied in kilometers (km)
- Column 11—GP 6, Threats ranks threats from NatureServe status assessment (0.26 = highest threat and 3.77 = lowest threat listed in this table)

- Column 12—GPs 3 and 7, Distribution and Redundancy describes the areas similarity to or uniqueness from other core areas and the degree to which this population enhances redundancy of populations in the RU
- Column 13—Summarize how essential each core area is to the recovery unit—integrates all columns, considers geographic location and redundancy, and highlights primary reasons a core area is/is not essential

Mid-Columbia Recovery Unit

CHU—CHSU	Core Area or Shared FMO Habitat	Predominant Life History (1)	Genetic Diversity (He) (2a)	Genetic Diversity (AR) (2b)	Genetic Uniqueness (CSE Chord Distance) (2c)	Unique Habitat Type (3)	Connectivity to Other Core Areas (4)	Population Size (NatureServe Value Range) (5)	Area of Occupancy (km) (NatureServe Value Range) (5)	Threats-based Risk Score (NatureServe Rank Factor Value) (6)	Distribution and Redundancy (3&7)	Summarize How Essential Each Core Area is to the Recovery Unit
Lower Snake River Basins—Tucannon River	Tucannon River Core Area	Fluvial	0.62	5.46	0.0506		Movement from Tucannon to Snake River documented.	200–500	40–200	1.27		The entire occupied area is essential; the Tucannon River population is one of the larger in eastern ORWA and conditions in the basin seem well suited for recovery
Lower Snake River Basins—Asotin Creek	Asotin Creek Core Area	Fluvial	0.58	4.58	0.0526		Unknown, probably limited	50–250 small. Only 12 redds found in spawning areas in 2006, down from 68 redds in 1989.	40–200	0.64		The entire occupied area is essential for conservation because Asotin Creek bull trout are genetically distinct from populations in the Tucannon, Walla Walla, and Wenaha Rivers
Grande Ronde River	Grande Ronde River Core Area	Fluvial and resident	Losline 0.49 SF Wenaha 0.61 NF Catherine 0.49	Losline 3.57 SF Wenaha 5.11 NF Catherine 4.07	Losline 0.0599 SF Wenaha 0.0505 NF Catherine 0.0539	Large geographical area through a variety of habitats	Yes	250–1,000/690 (10 pops)	200–1,000	2.19	Ten populations that include both fluvial and resident life histories spread over a large geographical area	The entire occupied and some unoccupied areas are essential for conservation to keep this diverse core area functional; is somewhat of a stronghold in Oregon
Grande Ronde River	Little Minan Core Area	Resident	ND	ND	ND		Yes (one way)	250–1,000/420 (1 pop)	4–40	1.29		The entire occupied area is essential for conservation because this is a stable, relatively strong resident population with few threats that is located above a natural barrier
Imnaha River	Imnaha River Basin Core Area	Fluvial and resident	0.56	4.79	0.0539	Large geographical area through a variety of habitats	Yes	1,000–2,500 / estimated at 1,500 (4 populations)	200–1,000	1.94	Four healthy populations with excellent habitat conditions (overall); fluvial and resident populations; spread over a large geographic area.	The entire occupied area is essential for conservation in part because it is a stronghold in Oregon
Sheep and Granite Creeks	Granite Creek	Fluvial and resident				No	Yes	50–250	<4	1.01	Southwesternmost extent of the RU	Essential for conservation because the location of the core area in the RU provides redundancy
Sheep and Granite Creeks	Sheep Creek	Fluvial and resident				No	Yes	50–250	<4	1.01	Southwesternmost extent of the RU	Essential for conservation because the location of the core area in the RU provides redundancy
Hells Canyon Complex	Pine, Indian, and Wildhorse	Resident and fluvial				No	No	400	4–40	1.83	Southeasternmost extent of the RU; located at the upper extent of the RU	Essential for conservation because the location of the core area in the RU provides redundancy
Powder River	Powder River Core Area	Resident	ND	ND	ND	Upper Eikhorn Mountains—limited to remaining intact habitat	No (isolated by Powder River reservoirs and Snake River dams)	250–1,000 / abundance is unknown; the last estimate made in 1991 was 500	200–1,000	2.05	Forms the southeastern boundary of the Mid-Columbia RU	Entire occupied area is essential for conservation; presumed occupied area of Eagle Creek and unoccupied FMO to connect local populations in the upper Powder drainages
Clearwater River—Middle-Lower Fork Clearwater River	Lower/Middle Forks Clearwater River	Fluvial				No	Yes	1–250	294	2.09	Provides connectivity for multiple core areas	Essential for conservation because it is necessary to maintain connectivity within the unit

**BULL TROUT PROPOSED CRITICAL HABITAT
JUSTIFICATION:
RATIONALE FOR WHY HABITAT IS ESSENTIAL, AND
DOCUMENTATION OF OCCUPANCY**

**APPENDIX 2—
WATER BODY SEGMENTS PROPOSED AS CRITICAL HABITAT FOR BULL
TROUT, INCLUDING DOCUMENTATION OF OCCUPANCY AND SITE-SPECIFIC
RATIONALE**

**U.S. Fish & Wildlife Service
Pacific Region, Portland, Oregon**

November 10, 2009

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ABBREVIATIONS, ACRONYMS, AND UNITS OF MEASURE

AR	allelic richness
CA	core area
CHU	Critical Habitat Unit
CHSU	Critical Habitat Subunit
CSE	Cavalli-Sforza and Edwards
FMO	foraging, migration, and overwintering
GP	guiding principles
He	heterozygosity
inches	in
km	kilometer
RU	Recovery Unit
SR	spawning and rearing

INTRODUCTION

The U.S. Fish and Wildlife Service (Service) evaluated bull trout core areas and foraging, migration, and overwintering (FMO) habitat in each of the following 6 Recovery Units (RUs) (Figure 1), 32 Critical Habitat Units (CHUs) (Figure 2), and 99 Critical Habitat Subunits (CHSUs):

A. Coastal Recovery Unit

1. Olympic Peninsula
 - a. Dungeness River
 - b. Elwha River
 - c. Hoh River
 - d. Queets River
 - e. Quinault River
 - f. Skokomish River
 - g. Hood Canal
 - h. Strait of Juan de Fuca
 - i. Pacific Coast
 - j. Chehalis River/Grays Harbor
2. Puget Sound
 - a. Chilliwack River
 - b. Nooksack River
 - c. Lower Skagit River
 - d. Upper Skagit River
 - e. Stillaguamish River
 - f. Samish River
 - g. Snohomish–Skykomish River
 - h. Lake Washington
 - i. Lower Green River
 - j. Lower Nisqually River
 - k. Chester Morse Lake
 - l. Puyallup River
 - m. Puget Sound Marine
3. Lower Columbia River Basins
 - a. Lewis River
 - b. Klickitat River
 - c. White Salmon River
4. Upper Willamette River
5. Hood River
6. Lower Deschutes River
7. Odell Lake
8. Mainstem Lower Columbia River

B. Klamath Recovery Unit

9. Klamath River Basin
 - a. Upper Klamath Lake
 - b. Sycan river

- c. Upper Sprague River
- C. Mid-Columbia Recovery Unit
 - 10. Upper Columbia River Basins
 - a. Methow River
 - b. Chelan River
 - c. Entiat River
 - d. Wenatchee River
 - 11. Yakima River
 - 12. John Day River
 - a. Lower Mainstem John Day River
 - b. North Fork John Day River
 - c. Middle Fork John Day River
 - d. Upper Mainstem John Day River
 - 13. Umatilla River
 - 14. Walla Walla River Basin
 - a. Walla Walla River
 - b. Touchet River
 - 15. Lower Snake River Basins
 - a. Tucannan River
 - b. Asotin Creek
 - 16. Grande Ronde River
 - 17. Imnaha River
 - 18. Sheep and Granite Creeks
 - 19. Hells Canyon Complex
 - a. Indian Creek
 - b. Pine Creek
 - c. Wildhorse River
 - 20. Powder River Basin
 - 21. Clearwater River
 - a. Middle–Lower Fork Clearwater River
 - b. South Fork Clearwater River
 - c. Selway River
 - d. Lochsa River (and Fish Lake)
 - e. North Fork Clearwater River (and Fish Lake)
 - 22. Mainstem Upper Columbia River
 - 23. Mainstem Snake River
- D. Upper Snake Recovery Unit
 - 24. Malheur River Basin
 - 25. Jarbidge River Basin
 - 26. Southwest Idaho River Basins
 - a. Weiser River
 - b. Squaw Crreek
 - c. North Fork Payette River
 - d. Middle Fork Payette River
 - e. Upper South Fork Payette River
 - f. Deadwood River

- g. Arrowrock
- h. Anderson Ranch
- 27. Salmon River Basin
 - a. Little-Lower Salmon
 - b. South Fork Salmon River
 - c. Middle Salmon River–Chamberlain River
 - d. Middle Fork Salmon River
 - e. Middle Salmon–Panther River
 - f. Lake Creek
 - g. Opal Lake
 - h. Lemhi River
 - i. Pahsimeroi River
 - j. Upper Salmon River
- 28. Little Lost River
- E. Columbia Headwaters Recovery Unit
 - 29. Coeur d’Alene River Basin
 - 30. Kootenai River Basin
 - a. Kootenai River
 - b. Lake Koocanusa
 - 31. Clark Fork River Basin
 - a. Priest Lakes
 - b. Lake Pend Oreille
 - c. Lower Clark Fork River
 - d. Middle Clark Fork River
 - e. Upper Clark Fork River
 - f. Bitterroot River
 - g. Rock Creek
 - h. Blackfoot River
 - i. Clearwater River and Lakes
 - j. Flathead
 - k. Swan
 - l. South Fork Flathead
- F. Saint Mary Recovery Unit
 - 32. Saint Mary River Basin

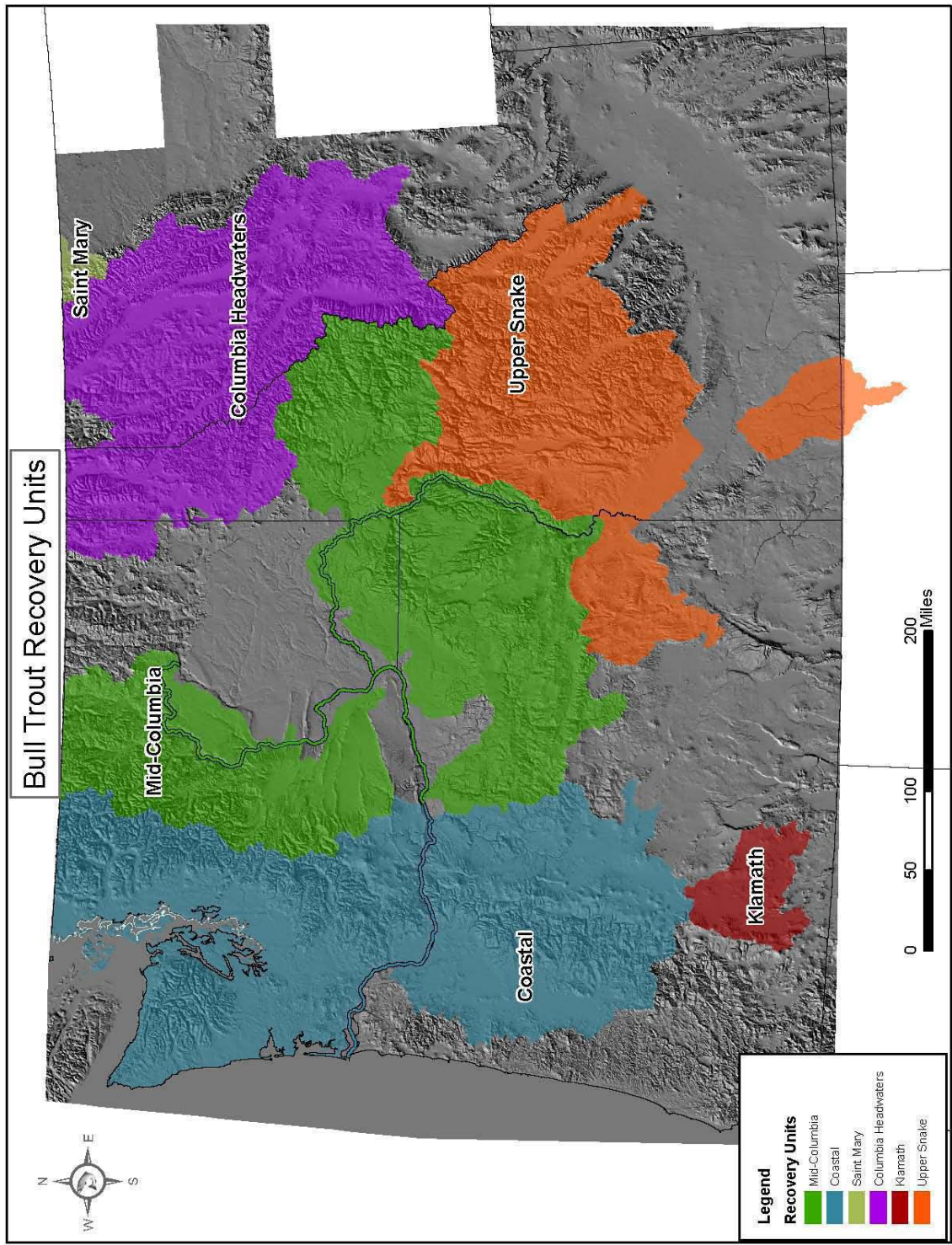


Figure 1. Six draft bull trout Recovery Units in the Pacific Northwest of the United States

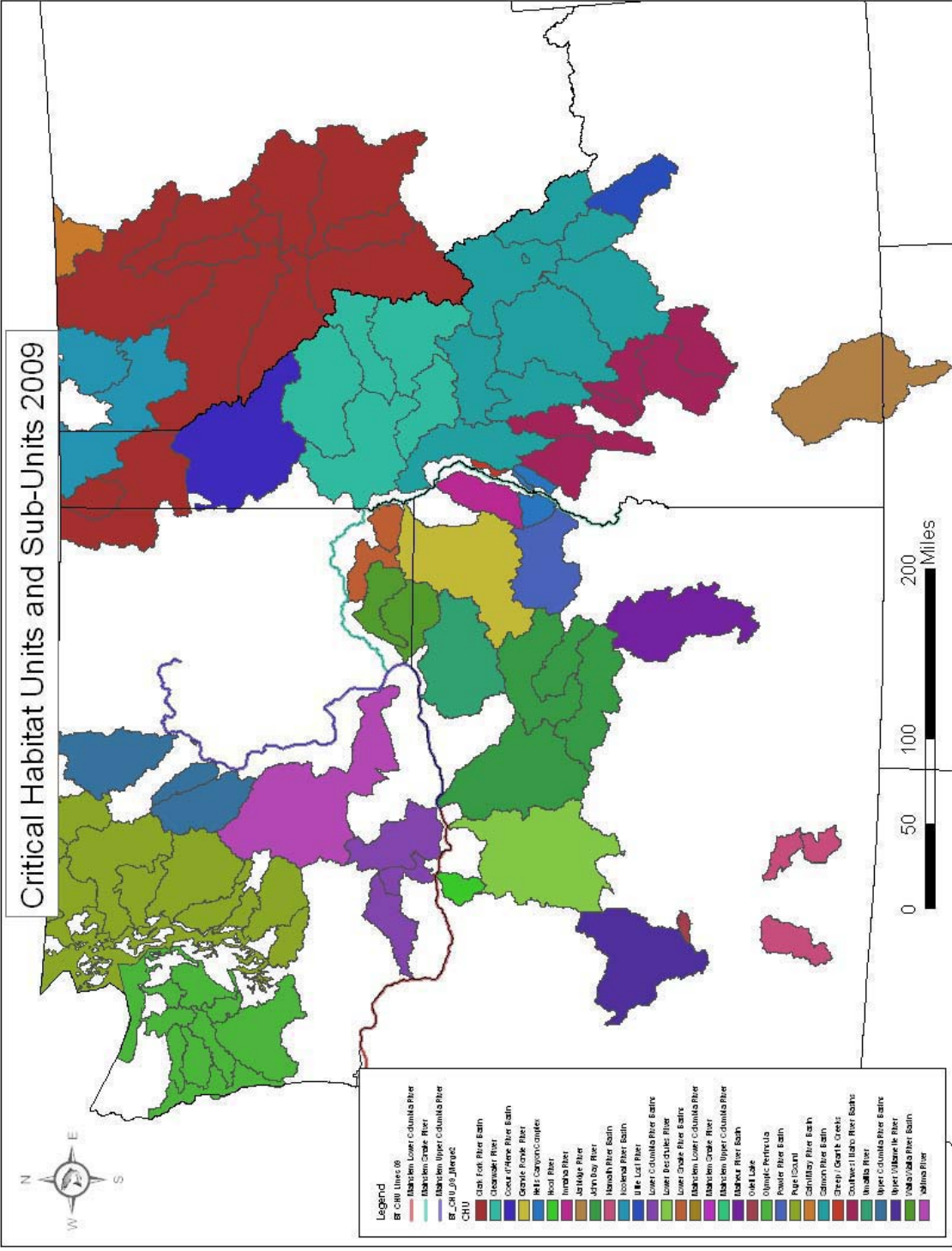


Figure 2. Thirty-two bull trout Critical Habitat Units (colored polygons) with 99 Critical Habitat Subunits delineated within each Unit

EVALUATION TABLES

Areas were evaluated using the following seven Guiding Principles (GPs) for Bull Trout Conservation.

1. Conserve opportunity for diverse life-history expression
2. Conserve opportunity for genetic diversity
3. Ensure bull trout are distributed across representative habitats
4. Ensure sufficient connectivity among populations
5. Ensure sufficient habitat to support population viability (e.g., abundance, trend indices)
6. Consider threats (e.g., climate change)
7. Ensure sufficient redundancy in conserving population units

Some areas may be essential for conservation due to life history, genetic, or habitat value or uniqueness or in their connection to adjacent core areas. Beyond these first four guiding principles, we can then use population or habitat quantity, threats, and relative distribution measures to prioritize core areas for protection. The tables below detail the evaluation and contain the following information:

- Column 1—Name of CHU within the RU and critical habitat subunit (CHUSU) within the CHU
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- Column 4—GP 2a, Gene Diversity (H_e) states the expected heterozygosity of the population (blank = no data; multiple numbers = multiple samples within that area)
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- Column 7—GP3, Unique Habitat Type includes unusual habitat type for the RU (e.g., warm, arid climate; natural isolation; unique species assemblage; glacial river system)
- Column 8—GP4, Connectivity to Other Core Areas states the degree to which fish may emigrate from and immigrate to the core area
- Column 9—GP5, Population Size provides a range of the number of adults in the population
- Column 10—GP 5, Area of Occupancy provides the linear distance of stream or shoreline habitat occupied in kilometers (km)
- Column 11—GP 6, Threats ranks threats from NatureServe status assessment (0.26 = highest threat and 3.77 = lowest threat listed in this table)

- Column 12—GPs 3 and 7, Distribution and Redundancy describes the areas similarity to or uniqueness from other core areas and the degree to which this population enhances redundancy of populations in the RU
- Column 13—Summarize how essential each core area is to the recovery unit—integrates all columns, considers geographic location and redundancy, and highlights primary reasons a core area is/is not essential

The following definitions are important for understanding the tables below:

Occupied

Presence of bull trout documented within approximately the last four bull trout generations (roughly 20 years), or within approximately the last eight generations (roughly 40 years) if information suggests they could still be present but no significant survey effort has been made to detect them within approximately the past 20 years, throughout similarly suitable and connected habitat contiguous with the point of documentation.

Unoccupied

Areas where bull trout occurred but their presence has not been documented within approximately the last 20 years where significant survey effort has been expended throughout portions of suitable habitat that would detect bull trout if present.

Presumed

Bull trout may be present based on historical, anecdotal, or evidential information including factors such as likely suitable habitat adjacent to occupied habitat.

Rule set for “presumed”:

1. Waterbody does not meet the definition of "occupied"; and
2. Waterbody is connected to a waterbody that meets the definition of "occupied"; and
3. Waterbody likely is accessible to bull trout with habitat conditions comparable to the "connected-occupied" waterbody, including at least seasonal habitat conditions adequate to support bull trout; and
4. Waterbody is mapped at the 100k level

For the three “occupancy” definitions above:

Presence: Indication of a population of bull trout, such as: evidence of reproduction, detection of multiple adult bull trout within a year, or of individual bull trout over multiple years, in potentially suitable habitat.

Significant survey effort: Defined by FWS field biologists based on scientific parameters including: frequency of effort, effectiveness of techniques, amount of area, quality of habitat, and timing of sampling.

Spawning and Rearing habitat (SR)

Stream reaches and the associated watershed areas that provide all habitat components necessary for spawning and juvenile rearing for a local bull trout population. Spawning and rearing habitat generally supports multiple year classes of juveniles of resident or migratory fish and may also support subadults and adults from local populations of resident bull trout.

Foraging, Migrating, and Overwintering habitat (FMO)

Relatively large streams and mainstem rivers, including lakes or reservoirs, estuaries, and nearshore environments, where subadult and adult migratory bull trout forage, migrate, mature, or overwinter. This habitat is typically downstream from spawning and rearing habitat and contains all the physical elements to meet critical overwintering, spawning migration, and subadult and adult rearing needs. Although use of foraging, migrating, and overwintering habitat by bull trout may be seasonal or very brief (as in some migratory corridors), it is a critical habitat component.

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Anthony Creek	OR	Anthony Creek provides FMO habitat from the confluence with the Powder River upstream 7.9 km (4.9 mi), and 17.9 km (11.1 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Bull trout in Anthony Creek and its tributaries, North Anthony Creek and Indian Creek form a single local population (Service 2004, p. 21). Upstream fish movement in Anthony Creek is limited by a waterfall located approximately 10 km (6.2 mi) upstream from the confluence with Indian Creek (Buchanan et al. 1997a, p. 136). There are also two major diversion structures on Anthony Creek downstream of known bull trout distribution which result in reduced flows and elevated temperatures (USFS 1995c, p. 24; Buchanan et al. 1997a, p. 137).	See text for this CHSU, above	1180600 450132.1
Powder River Basin—None	Anthony Creek	OR	Anthony Creek provides FMO habitat from the confluence with the Powder River upstream 7.9 km (4.9 mi), and 17.9 km (11.1 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Bull trout in Anthony Creek and its tributaries, North Anthony Creek and Indian Creek form a single local population (Service 2004, p. 21). Upstream fish movement in Anthony Creek is limited by a waterfall located approximately 10 km (6.2 mi) upstream from the confluence with Indian Creek (Buchanan et al. 1997a, p. 136). There are also two major diversion structures on Anthony Creek downstream of known bull trout distribution which result in reduced flows and elevated temperatures (USFS 1995c, p. 24; Buchanan et al. 1997a, p. 137).	See text for this CHSU, above	1180600 450132.2

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Big Muddy Creek	OR	<p>Big Muddy Creek from the headwaters downstream approximately 7.9 km (4.9 mi) is considered SR habitat. Bull trout have been found in Big Muddy Creek, but the full extent of their distribution is currently uncertain (Buchanan et al. 1997a, p. 134; USFS and BLM 1999, p. 22; RUT 2001, p. 27). A diversion on Big Muddy Creek, downstream from known bull trout habitat, and several road culverts along with a large downstream headcut may be passage barriers (Mirati 1999, p. ; P/PBTW 1999, p. 6; RUT 2001, p. 34). Big Muddy Creek from the confluence with the Powder River upstream 9.3 km (5.8 mi) is currently unoccupied, but with recovery could provide FMO habitat. A diversion on Big Muddy Creek, downstream from known bull trout habitat, and several road culverts along with a large downstream headcut may be passage barriers (P/PBTW 1999, p. 6; RUT 2001, p. 34). Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1179463 449401.1
Powder River Basin—None	Big Muddy Creek	OR	<p>Big Muddy Creek from the headwaters downstream approximately 7.9 km (4.9 mi) is considered SR. Bull trout have been found in Big Muddy Creek, but the full extent of their distribution is currently uncertain (Buchanan et al. 1997a, p. 134; USFS and BLM 1999, p. 22; RUT 2001, p. 27). A diversion on Big Muddy Creek, downstream from known bull trout habitat, and several road culverts along with a large downstream headcut may be passage barriers (Mirati 1999, p. ; P/PBTW 1999, p. 6; RUT 2001, p. 34). Big Muddy Creek from the confluence with the Powder River upstream 9.3 km (5.8 mi) is currently unoccupied, but with recovery could provide FMO habitat. A diversion on Big Muddy Creek, downstream from known bull trout habitat, and several road culverts along with a large downstream headcut may be passage barriers (P/PBTW 1999, p. 6; RUT 2001, p. 34). Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1179463 449401.2

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Cracker Creek	OR	<p>Cracker Creek from the confluence with the McCully Fork (the upstream extent of the Powder River) upstream 13.5 km (8.4 mi) to its perennial headwaters, is proposed as critical habitat. Cracker Creek provides connectivity between bull trout in two headwater tributaries (Silver and Little Cracker Creeks) within the upper Powder River local population, which is essential for recovery (Service 2004, pp. 74-75). It is presumed, but actually unknown, if bull trout are present or using Cracker Creek, but upper Cracker Creek may provide 4.7 km (2.9 mi) of SR habitat and allow for expansion of the upper Powder River local population (USFS 1999d. Expansion of distribution within existing local populations is called for in the draft recovery plan (Service 2004, p. 78). Connectivity with other local populations within the Powder River Basin via lower Cracker Creek is also necessary for recovery (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1182058 447415.1
Powder River Basin—None	Cracker Creek	OR	<p>Cracker Creek from the confluence with the McCully Fork (the upstream extent of the Powder River) upstream 13.5 km (8.4 mi) to its perennial headwaters, is proposed as critical habitat. Cracker Creek provides connectivity between bull trout in two headwater tributaries (Silver and Little Cracker creeks) within the upper Powder River local population, which is essential for recovery (Service 2004, pp. 74-75). It is presumed, but actually unknown, if bull trout are present or using Cracker Creek, but upper Cracker Creek may provide 4.7 km (2.9 mi) of SR habitat and allow for expansion of the upper Powder River local population (USFS 1999, p. xx). Expansion of distribution within existing local populations is called for in the draft recovery plan (Service 2004, p. 78). Connectivity with other local populations within the Powder River Basin via lower Cracker Creek is also necessary for recovery (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1182058 447415.2

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Deer Creek	OR	Deer Creek from its confluence with the north bank of Phillips Reservoir on the Powder River upstream 9.2 km (5.7 mi) to the confluence with Lake Creek is proposed as critical habitat. Stream survey data for Deer Creek indicate that primary constituent elements for habitat complexity and migratory corridors are present (USFS 1999, p.). It is currently uncertain if bull trout use Deer Creek for spawning or at other times of the year as FMO habitat (USFS 1999, p.). However, Deer Creek provides a potential migration corridor for bull trout from Lake Creek to access the reservoir and the Powder River (P/PBTW 1999, p. 2).	See text for this CHSU, above	1180605 446836
Powder River Basin—None	Eagle Creek	OR	Potential FMO habitat 34.0 km (21.1 mi) is present in Eagle Creek downstream of the confluence with East Fork Eagle Creek. Potential SR habitat is located from the confluence with East Fork Eagle Creek upstream 26.9 km (16.7 mi) to its source. Eagle Creek has numerous historical (1940s-1980s) records and recent (1990s) angler reports of bull trout (USFS 1995b, p. 3; Buchanan et al. 1997a, p. 133). However, 1991 and 1994 surveys failed to locate any bull trout in Eagle Creek (Buchanan et al. 1997a, p. 134). The headwaters of Eagle Creek could support bull trout spawning (Buchanan et al. 1997a, p. 136). Reestablishing a local population of bull trout in the Eagle Creek watershed is necessary for recovery of bull trout in the Powder River Basin, and Eagle Creek may be considered as a site for transplanting bull trout (Service 2004, p.105).	See text for this CHSU, above	1171699 447463.1

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Eagle Creek	OR	<p>Potential FMO habitat 34.0 km (21.1 mi) is present in Eagle Creek downstream of the confluence with East Fork Eagle Creek. Potential SR habitat is located from the confluence with East Fork Eagle Creek upstream 26.9 km (16.7 mi) to its source. Eagle Creek has numerous historical (1940s-1980s) records and recent (1990s) angler reports of bull trout (USFS 1995b, p. 3; Buchanan et al. 1997a, p. 133). However, 1991 and 1994 surveys failed to locate any bull trout in Eagle Creek (Buchanan et al. 1997a, p. 134). The headwaters of Eagle Creek could support bull trout spawning (Buchanan et al. 1997a, p. 136). Reestablishing a local population of bull trout in the Eagle Creek watershed is necessary for recovery of bull trout in the Powder River Basin, and Eagle Creek may be considered as a site for transplanting bull trout (Service 2004, p.105).</p>	See text for this CHSU, above	1171699 447463.2
⁶ Powder River Basin—None	East Fork Eagle Creek	OR	<p>East Fork Eagle Creek from the confluence with Eagle Creek upstream 24.2 km (15.0 mi) to its source is SR habitat and is proposed as critical habitat. The stream has historical (1965-1967) records of bull trout, but current occupancy is unknown (Buchanan et al. 1997a, p. 135). Current habitat conditions and water quality in the headwaters are considered to be excellent and could support bull trout SR (Buchanan et al. 1997a, p. 136). In combination with the headwaters of Eagle Creek and West Fork Eagle Creek, it would provide the SR habitat for a potential local population of bull trout in the Eagle Creek drainage, which is necessary for recovery (Service 2004, p. 28).</p>	See text for this CHSU, above	1173711 449826

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Fruit Creek	OR	Fruit Creek is historical bull trout habitat (Buchanan et al. 1997a, p. 135), and is still considered likely to contain bull trout (USFS 1995a, p. 15). Fruit Creek has several potential fish passage barriers (RUT 2001, p. 6) and evidence of substrate embeddedness (USFS 1995a, p. 23; USFS 1999, p.). However, water temperatures in Fruit Creek are suitable for SR (RUT 2001, p. 5). Implementation of recovery tasks to address habitat issues would allow for natural expansion of distribution, reproductive rates, and numbers of individuals within the upper Powder River local population. Expansion of distribution within existing local populations is called for in the draft recovery plan (Service 2004, p. 78).	See text for this CHSU, above	1182122 448088
Powder River Basin—None 63 33	Indian Creek	OR	Indian Creek provides SR habitat from the confluence with Anthony Creek upstream 8.3 km (5.2 mi) to the end of perennial water. Indian Creek has a potential upstream barrier (0.6 m, 2 ft waterfall) downstream of known bull trout distribution (RUT 2001, p. 17).	See text for this CHSU, above	1181554 450189
Powder River Basin—None	Lake Creek	OR	Lake Creek provides 8.3 km (5.2 mi) of SR habitat for a local population of bull trout from the confluence with Deer upstream to the extent of perennial water. The entire perennial length of Lake Creek is proposed as critical habitat and is essential for recovery (Bellerud et al. 1997, p. 9; Buchanan et al. 1997a, pp. 134 & 135; USFS 1999, p. 3; Service 2004, pp. 78 - 79). The draft recovery plan specifies providing connectivity among local populations within the Powder River Basin (Service 2004, pp. 79-80.)	See text for this CHSU, above	1181079 447494

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Little Cracker Creek	OR	Little Cracker from the confluence with Cracker Creek to the headwaters (3.1 km (1.9 mi)) is known to support bull trout rearing (Bellerud et al. 1997, p. 8, 17), but it is uncertain that spawning is occurring. Brook trout occur in Little Cracker Creek (USFS 1995b, p. 3; Bellerud et al. 1997, p. 11). Little Cracker Creek along with Silver Creek are considered one local population, the upper Powder local population (Service 2004, p. 22). The draft recovery plan specifies providing connectivity among local populations within the Powder River Basin (Service 2004, pp. 79-80.)	See text for this CHSU, above	1181968 448257
Powder River Basin—None	North Fork Anthony Creek	OR	North Fork Anthony Creek provides 8.5 km (5.3 mi) of occupied SR habitat from the confluence with Anthony Creek upstream to the end of perennial water (Buchanan et al. 1997a, p. 136; Bellerud et al 1997, p. 14). Brook trout and brook/bull trout hybrids have been documented in North Fork Anthony Creek (Bellerud et al. 1997, p. 8).	See text for this CHSU, above	1182315 450424
Powder River Basin—None	North Powder River	OR	North Powder River provides FMO habitat from the confluence with the Powder River upstream approximately 33.2 km (20.7 mi), and 5.8 km (3.7 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Adult and juvenile bull trout and hybrids are found in the North Powder River (Hemmingsen, Grunckel, Shappart et al. 2001, p. 20; Bellerud et al. 1997, p. 8; Buchanan et al. 1997a, p. 134).	See text for this CHSU, above	1178956 450385.1
Powder River Basin—None	North Powder River	OR	North Powder River provides FMO habitat from the confluence with the Powder River upstream approximately 33.2 km (20.7 mi), and 5.8 km (3.7 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Adult and juvenile bull trout and hybrids are found in the North Powder River (Hemmingsen, Grunckel, Shappart et al. 2001, p. 20; Bellerud et al. 1997, p. 8; Buchanan et al. 1997a, p. 134).	See text for this CHSU, above	1178956 450385.2

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Pine Creek	OR	<p>Pine Creek from the headwaters downstream approximately 5.2 km (3.2 mi) is occupied SR habitat. Pine Creek contains a local population of bull trout as well as brook trout, although hybridization between the two species has not been documented but would be possible (Service 2004, p. 26). Recovery in the Powder River Basin will include establishing connectivity between the Pine Creek local population, bull trout in Salmon Creek, and other local populations in tributaries to the Powder River (Service 2004, pp. 79-80.).</p> <p>Pine Creek from the confluence with Salmon Creek upstream 11.7 km (7.3 mi) is currently unoccupied, but with recovery could provide FMO habitat. It is proposed as critical habitat to provide connectivity for Pine Creek bull trout to Salmon Creek and the Powder River, and to other local populations in the Powder River upstream of the confluence of the Powder and North Powder Rivers. Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1178945 448493.1

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Pine Creek	OR	<p>Pine Creek from the headwaters downstream approximately 5.2 km (3.2 mi) is occupied SR habitat. Pine Creek contains a local population of bull trout as well as brook trout, although hybridization between the two species has not been documented but would be possible (Service 2004, p. 26). Recovery in the Powder River Basin will include establishing connectivity between the Pine Creek local population, bull trout in Salmon Creek, and other local populations in tributaries to the Powder River (Service 2004, pp. 79-80.).</p> <p>Pine Creek from the confluence with Salmon Creek upstream 11.7 km (7.3 mi) is currently unoccupied, but with recovery could provide FMO habitat. It is proposed as critical habitat to provide connectivity for Pine Creek bull trout to Salmon Creek and the Powder River, and to other local populations in the Powder River upstream of the confluence of the Powder and North Powder Rivers. Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1178945 448493.2

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Powder River (Lower)	OR	<p>Powder River from the confluence with the west bank of Brownlee Reservoir on the Snake River upstream 15.3 km (9.5 mi) to the confluence of the Eagle Creek is potential FMO habitat; from the confluence with Wolf Creek upstream 34.6 km (21.5 mi) to confluence with Salmon Creek is potential FMO habitat; and from Mason Dam upstream 15.9 km (9.9 mi) to the confluence with Cracker Creek is potential FMO habitat. There are historical (1960s) observations of bull trout in the Powder River downstream of Baker City, Oregon, and upstream of Mason Dam (Buchanan et al. 1997a, p. 135). Bull trout can utilize Phillips Reservoir above Mason Dam for FMO habitat in the fall, winter, and spring, but there are no documented records of bull trout presence (Buchanan et al. 1997a, p. 136). Currently, Thief Valley Dam (1931) and Mason Dam (1968) represent upstream fish passage barriers in the mainstem Powder River (Service 2004, p. 32).</p>	See text for this CHSU, above	1170508 447455
Powder River Basin—None	Powder River (Middle)	OR	<p>Powder River from the confluence with the west bank of Brownlee Reservoir on the Snake River upstream 15.3 km (9.5 mi) to the confluence of the Eagle Creek is potential FMO habitat; from the confluence with Wolf Creek upstream 34.6 km (21.5 mi) to confluence with Salmon Creek is potential FMO habitat; and from Mason Dam upstream 15.9 km (9.9 mi) to the confluence with Cracker Creek is potential FMO habitat. There are historical (1960s) observations of bull trout in the Powder River downstream of Baker City, Oregon, and upstream of Mason Dam (Buchanan et al. 1997a, p. 135). Bull trout can utilize Phillips Reservoir above Mason Dam for FMO habitat in the fall, winter, and spring, but there are no documented records of bull trout presence (Buchanan et al. 1997a, p. 136). Currently, Thief Valley Dam (1931) and Mason Dam (1968) represent upstream fish passage barriers in the mainstem Powder River (Service 2004, p. 32).</p>	See text for this CHSU, above	1170508 447456.1

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Powder River (Upper)	OR	<p>Powder River from the confluence with the west bank of Brownlee Reservoir on the Snake River upstream 15.3 km (9.5 mi) to the confluence of the Eagle Creek is potential FMO habitat; from the confluence with Wolf Creek upstream 34.6 km (21.5 mi) to confluence with Salmon Creek is potential FMO habitat; and from Mason Dam upstream 15.9 km (9.9 mi) to the confluence with Cracker Creek is potential FMO habitat. There are historical (1960s) observations of bull trout in the Powder River downstream of Baker City, Oregon, and upstream of Mason Dam (Buchanan et al. 1997a, p. 135). Bull trout can utilize Phillips Reservoir above Mason Dam for FMO habitat in the fall, winter, and spring, but there are no documented records of bull trout presence (Buchanan et al. 1997a, p. 136). Currently, Thief Valley Dam (1931) and Mason Dam (1968) represent upstream fish passage barriers in the mainstem Powder River (Service 2004, p. 32).</p>	See text for this CHSU, above	1170508 447457.1
Powder River Basin—None	Rock Creek	OR	<p>Rock Creek from the headwaters downstream approximately 8.6 km (5.4 mi) is SR habitat. A suspected bull trout was found in Rock Creek upstream of an existing hydroelectric facility (Buchanan et al. 1997a, p. 134). The presence of a local population in Rock Creek has yet to be confirmed (Service 2004, p. 28). Rock Creek has water temperatures sufficiently cold for bull trout, along with deep pools and woody debris (RUT 2001, pp. 6 - 7). Rock Creek from the confluence with the Powder River upstream 11.6 km (7.2 mi) is currently unoccupied, but with recovery could provide FMO habitat. Recovery in the Powder River Basin will include establishing connectivity between the Rock Creek local population and the Powder River (Service 2004, pp. 79-80.).</p>	See text for this CHSU, above	1180646 449100.1

Mid-Columbia Recovery Unit

CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Rock Creek	OR	<p>Rock Creek from the headwaters downstream approximately 8.6 km (5.4 mi) is SR habitat. A suspected bull trout was found in Rock Creek upstream of an existing hydroelectric facility (Buchanan et al. 1997a, p. 134). The presence of a local population in Rock Creek has yet to be confirmed (Service 2004, p. 28). Rock Creek has water temperatures sufficiently cold for bull trout, along with deep pools and woody debris (RUT 2001, pp. 6 - 7). Rock Creek from the confluence with the Powder River upstream 11.6 km (7.2 mi) is currently unoccupied, but with recovery could provide FMO habitat. Recovery in the Powder River Basin will include establishing connectivity between the Rock Creek local population and the Powder River (Service 2004, pp. 79-80.).</p>	See text for this CHSU, above	1180646 449100.2
Powder River Basin—None	Salmon Creek	OR	<p>SR habitat extends from the Forest boundary upstream 5.7 km (3.5 mi) to the headwaters. Known FMO habitat exists from the confluence on the Powder River upstream 4.5 km (2.8 mi). A local population of bull trout inhabits Salmon Creek although it is isolated from other bull trout populations and the mainstem Powder River due to passage barriers (Service 2004, p. 26). Salmon Creek from RKM 4.5 upstream approximately 9.4 km (5.8 mi) is currently unoccupied, but could provide additional FMO habitat for bull trout if restored. It is proposed as critical habitat to connect the two sections of occupied habitat and provide for connectivity with other local populations in the Powder River upstream of the confluence of the Powder and North Powder Rivers. Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).</p>	See text for this CHSU, above	1179032 448876.1

Mid-Columbia Recovery Unit

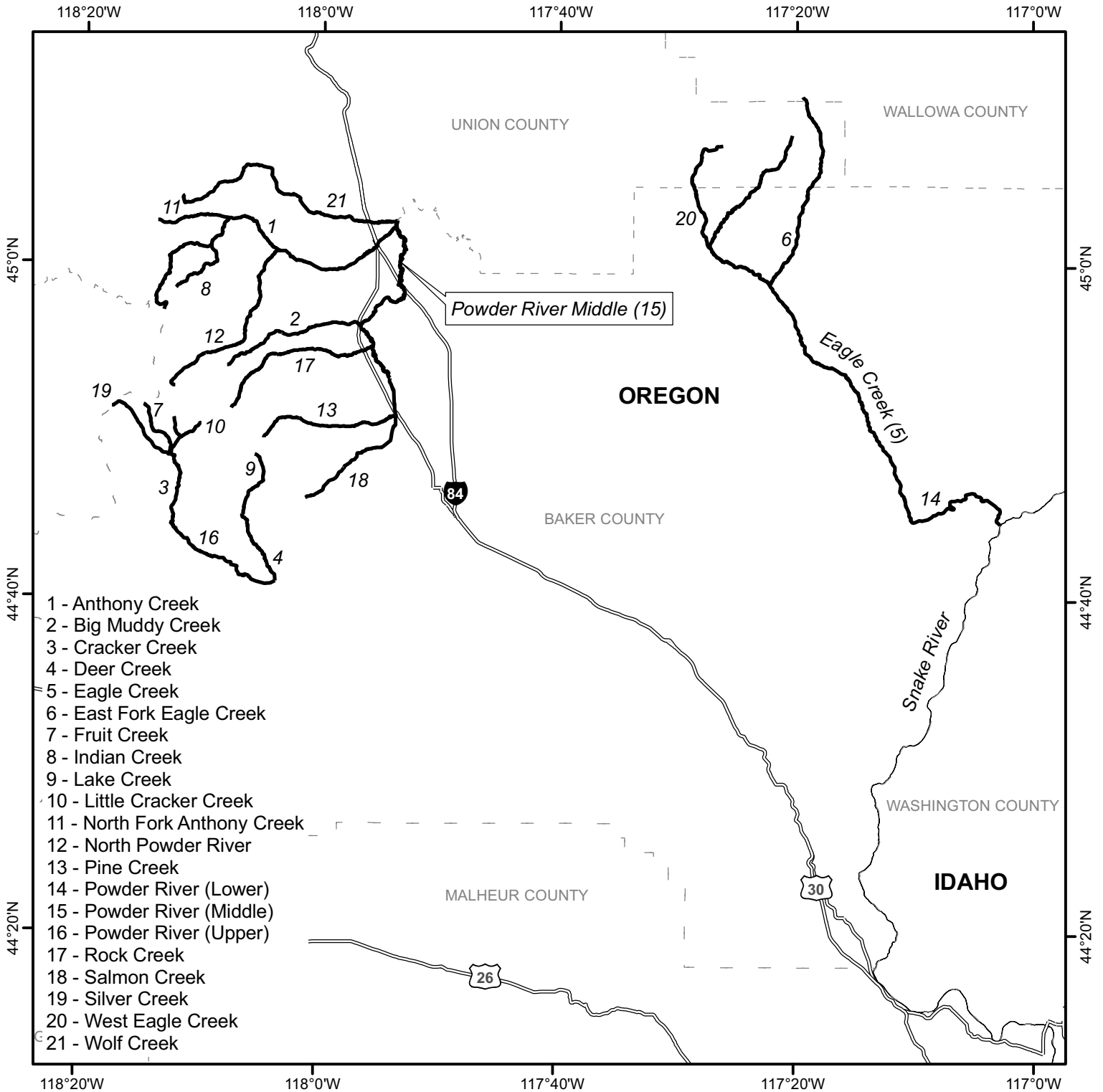
CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Salmon Creek	OR	SR habitat extends from the Forest boundary upstream 5.7 km (3.5 mi) to the headwaters. Known FMO habitat exists from the confluence on the Powder River upstream 4.5 km (2.8 mi). A local population of bull trout inhabits Salmon Creek although it is isolated from other bull trout populations and the mainstem Powder River due to passage barriers (Service.2004, p. 26). Salmon Creek from RKM 4.5 upstream approximately 9.4 km (5.8 mi) is currently unoccupied, but could provide additional FMO habitat for bull trout if restored. It is proposed as critical habitat to connect the two sections of occupied habitat and provide for connectivity with other local populations in the Powder River upstream of the confluence of the Powder and North Powder Rivers. Restoring connectivity between local populations is a criterion for recovery of the Powder Basin bull trout (Service 2004, pp. 79-80).	See text for this CHSU, above	1179032 448876.2
⁶ Powder River Basin—None	Salmon Creek	OR	SR habitat extends from the Forest boundary upstream 5.7 km (3.5 mi) to the headwaters. Known FMO habitat exists from the confluence on the Powder River upstream 4.5 km (2.8 mi). A local population of bull trout inhabits Salmon Creek although it is isolated from other bull trout populations and the mainstem Powder River due to passage barriers (Service.2004, p. 26). Recovery in the Powder River Basin will include establishing connectivity between the Salmon Creek local population and the Powder River and to other local populations in tributaries to the Powder River (Service 2004, pp. 79-80.).	See text for this CHSU, above	1179032 448876.3
Powder River Basin—None	Silver Creek	OR	Silver Creek is an important bull trout SR stream Bellerud et al. 1997, p. 31; Buchanan et al. 1997a, p. 135; USFS 1995a, p. 4; RUT 2001, p. 5). From the confluence with Cracker Creek upstream 0.4 km (0.2 mi) is FMO habitat. The remaining length of the stream, 9.4 km (5.8 mi), provides SR habitat, but will require some restoration.	See text for this CHSU, above	1182078 448087.1

Mid-Columbia Recovery Unit

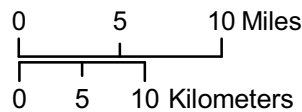
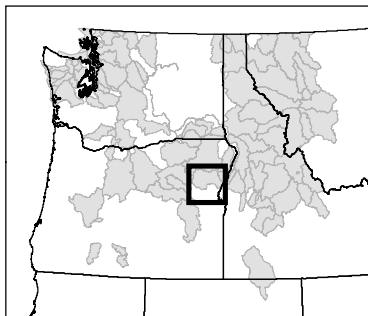
CHU—CHSU	Water Body Name	State	Information Documenting Bull Trout Occupancy	Essential Habitat Rationale	LLID
Powder River Basin—None	Silver Creek	OR	Silver Creek is an important bull trout SR stream (Bellerud et al. 1997, p. 31; Buchanan et al. 1997a, p. 135; USFS 1995a, p. 4; RUT 2001, p. 5). From the confluence with Cracker Creek upstream 0.4 km (0.2 mi) is FMO habitat. The draft recovery plan includes recovery tasks to restore habitat, and address sedimentation and elevated water temperatures, where necessary for recovery (Service 2004, pp. 89-97)	See text for this CHSU, above	1182078 448087.2
Powder River Basin—None	West Eagle Creek	OR	West Eagle Creek from the confluence with Eagle Creek upstream 15.1 km (9.4 mi) to its source is potential SR habitat and is proposed critical habitat. The stream has historical (1965-1967) records of bull trout, but current occupancy is unknown (Buchanan et al. 1997a, p. 134, 135). Current habitat conditions and water quality in the headwaters are considered to be excellent and could support bull trout SR (Buchanan et al. 1997a, p. 136). In combination with the headwaters of Eagle Creek and East Fork Eagle Creek, West Eagle Creek would provide the SR habitat for re-establishment of a potential local population of bull trout in the Eagle Creek drainage, which is necessary for recovery (Service 2004, p. 28).	See text for this CHSU, above	1174544 450192
Powder River Basin—None	Wolf Creek	OR	Wolf Creek provides FMO habitat from the confluence with the Powder River upstream 11.2 km (6.9 mi), and approximately 20.4 km (12.7 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Bull trout currently occur in the headwaters of Wolf Creek above the confluence of Elkhorn Creek (T8S R37E Sections 3, 10, and possibly 9) (Service 2004, p. 28).	See text for this CHSU, above	1178944 450439.1
Powder River Basin—None	Wolf Creek	OR	Wolf Creek provides FMO habitat from the confluence with the Powder River upstream 11.2 km (6.9 mi), and approximately 20.4 km (12.7 mi) of SR habitat from the FMO habitat upstream to the end of perennial water. Bull trout currently occur in the headwaters of Wolf Creek above the confluence of Elkhorn Creek (T8S R37E Sections 3, 10, and possibly 9) (Service 2004, p. 28).	See text for this CHSU, above	1178944 450439.2

Critical Habitat for Bull Trout (*Salvelinus confluentus*)

Unit: 20, Powder River Basin



- 1 - Anthony Creek
- 2 - Big Muddy Creek
- 3 - Cracker Creek
- 4 - Deer Creek
- 5 - Eagle Creek
- 6 - East Fork Eagle Creek
- 7 - Fruit Creek
- 8 - Indian Creek
- 9 - Lake Creek
- 10 - Little Cracker Creek
- 11 - North Fork Anthony Creek
- 12 - North Powder River
- 13 - Pine Creek
- 14 - Powder River (Lower)
- 15 - Powder River (Middle)
- 16 - Powder River (Upper)
- 17 - Rock Creek
- 18 - Salmon Creek
- 19 - Silver Creek
- 20 - West Eagle Creek
- 21 - Wolf Creek



Legend

- Critical Habitat
- Counties

I am working on the draft 401 application to ODEQ. It asks that we include a land use compatibility finding for the activity prepared by the local planning jurisdiction.

I visited with the Baker County Planning Department and they got back to me with the Baker County Zoning Ordinance 83-3 Section 306 that lists the following (project location : Tax Lot 1500 of T 10S, R 38E) Primary Forest Zone (PF). They also added that because the project is located on lands managed by the federal government, Baker County does not have jurisdiction over the land uses associated with this described project.

Who do I need to talk with concerning this activity and request a land use compatibility finding?

Thank you,
Jason



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-Submission ID: 212690
-Docket(s) No.: P-12686-001
-Filed By: Baker County Board of Commissioners
-Signed By: Jason Yencopal
-Filing Desc: Report / Form of Baker County Board of Commissioners under P-12686-001.
Baker County submits its draft Biological Assessment for the Mason Dam Hydroelectric Project
-Submission Date/Time: 10/30/2009 5:20:14 PM
-Filed Date: 11/2/2009 8:30:00 AM

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-Docket(s) No.: P-12686-001
-Filed By: Baker County Board of Commissioners
-Signed By: Jason Yencopal
-Filing Desc: Report / Form of Baker County Board of Commissioners under P-12686-001.
Baker County submits its Preliminary Licensing Proposal for the Mason Dam Hydroelectric Project
-Submission Date/Time: 10/30/2009 5:06:28 PM
-Filed Date: 11/2/2009 8:30:00 AM

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