Federal Register

Wednesday,
October 6, 2004

Part II

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Klamath River and Columbia River Populations of Bull Trout; Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AI52

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Klamath River and Columbia River Populations of Bull Trout

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for the Klamath River and Columbia River populations of bull trout (*Salvelinus confluentus*) pursuant to the Endangered Species Act of 1973, as amended (Act). For the Klamath River and Columbia River populations of bull trout, the critical habitat designation includes approximately 1,748 miles (mi) (2,813 kilometers (km)) of streams and 61,235 acres (ac) (24,781 hectares (ha)) of lakes and marshes. We solicited data and comments from the public on all aspects of the proposed rule, including data on economic and other impacts of the designation.

DATES: This rule becomes effective November 5, 2004.

ADDRESSES: Comments and materials received, as well as supporting documentation used in the preparation of this final rule, will be available for public inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Branch of Endangered Species, 911 NE., 11th Avenue, Portland, OR 97232.

FOR FURTHER INFORMATION CONTACT: John Young, Bull Trout Coordinator, at the above address, (telephone 503/231–6194; facsimile 503/231–6243).

SUPPLEMENTARY INFORMATION:

Designation of Critical Habitat Provides Little Additional Protection to Species

In 30 years of implementing the Act (16 U.S.C. 1531 *et seq.*), we have found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming significant amounts of available conservation resources. Our present system for designating critical habitat has evolved since its original statutory prescription into a process that provides little real conservation benefit, is driven by litigation and the courts rather than biology, limits our ability to fully evaluate the science involved, consumes enormous agency resources, and imposes huge social and economic costs. We believe that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

While attention to, and protection of, habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. Sidle (1987) stated, "Because the ESA can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7."

We address the habitat needs of all 1,211 listed species through conservation mechanisms such as listing, section 7 consultations, the section 4 recovery planning process, the section 9 protective prohibitions of unauthorized take, section 6 funding to the States, and the section 10 incidental take permit process. We believe that it is these measures that may make the difference between extinction and survival for many species.

We note, however, that a recent 9th Circuit judicial opinion, *Gifford Pinchot Task Force* v. *United State Fish and Wildlife Service,* has invalidated the Service's regulation defining destruction or adverse modification of critical habitat. We are currently reviewing the decision to determine what effect it may have on the outcome of consultations pursuant to Section 7 of the Act.

Procedural and Resource Difficulties in Designating Critical Habitat

We have been inundated with lawsuits regarding critical habitat designation, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected us to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves us with little ability to prioritize our activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, our own proposals to list critically imperiled species, and final listing determinations on existing proposals are all significantly delayed.

The accelerated schedules of court ordered designations have left us with almost no ability to provide for adequate public participation or to ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals due to the risks associated with noncompliance with judicially-imposed deadlines. This, in turn, fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, is very expensive, and in the final analysis, provides little additional protection to listed species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects, and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act of 1969 (NEPA) None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated earlier, and they directly reduce the funds available for direct and tangible conservation actions.

Background

Bull trout *(Salvelinus confluentus)* 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, and into Canada, and in the Klamath River basin of south-central Oregon, but the distribution of populations is scattered and patchy. For additional information on the biology, habitat requirements, threats, and range of the bull trout, please refer to the proposed critical habitat rule (67 FR 71235, November 29, 2002) and final listing rule (June 10, 1998, 63 FR 31647).

Historical records for the Klamath River basin suggest that bull trout in this population segment were once widely distributed and exhibited diverse life-history traits in this part of their range (Ziller 1992). Currently, however, bull trout in this basin are almost entirely nonmigratory, resident fish that are confined to headwater streams (Goetz 1989). At time of listing, there were only

seven naturally occurring, nonmigratory populations (Service 1997, 1998, 1999) occurring in the Upper Klamath Lake, Sprague River, and Sycan Marsh watersheds in Oregon. Since then, two small resident and one remnant fluvial population have been discovered. The extant populations represent an estimated 21 percent of the estimated historic range of bull trout in the Klamath River basin (Quigley and Arbelbide 1997). These known remaining local populations are considered to be quite low in abundance; they are highly isolated from one another as a result of natural and human-caused conditions and are at substantial risk of extirpation due to natural disturbance cycles, random events, and other risk factors (Light *et al.* 1996).

The Columbia River population segment includes bull trout residing in portions of Oregon, Washington, Idaho, and Montana. Bull trout are estimated to have once occupied about 60 percent of the Columbia River basin; they presently are known or predicted to occur in less than half (approximately 45 percent) of watersheds in the historical range (Quigley and Arbelbide 1997), which amounts to approximately 27 percent of the basin.

Previous Federal Action

On November 29, 2002, we published the court-ordered proposed critical habitat designation for the bull trout Klamath River and Columbia River populations (67 FR 71235). In that proposed rule, we included a detailed summary of previous Federal actions completed prior to publication of that proposal as it related to all bull trout populations. The comment period was open until January 28, 2003. We now provide updated information on the actions that we have completed since the proposed critical habitat designation.

We reopened the comment period on the proposed rule from February 11, 2003, to May 12, 2003 (68 FR 6863). Subsequently, On April 5, 2004, we published a notice in the **Federal Register** of the availability of the draft economic analysis and reopening of the comment period for 30 days until May 5, 2004 (69 FR 17634).

Summary of Comments and Recommendations

In the proposed rule published on November 29, 2002 (67 FR 71235), we requested that all interested parties submit written comments on the proposal. We also contacted the appropriate Federal, State, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed critical habitat for the Klamath River and Columbia River populations of bull trout. In addition, we held nine public hearings between January 7, 2003, and January 22, 2003, in the following locations: Wenatchee and Spokane, Washington; Polson, Montana; Salmon, Boise, and Lewiston, Idaho; and Eugene, Pendleton, and Klamath Falls, Oregon.

We received a total of 549 written and oral comments during the three comment periods on the proposal published on November 29, 2002 (67 FR 71235), and the draft economic analysis. Of this total number of comments, 137 supported critical habitat, 315 either did not support critical habitat or provided critical comments regarding some portion of the designation, and 97 were neutral in their comments.

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited opinions from four individuals who have expertise with the species and the geographic region where the species occurs and are familiar with conservation biology principles. We also contacted and requested assistance in organizing peer review from the following three organizations: American Fisheries Society, Sustainable Ecosystems Institute, and Plum Creek Timber Company. While all three organizations expressed some interest in participating, only the American Fisheries Society provided assistance in organizing our peer review. All four of the peer reviewers generally supported the proposal, but also provided us with many constructive critical comments which we incorporated into the final rule. Key elements of the reviewers' critical comments were relative to the scope of the proposal, the need for greater prioritization of conservation issues that influence critical habitat designation, a greater emphasis on the need for quality habitat to support the migratory life form of bull trout, and the need for more explanation of why some particular habitat, including areas of degraded habitat, are important to bull trout conservation. Additionally, the reviewers provided many technical comments on the appropriateness and bounds of specific geographic areas proposed as critical habitat.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for the bull trout, and addressed them in the following summary.

Public Comments

Comments Related to the Biology and Process of Critical Habitat

1. *Comment:* The proposed critical habitat for the bull trout fails to account for the importance of habitat connectivity.

Our Response: The draft bull trout Recovery Plan (Service 2002) (draft Recovery Plan), the critical habitat proposal, and the listing rules for bull trout all reflect the scientific literature for this species relative to its conservation needs. The scientific literature indicates that bull trout were likely to have exhibited patchy distribution historically, prior to the arrival of European settlers, due to their habitat requirements and the effects of multiple episodes of glaciation. The critical habitat proposal, therefore, reflects the draft Recovery Plan's objective of ensuring the persistence of self-sustaining and interacting groups of bull trout distributed across their native range, within the limits of existing geographical impediments and subject to the biological characteristics of the species.

2. *Comment:* One commenter suggested that we choose appropriate knowledgeable, unbiased peer reviewers, and suggested that the critical habitat proposal be reviewed by the National Academy of Sciences (Academy) to help ensure an adequate, unbiased panel of reviewers, and to inspire more public confidence in the science behind the proposal.

Our Response: We agree that peer review provided by knowledgeable, unbiased scientists is important. While a National Academy of Sciences review is always appreciated, they are not the only entity capable of providing scientific review. Peer review for the bull trout critical habitat proposal was coordinated by the Western Division of the American Fisheries Society, a professional society dedicated to furthering scientific research and management on fish and other aquatic species in the U.S. Two of the peer reviewers work as research scientists for the U.S. Forest Service (USFS), one as a research scientist for the U.S. Geological Survey (USGS), and one as a research scientist at Colorado State University. All four reviewers have extensive backgrounds in fishery biology and science.

3. *Comment:* Are the current delineations of distinct population segments (DPSs) of the bull trout appropriate?

Our Response: Evaluating DPSs of the bull trout is not part of critical habitat rule-making process. We are required to

designate critical habitat for the species rangewide due to a court settlement and this rule covers the Columbia and Klamath portions of the species' range. However, we are currently conducting a 5 year review of the species' status, and information developed and considered during this review will help us evaluate the appropriateness of DPSs for the bull trout.

4. *Comment:* Many commenters suggested additional streams be designated as critical habitat for the bull trout. Others believed that the proposed designation included inappropriate streams or was excessive in scope.

Our Response: We believe that this designation is based on the best scientific and commercial information available, and includes only that habitat essential to the conservation of the Columbia and Klamath populations of the bulltrout. Comments documenting that proposed stream segments were not essential were evaluated and, when appropriate, used to refine the final designation.

Only those streams, lakes, and reservoirs that we believed to be essential to the conservation of the Columbia and Klamath populations of bull trout, based on the best scientific and commercial data available at the time the proposal was being developed, were included in the proposed critical habitat designation. This does not mean that streams not included in this designation cannot or will not contribute to bull trout recovery, but rather that they were not determined to be essential to the species' conservation.

Those areas that did not contain the physical or biological features essential to the conservation of the Columbia and Klamath populations of bull trout were removed from the designation of critical habitat. For further information refer to the Summary of Changes from the Proposed Rule section below.

5. *Comment:* How do State water quality standards relate to the proposed critical habitat rule and the concept of adverse modification?

Our Response: The Environmental Protection Agency (EPA) and the States share joint responsibility for implementing the Federal Clean Water Act (CWA). Under the CWA, each State develops its own programs to meet minimum Federal requirements and requires EPA to work with the States to ensure compliance. There are two ways in which State water quality standards relate to the designation of critical habitat. First, to the degree that they are influencing the current condition of designated critical habitat, these standards will be addressed in our biological opinions as part of the analysis required under section 7(a)(2) of the Act for any Federal action that may affect critical habitat. That analysis includes a general evaluation of the factors influencing the condition of the entire critical habitat area designated, as well as a more specific analysis of such factors within the critical habitat area affected by the proposed Federal action.

Secondly, States are required under the Federal Clean Water Act to periodically review their water quality standards to determine if they need to be revised. If a State proposes to revise or establishes a standard, that action is subject to approval by the U.S Environmental Protection Agency (EPA). If the proposed standard may affect critical habitat, the EPA is required to formally consult with us under section 7(a)(2) of the Act to ensure that this action does not destroy or adversely modify critical habitat.

6. *Comment:* Those most affected by the designation have not been involved in this designation of critical habitat for the Columbia and Klamath populations of the bull trout.

Our Response: We have strived to include those interested in the designation of critical habitat for the Columbia and Klamath populations of the bull trout in the rule-making process. We developed Recovery Unit Teams comprised of land owners, land managers, scientists, representatives of States, Tribes, and industry, and distributed a draft Recovery Plan outlining recovery objectives. Throughout the process of designating critical habitat, we have attempted to solicit and incorporate comments from those affected by this final rule. We solicited public comment through three public comment periods and nine public hearings, which we accepted oral and written comments. We tried to be responsive to the concerns raised, and diligently tried to address those concerns during the development of this final designation. Unfortunately, our ability to accept comment and work with stakeholders is limited by deadlines imposed by the Court as part of settlement agreements.

7. *Comment:* There are inconsistent unit descriptions between the draft Recovery Plan, draft economic analysis (DEA), and the proposed critical habitat rule.

Our Response: We agree that there are areas where the proposed rule and the DEA do not precisely follow the organization presented in the draft Recovery Plan. We regret any confusion this may have caused. Because the proposed rule and the draft Recovery Plan analysis are related, the organization of units between the two documents is similar. However, chapter one of the draft Recovery Plan has no counterpart in the critical habitat proposal, so subsequent Recovery Plan chapters (*e.g.*, chapters 2, 3, 4, etc.) do not correspond with critical habitat unit descriptions (*e.g.*, units 1, 2, 3, etc.). Additionally, the Columbia and Snake Rivers are treated as critical habitat units 24 and 25 in the proposed and final rule. There are no counterpart chapters in the draft Recovery Plan as the relationship of the Snake and Columbia Rivers to the individual population units are discussed within the appropriate individual chapters.

8. *Comment:* A number of commenters believed that the critical habitat proposal was speculative, not based on scientific principle, had insufficient supporting documentation, and reliance on the draft Recovery Plan was not in compliance with the requirements of the Act.

Our Response: Our proposal was based on the best available data at the time of development. We agree that much of the information is incomplete and the conclusions we reached were based on assumptions we were required to make in the absence of historic or recent data. However, we were required to identify critical habitat based on that information, and we have done so.

The bull trout critical habitat designation is based on the science and information behind the Recovery Plan, not on the Recovery Plan itself. The proposed designation was peer-reviewed by four individuals who have expertise with the species, the geographic region where the species occurs, and are familiar with conservation biology principles. Key elements of the reviewers' critical comments were relative to the scope of the proposal, the need for greater prioritization of conservation issues that influence critical habitat designation, a greater emphasis on the need for quality habitat to support the migratory life form of bull trout, and the need for more explanation of why some particular habitat, including areas of degraded habitat, are important to bull trout conservation. Additionally, the reviewers provided many technical comments on the appropriateness and bounds of specific geographic areas proposed as critical habitat. We incorporated the reviewers' comments into the final rule as well as applicable comments received during the comment period.

Recovery criteria identified in the draft Recovery Plan include trend data and the conservation of the species' distribution, abundance, population, and hydrological connectivity. Shortly

after the species was listed in 1998, we initiated development of a recovery plan for bull trout and convened 27 individual Recovery Unit Teams throughout five States to begin gathering information on the status and conservation needs of the species. These teams were composed of experts in biology, hydrology, forestry, in addition to resource users, and other stakeholders with interest in and knowledge of bull trout and the habitats they depend on for survival. Where available, we incorporated existing State-sponsored bull trout aquatic conservation plans and planning processes to support our information. The recovery planning process generated a considerable body of new information on the specific management and biological needs of bull trout

9. *Comment:* All references to bull trout sightings from unreliable or unsubstantiated sources should be eliminated from the decisionmaking process.

Our Response: We agree. Under the Act, we are required to use the best available information when making our decisions. We critically review all information provided to us. We have received numerous comments from the public and from State and Federal agency personnel relative to specific water bodies and the veracity of supporting documentation regarding bull trout use of such areas. The various data that we collect are weighted based on their verifiability, for example, anecdotal evidence and opinion have less weight than results from published studies or long-term or ongoing monitoring. If we receive information that appears to be "unsubstantiated," we evaluate it as such in the context of all comments received. However, in some cases, information from an "unsubstantiated source" may be the best available information we have for a particular stream. We have modified the proposal accordingly.

10. *Comment:* Reliance upon conservation biology and metapopulation dynamics are invalid assumptions upon which to base a designation of critical habitat as these are theoretical approaches.

Our Response: The critical habitat determination is based on many factors and did not rely directly on metapopulation dynamics. Available information on conservation biology and metapopulation dynamics were factored in along with all of the other information available on specific segments. We acknowledge that there is not universal agreement on application of the metapopulation theory to bull trout populations or group of populations within a watershed. However, several studies indicate existing metapopulation dynamics in bull trout and other char (Rieman and McIntyre 1993; Dunham and Rieman 1999; Spruell *et al.* 1999; Morita *et al.* 2002; Whitely *et al.* 2003).

In the classic view, metapopulations are considered collections of roughly equivalent local populations with similar, but independent, risks of extinction through environmental variability. In the simplest models, local extinctions are balanced by migration and recolonization from extant populations. In recent years, metapopulation models have been extended to consider a variety of more complex systems, including substantial variation in the characteristics and dynamics of local populations, and the patterns and rates of dispersal among them. In the current view, structuring and partial independence of local populations are the fundamental concepts that distinguish a metapopulation from a simple panmictic (mingled) group in a patchy environment.

Any controversy around application of metapopulation theory is how rigidly to apply it. The primary value of metapopulation theory is in understanding the relevance of diversity and complexity of the species to which it is being applied—that salmonid complex life history is a reflection of the diversity of habitats they live in. Metapopulation theory is useful in trying to understand and conserve processes such as dispersal and linkages between landscapes, life history, genetic diversity, and habitat size requirements. Occasional or rare instances of metapopulation dynamics for a species is an implicit component of the concept.

Independent fishery scientist peer review of the draft Recovery Plan and critical habitat proposal, as well as a separate peer review of the Service Science Team Report (Whitesel *et al.* 2004) addressing key issues of bull trout recovery planning (including application of metapopulation theory), did not take issue relative to the application of metapopulation theory to bull trout conservation efforts.

11. *Comment:* One commenter wanted to know whether the description of reservoirs and lakes "at full pool" or "when full" reflected potential conservation concerns when pool levels were less than full, and how designating reservoirs at full capacity as critical habitat is scientifically supported. Also, there were concerns regarding minimum pool requirements at the Boise and Payette Reservoirs that would affect irrigation supply, economics, and groundwater supply.

Our Response: The use of those phrases was meant to delineate the area of the reservoir or lake by means of the high water mark, given that their volumes and areas vary with the seasons as water levels change. No implication as to the conservation benefits of various lake and reservoir levels or effects to proposed critical habitat for bull trout were intended.

12. *Comment:* Several commenters believed that large rivers such as the Columbia and Klamath Rivers are inappropriate as bull trout critical habitat.

Our Response: The Klamath River itself has not been proposed as bull trout critical habitat because we do not have any historical or current data to suggest this river has been used by bull trout. The mainstem Columbia and Snake Rivers have been excluded from critical habitat under Section 4(b)(2) in support of multiple management actions being undertaken in these reaches through the Federal Columbia Power System. The benefits of excluding critical habitat for these areas exceeded the benefits of designating critical habitat.

Segments of large rivers such as the Columbia and Snake Rivers are important to the conservation of the bull trout, because they are interconnected with tributaries that support bull trout and they provide important FMO habitat. Bull trout use of the Columbia River has been well documented by recent radio-tagging studies conducted by the Service (Service 2001, 2002c) and the Chelan, Douglas, and Grant County Public Utility Districts (Kreiter 2001, 2002; BioAnalysts, Inc. 2002). Recoveries of tagged bull trout in the Bonneville Pool that originated from the Hood River (Wachtel 2000) have shown that bull trout are using the mainstem reach of the lower Columbia River as well. Radiotelemetry studies by the Oregon Department of Fish and Wildlife (ODFW) (Hemmingsen *et al.*, 2001a, b), and Idaho Power Company (IPC) (Chandler and Richter 2000) have verified movements of bull trout between tributary streams and the mainstem Snake River. Current bull trout presence in the mainstem Columbia River reflects the strength of the local populations within tributaries and its value as migration corridors between the tributaries.

13. *Comment:* Critical habitat for the Columbia and Klamath populations of the bull trout should be extended to the entire hydrologic watershed.

Our Response: We acknowledged in the proposed rule that upstream habitat,

as well as adjacent terrestrial habitat, can influence the quality of aquatic habitat downstream and downslope. However, due to the complexity and variability of upstream habitat, and the difficulty in mapping that habitat, we are designating only the water bodies that have been determined to be essential to the conservation of the species

14. *Comment:* We received several comments indicating that hybridization is occurring between bull trout and other fish species (*e.g.*, cutthroat trout (*Oncorhynchus clarki*) and brook trout (*Salvelinus fontinalis*)). Some commenters also suggested that the emphasis on connectivity in the draft Recovery Plan, and the identification of migratory corridors as proposed critical habitat, could exacerbate the hybridization issue by providing invasion routes for nonnative species known to hybridize with bull trout, such as brook trout.

Our Response: We acknowledge this concern, and for that reason, are not designating connectivity corridors where we cannot be sure that competing species will not be introduced. Because cutthroat trout and bull trout are not of the same genus, have different spawning periods, and evidence of hybridization between the two has not been previously documented, we believe that hybridization between the two species is unlikely to occur.

Brook trout are known to displace native bull trout populations in some cases. We agree that, in some instances, the potential negative effects of brook trout introduction into habitat occupied by bull trout following the removal of barriers to migration could outweigh the benefits of providing access to expanded foraging, spawning, migratory, and over wintering (FMO) habitat for bull trout. In such cases, a site-specific evaluation should occur before barriers are removed. Areas above barriers were not included in critical habitat if site-specific evaluations had not been completed indicating that these areas were essential to bull trout and that barrier removal would not result in increased risk to the species.

15. *Comment:* Brook, lake trout (*Salvelinus namaycush*), brown (*Salmo trutta*), and rainbow (*Oncorhynchus mykiss*) trout have been introduced into bull trout habitat. These species compete with, and displace, bull trout and may be responsible for its decline. Given the competition between these species and bull trout, how will critical habitat improve this situation?

Our Response: Regardless of whether critical habitat contributes to and aids the conservation of the bull trout, we are required to designate critical habitat for species listed under the Act. One way that critical habitat may improve the nonnative competitor threat is through increased awareness of important bull trout habitat. Direct improvement of this situation may come about through decreases in the introductions of nonnative competitors and fishery management activities aimed at controlling or eradicating these species in bull trout habitat.

16. *Comment:* Several commenters suggested that bull trout are predators or competitors that have negative effects on other native and nonnative species.

Our Response: Bull trout are opportunistic predators that feed largely on other species of fish, both native and nonnative. Prey species consumed by bull trout vary considerably, depending on the location and time period. Bull trout evolved with other native species and, in some instances, because their habitat requirements are somewhat different, there is a limited area of overlapping distribution between them, at least temporally. We are not aware of any published scientific studies or other convincing evidence indicating bull trout predation is the leading cause in the decline of other native or introduced species. Therefore, we believe that any conservation of bull trout will not significantly affect the status of other species across the range of the bull trout. However, in some limited circumstances, local increases in bull trout populations may result in local decreases in other species upon which they prey.

17. *Comment:* One commenter suggested that we should encourage the development of an umbrella Safe Harbor Agreement (SHA) for a broad area such as an irrigation district.

Our Response: We agree. We actively seek the development of appropriate SHAs or other conservation measures and programs.

18. *Comment:* Several commenters stated that HCPs should not be excluded; others believed that excluding HCPs was appropriate.

Our Response: We have determined that lands covered under an existing or pending HCP as discussed, should be excluded from the designation of critical habitat because the benefits of excluding the lands covered by these management plans outweighs the benefits to the species by including them in the designation. Please refer to our discussion concerning the exclusion of approved HCPs later in the rule in the section Relationship to Section 4(b)(2) of the Act.

19. *Comment:* Several commenters questioned the affect of critical habitat on restricting the use of public lands, such as mining, and the impact on private lands.

Our Response: Critical habitat does not create a preserve or prevent access to private land, streams, lakes, or reservoirs. There is no connection between the designation of critical habitat and the use of private land unless there is a Federal nexus. A Federal nexus exists if activities on private lands are funded, authorized, or permitted by a Federal agency. Section 7(a)(4) of the Act requires Federal agencies to consult with us on any action that is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of designated critical habitat. As part of the consultation process, we will offer "reasonable and prudent alternatives" as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid the destruction or adverse modification of 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.

While it is true that mining activities may currently be restricted in some areas (*e.g.*, inwater work periods), these are existing restrictions required by the States and Federal land management agencies to protect natural resources, such as fish, and not due to the designation of critical habitat for bull trout.

20. *Comment:* Several commenters were concerned that the bull trout critical habitat designation will result in greater adverse effects to people, their communities, and their livelihoods than we have indicated.

Our Response: We agree. As a result, a significant portion of the designation has been removed for these reasons and others.

21. *Comment:* Critical habitat could restrict fire prevention and suppression, flood control, and governmental land use planning, as well as interfere with the management of public roadways and bridges.

Our Response: Human safety is a priority for both the Service and the Department. The Service issued "Endangered Species and Fire Policy Clarification" on September 21, 1995 that emphasizes that firefighter safety

comes first and that responses to wildfire should not be delayed for ESA considerations. The Secretary of the Interior provided guidance on Firefighter and public safety on August 20, 2001 that states that "in the event of an emergency, no emergency response is to be delayed or obstructed because of ESA considerations." In emergencies, response to emergencies is first priority and any consultation requirements are addressed after the emergency is over.

22. *Comment:* A number of commenters felt the Service neglected or violated a variety of regulatory or other requirements, including the National Environmental Policy Act of 1969 (NEPA), Small Business Regulatory Enforcement Fairness Act (SBREFA), Title VI of the Civil Rights Act, the Data Quality Act (Pub. L. 106–554), Unfunded Mandates Reform Act, Regulatory Flexibility Act (RFA), and other laws, regulations, orders, and local ordinances.

Our Response: We are not required to prepare an environmental assessment or an environmental impact statement, as defined under the authority of NEPA, in connection with regulations adopted pursuant to section 4(a) of the Act, and in states under the jurisdiction of the 9th Circuit Court. A notice outlining our reason for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244). This position has been upheld by the Ninth Circuit Court of Appeals in *Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995).

We have addressed all the relevant required regulatory determinations in this rule (see Required Determinations section below). We are not required to address Title VI specifically in our rule but believe this rule to be in full compliance with all appropriate laws and regulations. Relative to the Data Quality Act, our intent is to ensure that the most applicable scientific information has been applied in the development of the proposed rule. Both public and peer review of the proposed rule further ensures that the final designation will meet this standard.

23. *Comment:* The Service must take into account the Forest and Fish Report (FFR) law that protects aquatic habitat and water quality on State and private lands.

Our Response: Washington State law H.B. 2091, which codified the FFR, is a science-based plan that protects water quality and fish habitat on over 8 million ac (3.2 million ha) of non-Federal forestland in Washington State. Implementing regulations, developed by the Washington Forest Practices Board, require (1) establishment and retention of riparian buffers along streams to provide shade, large woody debris, and bank stability; (2) a bull trout temperature overlay strategy for streams located in the hotter, dryer environments east of the Cascade Crest; (3) using methods for construction and maintenance of roads and stream crossings that will maintain stream connectivity for fish passage, and shunt road-generated sediments from streams, and repairs to failing roads, bridges, and culverts within specific time frames.

With respect to the PCEs for bull trout critical habitat, we determined that forest practices conducted under the FFR regulations should result in improved water quality, which will promote bull trout reproduction, growth, and survival. Furthermore, implementing these regulations should maintain the thermal regimes of streams within the range of normal variation, contribute to the maintenance of complex stream channels, maintain appropriate substrates, natural hydrograph, ground-water sources and subsurface connectivity, migratory corridors, and provide abundant food sources for bull trout. Because bull trout will benefit from the implementation of the FFR regulations, we have excluded stream segments protected by these regulations. See Washington State Forest Practices Rules and Regulations, as amended by the Forest and Fish Law (FFR) under the Lands to be Excluded from Critical Habitat section below for more information.

24. *Comment:* Several commenters wanted to understand how critical habitat would affect ongoing projects including state water quality standards, flood control, habitat restoration, and hydropower.

Our Response: The designation affects these and other types of projects in two ways. First, the recognition value associated with the designation is intended to influence voluntary modifications, where appropriate, to these activities that would make them compatible with the proper functioning of the critical habitat.

Secondly, where a Federal agency has continuing discretionary involvement or control over the action, compliance with section 7 of the Act is required. If the on-going project may affect critical habitat, the Federal agency is required to formally consult with the Services under section 7(a)(2) of the Act to ensure that this action does not destroy or adversely modify critical habitat.

Because of potentially serious public health and safety issues that could arise as a result of third party lawsuits questioning reservoir operation, this designation does not include them.

25. *Comment:* Given that only the stream reach is being designated as critical habitat, it is unclear what area of land the agencies will view as potentially impacting that stream segment.

Our Response: Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that the value of critical habitat for both the survival and recovery of bull trout is appreciably reduced. The degree of any potential effect will vary with the type of action, the location, and timing of where it occurs. Other variables include the status and extent of critical habitat, and the relationship of the critical habitat segment in question to the population of bull trout that it supports. Where upstream or upslope activities may affect downstream areas of critical habitat, consultation is required.

26. *Comment:* The PCEs are ambiguous and not scientifically defensible. They are not mutually exclusive, nor is it clear how many are essential to bull trout.

Our Response: The proposed bull trout PCEs represent those physical and biological features essential to the conservation of the species and in need of special management or consideration, as required under regulations at 50 CFR 424.12. All the PCEs are essential to the conservation of bull trout, but not all PCEs need to be present at every location within the designated critical habitat. Different PCEs may be important for only certain lifestages or at certain times of the year. Critical habitat needs to have only enough of the PCEs present to allow normal biologic function of the bull trout. We believe that PCEs represent the conservation needs of the species as indicated by the scientific literature. We agree that they are not mutually exclusive.

27. *Comment:* Proposed critical habitat areas, such as the Crooked River in Oregon, lack the physical and biological features essential for the conservation of the species.

Our Response: We agree and have removed that portion of the designation.

28. *Comment:* None of the PCEs are likely to occur in pristine environments, and places where they do are likely to change as a result of natural disturbances. Even in pristine environments, you may not have all the PCEs, and these are likely to change as a result of natural disturbances.

Our Response: We agree that pristine environments may not contain all of the PCEs, and that they can be affected by natural disturbances. In order to be designated as critical habitat, we must first determine if an area is "essential to

the conservation of the species,'' that is, contains primary constituent elements essential for the life cycle needs of the species. See our response to the comment above.

29. *Comment:* Water quality temperature criteria for bull trout currently do not incorporate critical factors such as their ability to survive in higher water temperatures in the laboratory when unlimited food supplies are present, and competition with other species is controlled.

Our Response: The identified range of temperatures where bull trout commonly occur in the wild is supported by the scientific literature, as indicated in the preamble to the proposed rule. We also acknowledge in the preamble that bull trout are known to occur in waters outside of this temperature range for short durations or seasonally. We note that migratory fish may utilize colder micro-environments such as thermal refugia at the mouths of tributary streams, or employ other mechanisms to survive passage through waters not generally suitable for the species. The PCEs reflect those primary biological components essential to the conservation of the species in question in the wild. We are unaware of any circumstances where existing bull trout habitat would replicate the laboratory conditions described. This rule expressly excludes any habitat that currently does not meet the temperature range included in our definition of the primary constituent elements for at least some portion of the year.

30. *Comment:* The proposal does not describe what "special management considerations or protection'' are necessary for proposed bull trout critical habitat, and much of the critical habitat designation overlaps with habitat that is already protected.

Our Response: Special management considerations or protection are those measures necessary to provide for the maintenance of the PCEs of bull trout critical habitat. These include maintaining water quality, providing for stable stream channels and flow regimes, maintaining the complexity of stream channels, and maintaining existing connected migratory corridors free from fish passage barriers. We agree that much of the habitat proposed as bull trout critical habitat is already protected. As we undertake the process of designating critical habitat for a species, we first evaluate lands defined by those physical and biological features essential to the conservation of the species for inclusion in the designation pursuant to section 3(5)(A) of the Act. Secondly, we then evaluate lands defined by those features to assess whether they may require special management considerations or protection. Refer to the Special Management Considerations or Protections section below for further information.

31. *Comment:* Several commenters felt that current Federal land management practices are sufficient to preclude bull trout critical habitat designation for bull trout. Such designation is a duplication of effort since Federal actions, such as allotment management plans, already undergo formal consultation.

Our Response: As specified in the proposed rule, the USFS and Bureau of Land Management (BLM) prepare land management plans which generally guide activities on the National Forest and BLM Districts. These plans provide some level of conservation benefit to species and the habitat they are known to occupy, often a very high level of conservation. Federal lands managed under the Northwest Forest Plan or managed in accordance with PACFISH/INFISH have been excluded under Section 4(b)(2).

32. *Comment:* Scientific applications developed under the Interior Columbia Basin Ecosystem Management Project (ICBEMP) should not be referenced in the critical habitat proposal because ICBEMP was never submitted for regulatory analysis.

Our Response: Although, ICBEMP has not been submitted for regulatory analysis we believe that there is important scientific information that is valuable to the conservation of bull trout that is appropriate to consider.

33. *Comment:* All Warm Springs Reservation lands should be exempted from the proposal.

Our Response: We met with the Confederated Tribes of Warm Springs Reservation of Oregon (CTWS) several times to discuss their ongoing management strategies for bull trout. During the course of these meetings, it became clear that their management was largely compatible with bull trout conservation, and we have excluded their lands under section 4(b)(2) of the Act. Refer to the Tribal Lands under the Lands to be Excluded from Critical Habitat section below for more information.

34. *Comment:* Multiple commenters noted that the Service proposed streams for critical habitat that do not currently support bull trout, but did not provide justification as to why these streams were proposed, and excluded areas where they are more likely to exist without an explanation for these exclusions.

Our Response: We based the designation of critical habitat on the science and information behind the Recovery Plan. However, the necessity of reestablishment in some areas is identified as necessary for recovery in the draft Recovery Plan. Critical habitat was proposed in those areas to assist in providing for the conservation of the species. We have received substantial comments from the public, Federal and State agencies, and peer reviewers on this subject, and have critically reviewed our proposal accordingly and made appropriate changes to this rule. Areas of unknown occupancy and unoccupied habitats were not included in the final designation.

Due to the extent of the designation and supporting information, the final rule includes a summary of the scientific basis of the designation. Refer to the Summary of Changes from the Proposed Rule section for additional information. A complete record of the information is contained in the administrative record for the rule.

35. *Comment:* One commenter thought that the Service did not accurately list the miles of stream or acres of lakes and reservoirs that are currently unoccupied by bull trout. They asked for a recalculation to determine if the numbers were accurate.

Our Response: We received numerous comments on the accuracy of specific stream, river, lake, and reservoir specifications as well as associated biological information. All stream distances and lake or reservoir acreages were calculated using Geographic Information System (GIS) mapping from multiple sources including: the StreamNet GIS database for Idaho, Oregon, Washington, and Montana; and State databases of bull trout distribution. Based on comments, we have made revisions in this rule. For the purposes of this critical habitat rule, the term "occupied'' was applied to streams where there is credible documentation of bull trout sighted within recent historical times (*i.e.*, 20 years). Unoccupied habitat was removed from the designation. Under the ESA, the Secretary of the Interior may include unoccupied lands if she finds that those lands are essential to the conservation of the species. In the case of bull trout, and based on the best scientific data available, it was not possible for the Secretary to make such a determination at this time.

36. *Comment:* Neither the draft Recovery Plan nor the critical habitat proposal describes the scientific basis for determining that bull trout should be recovered into many potential historic habitats.

Our Response: The Draft Recovery Plan does present the basis for determining which populations are in need of expanded adult abundance to be considered recovered. The specific rationale is unique to each core area and management unit identified in the various chapters of the plan. However, the overall basis can generally be stated as the need to maintain complex interacting groups of bull trout distributed across their current range to reduce risk of extirpation from random events, to maintain an effective population size at levels where genetic risks associated with low effective population size are minimized, and to provide for expression of the migratory life history form.

37. *Comment:* A few sightings of bull trout in a water body does not mean it is occupied. Potential historic habitat is not the same as habitat that was actually occupied.

Our Response: We disagree that the presence of bull trout does not indicate that habitat is occupied by bull trout, at least temporally. A published survey protocol for juvenile and resident forms was not developed until 2002, no similar survey protocol for adult migratory forms has yet been developed, and many bull trout sightings are merely the incidental result of surveys for other species without consideration for the specific habits of bull trout. Therefore, an incidental sighting of a single or a few bull trout is often the only information that is available until a concentrated survey for bull trout is conducted. With the increasing availability of radio telemetry data, we are finding for many of the populations that have been studied that the extent of habitat bull trout occupy is often greater than was previously known from incidental observations. We agree that potential historic habitat is not the same as habitat that was previously documented as occupied.

38. *Comment:* A number of commenters felt that the duration of the comment period was too short and occurred during a holiday season.

Our Response: The public comment period was open for 210 days. The first comment period was open for 90 days from November 29, 2002, until January 28, 2003 (67 FR 71235). Because of the concern that there was not sufficient time to review such a large proposed rule, we reopened the comment period an additional 90 days from February 11, 2003, to May 12, 2003 (68 FR 6863). We reopened the comment period a third time for the public to provide comments on both the proposed rule and the DEA from April 5, 2004, until May 5, 2004 (69 FR 17634). We were unable to extend the comment period further due to our court-ordered deadline of September 21, 2004.

39. *Comment:* A commenter asked that the Service consider ongoing or potential activities that might negatively affect bull trout critical habitat.

Our Response: When designating critical habitat we are limited to identifying those areas essential to the conservation of the species. Ongoing or potential future activities that may negatively affect bull trout critical habitat are not addressed during the critical habitat rule making process, but during subsequent processes, such as section 7 consultations with Federal agencies.

40. *Comment:* One commenter stated that specific numerical habitat standards for critical habitat must be included along with critical habitat designations.

Our Response: The PCEs identified in the proposed critical habitat rule include numeric standards indicative of habitat essential to the conservation of bull trout when appropriate. We also recognize that, historically, bull trout existed in habitat that may not have contained all of the PCEs all of the time. Migratory forms of bull trout may have evolved, in part, to adjust to this situation and take advantage of more suitable habitat, at least seasonally.

41. *Comment:* Riparian and upland areas should be included as critical habitat. There is no scientific basis for this exclusion, nor is it a credible approach to designating critical habitat.

Our Response: Because of the widespread distribution of bull trout across varied landscapes, ranging from the moist, steep western slopes of the Cascade Mountain range to the high desert environment of southern Idaho, to the western slopes of the Rocky Mountains, we were unable to generally describe riparian and upland areas important to the aquatic function of streams, lakes, and reservoirs. Additionally, we believe a critical habitat rule should be easily interpretable to the public, including the provision of specific maps. Because of these factors, we chose to limit the critical habitat proposal to those aquatic environments essential to the conservation of bull trout.

However, the proposal recognizes that the quality of aquatic habitat within stream channels, lakes, and reservoirs, is intrinsically related to the character of the flood plains and associated riparian and upland zones. Activities that occur outside the aquatic environment can have demonstrable effects on its physical and biological features. Activities that may destroy or adversely modify critical habitat are identified as those that alter the PCEs to an extent that the value of critical habitat for both the survival and recovery of the bull trout is appreciably reduced, including alterations of stream flows, riparian function, stream bank conditions, and water quality. Therefore, although areas outside of the aquatic environment are not included as proposed critical habitat, the proposal does recognize the scientific basis for linking the quality of the aquatic environment with the physical processes that occur outside of that environment.

42. *Comment:* The Service should designate critical habitat for a number of "source water" streams; these are predominantly steep, small streams not occupied by bull trout but that are key sources of cold, clean water that feed bull trout habitat downstream.

Our Response: Our determination of bull trout critical habitat is limited to areas that bull trout utilize (or could utilize) for some portion of their life cycle. Areas that contribute an important resource, but do not provide essential habitat for bull trout, are not being considered for designation.

43. *Comment:* A commenter wanted to know if bull trout critical habitat will affect Native American treaty fishing rights or access to fishing areas.

Our Response: The bull trout critical habitat rule will not affect Native American treaty fishing rights or access to fishing areas. Critical habitat does not set up a preserve or prevent access to streams, lakes, or reservoirs. When we published the final rule listing the bull trout on November 1, 1999 (64 FR 58910), we also published a special 4(d) rule that applied wherever bull trout occur in the coterminous lower 48 States, except in the Jarbidge River basin in Nevada and Idaho. The principal effect of this special rule is to allow take in accordance with State, National Park Service, and Tribal permitted fishing activities.

44. *Comment:* We must consult with Native American Tribes prior to the publication of a final economic analysis (FEA).

Our Response: We have been and will continue to consult with those Tribes affected by the critical habitat designation. We contacted Native American Tribes where proposed bull trout critical habitat occurred on, or adjacent to, Tribal lands. We discussed the critical habitat proposal with representatives of the Tribes and worked with them to address their concerns.

45. *Comment:* Several commenters felt that Tribal lands should be

excluded; other commenters felt that Tribal lands should not be excluded.

Our Response: In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and 512 DM 2, we coordinate with federally recognized Tribes on a government-to-government basis. Further, Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" (1997) provides that critical habitat should not be designated in an area that may impact Tribal trust resources unless it is determined to be essential to the conservation of a listed species. We, therefore, are obligated to consult with Tribes based on their unique relationship with the Federal government, and to evaluate the appropriateness of designating Tribal lands within the framework of the above mentioned directives. In addition, we evaluate Tribes past and on-going efforts for species conservation and the benefits of including or excluding Tribal lands in the designation under section 4(b)(2).

Unit Specific Comments

Unit 1: Klamath River Basin

46. *Comment:* Using radio-telemetry, we have found that bull trout reside only in the stream channel and do not move into wetland areas associated with Sycan Marsh. Radio telemetry data obtained during the fall of 1999 and spring of 2000 by the Klamath Bull Trout Working Group is incorrect.

Our Response: Bull trout radio telemetry studies in the Sycan Marsh Core Area (Long Creek) have had very limited success. Of four fish tagged in 1999, three died shortly thereafter. Until the tag ceased transmitting, telemetry data indicated the remaining fish moved onto private lands along lower Long Creek and remained there through the winter. In 2000, the surviving, previously tagged fish was recaptured and the tag replaced. Telemetry data indicated it migrated upstream in Long Creek, and then returned to the same location as the previous winter. Two data points (from the same animal) are inadequate to develop informative trends (C. Bienz, The Nature Conservancy, pers. comm. 2002).

47. *Comment:* Drought conditions over the past 3 years, with low flow and high stream temperatures, make the Upper Sycan Watershed uninhabitable for bull trout.

Our Response: Current drought conditions have undoubtedly had an effect on bull trout habitat and distribution, as have anthropogenic activities. Flows should improve as efforts to restore watershed conditions in the Upper Sycan Watershed are implemented by land and resource managers and agencies. However, all waterways will continue to be influenced by climatic factors.

48. *Comment:* The inclusion of Deming Creek within proposed critical habitat conflicts with Oregon's policy regarding installation and operation of positive barrier fish screens at water diversion locations. Deming Creek is diverted into a canal with limited amount of water left in stream. The bull trout population no longer exists in the stream and has established itself in the canal. The area affected by these artificial canals, headgates, diversions, and irrigation facilities should not be included within the critical habitat designation.

Our Response: The Deming Creek population is the last remaining stronghold of bull trout in the Klamath Basin. As such, they provide a potential source for expanding the numbers and distribution of bull trout in the basin. More individuals distributed across a broader landscape will reduce risk of extirpation from random events, contribute to maintaining an effective population size at levels where genetic risks associated with low effective population size are minimized, and provide for expression of the migratory life history form. We note that the irrigation canal identified in this comment is not included in the critical habitat designation. In addition, unoccupied habitat has also been removed from the final designation.

49. *Comment:* The proposal fails to reveal that Deming Creek has been channelized, and does not explain how this channelization affects the use of these canals for migration, spawning, and/or rearing.

Our Response: Only the lower 1.0 to 1.5 mi (1.6 to 2.4 km) section of Deming Creek has been channelized. From the trailhead to its headwaters, the creek remains in the natural channel and relatively untouched. Because stream flows become subsurface below Anderson Field, Deming Creek bull trout are isolated from the rest of the Basin. Therefore, it is unlikely that Deming Creek bull trout will develop a migratory life form, and will remain a stronghold of native resident fish.

50. *Comment:* There is concern relative to migrating fish being exposed to *Ceratomyxa shasta* if they migrated into Agency Lake or to other sites with *C. shasta.* If the fish were to migrate downstream into the lake, there could be significant mortality to the larger juvenile and adult bull trout as well as a source of infection to other stream reaches on the return migrations. If bull trout are in fact not resistant to *C. shasta*, then the theory of winter migration among watersheds would be clearly false and there would be no scientific basis to designate these areas as critical habitat

Our Response: Ceratomyxa shasta is a microscopic myxosporean protozoan parasite that afflicts salmonid fish of the Pacific Northwest (Bartholomew *et al.* 1989). Its life cycle is not fully understood. Progression of infection and mortality is temperature dependent and native salmonid stocks exhibit varied resistance to it (Bartholomew 1998). Chinook salmon (Oncorhynchus tshawytscha) do not appear to be affected by C. shasta when water temperatures remain below 60 °F (15 °C) (PacifiCorp 2002), indicating migrating bull trout may not be affected. More information is needed to determine whether bull trout are resistant to C. shasta and to monitor the impacts and extent of it within the Basin. If research reveals that bull trout are not resistant to C. shasta, then we may need to consider revising critical habitat at a later time.

51. *Comment:* The proposed critical habitat includes Threemile Creek as a winter migration corridor for bull trout that connects to Agency Lake. Threemile Creek has been redirected and currently flows into a series of canals, and does not directly enter Agency Lake or provide any form of hydraulic continuity for bull trout migration.

Our Response: Threemile Creek connects to Agency Lake via Crane Creek, Fourmile Creek, and the Westside and Sevenmile Canals. Threemile creek has been excluded from the final designation.

52. *Comment:* It is unlikely that bull trout will move downstream into Agency Lake and then migrate into tributaries not currently occupied. As has been demonstrated in streams in Montana, bull trout will not migrate through warm water to spawning beds. Absent careful analysis of the temperature regimes of the various streams, it is impossible to determine whether bull trout will use the currently unoccupied areas for migration downstream to Agency Lake and then into other streams, given their strong homing fidelity.

Our Response: Although resident and rearing juvenile bull trout are typically found in colder headwater reaches that meet the conditions necessary for spawning and rearing, larger migratory bull trout are more tolerant of wider

temperature regimes. In the Klamath Basin, large bull trout have repeatedly migrated from cold water refugia through warm waters (69 °F (21 °C) upstream to spawning grounds, and returned (B. Quick, ODFW, pers. comm. 2000; C. Bienz, The Nature Conservancy, pers. comm. 2001).

In addition, some habitat, particularly FMO habitat, may only be seasonally occupied. Bull trout seek cold water refugia as water temperatures raise near or beyond preferred thermal regimes. Throughout the range of bull trout there are segments of stream systems that are not occupied in summer months because of warm water temperatures but serve as FMO habitat when water temperatures cool during fall, winter, and spring (Idaho Department of Environmental Quality (IDEQ) 1998).

In the Upper Klamath Lake CHSU, bull trout historically occupied several streams that drained into Agency and Klamath Lakes (Goetz 1992; Light *et al.* 1997; Buchanan 1998) until human actions altered aquatic habitat (Bond 1992; Cross and Everest 1995; Light *et al.* 1997; Quigley *et al.* 1997), leading to the extinction of most local populations in the Basin. Only two, small, isolated subpopulations remain in the Upper Klamath Lake CHSU. As recovery actions in the Klamath Basin improve habitat, and as bull trout populations grow, behavioral traits such as colonization and migratory life forms will likely be expressed. This may lead to the utilization of riverine and lacustrine habitats in Agency Lake and adjacent streams, at least seasonally.

53. *Comment:* Clarify the boundaries of critical habitat, and specify which database, or base map, that units were derived from, and when possible use specific geographic reference points. Land managers need to be able to know and reproduce the legal boundaries.

Our Response: Critical habitat maps were compiled from various sources. Rather than try and piece together many small data sets with varying degrees of accuracy and resolution, we relied predominantly on StreamNet as it is the largest and most readily available database. USFS databases were also used where stream data were not available in StreamNet. Legal descriptions of critical habitat units are provided in this rule and maps are available on our bull trout Web site: *http://www.r1.fws.gov/bulltrout/colkla/index.htm,* and our Field Offices can provide further clarification (Klamath Falls Fish and Wildlife Office (FWO), Oregon FWO, Western Washington FWO, Upper Columbia FWO, Snake River FWO, and Central Washington Field Office).

54. *Comment:* The Service cites a study that found "historical records for the Klamath Basin suggest that bull trout in this distinct population segment were once widely distributed and exhibited diverse life-history traits in that part of their range" (Ziller 1992). However, Ziller's study focused on the Sprague River subbasin. Did that study specifically address the presence of migratory bull trout in the area of northern Upper Klamath Lake and Agency Lake?

Our Response: Although Ziller (1992) was cited several times in the draft Recovery Plan in relation to distribution surveys, population size and abundance estimates, extirpation, and displacement of bull trout by brook trout the statement: "Limited historical references suggest that bull trout were once widely spread throughout the Klamath River system." was attributed to Buchanan *et al.* (1997).

Unit 2: Clark Fork River Basin

55. *Comment:* Several commenters expressed concern that bull trout recovery and critical habitat designation will negatively impact the Montana economy and tourism by impeding resource and recreation opportunities.

Our Response: As stated in our economic analysis, recreation and tourism are not formally recognized economic sectors with directly measurable income and employment data. Rather, direct employment related to recreation and tourism is found primarily within various components of the retail trade and service sectors. However, it is more likely that the long-term benefits of appropriate resource management will positively affect those parts of Montana's economy that are based on resources and recreation. This is at least partly due to the enhanced recreational angling opportunities afforded by bull trout recovery, as well as appropriate bull trout management being compatible with sustainable resource practices.

Unit 4: Willamette River Basin

56. *Comment:* Why was critical habitat not designated on the Clackamas River?

Our Response: Based on limited historical information, it is unknown whether reproducing bull trout populations existed previously in the Clackamas River. Bull trout are not known to currently inhabit the Clackamas River, but their presence was documented historically. Based on this information, the Clackamas River was not identified as essential to the conservation of the species. The Recovery Unit Team believes that the sub-basin has the necessary habitat elements to support the reintroduction of bull trout.

Unit 5: Hood River Basin

57. *Comment:* One commenter questioned the consistent use of the term "occupied" and how this fits into the rational of why the Service did not designate the Sandy River, and how that differs from the West Fork and East Fork Hood Rivers, which were included in the proposed rule. Although the commenter supports designating the West Fork Hood River, they believe the West Fork Hood River is not currently occupied.

Our Response: For the purposes of this critical habitat rule, the term "occupied" applies to streams where there is credible documentation of bull trout sighted within recent historical times (*i.e.*, 20 years). Documentation of bull trout occurrence was deemed credible if recorded by a biologist working for a State, Federal, Tribal, Public Utility District, University, or other entity. Vague descriptions of "trout" or "salmon-sized fish with orange spots" in the ethnographic literature or other similar sources were not deemed to be reliable and were not used to document occupancy.

Using this definition, unoccupied habitat was removed from the designation. Under the ESA, the Secretary of the Interior may include unoccupied lands if she finds that those lands are essential to the conservation of the species. In the case of bull trout, and based on the best scientific data available, it was not possible for the Secretary to make such a determination at this time.

The Sandy River basin has been identified as core habitat (encompasses spawning and rearing habitat for resident populations, as well as FMO habitat for migratory populations) in the draft Hood River Recovery Plan due to recent bull trout sightings and suitable habitat conditions, but additional research on bull trout use of the Sandy River is needed. Sufficient information is not available to determine the source of bull trout observed in the Sandy River, or to define any local populations and their respective core areas. The draft Recovery Plan has identified the extent of bull trout use of the Sandy River as a primary research need. Because of this lack of information it was determined to not be essential to the conservation of bull trout at this time. The Sandy River basin, therefore, is not designated as critical habitat. Since the publication of the draft Recovery Plan, the East Fork of the Hood River has been excluded as habitat

essential to the conservation of the species based on the information received from members of the Hood Recovery Unit Team. Past bull trout sightings in the East Fork Hood River are considered rare, and bull trout use of the East Fork Hood River is thought to be unlikely due to unsuitable habitat conditions and absence of bull trout sightings during surveys.

The Hood Recovery Unit Team has identified the West Fork Hood River as important to the conservation of bull trout and a potential local population has been identified for this basin. Based on temperature observations from USFS (1996b), suitable bull trout habitat is present in the mainstem of the West Fork Hood River, and bull trout were historically distributed in a short reach of the West Fork Hood River (Buchanan *et al.* 1997). Current bull trout use of the West Fork Hood River is thought to be primarily used as FMO habitat. We believe the West Fork Hood River will allow for population expansion and that it provides essential habitat. Lands managed in accordance with the Northwest Forest Plan and PACFISH/INFISH were excluded from the designation under Section 4(b)(2).

Unit 8: John Day River Basin

58. *Comment:* One commenter suggested that although Granite Creek was historic spawning and rearing habitat, it currently serves as FMO habitat.

Our Response: We agree.

59. *Comment:* One commenter suggested that although Clear Creek is essential habitat necessary to recover bull trout, it is not currently an occupied spawning area.

Our Response: There have been many anecdotal reports of bull trout and the presence of bull trout in the upper reaches of the watershed to suggest that they are using Clear Creek, but we agree there is not evidence of current spawning. Habitat within the John Day River Basin has been excluded under provisions of Section 4(b)(2) based on management actions associated with the Federal Columbia River Power System.

Unit 9: Umatilla / Walla Walla River Basins

60. *Comment:* Several commenters did not think it was appropriate to combine the Umatilla River Basin and the Walla Walla River Basin into the same critical habitat unit (CHU). They suggest that we split them into separate units.

Our Response: The CHU boundaries are based on bull trout recovery units as defined in the draft Recovery Plan that were based on the State of Oregon's Bull Trout Working Group and conservation efforts which were initiated and established years before the listing of bull trout. We felt it was most expedient to overlay our Federal process on the already established State efforts. These unit boundaries were not considered in the process used to determine what habitat areas are essential for bull trout. So, the areas included in the critical habitat designation would be the same, regardless of whether the Umatilla and Walla Walla river basins are combined or split into separate units.

Unit 10: Grande Ronde River Basin

61. *Comment:* One commenter noted that the inclusion of Sheep Creek and Five Points Creek as proposed critical habitat appears to be based purely on speculation that these streams have potential habitat to expand existing bull trout distribution in the Grande Ronde Recovery Unit.

Our Response: Unoccupied areas for both Sheep Creek and Five Points Creek were removed from the final designation. Lands managed under PACFISH/INFISH were excluded under Section 4(b)(2).

Surveys for bull trout have not been done in Sheep Creek and East Sheep Creek. Spawning and rearing habitat in the upper portion of Sheep Creek and East Sheep Creek are characterized by high water quality and low water temperatures. Because we cannot confirm at this time that bull trout currently occupy the lower portion of Sheep Creek, and we have no data to verify historical occupation, we deleted this section from final critical habitat designation. Bull trout have been sighted in the lower 0.5 mi (0.8 km) of Five Points Creek. Also, several creeks with spawning and rearing habitat drain into Five Points Creek.

Recovery objective #2 in the draft Grande Ronde River Recovery Unit Plan states that for the Grande Ronde River Core Area, "Increased population abundance is expected to occur by securing the distribution in the Hurricane and Looking Glass creeks as well as the Wenaha River, and by securing and expanding seasonal distribution in the Upper Grande Ronde, Minam/Deer and Lostine/Bear complexes, as well as Catherine and Indian creeks.'' Sheep and Five Points Creeks and associated tributaries are within the upper Grande Ronde River local population and are essential for bull trout population and distribution expansion necessary to achieve conservation. FMO and spawning and rearing habitat exist in these stream systems.

Unit 12: Hells Canyon Complex

62. *Comment:* The primary limiting factors for bull trout in the Powder River Basin are the Hells Canyon and other dams that deprive bull trout of an important prey base. Critical habitat designation will do little or nothing to address these obstacles, while interfering with water use practices that improve conditions for bull trout.

Our Response: We agree that bull trout have lost a major food source with the elimination of anadromous salmon from the Snake River system above Hells Canyon dam. While salmon were an important food source for bull trout, salmon were not the only prey base used by bull trout. Bull trout are opportunistic feeders and will generally prey upon whatever they can catch. The food habits of bull trout are primarily a function of size and life-history strategy. We have addressed restoration of anadromous fish by including task 3.1.3 in the Recovery Measures Narrative of the Draft Recovery Plan. Task 3.1.3 recommends restoration of the historical prey base for bull trout by reestablishing viable populations of anadromous fish. The designation of critical habitat should not interfere with efforts to improve conditions for bull trout because beneficial actions for bull trout should support the PCEs.

63. *Comment:* Watershed enhancement projects are currently taking place on National Forest System lands, and on private lands along Cracker, Fruit, and Little Cracker creeks, and along the Powder River. The county ensures that county roads do not impact water quality in streams; the USFS, State and county, along with miners, permittees, ranchers, farmers, and recreationists, are all working with the goal of improvement of the county's rivers and streams. Why are these streams designated?

Our Response: The value of these efforts have been recognized and considered in the final designation. Management of lands under PACFISH/INFISH guidelines have been recognized and these lands have been excluded under Section 4(b)(2). Unoccupied habitat has been removed from the final designation as have small segments (less that 0.5 miles) that are in private ownership. The remaining lands in this area have been determined to contain PCEs and be essential to the conservation of bull trout.

64. *Comment:* Historical data available in Baker County gives an account of Powder and Burnt Rivers, along with the majority of their tributaries, as being dry in late summer prior to the installation of water storage

facilities. Presently, stored water, used primarily for irrigation, keeps streams and rivers flowing all year. Late in the summer, however, the water level drops and water temperatures increase. This condition is pervasive in all watersheds in Baker County.

Our Response: The Powder River is not included in the final designation because it is not currently occupied. Some tributaries to the Powder River are currently occupied and do contain PCEs and these remain in the final designation. The Burnt River and its tributaries were not designated as bull trout critical habitat because this basin has not been identified as necessary for recovery of bull trout within the Hells Canyon Complex Recovery Unit (Service, in prep. 2004a), and also because historical population documentation is lacking (Ratliff and Howell 1992; Buchanan *et al.* 1997).

65. *Comment:* There is no evidence that any resource industries such as logging and grazing have been harmful to the bull trout in this unit, and these practices may be important management tools for the species.

Our Response: Habitat fragmentation and degradation are likely the primary threats for bull trout throughout the Hells Canyon Complex Recovery Unit. Some resource practices that have historically adversely impacted bull trout have ceased or been altered to reduce impacts to waterways. We agree that logging and grazing can be compatible management practice if conducted appropriately.

66. *Comment:* Given the inherent problems in developing fish passage around dams, the Hells Canyon Complex is not essential for preservation of the species since there are many other areas within the Pacific Northwest region that have less formidable obstacles. Designating this area as critical habitat, places too large a burden on the residents and particularly the agricultural community.

Our Response: We acknowledge that providing fish passage around hydroelectric or water storage facilities can be challenging. It is important to individually assess each facility relative to the conservation needs of the species of concern, potential benefits to the species, and economic costs associated with the action. Providing for fish passage does not mean that expensive alterations to concrete facilities is the only solution. In some instances trap and haul operations may be sufficient, in others spilling water or channeling water through sluiceways may be the preferred operation. In other instances, fish passage may not be the preferred alternative. Reservoirs were excluded from the final designation due to concerns about possible third party actions.

67. *Comment:* Will critical habitat designation result in the elimination of irrigation in Baker County?

Our Response: No. The designation of critical habitat does not create a regulatory burden for private landowners unless there is a Federal nexus (*i.e.*, the private action is connected with a Federal action). However, we realize that many irrigation projects do have a nexus with the Bureau of Reclamation or the U.S. Army Corps of Engineers. When there is a nexus, adverse effects to critical habitat will need to be addressed through formal section 7 consultations. Federal actions will be evaluated on a case-by-case basis. If the Service finds that a proposed Federal action would result in destruction or adverse modification of critical habitat, the Service will develop one or more Reasonable and Prudent Alternatives to the proposed action that (1) avoid the likelihood of adverse modification, (2) can be implemented in a manner consistent with the intended purpose of the action, (3) can be implemented consistent with the scope of the action agency's legal authority and jurisdiction, and (4) are economically and technologically feasible. Given these four elements, we do not foresee a Reasonable and Prudent Alternative consisting of the elimination of irrigation in Baker County.

68. *Comment:* Historically, not all the river systems mentioned have had native bull trout populations. Because of high water temperatures and low dissolved oxygen in many of streams and rivers, such as the lower section of the Powder River, bull trout can't be supported.

Our Response: All creeks included in the draft Hells Canyon Complex Recovery Plan are within the historical range of bull trout. Bull trout use of the mainstem Powder River is most likely as FMO habitat during the late fall and winter. During this time, flows in the Powder River are significantly higher than during the late spring and summer, when irrigation withdrawals occur. The water is also cooler, and most likely contains higher oxygen levels compared with warmer summer flows. We believe that the mainstem Powder River can continue to serve as FMO habitat for bull trout in a recovered condition.

69. *Comment:* Why was there no communication from the recovery teams regarding bull trout critical habitat designation to any potentially impacted groups affected within this unit?

Our Response: During the recovery planning process, we actively encouraged stakeholder involvement through contacting watershed council representatives and requesting their participation. We have made a concerted effort to increase stakeholder participation in the recovery planning process for the Hells Canyon Complex by meeting with the Baker County Bull Trout Response Team to learn about concerns and try to incorporate those concerns into the critical habitat designation. Mining, agriculture, sport fishing, and landowner interests have all been represented at meetings we have held between the publication of the draft and the final recovery plan chapter for this unit.

70. *Comment:* What was the time-frame that the Recovery Unit Team was working under?

Our Response: Coordination between the Service and ODFW has been occurring informally since 1993. At the first formal working group in 1997, the USFS, ODFW, and BLM biologists and hydrologists met to share information on bull trout, discuss critical data needs, and coordinate activities that would lead toward development of a conservation strategy for bull trout in the Pine Creek basin. Recovery Unit Team organization began in 1999 with an invitation sent to agencies and watershed councils to attend a series of workshops in eastern Oregon to begin work on the recovery plan after the bull trout was listed in 1998.

Unit 13: Malheur River Basin

71. *Comment:* Two commenters asked about the suitability of habitat for bull trout on the Little Malheur River due to elevated water temperatures.

Our Response: Historical presence of bull trout in the Little Malheur River has been documented by the USFS (1967). Documentation of bull trout occupancy has also been provided by the Burns Paiute Tribe as part of a life history study using telemetry techniques. We agree that stream temperatures are high in the summer in the lower reaches of the stream. However, water temperatures are cool enough during the migration and overwintering time periods to provide habitat for bull trout in the Little Malheur River. The Malheur River Basin unit was excluded from critical habitat based on economic considerations under provisions of Section 4(b)(2).

72. *Comment:* Are Summit Creek, Big Creek, and Lake Creek suitable for bull trout? Does Crooked Creek provide suitable spawning and rearing habitat?

Our Response: In defining spawning and rearing habitat versus FMO habitat

for the proposed designation, we considered the areas for rearing as those areas used by sub-adults, associated with a spawning area. Summit Creek, Big Creek, and Lake Creek are suitable habitat for bull trout from their confluences with the Malheur River to their sources. All three creeks provide spawning and rearing habitat, and all are occupied based on spawning surveys conducted by the USFS, ODFW, and the Burns Pauite Tribe. Bull trout also have been detected in Summit Creek, Big Creek, and Lake Creek during creel surveys conducted since 1968. In the case of Summit Creek, where there is potential spawning habitat in the upper reach, we assume that rearing for at least portions of the year is possible throughout the length of the stream. In effect, there is an overlap in habitat used by sub-adult fish between the definitions for spawning and rearing and FMO habitat.

We recognize that habitat restoration would need to occur to provide good quality rearing habitat. Habitat in Crooked Creek is currently below optimal conditions for bull trout and requires habitat restoration. Crooked Creek has documented bull trout occurrences, and has been identified as essential to conservation of bull trout and to provide for habitat expansion in the draft Recovery Plan. Because bull trout have been documented rearing in Crooked Creek, we know they expand their range into the stream when the opportunity arises. Use of Crooked Creek would primarily occur in the spring time when water temperatures are low, stream flows are high, and bull trout migrate into tributary streams to forage. Only habitat degradation including increased water temperatures and poor substrate conditions prevent them from inhabiting the stream on a regular basis. The habitat in Crooked Creek would primarily be inhabited by rearing and foraging bull trout during seasons of year when bull trout are able to access the habitat. The Malheur River Basin unit was excluded from critical habitat based on economic considerations under provisions of Section 4(b)(2).

73. *Comment:* One commenter asked about the suitability of Bluebucket Creek for bull trout, and another about Warm Springs Reservoir.

Our Response: We anticipate increased bull trout use in the lower reaches of the Middle Fork Malheur River as habitat is restored and the bull trout population increases. The Malheur River Basin unit was excluded from critical habitat based on economic considerations under provisions of Section 4(b)(2).

Unit 15: Clearwater River Basin

74. *Comment:* Silver, Twentymile, and Wing creeks were documented as occupied by bull trout in the South Fork Clearwater Landscape Assessment done by the Nez Perce National Forest. The map in the proposed rule lists these streams as Dl, D2, and D3, although they are not shown on the map.

Our Response: Silver and Twentymile creeks are documented as occupied bull trout FMO habitat. Wing Creek is unoccupied and is not associated with a local or potential population and was removed from the final designation. In addition, the Clearwater River Basin Unit which includes these creeks has been excluded from the final critical habitat designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

75. *Comment:* Why is Freeman Creek listed as critical habitat for bull trout? It is a small tributary of Dworshak Reservoir. There are many other larger tributaries to Dworshak Reservoir that are appropriately not listed as critical habitat for bull trout.

Our Response: Freeman Creek is occupied FMO habitat, but not associated with a local or potential population. The stream is essential as a cold water refugia and foraging habitat during some portions of the summer when the water temperatures of Dworshak Reservoir rise. The Clearwater River Basin Unit which includes Freeman Creek has been excluded from the final critical habitat designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

76. *Comment:* Three commenters stated that rural basin community economies in the Clearwater have experienced serious downturns that are tied to low elk herd populations, no significant timber harvest on either national forest, and that critical habitat could result in timber harvest prohibitions. Elk herds need the early seral conditions that occur after burning, timber harvest, and mechanical treatment of brush fields.

Our Response: There is no landscape prohibition to timber harvest associated with bull trout critical habitat. In waters containing bull trout, land management agencies are required to perform watershed assessments and consult with us to determine what practices would jeopardize or adversely affect critical habitat for listed species. The protection of water quality and riparian corridors that will help bull trout will most likely help other terrestrial species, such as elk. The Clearwater River Basin Unit has been excluded from the final critical habitat designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

Unit 16: Salmon River Basin

77. *Comment:* Studies in upper Salmon River Basin streams and enclosed bodies of water show the majority are occupied by bull trout, the species does not appear to be threatened or endangered in this section of the proposed designation and therefore should not be included in critical habitat.

Our Response: Bull trout in the upper Salmon River basin are still widespread in distribution. Our primary concerns for the species in the area are the lack of habitat connectivity and activities that cause reduced population levels and increased risk of local extirpation. We are required to designate critical habitat for species listed under the Act. Under the Act, a critical habitat designation establishes a geographic area that is essential for the conservation of a threatened or endangered species. The currently on-going 5-year review will evaluate the status of species. The entire Salmon River Basin Unit has been excluded from the final critical habitat designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

78. *Comment:* Why are unnatural stream channels designated as critical habitat, specifically those manmade channels created and used for irrigation withdrawal and delivery?

Our Response: While these manmade channels provide suitable habitat conditions and provide documented spawning and early rearing habitat for bull trout, we determined that the channels are not essential for the conservation of the species, and therefore, they are not included in the final rule.

Unit 17: Southwest Idaho River Basins

79. *Comment:* Are Trail and Kettle Creeks local populations?

Our Response: Trail Creek is part of the Wapiti Creek bull trout local population in the South Fork Payette Core Area (Service, in prep. 2004). While Kettle Creek does contain PCEs, it is not within an identified bull trout local population and is not known to be occupied by bull trout. Kettle Creek was removed from the final designation of critical habitat. In addition, the Southwest Idaho River Basin has been excluded from the final critical habitat

designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

80. *Comment:* There is no evidence that bull trout are migratory in the Weiser River Core Area.

Our Response: At present, bull trout have limited movement throughout the Weiser drainage because of dams, irrigation diversions, and poor water quality conditions. It may not be possible for bull trout to have a migratory component at this time, but the migratory component may have existed prior to human development. The Southwest Idaho River Basin has been excluded from the final critical habitat designation under provisions of Section 4(b)(2) because of cooperative efforts being undertaken as part of the Snake River Basin adjudication.

81. *Comment:* The Service did not consistently designate spawning and rearing habitat below 5,000 ft (1,524 m) in elevation.

Our Response: We are aware of general relationships between elevation and appropriate bull trout spawning and rearing habitat identified in the published (Rieman 1993) and unpublished literature. However, in proposing critical habitat for bull trout, we sought to go beyond reliance on these general relationships and propose critical habitat in areas that are supported by existing information documenting spawning and rearing activity, or inferred based on habitat quality and best professional judgment of biologists with local expertise. We received many pertinent comments relative to the latter basis and have refined this rule accordingly.

82. *Comment:* The Southwest Idaho recovery unit has met recovery because of high bull trout abundance and distribution in some areas.

Our Response: We acknowledge that, within the Southwest Idaho Unit, bull trout abundance is at or near recovered abundance levels in some, but not all, of the subunits and core areas. We also recognize that bull trout are relatively widely distributed in this unit. Current data shows stable or slightly decreasing trends in the Middle Fork Boise River from 1999 to 2002 (Salow and Cross 2003). There are areas that are currently unoccupied that the Recovery Unit Team has identified for assessment relative to the feasibility of establishing additional populations to meet both abundance and distribution goals, however they are not designated as critical habitat in this rule. Many threats to bull trout and its habitat still remain in this area, such as habitat degradation, fragmentation, blockage of migratory corridors, poor water quality, and the introduction of exotic species. The status of this recovery unit will be evaluated further as part of the Service's 5-year review.

83. *Comment:* The Service has not sufficiently addressed impacts to local governments. The collaboration required by the proposals has significant potential to involve segments of the population that historically have not played a large role. The Service did not involve landowners and local government in this rulemaking process.

Our Response: Since 1998, we have consulted with stakeholders and private individuals throughout the range of the species. This comment was from Idaho where the Service has been working through the Southwest Idaho Native Fish Watershed Advisory Group. The IDEQ was in charge of this group until 2002 when the Idaho Office of Species Conservation was assigned the lead. No meetings of this group have been convened since the change in leadership occurred. We did hold nine public meetings and the comment period was opened for 210 days in order to give the public opportunity to provide comments on the proposed rule and draft economic analysis.

Throughout the range, we contacted appropriate Federal, State, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed critical habitat for the Klamath River and Columbia River populations of bull trout. We also notified the public of the proposal by placing information in local and regional newspapers, providing this information to the media, and placing it on our bull trout Web site.

Several exclusions are being made under Section 4(b)(2) that acknowledge local efforts including exclusions related to the area being addressed in accordance with the Snake River Basin Adjudication, the Montana Bull Trout Restoration Plan, the Federal Columbia River Power System, the Northwest Forest Plan, and management in accordance with PACFISH/INFISH.

84. *Comment:* A commenter stated that as the Boise and Payette Basins are dependent upon the operation of BOR facilities, modifying the operation of those facilities, through the reallocation of water, will exacerbate flooding and drought conditions.

Our Response: The section 7 consultation process between Federal agencies involves an exchange of information and a balance between fulfilling the action agency's mission and providing for the conservation needs of listed species. As long as the action in question avoids jeopardy to the species there is latitude in carrying out that action. Consequently, we do not anticipate that consultation with the BOR will result in any significant change in project operations relative to drought and irrigation needs. Both the FWS and the BOR are highly concerned with public safety relative to dam operations and water management and will work to avoid any possibility of compromising that safety. We have also excluded reservoirs from the designation in anticipation that third party lawsuits could result in the consequences you identify.

85. *Comment:* A commenter wondered why the cost of the valve replacement project on Arrowrock Dam increased from $5.5 million to a reported $16 million. Was that increase in cost associated with bull trout critical habitat?

Our Response: No. BOR was originally going to open the ensign valves gate and flush all of the water and sediment out of Arrowrock Reservoir into Lucky Peak Reservoir and then later into the Boise River. However, BOR was concerned that the ancient control gate would not close because of its decrepit condition. Therefore, they chose an alternative for valve replacement that was primarily an engineering and safety consideration and not driven by critical habitat or section 7 consultation.

86. *Comment:* Fish screens and alteration to irrigation water delivery on the Little Weiser and the main Weiser River to accommodate bull trout existence, when there is no credible evidence of that species is migratory, would be an economic impact that could put ranchers and farmers out of business.

Our Response: Critical habitat designation does not alter land use or require specific management actions. We do not have documentation of historical presence of bull trout in the Weiser River below its confluence with the Little Weiser River and that area was removed from final critical habitat. In addition, streams in this area were excluded in accordance with provisions in Section 4(b)(2) associated with management of this area in accordance with the Snake River Basin Adjudication.

Unit 19: Lower Columbia River Basin

87. *Comment:* The Service failed to evaluate the section 7 consultation biological opinion for the interim operation of the Lewis River hydroelectric projects.

Our Response: The terms and conditions of the biological opinion included the requirement to record

several conservation easements within 30 days of the FERC issuance of the final order approving the application to amend the license for these projects. However, these conservation easements were not in place at the time of the publication of the proposed rule. Although the proposed designation was not published until November 2002, the biological opinion was not finalized until after the draft proposed rule was in the approval process. These conservation easements are now completed, and we revised the final designation of critical habitat in the Lewis River critical habitat subunit (CHSU) based on the completed conservation easements.

88. *Comment:* All areas above Merwin Dam should be excluded from critical habitat designation because the benefits of exclusion outweigh the benefits of inclusion. The costs in the DEA are outdated because current passage costs through all three reservoirs are estimated to be approximately $156 million and can be attributed to bull trout, salmon, and steelhead.

Our Response: We have taken into consideration all comments regarding critical habitat costs and this information is evaluated in the final Economic Analysis.

We reexamined each segment of proposed critical habitat in the Lewis River CHSU and excluded several stream segments and all reservoirs. In addition, habitat was excluded under provisions of Section 4(b)(2) associated with management of the Federal Columbia River Power System. The Lewis River bull trout local populations are the largest remaining bull trout populations in this CHU.

Unit 20: Mid-Columbia

89. *Comment:* There are socio-political issues (*e.g.*, costs of passage over the dams) regarding passage over the Yakima dams as specified by the draft Recovery Plan, and listing critical habitat above the dams may be inappropriate while passage problems still exist and may continue into the future.

Our Response: There is suitable habitat currently above the dams for multiple local populations. Most are not connected to downstream habitat and that is likely a primary reason why the population numbers are low in most of those local populations. Both FMO and spawning and rearing habitat occur above the dams, and that such habitat is essential to the conservation of the species. The reservoirs likely provide important overwintering and forage habitat which may be one of the reasons that the populations still exist above the dams. Recovery tasks include the identification of problems and establishment of fish passage. Coordinated efforts between BOR, Washington Department of Fish and Wildlife (WDFW), NOAA-Fisheries, the Yakama Nation, Yakima Basin Joint Board, and the Service are currently addressing priorities for establishing passage.

Unit 21: Upper Columbia

90. *Comment:* Is the upper Icicle Creek, above Leavenworth Fish Hatchery designated as critical habitat? If so, why, since there has been a dam cutting off all up and down stream migration for the last 75 years, and how will it affect any new construction adjacent to Icicle Creek?

Our Response: A resident bull trout population occurs in Icicle Creek upstream of the hatchery, and after the planned removal of artificial barriers in Icicle Creek, it is possible that migratory bull trout will be able to access upper Icicle Creek. In 2002, migratory sized bull trout were found upstream of the boulder area at rmi 5.4 (rkm 8.8). Areas along Icicle Creek were excluded from the final designation under provisions of Section 4(b)(2) based on management associated with the Federal Columbia River Power System.

91. *Comment:* Why is the mainstem of the Columbia River included in the designation? Studies have not determined the importance of the Wells Pool to the long-term fitness of the Methow River bull trout population, and have not determined whether the mainstem habitat is essential to the conservation of the species.

Our Response: The mainstem of the Columbia River has been excluded under Section 4(b)(2) based on management associated with the Federal Columbia River Power System. The Columbia River provides important FMO habitat. There is documented use of the Columbia River by bull trout from the Wenatchee, Entiat, and Methow CHSUs (BioAnalysts, Inc. 2002, 2003; Service 2002b, in prep. 2004b). Bull trout from three radio telemetry studies have been documented migrating between the Columbia River and the Wenatchee, Entiat, and Methow watersheds (BioAnalysts, Inc. 2002, 2003; Service 2002b, in prep. 2004b; R.D. Nelle, pers. comm. 2004), including multiple migrations. So use of the Columbia River is part of the migration pattern for bull trout (BioAnalysts, Inc. 2003; Service 2002b, in prep. 2004b).

Adult migratory bull trout have been documented in the Columbia River primarily between October and May (BioAnalysts, Inc. 2003). Overwintering habitat, in particular, is often only used seasonally, and especially if an area has warmer water seasonally bull trout may migrate out. Several bull trout have been documented moving between the Columbia River and the Twisp River, and have used the Wells Pool (BioAnalysts, Inc. 2002, 2003). One bull trout tagged in the Wenatchee River watershed was later located in the Wells pool near the mouth of the Methow River (Service, in prep. 2004). The Columbia River appears to provide essential FMO where a combination of water depth, lower velocities, comparatively warmer water, and availability of food provide suitable habitat for bull trout.

Unit 22: Northeast Washington

92. *Comment:* Because fish passage evidence demonstrates a significant barrier at, or near, Metaline Falls, the critical habitat designation and core areas should reflect this evidence and stop at Metaline Falls.

Our Response: There are no known studies or work to assess fish passage at Metaline Falls prior to the construction of Boundary Dam. Boundary Dam Reservoir now inundates the historic Metaline Falls and provides essential and continuous, suitable FMO habitat from Boundary Dam upstream to Box Canyon Dam. Bull trout currently occupy the reservoir and have been documented by R2 Resource Consultants, Inc. (1998) and Curt Vail and T. Shuhda, USFS, pers. comm. (2001, 2002). This reach of the Pend Oreille River provides FMO habitat and connectivity between Slate and Sullivan Creeks and other tributaries in the Boundary Reservoir, as well as connectivity to upper reaches of the Pend Oreille River and Lake Pend Oreille.

93. *Comment:* The Pend Oreille River critical habitat subsection appears to rely heavily on data that is ambiguous or based on limited, if not single, data points to designate areas of bull trout critical habitat.

Our Response: The Pend Oreille River mainstem is identified as FMO habitat in the final critical habitat rule. The information provided for the Pend Oreille River is summarized from several historical documents (Smith 1936–38; Gilbert and Evermann 1895), independent scientific studies (Ashe and Scholz 1992; R2 Resource Consultants, Inc. 1998; McLellen and O'Connor 2001; Giest *et al.* 2004; J. Maroney, Kalispel Tribe, pers. comm. 2000, 2001, 2002; T. Shuhda, pers. comm. 2004), and biological assessments (Andonaegui 2003), which are cited within the draft Recovery Plan

for the Northeast Washington Recovery Unit (Service 2002).

94. *Comment:* When water temperatures in the summer often exceed 70 °F (21 °C) in the Pend Oreille River, this would preclude the use of the river by bull trout, with the exception of localized colder water areas.

Our Response: We agree. Bull trout are most likely to rely on the Pend Oreille in the late fall, winter, and spring when temperatures are lower.

Bull trout use the Pend Oreille River primarily as FMO habitat, and are documented to migrate to colder water as temperatures increase in mid-summer. For example, bull trout found in the Pend Oreille River below Albeni Falls Dam in August 2003 (Giest *et al.* 2004) moved from cold water inputs into higher temperatures (greater than 70° F (21 °C) for short periods of time to forage or looking for passage. Prior to the construction of dams on the Pend Oreille River without fish passage facilities, adult bull trout likely moved into tributaries, cold water upwellings, or migrated to Lake Pend Oreille as the temperature increased to avoided unsuitable conditions. This is further supported by Idaho Department of Fish and Game (IDFG) (2002), and D. Giest (in litt. 2004) who tracked adult bull trout from the Pend Oreille River to Lake Pend Oreille.

95. *Comment:* One commenter stated that one bull trout observed above the Ione Municipal Dam suggests that it must have been the progeny of a remnant resident population from above the dam, and must be taken as speculation at this time. Cedar Creek, above Ione Municipal Dam, has also been planted with brook trout.

Our Response: In September 1995, one bull trout was observed in Cedar Creek above the Ione Municipal Dam during stream surveys conducted by the Kalispel Tribe (T. Shuhda, pers. comm. 2002). There is no information on the origin or life history form of this fish, but the downstream barrier indicates that this bull trout must have been a product of a spawning population above Ione Municipal Dam (USFS, in litt. 1999c). A second bull trout was found in July of 2003, during brook trout removal. This fish was captured below the dam, and a tissue sample was taken before it was released (Sandy Lembcke, WDFW, pers. comm. 2003), which may help identify its origin. Brook trout were planted across the west and are present in the Pend Oreille basin. WDFW has an active program to remove brook trout in streams where they are negatively impacting native species, including Cedar Creek. There is an annual multi-agency and Tribal effort to remove brook trout by electroshocking and transporting the fish to suitable areas. Furthermore, brook trout do not occur above Ione Municiple Dam and habitat conditions favor native species in the area above the dam.

Cedar Creek contains essential PCEs that support spawning and rearing habitat. The Ione Municipal Dam and water storage reservoir located 1.2 mi (1.9 km) above the mouth of Cedar Creek represents a fish passage barrier in this stream. This storage project was originally built to provide a municipal water source for the City of Ione, Washington, but is no longer used for that purpose. The City of Ione is currently working with other entities to remove the dam and restore fish passage and habitat. Portions of this area have been excluded under Section 4(b)(2) associated with management under PACFISH/INFISH and associated with economic impacts and cooperative efforts associated with segments under 0.5 miles in length that are in private ownership.

96. *Comment:* There is an inconsistency concerning measurements on a number of tributaries between the potential habitat recommended by the Technical Advisory Group (TAG) of the Washington Conservation Commission's Habitat Limiting Factors Report (Andonaegui 2000) and the extent of the proposed critical habitat designation.

Our Response: The TAG and the Service have different objectives and guidelines for establishing bull trout habitat. The TAG has identified areas for restoration activities and we have identified critical habitat that is essential for survival of bull trout. Some discrepancies may also occur from measurement techniques, but are clarified with physical descriptions of starting and ending points. Therefore, the discrepancy is discountable because of different agency objectives and methods.

97. *Comment:* One commenter requested that Tacoma Creek, from rmi 2.0 (rkm 3.2) to rmi 9.0 (rkm 14.5), be changed from FMO to spawning and rearing habitat designation.

Our Response: This area is now considered as spawning and rearing habitat.

98. *Comment:* Should there be two separate PCEs for proposed FMO versus spawning and rearing critical habitat due to the differences in the life stages of bull trout using the different habitats?

Our Response: We considered several approaches to designating PCE's including possibly having separate PCE's for FMO versus spawning and rearing habitat. The PCEs describe those biological features associated with sustaining bull trout populations including spawning and rearing habitat, and as well as habitats to support other life stages and strategies. After careful consideration, we adopted the approach identified in the proposed rule to balance providing specificity with PCE's that applied across multiple areas. We acknowledge that other approaches would be possible.

Comments Related to the Economic Analysis

99. *Comment:* Numerous commenters stated that we neglected to consider the economic consequences of the critical habitat proposal. A DEA must be released for public comment before any proposed or final critical habitat designations are made. Not providing the economic analysis for review before, or at the time the proposed rule is made available, does not meet the requirements of the Act (*New Mexico Cattle Growers Assn.* v. *U.S. Fish and Wildlife Service,* 248 F.3d 1277 (10th Cir. 2001), and does not allow for meaningful public comments.

Our Response: We informed the public in the proposed rule that we would conduct an analysis of the economic impacts of designating these areas as critical habitat prior to making a final determination. We announced the availability of the DEA with a notice in the **Federal Register**, and opened a public comment period on the DEA at that time. The public was able to concurrently review and comment on both the DEA and the proposed critical habitat designation. We subsequently provided this same information when replying to e-mail messages, telephone calls, and during our many public hearings and public meetings held in Montana, Washington, Oregon, and Idaho.

100. *Comment:* Many commenters felt that costs of critical habitat outweighed the benefits and that all costs associated with critical habitat should be included in the analysis.

Our Response: The final rule includes additional areas where the benefits of excluding critical habitat have been determined to exceed the benefit of including these areas in the designation under provisions of Section 4(b)(2) so these areas have been excluded from the final designation.

The primary purpose of the economic analysis is to estimate the economic impact associated with the designation of critical habitat for the bull trout. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation

outweigh the benefits of including those areas in the designation. The economic analysis considers the economic efficiency effects that may result from the designation, including habitat protections that may be co-extensive with the listing of the species. It also addresses distribution of impacts, including an assessment of the potential effects on small entities and the energy industry. This information can be used by decision-makers to assess whether the effects of the designation might unduly burden a particular group or economic sector. The analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. For example, regional management plans, such as the Northwest Forest Plan, PACFISH and INFISH provide significant protection to bull trout and its habitat while imposing significant costs within the region. Economic impacts that result from these types of protections are not included in the assessment as they are considered to be part of the regulatory and policy "baseline."

101. *Comment:* Costs associated with the operations of agencies such as the Bureau of Reclamation (BOR) to deliver water belonging to irrigation districts must be taken into consideration. The impact of attempting to alter pre-existing legal requirements, and the constraints those legal rights have on designating critical habitat, must be considered before a final decision can be made.

Our Response: All potential costs associated with the designation of bull trout critical habitat, including those related to BOR water management, are addressed through the economic analysis and the associated public comment period.

102. *Comment:* One commenter stated that the economic analysis may substantially change the nature of the proposed critical habitat designation.

Our Response: We agree that, based on the economic analysis, the final designation of critical habitat may be different from that which was proposed. Section 4(b)(2) of the Act requires the Service to designate critical habitat on the basis of the best scientific data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. Based on the economic analysis, we may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species.

103. *Comment:* One commenter stated that agencies should have an opportunity to review and comment on the draft final critical habitat designation rule.

Our Response: We are bound by a settlement agreement with plaintiffs to finalize the bull trout critical habitat rule for the Columbia and Klamath populations by September 21, 2004. Our process provides the proposed designation and the Draft Economic Analysis (DEA) of that proposal for public comment; we then assess those comments, and revise and finalize the rule accordingly. If we were to provide an opportunity for public comment after each cycle of responding to public comments on the previous proposed rule, the process could go on indefinitely. Additionally, we are bound by a settle agreement with plaintiffs to finalize the bull trout critical habitat rule by September 21, 2004.

104. *Comment:* The DEA minimized the cost of impacts to grazing permittees.

Our Response: The DEA used consultations that occurred between 1998 (when bull trout were listed) and 2002 (when the critical habitat proposal was published) to establish a baseline for predicting future costs. There were only a few consultations available in the record to determine future costs. The consultations did not result in substantial reductions or changes to the permits. Therefore, the estimated cost of future consultations was based on past consultations and determined to be not substantial.

105. *Comment:* Communities and irrigators will be negatively affected by the loss of irrigation water. Ripple effects to local communities were not considered in the DEA.

Our Response: The DEA used consultations that occurred between 1998 and 2002 to establish a baseline for predicting future costs. There was only one consultation available in the record to determine future costs of irrigation modifications due to bull trout listing and critical habitat designation. This single consultation from Oregon resulted in a small reduction in water delivery and did not result in substantial costs to the irrigator. The estimated cost of future consultations and subsequent estimated cost to irrigators was not substantial. "Ripple effects" due to the costs associated with irrigation were not included in the EA because costs associated with irrigation were not predicted to be substantial. We agree that the assumptions and lack of historic data could have produced an underestimate of the costs to irrigation operators.

106. *Comment:* Several comments suggested that the DEA significantly understates administrative consultation costs to third parties (not Service or Federal Action agencies). Additionally, one commenter felt that the method of determining cost allocation between parties involved in the consultation was unclear.

Our Response: Section 3.1.1 describes the estimation of administrative costs per consultation for the Service, action agencies, and private parties involved in section 7 consultations. Exhibit 3.1 shows that private parties are estimated to incur administrative costs in the consultation process. These costs are estimated to average between $1,200 and $4,900 for informal consultations, and approximately $3,000 to $15,000 for formal consultations. It should be noted that these estimates of administrative consultation costs are average costs. In individual cases, costs bourn by the Service, action agencies, or private parties may be higher or lower than the average estimates given.

107. *Comment:* Several commenters questioned the accounting of actions related to bull trout at the Corps Albeni Falls Dam. One comment stated that the reduced power production at Albeni Falls had not been recognized. Other comments indicated that fish passage costs at Albeni Falls should be identified. Still other commenters wanted the costs associated with Albeni Falls actions included in the DEA estimate of section 7 bull trout costs. A specific comment related to potential downstream flooding stated that costs that may also be due, in part, to the winter "draw-up."

Our Response: The DEA considers the cost of various management actions at the Albeni Falls Dam in the analysis in section 4.2.3. The winter "draw-up" at Lake Pend Oreille was first proposed by the IDFG in the early 1990s to benefit kokanee salmon (*Oncorhynchus nerka*) (and indirectly bull trout which prey on the salmon). Based on an update of an estimate developed by the Northwest Power Planning and Conservation Council from the mid-1990s, the DEA reports the cost of lost power production associated with the winter draw-up at $4.4 to $6.7 million per year. This experimental draw-up was proposed and initiated prior to listing and thus is not included as a section 7 bull trout cost.

Fishery passage studies are currently underway at Albeni Falls, and the costs of these studies are included in the range of reported section 7 costs. The potential facility changes at Albeni Falls associated with fish passage are estimated to be $25 million and the costs of two such fish passage facilities are included in the range of future bull trout-related costs associated with the Federal Columbia River Power System (2000) Biological Opinion (BO) implementation (Exhibit 4.36). However, two of these are reported by Bonneville Power Administration (BPA) as "reimbursement account" expenditures authorized by the Northwest Power Act, and thus are not included as bull trout section 7 costs as discussed in the DEA. With reference to potential downstream flooding costs, the DEA cited a Corps analysis suggesting that one of the possible causes of flooding in the Cusick area may be operations at Box Canyon. Based on the comment, this section has been edited to remove the reference to "the failure of Pend Oreille PUD to follow their agreement with the Calispell Creek drainage district in 1997."

108. *Comment:* Commenters questioned the impact of the assumptions and statements contained in the DEA regarding the allocation of costs between anadromous species and bull trout. Specifically, several commenters felt the impact of such allocations understated bull trout-related costs in areas where no anadromous species were present.

Our Response: The DEA employed specific assumptions about the allocation of costs between listed anadromous species and bull trout in several cases. In the cases of the Corps Willamette River dams and reservoirs and the BOR Yakima impoundments, costs were allocated based on the number of listed anadromous species. Based on updated information supplied by the BOR, a new allocation for the Yakima system anticipated project modification costs is included in the FEA. Allocations of costs associated with Federal Energy Regulatory Commission (FERC) relicensing and timber harvest were based on case studies from habitat where anadromous species were present, and from studies of habitat with no anadromous species. On average, we believe that forecast annual section 7 bull trout costs are likely high compared with actual future project modification costs. However, there is no question that assumptions will affect the costs and that incorrect assumptions have the potential to underestimate costs.

109. *Comment:* One commenter stated that the DEA focused on impacts to the Service and action agencies leading to an understatement of impacts to private parties, specifically irrigated agriculture.

Our Response: Section 4.1 of the DEA describes the types and magnitudes of annual estimated economic impacts associated with section 7 bull trout consultation, including impacts on private parties, as well as the costs to the Service and action agencies. We are involved in every consultation and incur administrative costs conducting these consultations. The action agencies are also involved in each consultation as it is their actions that trigger the consultation (*i.e.*, Federal nexus). The third group impacted is private parties or State and local agencies. These agencies, businesses, and individuals incur administrative costs associated with consultation, and project modification costs in some cases. Approximately 25 percent of the nearly 10 million dollars estimated annually for administrative costs associated with bull trout consultation activity will likely accrue to third parties. In addition, the discussion of small business impacts includes an analysis of impacts to small entities, including private parties and businesses. This discussion has been modified in the FEA to reflect the impact on irrigators of costs passed on by the BOR associated with bull trout protection in the operation of their dams and reservoirs.

110. *Comment:* Two commenters stated the recent BLM court decision (*Western Watersheds Project* v. *Matejko,* Civ. No. 01–0259–E. BLW (D. Idaho) March 23, 2004) should be considered in calculating costs associated with interrupted irrigation water withdrawals. Another comment suggested that this court decision is unlikely to have any effect on irrigation water rights.

Our Response: Agricultural diversions with a nexus to BLM are discussed in paragraph 318 of the DEA. BLM's position has been that irrigation diversions are not ongoing activities and thus the agency is not required to consult on them. A recent (March 23, 2004) court decision now requires BLM to consult on these diversions. Snake River Basin water rights are still being adjudicated and it will take a number of years for the legal issues to work their way through the courts. However, if there is a final determination that BLM must consult on these diversions there could be a significant cost. At this point, we have no basis for estimating either the timing or the outcome of the decision.

111. *Comment:* The BOR provided new and updated information on costs related to section 7 bull trout consultations at BOR facilities throughout the designation. Specifically, new information on costs associated with trap-and-haul operations at Boise River, Malheur River, Powder River, and Payette River impoundments was presented. Additionally, new information on the likely scope of modifications and range of costs associated with consultation on dams on the Yakima River system was presented.

Our Response: The BOR comments on the DEA bring to light new information on the scope and magnitude of these future consultation-related costs. This new information has resulted in several substantive changes to the estimates in the FEA.

The BOR reduced estimates of annual study and trap-and-haul operations in Idaho and Eastern OR from approximately $250,000 per dam to $250,000 for all dams combined. This change is reflected in section 4.2.4 of the FEA. The other change is in the case of the five Yakima Basin BOR dams where it was assumed that costly upstream and downstream passage would be required for bull trout and steelhead. BOR suggests that a relatively inexpensive periodic trap-and-haul program could meet the needs of the bull trout within the Yakima System. Changes in these passage costs are also reflected in section 4.2.4.

112. *Comment:* One commenter stated that the DEA should consider EPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-related actions in the Coeur d'Alene Basin in the estimated costs for section 7 bull trout consultations.

Our Response: We have identified no specific ongoing or likely future CERCLA-related consultations with associated costs outside of the range of uncertainty reflected in the DEA. As noted in the DEA, in many cases the USFS has maintained the position that in case of remedial actions taken under CERCLA, consultation is not required by the Act.

113. *Comment:* One commenter felt that the DEA failed to consider in its cost estimates for dam modifications and the additional costs associated with engineering and compliance actions.

Our Response: The comment noted that "raw" construction cost estimates can understate actual total construction costs unless these estimates are inflated to include engineering, design, and compliance costs in the total. The DEA employs this method in the case of dam

modification on the Yakima System. Construction cost estimates for the Yakima dam modifications were multiplied by 1.75 to account for design, engineering, and compliance costs. In the case of the costs associated with Corps dams on the Willamette River, estimated costs of project modifications were based on budget estimates and past similar projects and, therefore, already include the design and compliance cost components.

114. *Comment:* Several commenters noted that the discussion of socioeconomic characteristics of the proposed designation obscured the fact that there are real differences between local areas within the designation. Specifically, it was noted that while mining might account for a small percentage of total income and employment in the designation as a whole, in certain areas or counties it was much more important.

Our Response: We agree that the significant socioeconomic differences between critical habitat units, counties, and communities located within this large designation are variable. Section 2 of the DEA details some of these differences at both the unit level and at the county level, describing differences in income, employment, land ownership, and agricultural characteristics. A more general discussion is presented in section 2 of the role of such activities as mining, timber harvest, grazing, and recreation within the designation. While unit and county level data for these latter activities are not detailed within the DEA, differences in the reliance of specific units on these economic activities are reflected in the unit level estimates of economic costs in Appendix F of the report.

115. *Comment:* Several commenters stated that various projects proposed on Federal land are sometimes dropped from further consideration before the consultation process has even begun due to species concerns. These commenters said the DEA failed to consider the opportunity costs associated with these projects in estimation of total costs. Another commenter noted that some proposed projects are not economically feasible and would never be completed, independent of any necessary consultations or regulations. Therefore, these projects should not be included in estimates of costs associated with the critical habitat designation.

Our Response: A review of the frequency of formal and informal consultations suggests the potential opportunity costs associated with dropped projects are within the bounds of uncertainty associated with the projected number of formals. The number of projected future section 7 consultations involving bull trout is described in section 3.4 in the DEA. The analysis projects a total of 52 formal consultations and 619 informal consultations annually. The data set for the informal consultations is sufficiently large to identify a decline in consultations as the initial workload of ongoing activities is taken care of at listing. Accordingly, the projection for informal consultations is based on the most recent year's consultation data. However, the limited data set on formal consultation results in an uncertain trend, and the annual number of formal consultations projected in the DEA actually exceeds the average annual number during the 4 years following listing. While at the individual project level both commenters may at times be correct, there is no data specific to dropped projects that would allow direct estimation of any such impacts.

116. *Comment:* The sample size for the regression model used in the DEA to estimate total fisheries-related project modification costs at FERC licensed hydroelectric facilities was too small, too imprecise, and provided unreliable estimates of costs.

Our Response: The model is provided as a point of information on total fisheries-related costs. As part of the section 7 bull trout-related costs, the main point of the analysis, are based on average costs. With respect to the model, while the sample is small, the statistics reported are correctly based on the model sample size and degrees of freedom. The small sample size and associated variation in estimates is reflected in the reported 95 percent confidence interval. The alternative is to use the same estimate independent of sample size, which would be contrary to intuition and the statistical evidence.

As noted in the DEA, such a relationship seems plausible given that larger projects are likely to have greater impacts on fisheries and require greater expenditures to remedy these impacts. The hydroelectric power-related sections of the DEA, including the FERC section, were reviewed by a technical advisor on hydroelectric power economics, Dr. Lon Peters of Northwest Economic Research, Inc. Dr. Peters provided feedback on the analytical methodology and the validity of the results. This feedback was then incorporated into the DEA, as appropriate.

117. *Comment:* One commenter felt that the analysis provided no specific estimates for costs related to a bull trout consultation on FERC relicensing of Lucky Peak Dam on the Boise River.

Our Response: Cost estimates for the Lucky Peak facility are included in the DEA. The FERC-licensed Lucky Peak hydroelectric plant is located on the Boise River just upstream of the city of Boise, ID, in the proposed Southwest Idaho River Basins Unit. Although not specifically named, Lucky Peak is one of the 24 "Large Hydro" facilities for which total cost estimates are provided in Exhibit 4.18 in the DEA. Although not detailed in the report, the estimated section 7 bull trout-related costs for the Lucky Peak hydroelectric plant range from approximately $15,000 to $22,000 per year.

118. *Comment:* One commenter stated that irrigation impacts within the Salmon River Basin Unit related to USFS consultations would be minimal due to the legal structure of water rights within the basin.

Our Response: The potential for USFS irrigation consultations and associated changes in irrigation water use in the Salmon River Basin is discussed in the DEA. The Upper Salmon River is described in the DEA as the primary example of an area where there is potential for future irrigation-related consultations with the USFS. The DEA uses a range of zero to five consultations over the next 10 years (for the entire proposed designation) with an average annual reduction in irrigation withdrawals of 2,656 acre feet per consultation.

119. *Comment:* One commenter stated that the cost of developing HCPs had wrongly been designated a baseline cost and not included in the estimated costs presented in the DEA. Other commenters felt more discussion of the time and money needed to develop HCPs was needed in the report. One commenter alerted the Service to an HCP currently under development in Montana, and provided cost estimates for its development.

Our Response: The costs associated with the development of HCPs are not considered a baseline cost in the DEA. New information on individual HCP development has been provided through public comment, and the estimated costs of developing these HCPs are included in the FEA.

120. *Comment:* Two commenters felt that estimated impacts to grazing leases had been underestimated in the DEA. One disputed the estimated number of future annual grazing consultations, and another felt that impacts to grazing on private lands had been understated. Others felt that the DEA underestimated future section 7 costs related to residential home building activities,

agricultural water users, impacts to motorized recreation on Federal lands within the designation.

Our Response: A number of Federal grazing leases are often covered by a single consultation. Approximately 4 years of consultation history for the bull trout suggest that over the next 10 years, three bull trout consultations with BLM and four with USFS involving grazing activities can be expected. While reductions in grazing stocking levels on Federal leases have the potential to impact associated private land values, changes in stocking levels as reflected in the bull trout consultation record have been few and minor. Estimated costs per grazing consultation are based on a review of the suggested project modifications in past bull trout section 7 consultations, and on information obtained from BLM and USFS representatives on the likelihood that future consultations will be similar in scope and cost.

The analysis of potential impacts to residential development is provided in section 3.4 of the DEA. Our conclusions are based on discussions with, among others, the National Association of Home Builders and the Home Builders Association of Metropolitan Portland, and supported by the consultation record.

Commenters noted that impacts to agricultural water users were likely, due to costs associated with protection of bull trout being passed on by the BOR to individual irrigators or water associations receiving water from BOR projects. The DEA had incorrectly stated that these costs would be born by the Federal government through the BOR. The FEA provides additional language within the section 4.2 discussion of BOR-related impacts to reflect this change. Additional discussion of impacts to irrigators is also included in section 4.3. These changes do not represent a change in the magnitude of estimated annual impacts, but rather in the incidence of the impacts (what groups bear the financial burden of the costs).

Through analysis of past formal consultations involving the bull trout, no significant past impacts to motorized recreation were identified. Conversations with USFS and BLM personnel did not reveal that conflicts between motorized recreation on Federal lands and protection of bull trout would be a source of significant future costs. For this reason, no specific estimates of costs associated with this activity were provided.

121. *Comment:* Many commenters stated the DEA failed to estimate project modification costs associated with informal consultations on bull trout, and costs often arise from an informal negotiation between the Service and the applicant or action agency on the scope or design of a project in order to avoid formal consultation on the action. They noted that although no specific project modifications are laid out within informal consultations, modifications and associated costs occur and should be accounted for.

Our Response: The DEA does not provide estimates of project modification costs for informal consultations. However, administrative costs associated with informal consultations (estimated at $6.9 million annually) are included in the DEA. It is possible that these administrative costs do not represent a significant share of the informal consultation-related costs, however, we have no basis for using any other cost basis. The DEA approach on informal consultations was endorsed by our peer reviewer Dr. Joel Hamilton, who commented that "the draft report does a good job of discussing the issue of informal consultations." The largest share of costs corresponding to the proposed critical habitat designation is related to project modifications associated with activities that enter formal consultation (*e.g.*, dam-related consultations). The focus of the DEA on those activities that enter formal consultation is not likely to result in a different ranking of units by relative cost than would occur with a more detailed analysis which includes informal consultations.

122. *Comment:* A commenter stated that the analysis of Federal Highway Administration (FHA) road and bridge costs underestimated costs for Idaho Department of Transportation (DOT), and the method of relying on information from Montana DOT was not applicable to Idaho. The commenter also noted that the Idaho DOT undergoes many "no effect" determinations for projects, and the costs of these actions are not considered.

Our Response: The basis for predicting the number of annual future formal consultations within the designation is a review of the formal consultation record for the period from listing in 1998 to November 2002. The sample of formal consultations selected, while not from all regions within the designation, represent a cross-section of settings common to FHA projects within the designation. We believe this sample represents a realistic picture of typical consultation-related costs likely to be incurred throughout the designation. Regarding the issue of "no effect" determinations for projects that may or may not include bull trout concerns, cost estimates provided for informal consultations include the administrative cost of consulting incurred through these "no effect" analyses, and the associated letters of concurrence from the Service.

123. *Comment:* Many commenters stated that the DEA analysis was too narrow in that it failed to recognize all of the indirect effects associated with bull trout consultations. Indirect impacts or costs include impacts to downstream water users, river transportation, downstream power producers, other species, costs to the Federal government of settling "takings" cases, and costs associated with conducting profitability analyses on mines involved in section 7 consultations.

Our Response: We agree that there are indirect impacts associated with bull trout consultations. However, the most significant of these, impacts to downstream power producers, have been quantified, and the other indirect impacts are likely to not be significant.

Impacts on downstream power producers are included in the section 4 estimates of costs associated with shaping salmon flows at Libby and Hungry Horse Dams to benefit bull trout as well as changes in Albeni Falls operations to benefit kokanee, and indirectly bull trout. Regarding impacts to downstream river transportation, the water volume impacts associated with bull trout protection are extremely small in the context of total stream volume on navigable waters. In the case of shaping flows from Libby and Hungry Horse Dams, the possible navigation impacts are further minimized by the releases running through large storage reservoirs (Grand Coulee Dam) before reaching the navigable portion of the river used by most commercial transportation. Furthermore, given the preponderance of Federal land in the designation, and the general location of proposed critical habitat, it is not foreseeable that significant costs associated with new State and local regulations, project time delays, or stigma will result from the designation.

124. *Comment:* One commenter noted that the DEA relied on current Service policy to favor negotiation rather than irrigation restrictions in cases of impacts to bull trout. The Service could change this direction at any time and render the estimates of losses to irrigators presented in the DEA invalid.

Our Response: The commenter is correct in noting that responses by the Service to threats to the bull trout or its habitat could possibly change from one of "dialogue and negotiation" and use of

"prosecutorial agreements'' to reduce illegal take to more direct action, which could involve reducing irrigation withdrawals in some cases. It was in recognition of this potential change that the estimated costs associated with future limitations of withdrawals is presented as a range, from zero to $1.6 million per year (based on five cases of limited irrigation withdrawals). The potential for these types of irrigation reductions is also constrained by the location of many, but not all, diversions. Many diversions are located on mainstem rivers, and the location of these diversions and their operation often present no conflict with protecting bull trout. This is because the bull trout only use the mainstem rivers to over-winter, while irrigation diversions and the potential for dewatering mainly occur in the summer and fall. The FEA clarifies the potential conflicts between bull trout protection and irrigation withdrawals.

125. *Comment:* A number of commenters stated the DEA incorrectly assumed that irrigators within the designation could purchase replacement water for their crops or livestock if they were to lose diversion rights to instream flow requirements.

Our Response: Project modification costs related to reductions in irrigation withdrawals are discussed for the BOR nexus and USFS nexus in the DEA. The value of foregone water use for BOR is based on marginal prices in the irrigation water market that has developed in the Yakima basin. The value for water for the USFS nexus is based on the high end of water lease purchases made by the Washington Department of Ecology. While these values are based, in part, on purchases, they are reflective of the opportunity cost of foregone water use (*e.g.*, the value of crop losses) and are consistent with other approaches to valuing water, such as a production function or farm budget approach. Accordingly, their use in the DEA is consistent with the case where the irrigator loses the use of the usual source of water and is unable to purchase water elsewhere (the irrigation-related increment to production is lost). The agriculture irrigation-related sections of the DEA were reviewed by a technical advisor on agriculture and water resource economics, Dr. Joel Hamilton, Emeritus Professor of Agricultural Economics and Statistics at the University of Idaho. Dr. Hamilton reviewed the analytical methodology and the validity of the results, and opined that the value of $40/ac-ft for BOR water was appropriate and that the value of $127/ac-ft for USFS water likely overestimates the USFS-related section 7 impacts.

126. *Comment:* Several commenters stated that more contacts with private individuals and small businesses should have been included in the analysis.

Our Response: A wide variety of data sources are utilized in the DEA. The data sources relied upon are detailed in footnotes throughout the report, and discussed in section 1.4. Wherever possible, information provided by informed parties was confirmed by published data sources. Given the large geographic scope of the designation and analysis, however, extensive contacts with individual small businesses and private parties throughout the designation were not possible. The FEA is based on the best available information, which includes discussions with informed parties and stakeholders, as well as published data sources. The DEA was reviewed by three independent technical advisors: Dr. Joel Hamilton, Emeritus Professor of Agricultural Economics and Statistics, University of Idaho (agriculture economics); Dr. Lon Peters, president of Northwest Economic Research, Inc., a Portland-based firm that provides economic consulting services to electric utilities (hydroelectric power economics); and Dr. Roger Sedjo, senior fellow and the director of Resources for the Future's forest economics and policy program (timber economics). Their feedback was incorporated into the FEA, as appropriate.

127. *Comment:* A number of commenters noted that many costs associated with modifications to BOR dams and reservoirs are passed on to irrigators receiving water from the impoundments, and the DEA suggested that these costs were borne entirely by the BOR.

Our Response: The DEA incorrectly assumed all section 7 bull trout costs associated with BOR impoundments would be borne by the agency. In fact, in many cases, these costs are passed on to the irrigators benefiting from the projects. This fact has been included in the discussion of the costs associated with BOR facilities in the FEA, along with new information on costs associated with bull trout project modifications at BOR facilities throughout the proposed critical habitat designation.

128. *Comment:* Two commenters suggested the need to consider costs associated with National Pollutant Discharge Elimination System wastewater discharge permits. Additionally, significant costs in the closure of the Hecla Grouse Creek Mine could result from EPA consultation on Idaho Statewide water quality standards.

Our Response: Ongoing costs related to consultation at the Hecla Grouse Creek mine within the Coeur d'Alene Unit and the Thompson Creek Mine within the Salmon River Unit have been incorporated into the FEA discussion of mining impacts. Certain general annual cost estimates associated with these operations have been incorporated (an estimated $62,000 per year for each of the two mines). There is much uncertainty regarding potential costs associated with Service and National Oceanic and Atmospheric Administration (NOAA-Fisheries) consultation with EPA on Statewide Idaho water quality standards. There is no currently available information indicating that this consultation will conclude with new or interim standards that will significantly impact the final reclamation costs of the Hecla Grouse Creek mine. To be included in the DEA, costs have been reasonably foreseeable within the 10-year time frame of the analysis.

129. *Comment:* Several commenters stated that estimated costs to recreation were underestimated in the DEA, such as the loss of recreational fishing opportunity associated with any removal of existing brook trout populations from areas of bull trout critical habitat.

Our Response: We do not believe these costs are understated as offsetting improvements to other fisheries have resulted from fisheries management-related actions. Such actions are among the specific activities consulted on by a number of agencies. Opportunity cost estimates for formal consultations are described in section 4.

130. *Comment:* Several commenters stated the DEA had not sufficiently estimated or had underestimated impacts to small businesses, private landowners, developers, or State and local entities. The small business analysis contained within the DEA did not fully address impacts to small businesses and small communities

Our Response: The small business analysis is provided in section 4.3 where impacts to agricultural producers, hydroelectric utilities, and miners are identified and quantified. The general focus of the comments was on the failure of the DEA to quantify the economic impacts on a particular subunit, community, local economy or local economic sector. None of the specific entities identified are ones for which there is evidence of substantial or clearly defined impacts from the proposed designation over and above the impacts already identified and

quantified in the referenced sections of the DEA.

131. *Comment:* Several commenters stated that the use of a 10-year time frame for consideration of most impacts estimated in the DEA was too short. Alternative time frames from 20 to 50 years were suggested.

Our Response: To produce credible results, the economic analysis must consider economic impacts that are reasonably foreseeable. Based on available data, the 10-year time frame used in the DEA for the majority of activities was most fitting for this analysis. In cases where more certainty exists as to future consultations, a longer 50-year time frame was employed. Given the information available from action agencies on likely levels of future projects, we believe the 10-year time frame to be most appropriate for all non-FERC-related consultation activity.

132. *Comment:* A large number of commenters stated that the overall estimates presented in the DEA were too low. Alternatively, two comments were received suggesting that the estimates were too high.

Our Response: While different commenters felt that the estimates in the DEA were either too high or too low, we concur with the judgments of our peer reviewers that the estimates are high. The DEA was reviewed by three independent technical advisors, and were each asked to read sections of the draft report, and provide feedback on the analytical methodology and the validity of the results. The peer reviewers found the approaches used to analyze impacts generally appropriate, and in the case of USFS-related irrigation and timber impacts, the analytical methodology likely overestimates section 7 impacts.

133. *Comment:* Multiple commenters stated that the methodology used to account for impacts to unoccupied habitat in the DEA underestimated impacts, specifically in units with a significantly higher percentage of unoccupied habitat than the average for the entire designation.

Our Response: Unoccupied habitat has been removed from the final designation. We disagree with the comment as the procedures used to estimate costs relevant to unoccupied habitat are theoretically and computationally sound. The methodology used in the DEA to inflate estimated consultation and project modification costs predicted for occupied bull trout critical habitat is presented in two places within the body of the report, and the estimated annual cost for each unit is adjusted for the respective percent of unoccupied habitat for the unit. For example, the Hells Canyon Complex Unit is estimated to have total annual consultation-related costs of $1.9 million to $2.3 million. Of this amount nearly half ($0.9 million to $1.1 million) is attributable to unoccupied habitat. Across units, the percent of unoccupied habitat ranges from zero to 72 percent.

The computation in the DEA related to unoccupied habitat is based on the assumption that the future consultation rate in unoccupied habitat will occur at the same rate as observed for occupied habitat in the past. If anything, this approach is likely to overstate future consultations in unoccupied habitat for three reasons: (1) The DEA measures coextensive costs, and the designation of critical habitat in currently unoccupied habitat is unlikely to increase consultations in this type of habitat related to listing; (2) the past consultation record actually includes some consultations in unoccupied habitat, yet these are all allocated to occupied habitat for purposes of computing a consultation rate (which leads to an overstatement of the actual rate of past consultation on occupied habitat); and (3) unoccupied habitat in the proposed designation is almost entirely "unknown occupancy." Some share of these areas may have no bull trout present now, or in the future, which will limit the impact and rate of consultations in these areas relative to occupied habitat.

134. *Comment:* Several commenters noted that estimates for a number of activities presented a wide range of costs which limits the usefulness of the results of the analysis.

Our Response: Three specific activities (USFS timber harvest, irrigation diversions, and FERC hydroelectric relicensing) have a large range in the estimated project modification costs. The source of this variation is the real uncertainty which is associated with future locations and costs of projects involved in these activities.

135. *Comment:* Several commenters questioned the estimates of impacts to placer, lode, and suction dredge mining presented in the DEA, as well as the validity of assumptions use, in the John Day River Basin and Hells Canyon Complex Units.

Our Response: The DEA estimates that approximately 100 formal consultations on placer operations in these drainages will occur during the 10-year analysis period (five annually, per drainage). This estimate is consistent with authorization of existing mines in the drainages as their typical 10-year permit expires. In both the North Fork John Day and the Powder River Drainages, recent BOs for ongoing operations covering a large number of mines suggests that there is no significant backlog of formal mining consultations in these areas. The DEA estimated mining-related project modification costs in eastern Oregon associated with specific terms and conditions from BOs.

Additional information received through the public comment period shows the DEA was in error in attributing in-stream work window limitations to bull trout consultations. The in-stream periods referenced in the terms and conditions of the mining BOs are actually ODFW regulations that protect fish and wildlife resources. The reference to them in bull trout BOs is simply to further endorse compliance with these windows. Costs estimated with these instream windows have been removed in the FEA to reflect the nature of the baseline for these regulations. Costs associated with constraints on stream crossings are still included in the FEA, and these costs are likely to range from zero to several thousand dollars per year. An estimate of $500 per year per operation is used in the analysis.

136. *Comment:* One comment letter asked why the DEA contained no analysis of potential costs associated with the Post Falls Dam.

Our Response: The Post Falls Dam, owned by Avista Corporation, is located approximately 9.0 mi (14.5 km) below Lake Coeur d'Alene. The hydroelectric plant is not located on water currently proposed as bull trout critical habitat, nor does its operation directly affect downstream critical habitat.

137. *Comment:* Several commenters wanted to know: (1) If BPA agrees with the estimates of Columbia River hydroelectric generation impacts presented in the DEA; (2) if the costs associated with shaping salmon flows out of Libby and Hungry Horse Dams to benefit bull trout was included in the total cost estimates presented in the DEA; and (3) how were the costs associated with FERC relicensing derived?

Our Response: The estimated Columbia River hydroelectric generation impacts reported in the DEA were provided by BPA. Costs associated with shaping salmon flows are included in total bull trout-related costs as $2.0 to $4.0 million per year (based on BPA references at footnote 124). These costs are not section 7 bull trout-related costs as BPA includes these costs in its accounting for expenditures authorized by the Northwest Power Act. Costs for FERC relicensing were derived by

developing case studies of all completed hydro relicensing consultations (as well as others that are either near completion or provide additional information), and using the average section 7 bull trout-related costs from these case studies as an estimate for future consultations. Future consultation timing and frequency are based on the FERC relicensing schedule.

138. *Comment:* One commenter felt that the use of profitability in assessing impacts to placer, lode, and suction dredge mining was incorrect, and should be based on spending by miners in local communities.

Our Response: The general lack of data on production and expenses for small scale placer or lode operations in the region make estimation of profitability from these mines difficult. In an industry where operators may not report revenues or expenses in an organized or consistent manner, we believe the procedure used to estimate impacts in the DEA provides the most direct estimate of lost value to the miners.

139. *Comment:* Several commenters stated that the DEA downplayed the role of traditional resource-based jobs in small rural communities, and the loss of these jobs is economically and socially difficult for rural communities.

Our Response: The commenters are correct in pointing out that shifts in economic base can be difficult for some rural areas, and economic change can negatively affect small rural areas. Within the Interior Columbia River Basin, while some areas within the region have seen tremendous economic growth in recent years, the economic output of other more rural counties has been stagnant or shrinking. Rural counties frequently have an even higher dependence on agricultural production than the regional or even State-level statistics suggest.

140. *Comment:* Many commenters faulted the DEA for only performing a regional economic impact analysis for impacts in the Yakima drainage.

Our Response: After reviewing these comments, we conclude that our level of effort on regional economic modeling was appropriate. The DEA presented analyses of impacts associated with critical habitat designation for the bull trout using two different accounting frameworks, which included an economic efficiency framework and a regional economic impact framework. A commonly used method of estimating regional economic impacts is I–O modeling. The DEA relied on published I–O model results in its analysis of impacts to the Yakima Basin from reductions in available agricultural water. I–O modeling is only appropriate where anticipated economic impacts are substantial and clearly defined as to the local area of impact. While many of the estimated impacts associated with critical habitat designation contained in the report (*e.g.*, timber, mining, agriculture water) are substantial when considered for the entire designation, the potential locations of these estimated impacts are extremely uncertain. Without an acceptable level of certainty as to where impacts might occur within the designation, definition of the relevant area of economic analysis for the I–O model is impossible. It would be possible to model all estimated impacts in the context of the economy of the entire designation. However, the results of this model would show trivial impacts in comparison to the large and growing economy of much of this four-state region. The DEA presented regional economic impact estimates for the one area (Yakima Basin) where predicted impacts were reasonably foreseeable and substantial.

141. *Comment:* Several alternative analyses of potential losses to local area economies were presented by commenters for the Klamath River Basin Unit, in Baker County, OR, and the Deschutes River Basin Unit. These analyses provided detailed impact information at the subunit level, and, in each case, are driven by an assumed level of change in some base sector of the local economy.

Our Response: The referenced comments provide detailed and analytically appropriate analyses of economic impacts. However, the first step in these analyses is missing in that evidence consistent with observable data is not presented for substantial and clearly defined changes to the base economic sectors that derive from the proposed designation. Specifically, the assumed reductions in economic output based on irrigated agriculture (for example, ranging from 0 to 90 percent in the Deschutes River Basin and 25 to 60 percent in Baker County) are not supported by the historical record or expectations regarding the outcome of future actions to protect the bull trout. We conclude that the level of detail and scope in the DEA regarding local economic impacts is appropriate.

A detailed regional economic modeling effort may be appropriate when economic impacts of the proposed designation are substantial and clearly defined in the analysis. The estimated impacts presented in the DEA for the Deschutes River and Klamath River basin units and Baker County area are consistent with the pattern of bull trout consultation impacts in these areas as adjusted for the extent of unoccupied habitat within the units. The local area impact analyses presented by the commenters provided detailed information on the socioeconomic structure of these local areas. The analyses were theoretically appropriate and well presented. In our opinion, however, the estimated impacts (driven by assumed exogenous shocks to local economies) are not consistent with the observable impacts of several years of formal consultation activity on the species. For this primary reason, the methodology and estimated results presented in the DEA were retained in the FEA.

142. *Comment:* Several commenters asked why a number of additional formal bull trout consultations were not cited in the DEA.

Our Response: A census of formal bull trout section 7 consultations, from the listing of the species in 1998 to the proposed designation of critical habitat in November 2002, was collected and analyzed for the DEA. Formal consultations on the species continue, and some of the formal consultations that commenters noted were missing from the DEA occurred after the end date for the census of consultations performed for the economic analysis (November 1, 2002). The analysis of costs associated with section 7 consultation on the bull trout relied on a broad sampling (and for some activities a census) of formal consultations. In cases where significant consultation activity (not represented by the consultation record examined) occurred after November 2002, these new consultations were considered in the final analysis. In other cases, where new consultations represented only a continuation of the frequency of past consultations for an agency or activity, these consultations were estimated to have no significant impact on the estimated impacts in the DEA.

143. *Comment:* Several commenters questioned the appropriateness of the water values used in the analysis. Some thought the values used were both too high and others thought they were too low.

Our Response: We disagree with the view that water values used in the DEA are too low. It is possible that the estimates used to value irrigation water withdrawals with a USFS nexus are high. Two different estimates of the value of lost agricultural water were utilized in the DEA. In the discussion of potential impacts to agricultural water users within the Yakima Basin, the DEA cites an average marginal value of $40 per acre foot for water diverted from

agricultural production to be used in instream flow protection. This value, from a report by the Montgomery Water Group (footnote 164), represents the estimated marginal value per acre foot to agricultural production within the basin for a reduction of 48,000 acre feet.

While it is acknowledged that marginal water value to some producers of higher value crops may exceed the average $40/af value used, other producers may have a marginal value less than the $40. The Center for Watershed and Community Health, Portland State University report cites 22 recent water leases for instream flows in Oregon that averaged $23/af. The report also cited seven water leases or purchases in Washington ranging from $27 to $79/af. The $40 value used in the DEA is not based on observed water transfers within the basin, but on an analysis of the marginal productivity of water within the Yakima Basin. A second value used in the analysis of losses potentially associated with reductions in agricultural water diversions on USFS lands was $127/af. The BOR suggested a value in the range of $50 to $75/af. In the case of USFS diversions, the arguably high $127/af was used in recognition of the large degree of uncertainty as to where and when such reductions might occur, and what types of land uses would be affected. The $127/af is based on actual observed sales of water rights reported by the State of Washington Department of Ecology. In summary, the $40/af value was used for the Yakima Basin analysis because it was from a current comprehensive study of water use and values within that basin, and as such, represented the best information available for that region. For valuing water in USFS diversions, the $127/af was used because of uncertainty about the location of impacts, and a lack of site specific water values for all possible alternative impact areas.

144. *Comment:* Numerous commenters were concerned about the deletion of a discussion of potential economic benefits associated with bull trout critical habitat from the DEA prior to public release of that document.

Our Response: Our Division of Economics removed the 59-page benefits analysis from the DEA because of concerns over the methods used. These methods are known as contingent valuation and benefits transfer.

A contingent valuation involves asking someone how much they would pay to continue a specific activity that is threatened by pollution or other factors. For example, one might ask an angler how much he or she would spend to continue fishing for bull trout in clean rivers. Some economists doubt the accuracy of such analyses because of their hypothetical nature and because respondents do not have to follow up their answers with actual payments. Therefore, they may tend to over-value the benefit.

The DEA's discussion of the value of bull trout recreational fishing is a benefits-transfer analysis. Benefits-transfer analyses use research conducted for one species or purpose to extrapolate results for another species or purpose. Although benefit-transfer analysis can provide a quick, low-cost approach for obtaining desired monetary values, the methods are often associated with uncertainties and potential biases of unknown magnitude and should not be used without explicit justification.

We must remember what these analyses are used for helping the Secretary to decide whether to exclude areas and whether the exclusions outweigh the conservation benefits of inclusion. So, we are looking at the burden on the public of the regulation, and whether any areas have a disproportionate burden. We balance that against the benefits of including that area—including the benefits of the area to the species and the benefits of the species' existence and recovery. We do this in the 4(b)(2) discussion in our rules. We believe that monetizing trivializes benefits because there are no widely accepted ways for placing a dollar value on a biological benefit.

Comments From States

Section 4(i) of the Act states, "the Secretary shall submit to the State agency a written justification for her failure to adopt regulation consistent with the agency's comments or petition." Comments received from States regarding the proposal to designate critical habitat for the bull trout are addressed below.

Oregon

State Comment: In Unit 1, Upper Klamath Lake CHSU, what was the rationale for designating critical habitat on West Canal in the Upper Klamath Subunit?

Our Response: The landscape along the west side of Agency Lake has been heavily modified. Sevenmile and West canals intercept flows from Sevenmile Creek and Canal, Fourmile Creek and Slough, Crane and Crystal Creeks, and Cherry, Rock, and Threemile Creeks, and provides connectivity between these streams and Agency Lake. Since West Canal is now the only aquatic connection between isolated populations of bull trout in these headwater streams and winter foraging habitat in Agency Lake, it is included in the designation.

State Comment: In Unit 1, Upper Klamath Lake CHSU, there is no Heavenly Twin Lake in this unit. There is a Big Heavenly and a Little Heavenly Twin Lake. There may be a hydrologic connection at some time during the year, most likely during snowmelt.

Our Response: Critical habitat maps were compiled from various sources. We relied predominantly on StreamNet as the largest and most readily available database. USFS databases were also used where stream data was not available in StreamNet. Additionally, many maps (including those generated by the State of Oregon (Klamath-Lake Forest Protection District, Oregon Department of Forestry, 1995) and the USFS (1994) do not differentiate between Big and Little Heavenly Twin Lake, but rather refer to them collectively as Heavenly Twin Lakes. Based on additional review, it appears that stream flows in Rock Creek becomes seasonal above the 5,400 ft (1,645 m) contour. Therefore, on reconsideration of available data, we concur that the connection between the Heavenly Twin Lakes and Rock Creek is not suitable for inclusion in critical habitat.

Idaho

State Comment: In the Coeur d'Alene Lake CHSU, bull trout in the St. Joe system primarily use the upper basin (Mosquito Creek) for spawning and rearing. Achieving the stated recovery target for the St. Joe (800 adults) will likely require more than eight streams, yet a number of tributaries to the St. Joe (downstream from the North Fork) are not likely to ever support spawning and rearing. It is not clear why Eagle Creek is proposed while other nearby streams with similar characteristics are not.

Our Response: Eagle Creek contains PCEs and was proposed for critical habitat because it has recent and historic observations of bull trout. Portions of Eagle Creek have been excluded under provisions of Section 4(b)(2) associated with management conducted in accordance with PACFISH/INFISH. The primary reason why Skookum Creek (and other nearby streams that are tributaries to the St. Joe with similar characteristics) were not proposed as critical habitat is because we were not aware of bull trout being observed there either presently or historically (Fields 1935; Service 2002). With at least 16 other tributary streams or stream reaches known to have reproduction occurring in recent years, proposing Skookum Creek and other

habitats was not considered essential to the conservation of the species.

Washington

State Comment: WDFW electrofished several locations of the Little Tucannon in 2002 to try to find bull trout after the technical review team indicated possible use, but did not locate the species. Please check your reference to ensure this statement is correct, as WDFW has no knowledge of bull trout in the Little Tucannon River.

Our Response: The USFS in litt. (2002) documented a single bull trout in the Little Tucannon River stream survey report near the end of reach II. This report concluded that the Little Tucannon River is in good to excellent condition overall and provides excellent fish habitat for both native and migrating fish species. The Little Tucannon River is also identified in the Draft Snake River Washington Recovery Unit Chapter as a priority stream. While reproduction is not known to occur presently in the Little Tucannon River watershed, it is important to the conservation of bull trout in the Tucannon River Core Area as it likely provides suitable habitat for rearing, cold water refugia, and foraging. The Little Tucannon River watershed may also provide habitat to expand the spawning distribution and abundance of bull trout in the core area. Portions of Little Tucannon River have been excluded under Section 4(b)(2) associated with management in accordance with PACFISH/INFISH.

State Comment: The South Fork of Asotin Creek was not included in the proposal. If George Creek and some of its tributaries are included as critical habitat based on possible use presently, or in the future, the South Fork should also be included. It has potential for at least bull trout foraging, if not spawning and rearing.

Our Response: During the recovery planning process, the South Fork of Asotin Creek was described as not having bull trout as they were not observed during snorkeling surveys in 1993 (USFS, in litt. 1993). Also during the recovery planning process, the South Fork of Asotin Creek was not identified as a priority stream essential for the recovery of the species. Therefore, this stream is not considered to be critical habitat.

State Comment: No bull trout have been documented in Hefflefinger and Wormell Creeks. They are small streams that do not appear to have suitable habitat for bull trout spawning or rearing, and may not be appropriate for listing as critical habitat.

Our Response: We concur and we have removed these streams from the final critical habitat designation.

State Comment: Charlie Creek is used by bull trout, but since much of the upper portion of the stream is dry, or nearly so, in the summer, we recommend terminating the upper extent at the east edge of section 7, Range 43 East, Township 9 North.

Our Response: Several miles of Charlie Creek have been excluded under provisions of Section 4(b)(2) associated with management in accordance with PACFISH/INFISH. Even though the stream channel is dry or nearly dry during the summer, it provides important habitat during other times of the year, and during wet years when it maintains more flow. Also, because Charlie Creek is clearly essential to water supply during the summer as well as other seasons, protecting the channel morphology and watershed upstream of the spring is essential. For example, if an activity significantly increased bedload movement and fine sediment transport in the upper extent of the stream which is recommended for removal, the spring could be altered (filled or capped).

Montana

State Comment: Dry Gulch, a tributary to Granite Creek in the Lake Pend Oreille watershed, and Copper Creek, a tributary to the Bull River watershed in the lower Clark Fork drainage, should be removed from critical habitat because they are intermittent streams that do not provide spawning or rearing habitat.

Our Response: Dry Gulch was initially included due to the information provided in the Lake Pend Oreille Bull Trout Conservation Plan produced by the State of Idaho. Copper Creek initially was included due to the information provided in the Montana Bull Trout Scientific Group (MBTSG) status report produced by the State of Montana. Further information indicates the commenters are correct and the streams have been removed from the final rule.

State Comment: In Montana, project benefits from three water storage projects, such as protection of instream flow and mitigation of warm downstream water temperatures, were not analyzed. The high potential costs of critical habitat designation that may affect release patterns should result in exclusion of these projects.

Our Response: Habitat in Montana has been excluded under provisions of Section 4(b)(2) in support of cooperative partnerships with the State and recognition of their intent to carry out positive measures for Bull Trout consistent with their Bull Trout Management Plan developed in 2000.

State Comment: In Montana, Sophie Lake and its tributary Phillips Creek should be omitted from the final rule based on the questionable population status of bull trout, inconsequential scope of this small and isolated core area to overall recovery, relatively hostile existing habitat, chronic dewatering, nonnative fish species competition, and the lack of a Federal nexus to promote habitat improvement.

Our Response: Habitat in Montana has been excluded under provisions of Section 4(b)(2) in support of cooperative partnerships with the State and recognition of their intent to carry out positive measures for Bull Trout consistent with their Bull Trout Restoration Plan developed in 2000.

Summary of Changes From the Proposed Rule

In development of this final designation of critical habitat for the Klamath River and Columbia River populations of bull trout, significant revisions to the proposed critical habitat designation were made based on review of public comments received on the proposed designation, the DEA, and further evaluation of existing protection on lands proposed as critical habitat. These revisions rely on legal authorities and requirements provided in the Act.

In crafting the Act, Congress provided guidance for the exercise of discretion by the Secretary in making critical habitat decisions, which we have applied in this rulemaking. In section 3(5)(a) of the Act, critical habitat is defined as "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species." Section 3(5)(C) of the Act further provides that "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." These provisions of section 3 authorize the exercise of discretion in determining (1) whether special management considerations or

protections may be required; (2) whether unoccupied areas are essential for the conservation of the species; and (3) the extent to which the entire area which can be occupied by the species should be included in critical habitat. Finally, section 4(b)(2) of the Act allows the Secretary to exclude any area from critical habitat, after considering the economic impact and any other relevant impact, upon a determination that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species concerned.

The Congressional record is clear that Congress contemplated occasions where the Secretary could exclude the entire designation. In addition, the discretion that Congress anticipated would be exercised in Section 4(b)(2) of the Act is extremely broad. "* * * The consideration and weight given to any particular impact is completely within the Secretary's discretion * * *"

Given that section 4(a)(3)(A) of the Act requires that critical habitat be designated concurrently with making a determination that a species is an endangered species or a threatened species, we are mindful of the Congressional intent with respect to listing as we designate critical habitat. For example, section 4(a)(1) of the Act (16 U.S.C. 1533(a)(1), states that we must consider in listing determinations, among factors, "the inadequacy of existing regulatory mechanisms" (so-called "Factor D"); and "other natural or manmade factors affecting its continued existence" (referred to as "Factor E").

Section 4(b)(1)(A) requires us also to "tak[e] into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas." Read together, sections 4(a)(1) and 4(b)(1)(A), as reflected in our regulations at 50 CFR 424.11(f), require us to take into account any State or local laws, regulations, ordinances, programs, or other specific conservation measures that either positively or negatively affect a species' status (*i.e.*, measures that create, exacerbate, reduce, or remove threats identified through the section 4(a)(1) analysis). The manner in which the section 4(a)(1) factors are framed supports this conclusion. Factor (D) for example—"the inadequacy of existing regulatory mechanisms"—indicates that overall we might find existing regulatory mechanisms adequate to justify a determination not to list a species. Factor (E) in section 4(a)(1) (any "manmade factors affecting [the species'] continued existence") requires us to consider the pertinent laws, regulations, programs, and other specific actions of any entity that either positively or negatively affect the species. Thus, the analysis outlined in section 4 of the Act requires us to consider the conservation efforts of not only State and foreign governments but also of Federal agencies, Tribal governments, businesses, organizations, or individuals that positively affect the species' status.

The section 4 analysis for listing determinations is relevant to our exercise of discretion in critical habitat designations, although it must be stressed that analysis in no way limits the Secretary's discretion.

Summary of Revisions

The following section discusses changes made from the proposed critical habitat rule:

(1) Unoccupied lands were removed from the designation. Under the Act the Secretary of the Interior may only include unoccupied lands if she finds that those lands are essential to the conservation of the species. In the case of the bull trout, and based on the best scientific data available, it was not possible for the Secretary to make such a determination at this time.

(2) The largest changes in area designated are those lands which do not meet the requirement of needing special management or protection and which are also excluded due to the exercise of the Secretary's Authority under section 4(b)(2) of the Act. Exempted under these provisions were:

(A) Federal Columbia River Power System (FCRPS),

(B) Northwest Forest Plan,

(C) Lands included in the State of Washington's Forest Practices Rules and Regulations,

(D) Lands covered by the Snake River Basin Adjudication, lands covered under the Montana Bull Trout Restoration Plan, the Willamette and Malheur River Basins, and stream reaches regulated under PACFISH/INFISH,

(E) All waters impounded behind dams (reservoirs and pools),

(F) All stream segments less than 0.5 mi (0.8 km) in length that are under private landownership, and

(G) Approved habitat conservation plans.

(3) Lands that did not contain sufficient PCEs to support the species normal activities were removed. For example, the Clark Fork River between Missoula and Butte was proposed for designation. Upon further review, it was determined that this site is a superfund site subject to contamination by leaching from mine wastes. At some point the habitat may be useful to bull trout, but it is unlikely to be so today. Another example is the middle fork of the Boise River, also proposed for designation and also subject to leaching of mining wastes. Proposed critical habitat that did not contain sufficient PCEs to support the species was removed, as was critical habitat where the presence of PCEs was speculative. The Act does not provide for speculative or prospective use of habitat.

(4) The proposed critical habitat designation included a number of reaches to increase connectivity between populations. We received multiple comments that some of the barrier removal proposed to accomplish the connectivity could be detrimental to bull trout populations by providing access to competitor species such as lake trout, brook trout and rainbow trout. We are removing those reaches pending a site by site determination as to which are appropriate for barrier removal. If necessary, additional critical habitat can be designated once those determinations are made.

Public comments in general, and particularly technical comments from local, State, and Federal agencies and Native American Tribes, were very useful in focusing the proposal to those areas most essential to the conservation of the species. We held numerous public hearings and public meetings where we received specific technical comments that prompted further internal critical review of the proposal. The peer review process provided constructive criticism from fisheries scientists regarding our approach to developing the critical habitat proposal, as well as technical comments regarding specific proposed habitat areas. Through our working relationships with State and Federal agencies, we also received some new information after the proposal was issued, such as new records of bull trout occurrence, evidence of reproduction in some streams, or the lack of such positive survey results, as well as information on conservation actions underway within states.

We made revisions to the stream miles, and lake and reservoir acreages based on information supplied by commenters, as well as information gained from field visits to some of the sites, for areas not essential to bull trout conservation; unoccupied habitat was removed from the rule as the Secretary was unable to make a determination that

these unoccupied areas were essential to the conservation of the species. We have modified PCEs (1), (5), (7) and (9) to provide greater clarity. Our intent was not to change the essence of individual elements, but only to further refine the description of those physical and biological features that are essential to the conservation of the species.

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. "Conservation" is defined by the Act as the use of all methods and procedures which are necessary to bring any endangered or a threatened species to the point at which the measures provided pursuant to the Act are no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions authorized, funded, or carried out by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat.

In order to be included in a critical habitat designation, the habitat must first be "essential to the conservation of the species." Critical habitat designations identify, to the extent known, and using the best scientific and commercial data available, habitat areas that are essential to the conservation of the species (*i.e.*, areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Occupied habitat may be included in critical habitat only if the essential features thereon may require special management or protection. Thus, we do not include areas where existing management is sufficient to conserve the species. As discussed below, such areas may also be excluded from critical habitat pursuant to section 4(b)(2).

Our regulations state that, "The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species" (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not demonstrate that the conservation needs of the species so require, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Our Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271) and our U.S. Fish and Wildlife Service Information Quality Guidelines (2002) provide criteria, establish procedures, and provide guidance to ensure that our decisions represent the best scientific and commercial data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. Information may be obtained from the listing document, a recovery plan, 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. The various data that we collect are weighted based on their verifiability, for example, anecdotal evidence and opinion have less weight than results from published studies or long-term or ongoing monitoring.

Critical habitat designations do not signal that habitat outside the designation is unimportant to bull trout. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1), to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action.

Methods

As required by section 4(b)(1)(A) of the Act, we used the best scientific and commercial data available to determine areas that are essential to the conservation of bull trout. In designating critical habitat, we reviewed the approaches to the conservation of the species undertaken by local, State, and Federal agencies; Tribal governments; and private individuals and organizations since the species was listed in 1998. We relied heavily on information developed by the bull trout Recovery Unit Teams, which were comprised of Federal, State, Tribal, and private biologists, as well as 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. We reviewed available information concerning bull trout habitat use and preferences, habitat conditions, threats, limiting factors, population demographics, and the known locations, distribution, and abundances of bull trout.

During our evaluation of information, we also took into account the relatively low probability of detection of bull trout in traditional fish sampling and survey efforts, as well as the limited extent of such efforts across the range of bull trout. Because of their varied life history strategies, nocturnal habits, and low population densities in many areas, the detectability of bull trout in a given area is highly variable (Rieman and McIntyre 1993). Furthermore, much of the current information on bull trout presence is the product of informal surveys or sampling conducted for other species or other purposes. The primary limitations of informal surveys are that they provide no estimate of certainty (i.e., a measure of the probability of detection), and that they may be inadequate for determining parameters such as the densities and distribution of the population. The need for a statistically sound bull trout survey protocol has been addressed only recently through the development, by the American Fisheries Society, of a peer-reviewed protocol for determining presence/absence, and potential habitat suitability for juvenile and resident bull trout (Peterson *et al.* 2002). Consequently, with some exceptions (*e.g.*, areas of Montana where bull trout surveys have been consistently conducted for a decade or more), a lack of bull trout detections does not provide definitive evidence of their absence in a particular stream, lake, or river.

We used information gathered during the bull trout recovery planning process, as supplemented by even more recent information developed by State agencies, Tribes, USFS, and other entities, in developing this final rule designating critical habitat. Data concerning habitat conditions or status of PCEs were used when available. To address areas where data gaps exist, we solicited expert opinions from knowledgeable fisheries biologists in the local area.

Important considerations in selecting areas for critical habitat designation include factors specific to each river system, such as size (*e.g.*, stream order), gradient, channel morphology, connectivity to other aquatic habitats, and habitat complexity and diversity, as

well as range-wide recovery considerations. This effort was assisted by the recovery strategy described in the draft Recovery Plan. We took into account that preferred habitat for bull trout ranges from small headwater streams used largely for spawning and rearing, to downstream, mainstem portions of river networks used for rearing, foraging, overwintering, and migration.

Our methods included consideration of information regarding habitat essential to maintaining the migratory life history forms of bull trout, in light of the repeated emphasis about the importance of such habitat in the scientific literature (Rieman and McIntryre 1993; Hard 1995; Healey and Prince 1995; Rieman *et al.* 1995; MBTSG 1998; Dunham and Rieman 1999; Nelson *et al.* 2002). Habitat for movement upstream and downstream is essential for all life history forms for spawning, foraging, growth, access to rearing and overwintering areas, or thermal refugia (*e.g.*, spring-fed streams in late summer), avoidance of extreme environmental conditions, and other normal behavior. Successful migration requires biologically, physically, and chemically unobstructed routes for movement of individuals. Therefore, our method included considering information regarding habitat that is essential for movement into and out of larger rivers, because of the importance of such areas to the fluvial form of bull trout. We similarly identified habitat that is essential for movement between streams and lakes by adfluvial forms.

Migratory corridors also are essential for movement between populations (Fraley and Shepard 1989; Rieman and McIntyre 1993, Rieman *et al.* 1995, Dunham and Rieman 1999). Thus, in addition to considering areas important for migration within populations, our method also included considering information regarding migration corridors necessary to allow for genetic exchange between local populations. Corridors that provide for such movements can support eventual recolonization of unoccupied areas or otherwise play a significant role in maintaining genetic diversity and metapopulation viability. See the proposed rule (November 29, 2002 (67 FR 71235) for details. Because these factors are important in identifying areas that are essential to the conservation of bull trout, our method included consideration of the various roles that migratory corridors have for bull trout.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to designate as critical habitat, we are required to base the designation on the best scientific data available, and to consider those physical and biological features (primary constituent elements (PCEs)) that are essential to the conservation of the species, and that may require special management considerations or protection. These include, but are not limited to: Space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Although critical habitat is being designated across a wide area and involves 25 discrete units, the function of individual critical habitat units (and the core areas contained therein) appreciably contributes to the conservation value of all critical habitat from a genetic, demographic, and distributional perspective, as discussed below.

Central to the function of individual critical habitat units is the maintenance of core areas which: (1) Contain bull trout populations with the demographic characteristics needed to ensure their persistence and contain the habitat needed to sustain those characteristics (Rieman and McIntyre 1993); (2) provide for persistence of strong local populations, in part, by providing habitat conditions that encourage movement of migratory fish (Rieman and McIntyre 1993; MBTSG 1998); (3) are large enough to incorporate genetic and phenotypic diversity, but small enough to ensure connectivity between populations (Rieman and McIntyre 1993; Hard 1995; Healey and Prince 1995; MBTSG 1998); and (4) are distributed throughout the historic range of the species to preserve both genetic and phenotypic adaptations (Rieman and McIntryre 1993; Hard 1995; MBTSG 1998; Rieman and Allendorf 2001).

Maintenance or establishment of functional PCEs throughout all core areas is essential to the conservation of the bull trout because:

(1) Genetic diversity enhances long-term survival of a species by increasing the likelihood that the species is able to survive changing environmental conditions. If the overall genetic diversity distributed across the range of the bull trout is reduced by the loss of core areas containing multiple local populations, the ability of the species to survive changing conditions is likewise reduced, leading to a higher likelihood of extinction (Rieman and McIntyre 1993; Leary *et al.* 1993; Hard 1995; Spruell *et al.* 1999; Rieman and Allendorf 2001);

(2) Maintaining multiple bull trout core areas distributed and interconnected throughout their current range will provide a mechanism for spreading the risk of extinction from stochastic (*i.e.*, "random") events (Rieman and McIntyre 1993; Hard 1995; Healey and Prince 1995; Spruell *et al.* 1999; Rieman and Allendorf 2001);

(3) Maintaining core areas with multiple local populations will address potential negative implications associated with low effective population levels (*i.e.*, inbreeding depression and a potential decrease in viability or reproductive fitness of a population (Franklin 1980) and loss of genetic variation due to genetic drift) (Franklin 1980; Soule 1980; Lande 1988); and,

(4) Core areas provide connectivity between areas of high quality habitat and contain important migration corridors for migratory bull trout; core areas contain habitat that facilitates movement between local populations or otherwise plays a significant role in maintaining metapopulation viability (*i.e.*, by providing sources of immigrants to recolonize adjacent habitat patches following periodic extirpation events) (Rieman and McIntyre 1993; Rieman *et al.* 1995; Dunham and Rieman 1999) and maintaining the migratory life-history form. The importance of maintaining the migratory life-history form of the bull trout, as well as the presence of migratory runs of other salmonids that may provide a forage base for bull trout, is repeatedly emphasized in the scientific literature (Rieman and McIntyre 1993; Hard 1995; Healey and Prince 1995; Rieman *et al.* 1995; MBTSG 1998; Dunham and Rieman 1999; Nelson *et al.* 2002).

All areas designated as critical habitat for bull trout are within the species' historic geographic range and contain enough of the PCEs identified as essential to its conservation in the area designated to enable the bull trout to carry out normal behavior. Much of what is known about the specific physical and biological requirements of bull trout are described in the proposed designation of critical habitat rule (November 29, 2002 (67 FR 71235)). PCEs include, but are not limited to: Space for individual and population growth, and for normal behavior; food,

water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance. The following are the PCEs for the bull trout:

(1) Water temperatures ranging from 36 to 59 °F (2 to 15 °C), 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. Stream reaches that do not meet this temperature requirement are specifically excluded from designation;

(2) Complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structures;

(3) 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. This should include a minimal amount of fine substrate less than 0.25 inch (0.63 centimeter) in diameter.

(4) A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, currently operate under a biological opinion that addresses bull trout, or a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation: This rule finds that reservoirs currently operating under a biological opinion that addresses bull trout provides management for PCEs as currently operated;

(5) Springs, seeps, groundwater sources, and subsurface water to contribute to water quality and quantity as a cold water source;

(6) Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows;

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

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

The bull trout critical habitat for the Klamath River and Columbia River populations are designed to incorporate what is essential for their conservation. An area need not include all nine of the PCEs to qualify for designation as critical habitat. However, enough of the PCEs must be present at the time of designation to allow use for normal activities by the fish, and the lack of any particular PCE cannot precluse use by the bull trout.

Criteria Used To Identify Critical Habitat

The draft Recovery Plan identifies the specific recovery needs of the species and provides guidance for identifying areas that warrant critical habitat designation. As described below, this draft Recovery Plan was used as the principal basis for identifying this critical habitat designation. We re-evaluated the proposed designation based on public comment, peer review of the proposed rule and the draft Recovery Plan, the economic analysis of the proposed rule, and the public comments on that analysis, and other available information, to ensure that the designation accurately reflects habitat that is essential to the conservation of the species.

The draft Recovery Plan provides important information and science that was used as the basis for developing the critical habitat designation for bull trout. It focuses primarily on the maintenance (and, where needed, expansion) of existing local populations by: (1) Protecting sufficient amounts of spawning and rearing habitat in upper watershed areas; (2) providing suitable habitat conditions in downstream rivers and lakes to provide foraging and overwintering habitat for fluvial and adfluvial fish; and (3) sustaining (and in some cases reestablishing) movement corridors to maintain migratory routes and the potential for gene flow between local populations by maintaining habitat conditions that allow for fish passage. However, it is important to note that the draft Recovery Plan, when completed, will not be a regulatory document. Many of the proposals and options for recovery are expansive in nature and anticipate voluntary participation by landowners and agencies. Accordingly, this rule will focus on those areas that are essential to the conservation of the species, using the common meaning of the term "essential," which is indispensable.

Critical habitat units are patterned after recovery units identified in the draft Recovery Plan for the Klamath River and Columbia River populations. Using the guidance from that plan, we identified habitat areas needed for the survival and recovery of bull trout. To be included as critical habitat, an area had to provide one or more of the following three functions: (1) Spawning, rearing, foraging, or overwintering habitat to support existing bull trout local populations; (2) movement corridors necessary for maintaining migratory life-history forms; and/or (3) suitable and historically occupied habitat that is essential for recovering existing local populations that have declined, or that is needed to reestablish local populations required for recovery.

The critical habitat designation removed areas not known to be occupied. These areas have been deleted from the final designation because we do not have survey information to confirm that they were historically occupied by bull trout, and we were unable to confirm that they were essential for bull trout conservation. Historically, bull trout survey information was often accumulated incidental to surveys for other, more highly valued, species such as salmon and steelhead. Because of different life history attributes, bull trout are not as detectable as salmon and steelhead when utilizing a single common survey protocol. Additionally, during surveys, bull trout have historically been lumped into a general category such as "other trout" and not identified to species. These historical biases, combined with the fact that a survey protocol for juvenile bull trout and resident forms of bull trout was only developed and accredited in 2002, has resulted in a relative dearth of verified occupancy information for bull trout across much of its range. A commonly recognized and accepted survey protocol for adult, migratory bull trout has not yet been developed.

Restoration of reproducing bull trout populations to additional portions of their historical range would significantly reduce the likelihood of extinction due to natural or human-caused factors that might otherwise further reduce population size and distribution. Thus, an integral component of the draft Recovery Plan is the selective reestablishment of secure, self-sustaining populations in certain areas where the species has apparently, but not necessarily conclusively, been extirpated. In this regard, we also note that some habitat areas that would not be considered essential if they were geographically isolated are, in fact, essential to the conservation of the species when situated in locations where they facilitate movement between local populations, or otherwise play a significant role in maintaining

metapopulation viability (*e.g.*, by providing sources of immigrants to recolonize adjacent habitat patches following periodic extirpation events) (Dunham and Rieman 1999). In addition, populations on the periphery of the species' range, or in atypical environments, are important for maintaining the genetic diversity of the species and could prove essential to the ability of the species to adapt to rapidly changing climatic and environmental conditions (Leary *et al.* 1993; Hard 1995).

A brief discussion of each area designated as critical habitat is provided in the unit descriptions below. Additional detailed documentation concerning the essential nature of these areas is contained in our supporting record for this rulemaking.

Critical habitat for bull trout was delineated using multiple sources including: The StreamNet GIS (Geographic Information System) database for Idaho, Oregon, Washington, and Montana; and State databases of bull trout distribution.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas determined to be essential for conservation may require special management considerations or protections.

As we undertake the process of designating critical habitat for a species, we first evaluate lands defined by those physical and biological features essential to the conservation of the species for inclusion in the designation pursuant to section 3(5)(A) of the Act. Secondly, we then evaluate lands defined by those features to assess whether they may require special management considerations or protection. As discussed throughout in the proposed critical habitat rule for the Klamath and Columbia River bull trout populations (67 FR 71236, November 29, 2002), in the draft Recovery Plan for the Klamath, Columbia, and St. Mary-Belly River bull trout populations, and in the various proposed and final listing rules for bull trout (62 FR 32268, June 13, 1997; 64 FR 17110, April 8, 1999;63 FR 31647, June 10, 1998; 63 FR 31693, June 10, 1998; and 64 FR 58910, November 1, 1999), bull trout and its habitat are threatened by a multitude of factors. Threats to those features that define essential habitat (PCEs) are caused by negative changes in water quality, stream complexity, quality and quantity of stream substrate, stream hydrology, migratory corridors, food sources, and nonnative competitors and predators (Rieman and McIntyre 1996; MBTSG 1998). It is essential for the conservation of bull trout to protect those features that define the remaining essential habitat, through appropriate management, from irreversible threats and habitat conversion. These impacts can be ameliorated by educating landowners and managers about the location and value of these resources.

Within each area designated as critical habitat, the physical and biological features essential for the conservation of the bull trout may require some level of management and/or protection to avoid destruction or adverse modification of habitat essential to its conservation.

Relatively cold water temperatures are characteristic of bull trout habitat. Water temperatures above 59 °F (15 °C) are believed to limit their distribution (Fraley and Shepard 1989; Rieman and McIntyre 1996). Although adults have been observed in large rivers throughout the Columbia River basin in water temperatures up to 68 °F (20 °C), Gamett (1999) documented steady and substantial declines in abundance in stream reaches where water temperature ranged from 59 to 68 °F (15 to 20 °C). Thus, water temperature may partially explain the generally patchy distribution of bull trout in a watershed. In large rivers, bull trout are often observed "dipping" into the lower reaches of tributary streams, and it is suspected that cooler waters in these tributary mouths may provide important thermal refugia, allowing them to forage, migrate, and overwinter in waters that would otherwise be, at least seasonally, too warm. Spawning areas often are associated with cold-water springs, groundwater infiltration, and the coldest streams in a given watershed (Pratt 1992; Rieman and McIntyre 1993; Rieman *et al.* 1997).

The stability of stream channels and stream flows are important habitat characteristics for bull trout populations (Rieman and McIntyre 1993). 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 (Fraley and Shepard 1989; Pratt 1992; Pratt and Huston 1993).

Throughout their lives, bull trout require complex forms of cover, including large woody debris, undercut banks, boulders, and pools (Fraley and Shepard 1989; Watson and Hillman 1997). Juveniles and adults frequently inhabit side channels, stream margins, and pools with suitable cover (Sexauer and James 1997). McPhail and Baxter (1996) reported that newly emerged fry are secretive and hide in gravel along stream edges, and in side channels. McPhail and Baxter (1996) also reported that juveniles are found mainly in pools, but also in riffles and runs, that they maintain focal sites near the bottom, and that they are strongly associated with instream cover, particularly overhead cover. Bull trout have been observed overwintering in deep beaver ponds or pools containing large woody debris (Jakober 1995). Activities that disrupt or reduce stream complexity such as channelizing, reducing the input of woody debris, or removing riparian cover may negatively affect bull trout (Rieman and McIntyre 1996; MBTSG 1998).

The ability to migrate is important to the persistence of local bull trout subpopulations (Rieman and McIntyre 1993; Gilpin 1997; Rieman and Clayton 1997; Rieman *et al.* 1997). 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 (McPhail and Baxter 1996). Also, local populations that have been extirpated by catastrophic events may become reestablished as a result of movements by bull trout through migratory corridors (Rieman and McIntyre 1993; MBTSG 1998). Activities that preclude the function of migratory corridors may affect bull trout (*e.g.*, stream blockages).

The introduction and spread of nonnative species, particularly brook trout and lake trout, which compete with bull trout for limited resources and, in the case of brook trout, hybridize with bull trout (Ratliff and Howell 1992; Leary *et al.* 1993) is another ongoing threat to bull trout. Both species have been introduced in historical bull trout habitat, and both legal and illegal introductions of these and other competing species have continued to the present.

Relationship to HCPs and Other Planning Efforts

Section 3(5)(A) of the Act defines critical habitat, in part, as those areas requiring special management considerations or protection. Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed species incidental to otherwise lawful activities. This permit allows a non-Federal landowner to proceed with an activity that is legal in all other respects, but that results in the incidental taking of a listed species. An incidental take permit application must be supported by an HCP that identifies conservation

measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the permitted incidental take. The purpose of the HCP is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the survival and recovery of the species.

Section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact, of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of such exclusion outweigh the benefits of specifying a particular area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species.

In our critical habitat designations, we use the provisions outlined in section 4(b)(2) of the Act to evaluate those specific areas that we consider designating as critical habitat. Lands we have excluded from designated critical habitat pursuant to section 4(b)(2), include those covered by the following types of plans if they provide assurances that the conservation measures they outline will be implemented and effective: (1) Legally operative approved HCPs that cover the species; (2) draft HCPs that cover the species and have undergone public review and comment (*i.e.*, pending HCPs) and that we are able to make a biological determination that when completed, the plan will provide adequate protection; (3) Tribal conservation plans that cover the species; (4) State conservation plans that cover the species; and (5) National Wildlife Refuge System Comprehensive Conservation Plans.

Lands Excluded From Critical Habitat

Habitat Conservation Plans

As described above, section 4(b)(2) of the Act requires us to consider other relevant impacts, in addition to economic and national security impacts, when designating critical habitat. Section 10(a)(1)(B) of the Act authorizes us to issue to non-Federal entities a permit for the incidental take of endangered and threatened species. This permit allows a non-Federal landowner to proceed with an activity that is legal in all other respects, but that results in the incidental taking of a listed species (*i.e.*, take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The Act specifies that an application for an incidental take permit must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such an HCP is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the survival and recovery of the species.

Within the area covered by the Klamath River population, there are no HCPs involving bull trout. Within the range of the Columbia River population, the approved Plum Creek Native Fish, Plum Creek I–90, Stimson Lumber Company, and WDNR HCPs have been developed, in part, to provide for bull trout conservation needs while also allowing for otherwise lawful timber management activities. The duration of the permits associated with the Plum Creek and WDNR HCPs ranges from 30 to 100 years. The permittees have the option, however, of terminating at any time if they so choose, with a 60-day notice to us. Moreover, the permittees may retain their permits but sell some of their lands covered by an HCP. All of these HCPs contain provisions that allow buyers of lands covered by the HCP to assume the permit if they so desire. That is the process by which the Stimson Lumber HCP was created, when the Stimson Lumber Company acquired certain lands previously owned by Plum Creek and assumed all of the Plum Creek HCP commitments.

The Plum Creek I–90 HCP includes provisions that: (1) Generally allow for the sale or exchange of lands with the USFS, with some specific limitations relative to implementation of the NWFP; (2) allow for the sale of any lands provided appropriate covenants or assurances are given by the acquiring party that such lands will be managed consistent with the goals and objectives of the HCP; and (3) allow for the sale of parcels not in excess of 640 ac (259 ha) to any private party as long as the cumulative total of all such transactions does not exceed 5 percent of the acreage covered by the permit, and the cumulative total of all such transactions in any one township does not exceed 1,920 ac (777 ha). The Plum Creek Native Fish HCP and Stimson Lumber HCP apply a proportionality ratio to land dispositions relative to three categories of dispositions: positive, neutral, and negative in terms of conservation benefits to covered species. Plum Creek and Stimson Lumber Company have committed to manage their land dispositions so that the cumulative total of dispositions stays within a predetermined range of proportionality. If, at the end of the HCP term, the proportionality balance is below the predetermined range limits, positive land disposition commitments must be applied to sufficient acreage within the project area to restore the balance.

The WDNR lands are maintained primarily for the purpose of growing and selling timber to finance State government, and the management of these lands also can include purchases, sales, and land exchanges. The WDNR HCP does not include incentives for placing conservation easements on some of the land that WDNR sells. The HCP allows WDNR to dispose of permit lands at its sole discretion. However, if the cumulative impact of disposed lands would have a significant adverse effect on the covered species, the parties to the HCP are required to mutually amend the HCP to provide replacement mitigation.

We evaluated lands covered by these existing HCPs to determine whether it (1) provides a conservation benefit to the species; (2) provides assurances that the management plan will be implemented; and (3) provides assurances the plan will be effective. Approved and permitted HCPs are designed to ensure the long-term survival of covered species within the plan area. Where we have an approved HCP, the areas we ordinarily would designate as critical habitat for the covered species will normally be protected through the terms of the HCPs and their implementation agreements (IAs). These HCPs and implementation agreements include management measures and protections that are crafted to protect, restore, and enhance their value as habitat for covered species.

The issuance of a permit (under section 10(a) of the Act) in association with an HCP application is subject to consultation under section 7(a)(2) of the Act. During consultation on permit issuance, we must address the issue of destruction or adverse modification of critical habitat for bull trout and any other species protected by the plan. Since these large regional HCPs address land use within the plan boundaries, habitat issues within the plan boundaries have been addressed in the HCP and the consultation on the permit associated with the HCP. This requires us to make a determination as to the effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the function of the habitat so designated.

The Plum Creek I–90 and WDNR HCPs occur mostly in western Washington, with minimal overlap (*i.e.*,

lands adjacent to less than 50 mi (80 km) for each plan) with designated critical habitat for the Columbia River population. The Plum Creek Native Fish HCP and Stimson HCP cover approximately 1.6 million ac (647,500 ha), all within the range of the Columbia River population and mostly within western Montana. All lands lying within these HCPs are in the Clark Fork River (Unit 2), Kootenai River (Unit 3), or Clearwater River (Unit 15) CHU. Lands within these HCPs occur adjacent to less than approximately 500 mi (894 km) of stream reaches that we identified as critical habitat.

We have reviewed the four HCPs within the Columbia River population of bull trout and determined that the benefits of excluding them from the final designation of critical habitat for the bull trout outweigh the benefits of including them in the designation. Therefore, areas covered by these HCPs are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

Montana DNRC is developing an HCP that will cover forest management activities on approximately 700,000 ac (283,281 ha) of forested blocked and scattered trust lands across the State of Montana. The HCP may include an additional 300,000 ac (121,406 ha) of nonforested parcels associated with access for timber management activities on forested lands. The predominant emphasis of the HCP will be on trust lands in western Montana. DNRC is considering an agreement term of 50 years. The covered activities will include activities common to commercial forest management.

An aquatic work group, whose members include DNRC and Service project managers, DNRC resource specialists, consulting resource specialists, and Service biologists, is meeting several times each month in order to collaboratively design conservation strategy recommendations, which will eventually be integrated into a comprehensive habitat-based conservation strategy for DNRC covered lands. The aquatic working group is developing a strategy that is designed to collectively meet the conservation needs for bull trout, westslope cutthroat trout (*Oncorhynchus clarki lewisi*), and redband trout (*Oncorhynchus mykiss gairdneri*).

The transitional lands working group is developing strategies for those forest lands where the primary use may be transferred from the forest management bureau to another DNRC Trust Lands Management bureau (*e.g.*, real estate, agriculture and grazing, or minerals) within the 50-year term of this HCP. Initially, DNRC is planning to develop a point-based accounting system for transitional lands, similar to the approach implemented in the Plum Creek Native Fish HCP. Once the individual technical work groups complete conservation strategy recommendations, the strategies will be integrated into habitat-based commitments that collectively meet the needs for all of the covered species. DNRC will use these commitments to develop an application for an incidental take permit, and the project will focus on producing a combined draft HCP and draft EIS. Under the existing timeline, these documents are scheduled for public distribution in September 2005.

It is our judgment that the collective benefits of the Montana DNRC HCP, including furthering the working relationship with the State of Montana, and providing additional protections to bull trout and their habitat, as well as a host of other nonlisted species, will be sufficient to exempt forested State lands of western Montana from bull trout critical habitat. The benefit of excluding those lands exceeds the benefit of including them as they will provide protection for any lands affecting bull trout conservation whether there is a Federal nexus or not. Thus the protections afforded the bull trout are increased beyond what a critical habitat designation could do. In total, approximately 144 mi (232 km) of stream segments in the Clark Fork River and Kootenai River CHUs are thus being excluded from what was proposed as critical habitat. The State of Montana has committed to the terms of the aquatic strategy that will be met on forested State lands, and is judged sufficient to meet the standard for exclusion of these lands. Forested Montana DNRC lands are included in the critical habitat maps, but are excluded, in a fashion similar to what was done for other HCP lands.

As noted above, lands within these HCPs are subject to change (*e.g.*, through sale or exchange), subject to various sideboards included in each HCP. Designated critical habitat does not include non-Federal lands covered by an incidental take permit for bull trout issued under section 10(a)(1)(B) of the Act for these HCPs as long as such permit, or a conservation easement providing comparable conservation benefits, remains legally operative on such lands. The following represents our rationale for excluding the critical habitat within approved HCPs.

(1) Benefits of Inclusion

The principal effect of designated critical habitat is that federally funded or authorized activities may require consultation under section 7 of the Act. Consultation ensures that action entities avoid adverse modification of critical habitat. Currently approved and permitted HCPs promote the long-term survival of addressed species. In an approved HCP, lands defined as critical habitat for covered species will be protected in reserves and other conservation lands by the terms of the HCP and its IA. HCPs and IAs include management measures and protections for conservation lands designed to protect, restore, and enhance their value as habitat for covered species, and thus provide benefits to the species well in excess of those that would result from a critical habitat designation. Where HCPs are in place, our experience indicates that the benefit of designated critical habitat is small or non-existent.

Another possible benefit to including these lands is that the designation of critical habitat can serve to educate landowners and the public regarding the potential conservation value of an area. This may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation value for certain species. However, through the HCP development process, which typically involves extensive outreach and opportunity for public review and typically results in formal protection of essential habitat areas, the public is well informed and educated about conservation value of essential habitat lands.

(2) Benefits of Exclusion

The benefits of excluding lands within HCPs from critical habitat designation include carrying out the assurances provided by the Service to landowners, communities, and counties in return for their voluntary adoption of the HCP, including relieving them of the additional regulatory burden that might be imposed by critical habitat. Many HCPs, which can take years to develop, and upon completion, become the basis for regional conservation plans that are consistent with the recovery objectives for listed species covered within the plan area. Many of these HCPs provide conservation benefits to unlisted, rare species. Imposing additional regulatory review after an HCP is completed solely as a result of the designation of critical habitat may undermine conservation efforts and partnerships in many areas. In fact, it could result in the loss of species' benefits if participants abandon the voluntary HCP process because it

may result in an additional regulatory burden requiring more of them than of other parties who have not voluntarily participated in species conservation. Designation of critical habitat within the boundaries of approved HCPs is likely to be viewed as a disincentive to those entities currently developing HCPs or contemplating them in the future. Excluding HCPs provides us with an opportunity to streamline regulatory compliance and confirm regulatory assurances for HCP participants.

A related benefit of excluding lands within HCPs from critical habitat designation is the continued ability by us to seek new partnerships. These may include future HCP participants, such as States, counties, local jurisdictions, conservation organizations, and private landowners. These entities together may implement conservation actions that we would be unable to accomplish otherwise. By excluding areas covered by HCPs from critical habitat designation, we preserve these partnerships and, we believe, set the stage for more effective conservation actions in the future.

An HCP application must undergo section 7 consultation. While this consultation does not address adverse modification to critical habitat, it will determine if the HCP jeopardizes the species in the plan area. Federal actions not covered by the HCP, but in areas occupied by listed species, still require consultation under section 7 of the Act. HCPs typically provide greater conservation benefits to an addressed listed species than section 7 consultations because HCPs assure the long-term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5 Point Policy for HCPs (64 FR 35242) and the HCP "No Surprises" regulation (63 FR 8859). Such assurances are typically not provided by ordinary, non-programmatic section 7 consultations which are limited to requiring that the specific action being consulted upon not jeopardize the continued existence of the species.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

The educational benefits of critical habitat, including informing the public of areas that are essential for the long-term survival and conservation of the species, is still accomplished from material provided on our website and through public notice and comment procedures required to establish an HCP. We have also received input from the public through the public participation that occurs in the development of many regional HCPs. For these reasons, we believe that designating critical habitat has little additional benefit in areas covered by HCPs, provided that the HCP specifically and adequately covers the species for which critical habitat has been designated. We do not believe that this exclusion would result in the extinction of the species because the essential habitat within these HCPs will ostensibly be conserved.

The development and implementation of HCPs provide other important conservation benefits, including the development of biological information to guide conservation efforts and assist in species recovery, and the creation of innovative solutions to conserve species while allowing for commercial activity. The educational benefits of critical habitat, including informing the public of areas that are important for the long-term survival and conservation of the species, are essentially the same as those that would occur from the public notice and comment procedures required to establish an HCP, as well as the public participation that occurs in the development of many regional HCPs. For these reasons, then, we believe that designation of critical habitat normally has little benefit in areas covered by HCPs.

The benefits of excluding lands covered by these HCPs would be significant in preserving positive relationships with our conservation partners, lessening potential additional regulatory review and potential economic burdens, reinforcing the regulatory assurances provided for in IAs for approved HCPs, and providing for more established and cooperative partnerships for future conservation efforts. In summary, excluding lands covered by HCPs in critical habitat designations outweigh the benefits of including lands covered by HCPs. Furthermore, we have determined in section 7 consultations on approved HCPs that they would not jeopardize the continued existence of the bull trout. Consequently, excluding these lands from the critical habitat designation will not result in the extinction of the species. Therefore, these lands have not been designated as critical habitat for the bull trout.

Washington State Forest Practices Rules and Regulations, as Amended by the Forest and Fish Law (FFR)

An effort (known as the FFR) to address the needs of listed salmonids, and avoid conflicts between State regulations and the Act, was adopted by the Washington state legislature, thereby amending the Revised Code of Washington with respect to the Washington Forest Practices Act (RCW 76.09), as well as the Washington Administrative Code with respect to the Washington Forest Practices Rules (WAC 222).

The FFR addressed the needs of salmonids, other fish, and stream-associated amphibians, and specifically addressed the needs of bull trout and its habitat. Riparian buffers on fishbearing streams were designed to recruit the majority of the large wood which potentially could be recruited from these riparian areas. Because addressing the recruitment of large wood requires buffer widths greater than that needed to address many other riparian functions, these buffers also address the riparian functions of bank stability, shade, nutrient input, and sediment filtering. Riparian buffers on fishbearing streams likely account for half of the wood delivered to such streams. The remainder of large wood in these streams depends on episodic and catastrophic events for transport from upstream and upslope areas. These "upstream" wood-recruitment mechanisms are not well understood. Riparian buffers for streams above fishbearing streams include a buffer at the confluence with fishbearing streams to address temperature concerns as well as provide a run-out zone for events such as landslides and channelized debris flows. Above those areas, buffers under FFR rules need not be continuous, but are designed to maintain stream temperatures within normal parameters and will be placed along sensitive reaches and sites. The FFR rules includes a strategy (the bull trout temperature overlay) for maintaining cooler water temperatures in streams located in the hotter, dryer portions of Washington, east of the Cascade Crest. Slope stability and the ability to harvest timber and construct roads on "at-risk" or unstable slopes are also addressed through these rules.

Road construction and maintenance is a large part of these regulations, requiring corrective measures to address existing problem areas. These rules are designed to ensure stream connectivity through road crossings, shunting of road-generated sediment away from aquatic resources, and integrity of road infrastructure. It mandates a process of identification of problem areas and correction of those road segments within specified timeframes.

We assessed FFR with respect to bull trout PCEs. Forest practices conducted consistent with the FFR should not result in contaminated waters that inhibit reproduction, growth, or survival; instead, they are expected to

maintain a high-level of water quality. They are expected to maintain the thermal regime of streams within the range of normal variation, and contribute to the maintenance of complex stream channels, appropriate substrates, a natural hydrograph, ground-water sources and subsurface connectivity, migratory corridors, and an abundant food base. Forest practices are not expected to introduce or favor nonnative competitors or predators.

These rules apply to most non-industrial forest landowners, family-held and publicly-held industrial timber corporations, and some State lands. State lands managed by the WDNR west of the Cascade Crest are not subject to FFR as they are managed under their 1997 HCP with respect to bull trout. However, some provisions of FFR, such as road management and slope stability will be voluntarily applied by WDNR on those west-side lands. These rules do apply to WDNR lands east of the Cascade Crest and non-HCP private lands statewide, regardless of the presence of bull trout or salmon. Therefore, FFR includes benefits for many species in areas with no listed species. The FFR rules continue to apply so long as harvested land will be replanted and remain in forestry. Individual counties generally administer timber harvests associated with conversion of forested lands to agriculture or development, and all counties are expected to administer conversion harvests consistent with FFR by the year 2005.

These State Forest Practices Rules allow for the development of alternate plans. It is anticipated that non-industrial forest landowners will seek alternate plans for several inter-related reasons: (1) Much of the non-industrial lands are located at lower elevations where a disproportionate amount of the streams contain fish; (2) streams are lower gradient and can be addressed with different buffering scenarios that provide equal or better protection while allowing additional management flexibility; and (3) many non-industrial forest landowners do not have additional lands in their portfolio which can be used to offset the economic effect to them from reserve areas covering high percentages of their ownerships. All alternate plans, whether developed in conjunction with an HCP or not, will be evaluated for the level of protection provided to the aquatic resources including bull trout. It is expected that alternate plans will be required to provide equal or better protection for these resources. If this can be accomplished on some lands and waters in a more economical fashion, we expect landowners will attempt to avail themselves of these options, so long as the process for developing alternate plans is not overly onerous.

We assessed the adequacy of FFR as a special management plan to ensure that it provided: (1) A benefit to bull trout; (2) assurances of implementation; and (3) assurances it would be effective. For the reasons discussed above, bull trout will benefit from the implementation of FFR. FFR has already been adopted by the legislature and has been implemented for several years. Forest practice rules are monitored by the WDNR to ensure compliance by landowners and operators. Effectiveness is ensured through a cooperative adaptive-management process that includes collection of basic information regarding the covered species and their habitats, research, effectiveness monitoring, and regulatory feedback.

For these reasons, we believe that FFR, as a special management plan, provides substantial protection and restoration for bull trout and bull trout habitat. Therefore, we have determined that the benefits of excluding lands covered by FFR from the final designation of critical habitat for the bull trout outweighs the benefits of including them in the designation. Therefore, areas covered by the FFR are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

(1) Benefits of Inclusion

Consultation. One benefit would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. The economic analysis estimates that there have been over 200 formal consultations and thousands of informal consultations involving bull trout since its listing in 1998, and has involved numerous Federal action agencies. However, unless there are other types of Federal permitting or authorization within this area, private, and State-owned lands would not be affected.

Much of the land covered by FFR is zoned by the respective counties in a designation that holds long-term forestry as the primary objective. In areas zoned for other purposes, a higher rate of conversion from forestry to other land uses can be expected. FFR addresses forest practices and does not address conversion from forestry to other uses. Within the FFR area, conversion to some of these other land uses (*e.g.*, development) may trigger consultation (*e.g.*, filling of a wetland would require a permit from the Corps). However, most of these lands could be converted from forestry to other land uses without triggering consultation under section 7 of the Act, thus denying us any ability to assess and avoid any effect on critical habitat.

Non-industrial forest landowners have a high reliance on technical assistance provided through State and Federal programs, and occasionally participate in cost-share programs. These actions may trigger consultations, but would generally be for projects with little to no effect on bull trout, such as pre-commercial thinning, pruning, or planting. We expect a low level of Federal activity on these lands that would adversely affect bull trout or its habitat on these lands. Therefore, we anticipate little additional regulatory benefits from including these areas in critical habitat beyond what is already provided by the existing section 7 nexus for habitat areas occupied by bull trout and other listed extant aquatic species.

Bull trout belong to the same guild of fish and require similar habitat features as salmon. Salmon also need cold, clean, well-oxygenated water; substrates with minimal amounts of fine sediment for spawning; complex in-stream habitat features; and connectivity. Both bull trout and salmon are highly reliant on the ability to migrate between components of their habitat. Therefore, actions that benefit salmon frequently also provide benefits to bull trout, and actions that impact bull trout frequently also impact salmon. Minimization and mitigation measures for these species are also generally similar, and the features of essential habitat for salmon are compatible with the PCEs of bull trout critical habitat. Salmon not only overlap bull trout in habitat requirements, but also fill some of the current gaps in historic bull trout range. Thus, we find that little additional benefit through section 7 consultations would occur as a result of the overlap between habitat suitable for salmon and essential habitat for bull trout.

The economic analysis recognizes that while consultations regarding these areas will occur without bull trout critical habitat designation, those consultations may or may not consider the bull trout. In areas where removal or rectification of manmade, fish-passage obstructions are reasonably certain to occur, or where unoccupied range is currently accessible to expansion of the species, a "may affect" determination may be made in unoccupied areas for projects which will not result in take of the bull trout. In other areas where occupancy is not documented despite surveys and where it is not likely in the

foreseeable future, consultations for bull trout likely would not occur. Because of the similar life-history requirements of bull trout and salmon, we do not anticipate that the outcomes of such consultations would be altered by the designation of critical habitat for bull trout.

Regulatory and protective conservation measures are already anticipated from the future consultations regarding the activities described above. Consequently, we do not believe that designating critical habitat within these areas would provide significant additional regulatory benefits for bull trout.

Education/Information

In *Sierra Club* v. *Fish and Wildlife Service,* 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including these areas within designated critical habitat for bull trout because the final rule identifies all areas that are essential to the conservation of bull trout, regardless of whether all of these areas are included in the regulatory designation.

Additionally, many partners at the Federal, State, local jurisdiction, private, and Tribal level have initiated active information programs. While this educational outcome is important for the conservation of bull trout, it is already being achieved through the existing management, education, and public outreach efforts carried out by landowners, conservation partners, and agencies. The plight of salmonids in the Pacific Northwest has been subject to a well-developed public outreach infrastructure that includes magazines, newsletters, well-publicized public events, annual festivals, school group activities, web-sites, and water-shed planning efforts. Consequently, few additional educational or informational benefits will be provided to bull trout if these areas are designated as critical habitat.

Voluntary Partnerships for Conservation and Restoration

Current and ongoing conservation activities for salmon are compatible with those for bull trout such that reestablishment of bull trout in historic range and recovery throughout its range should not be precluded in the future. Existing conservation efforts include the application of Federal and State funds to salmonid recovery through the Salmon Recovery Funding Board. Other programs are also focusing on both active and passive restoration of habitats. Many partners are cooperating to conducting monitoring and research. The Cooperative Evaluation, Monitoring, and Research program of FFR, is funding and supporting a variety of research regarding habitat needs of bull trout and salmon, as well as research regarding topics such as survey protocols and their efficiencies. The conservation activities conducted by us, other Federal Agencies, State Agencies, private organizations, and private individuals demonstrate that the public is already aware of the importance of riparian and upland management in the conservation of salmonids. Designation of critical habitat would merely affirm what is already widely accepted by conservationists, agencies, and most of the public regarding the conservation value of these areas. It would also likely provide a relatively low level of additional voluntary conservation effort, and is actually more likely to undermine many of the existing cooperative voluntary efforts.

(2) Benefits of Exclusion

Excluding lands defined by the FFR area from designated critical habitat will provide several benefits, as follows: (1) Exclusion of the lands from the final designation will maintain and enhance our ability to continue working with the FFR participants in a spirit of cooperation and partnership; and (2) other jurisdictions, private landowners, and other entities will likely continue to see the benefit of working cooperatively with us and will be provided with incentives to develop HCPs and other agreements which can provide the basis for future opportunities to conserve species and their habitats. A more detailed discussion concerning our rationale for the benefits of excluding HCPs from critical habitat is outlined in the previous discussion concerning the exclusion of approved HCPs.

Through the stakeholder-based FFR planning process, we have built trust among diverse and competing interests by encouraging open dialogue regarding aquatic and riparian management issues. The introduction of additional Federal influence, through the designation of critical habitat, could impact the trust and spirit of cooperation that has been established over the last several years. The designation of critical habitat would be expected to adversely affect our working relationship with the State of Washington and private landowners, and Federal regulation through designation of critical habitat would be viewed as an unwarranted and unwanted intrusion. Therefore, exclusion would avoid this impact to cooperative efforts and will reduce the cost and logistical burden of unnecessary regulatory oversight.

FFR will undergo section 7 consultation to ensure that acceptance of FFR as an HCP will not jeopardize bull trout or any other listed or covered species. Federal actions in occupied portions of the FFR area will still require consultation under section 7 of the Act. These benefits will continue to occur if these areas are excluded. But additionally, FFR and exclusion of the FFR areas, will set the stage for more effective conservation in the future, as well as provide substantial benefits in the immediate future.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have analyzed the benefits of including FFR areas as part of the critical habitat designation and the benefits of excluding these areas, and determined that the benefits of exclusion outweigh those of inclusion. Further, we have determined that the exclusion of areas covered by the FFR would not result in the extinction of the bull trout based on the benefits provided the species through the plan.

The analysis conducted evaluating the benefits of excluding HCPs from critical habitat versus the benefits of including HCPs, as previously discussed for the exclusion of approved HCPs, and is applicable and appropriate for the exclusion of the FFR from designated critical habitat. However, we have specifically assessed the exclusion and inclusion of FFR areas in this respect.

Northwest Forest Plan

The Northwest Forest Plan was developed to manage the Northwest Forest in a manner that conserves the ecosystem and provides species the necessary elements they require to exist. Bull trout was one of the species considered in the Northwest Forest plan. There is general agreement that this is a comprehensive plan designed to improve habitat for all the species dependent on the Northwest Forest. In a 2002 report the Government Accounting Office found that the process used to develop and implement the Northwest Forest Plan addressed

many longstanding deficiencies that have contributed to unmet objectives in other land management plans.

(1) Benefits of Inclusion

The principal benefit of the inclusion of lands into designated critical habitat is that federally funded or authorized activities may require consultation under section 7 of the Act. Consultation ensures that action entities avoid adverse modification of critical habitat. Currently the Northwest Forest Plan promotes the conservation of addressed species, including the bull trout.

(2) Benefits of Exclusion

Consultation. One benefit would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. The economic analysis estimates that there have been over 200 formal consultations and thousands of informal consultations involving bull trout since its listing in 1998, and has involved numerous Federal action agencies. However, unless there are other types of Federal permitting or authorization within this area, private, and State-owned lands would not be affected.

Regulatory and protective conservation measures are already anticipated from the future consultations regarding the activities described above. Consequently, we do not believe that designating critical habitat within these areas would provide significant additional regulatory benefits for bull trout.

Education/Information. In *Sierra Club* v. *Fish and Wildlife Service,* 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including these areas within designated critical habitat for bull trout because the final rule identifies all areas that are essential to the conservation of bull trout, regardless of whether all of these areas are included in the regulatory designation.

Additionally, many partners at the Federal, State, local jurisdiction, private, and Tribal level have initiated active information programs. While this educational outcome is important for the conservation of bull trout, it is already being achieved through the existing management, education, and public outreach efforts carried out by landowners, conservation partners, and agencies. The plight of salmonids in the Pacific Northwest has been subject to a well-developed public outreach infrastructure that includes magazines, newsletters, well-publicized public events, annual festivals, school group activities, web-sites, and water-shed planning efforts. Consequently, few additional educational or informational benefits will be provided to bull trout if these areas are designated as critical habitat.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

For these reasons, we believe that Northwest Forest Plan, as a special management plan, provides substantial protection and restoration for bull trout and bull trout habitat. Therefore, we have determined that the benefits of excluding lands covered by Northwest Forest Plan from the final designation of critical habitat for the bull trout outweighs the benefits of including them in the designation. Therefore, areas covered by the Northwest Forest Plan are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have analyzed the benefits of including Northwest Forest Plan areas as part of the critical habitat designation and the benefits of excluding these areas, and determined that the benefits of exclusion outweigh those of inclusion. Therefore, we have excluded all Federal lands covered under Northwest Forest Plan from this final designation of critical habitat for the bull trout pursuant to section 4(b)(2) of the Act. Further, we have determined that the exclusion of all Federal lands covered by the Northwest Forest Plan would not result in the extinction of the bull trout based on the benefits provided the species through the plan and our consultation on the Forest Plan under section 7 of the Act.

Federal Columbia River Power System (FCRPS)

The FCRPS is currently governed by two federal statues that protect the bull trout, the Act and the Northwest Electric Power Planning and Conservation Act. The Northwest Electric Power Planning and Conservation Act require the mitigation of hydropower impacts. The Act protects the bull trout from actions that would jeopardize its continued existence, and all agencies must consult and collaborate with Tribes to ensure their actions do not impact tribal rights. These various directives have resulted in a multiplicity of collaborative efforts in the basin; all directed at restoring habitat and species populations. Each affected state also has varying regulatory authority with respect to habitat protection. Finally, there are 11 Federal agencies involved specifically in salmon and steelhead recovery in the basin. In 2002 the GAO estimated $3.3 billion had been spent since 1982 to recover those species in the basin. Many of these activities such as fish passage through dams, stream flow and temperature alteration, and sediment reduction, are the same that would be required for bull trout recovery. This was also noted in the economic analysis for the designation. It is clear that the basin is not in need of special management and protection, there are myriad programs currently performing that function outside of the Act. In addition, the benefit of imposing an additional regulatory structure (in this case, a designation of bull trout critical habitat) with its attendant rigidities, was not as great as excluding this area from designation to allow the existing processes to identify and implement the most effective way to conserve all the species in the basin.

For these reasons, we believe that FCRPS provides substantial protection and restoration for bull trout and bull trout habitat. Therefore, we have determined that the benefits of excluding lands covered by FCRPS from the final designation of critical habitat for the bull trout outweighs the benefits of including them in the designation. Therefore, areas covered by the FCRPS are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

(1) Benefits of Inclusion

The principal effect of designated critical habitat is that federally funded or authorized activities may require consultation under section 7 of the Act. Consultation ensures that action entities avoid adverse modification of critical habitat. Currently FCRPS promote the conservation of the bull trout.

(2) Benefits of Exclusion

Consultation. One benefit would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. The economic analysis estimates that there

have been over 200 formal consultations and thousands of informal consultations involving bull trout since its listing in 1998, and has involved numerous Federal action agencies. However, unless there are other types of Federal permitting or authorization within this area, private, and State-owned lands would not be affected.

Education/Information. In *Sierra Club* v. *Fish and Wildlife Service,* 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including these areas within designated critical habitat for bull trout because the final rule identifies all areas that are essential to the conservation of bull trout, regardless of whether all of these areas are included in the regulatory designation.

Additionally, many partners at the Federal, State, local jurisdiction, private, and Tribal level have initiated active information programs. While this educational outcome is important for the conservation of bull trout, it is already being achieved through the existing management, education, and public outreach efforts carried out by landowners, conservation partners, and agencies. The plight of salmonids in the Pacific Northwest has been subject to a well-developed public outreach infrastructure that includes magazines, newsletters, well-publicized public events, annual festivals, school group activities, web-sites, and water-shed planning efforts. Consequently, few additional educational or informational benefits will be provided to bull trout if these areas are designated as critical habitat.

Voluntary Partnerships for Conservation and Restoration. Current and ongoing conservation activities for salmon are compatible with those for bull trout such that reestablishment of bull trout in historic range and recovery throughout its range should not be precluded in the future. Existing conservation efforts include the application of Federal and State funds to salmonid recovery through the Salmon Recovery Funding Board. Other programs are also focusing on both active and passive restoration of habitats. Many partners are cooperating to conducting monitoring and research. The conservation activities conducted by us, other Federal Agencies, State Agencies, private organizations, and private individuals demonstrate that the public is already aware of the importance of riparian and upland management in the conservation of salmonids. Designation of critical habitat would merely affirm what is already widely accepted by conservationists, agencies, and most of the public regarding the conservation value of these areas. It would also likely provide a relatively low level of additional voluntary conservation effort, and is actually more likely to undermine many of the existing cooperative voluntary efforts.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have analyzed the benefits of including FCRPS areas as part of the critical habitat designation and the benefits of excluding these areas, and determined that the benefits of exclusion outweigh those of inclusion. Therefore, we have excluded all Federal lands covered under FCRPS from this final designation of critical habitat for the bull trout pursuant to section 4(b)(2) of the Act. Further, we have determined that the exclusion of areas covered by the FCRPS would not result in the extinction of the bull trout based on the benefits provided the species through the plan and our consultation on the FCRPS under section 7 of the Act.

Snake River Basin Adjudication, Montana Bull Trout Restoration Plan, Willamette and Malheur River Basins, and Streams Regulated Under PACFISH/INFISH

These exclusions include the Snake River Basin Adjudication, Montana Bull Trout Restoration Plan, the Willamette and Malheur River Basins, and stream reaches regulated under PACFISH/INFISH. The Snake River Basin Adjudication is an historic agreement between the Secretary of the Interior, the State of Idaho, and the Tribes to provide for conservation within the Snake River Basin. The affected parties have signed an agreement in principle and are moving forward to implement a plan for the basin. The benefit of excluding these areas from designation are that voluntary conservation will be achieved on all lands, not just lands with a Federal nexus. Stream reaches in the State of Montana Lands were excluded under section 4(b)(2) and because they do not meet the definition of critical habitat as they are not in need of special management or protection. The Willamette and Malheur Basins were excluded on the basis that the designations were the two most costly per river mile.

In January, 1994, the Governor of Montana established a Bull Trout Restoration Team to develop a restoration plan for bull trout in Montana. The Restoration Team created a Scientific Group to provide guidance on technical issues related to bull trout restoration efforts. The Montana Bull Trout Scientific Group conducted a status review of bull trout, assessed risks to the survival of the species, and identified restoration and conservation goals. Status reports were prepared for the twelve major bull trout restoration/conservation areas identified in Montana addressing the critical populations of bull trout within those areas. In addition, the Scientific Group prepared reports on three of the major issues relative to bull trout restoration—habitat requirements and land use impacts, removal and suppression of introduced species, and the use of transplants or stocking in restoration.

These documents, prepared by the Scientific Group in the time period between 1995 and 1998, were intended to provide the most current and accurate information available to the Montana Bull Trout Restoration Team. The intent was for watershed groups and other entities to utilize the information in making informed decisions affecting the restoration and conservation of bull trout in Montana. While implementation has not been uniform or consistent across the range of bull trout in Montana, there have been significant instances where the information developed by the Scientific Group has been applied (e.g., Plum Creek Native Fish HCP). Additionally, the FWS draft Bull Trout Recovery Plan utilized much of the information and incorporated many of the restoration and conservation goals identified by the Montana Bull Trout Scientific Group. The efforts of the Montana Bull Trout Restoration Team, as updated by more recent information on the status of and threats to bull trout in Montana, provides guidance to future restoration efforts that may be implemented to recover bull trout in Montana.

Lands currently managed under PACFISH/INFISH were excluded under section 4(b)(2) and because they do not meet the definition of critical habitat as they are not in need of special management or protection. PACFISH/INFISH was originally an interim measure pending completion of a plan similar to the Northwest Forest Plan in

the Interior Columbia River Basin. The Interior Columbia Plan was never completed; however, these management guidelines have been implemented by the U.S. Forest Service and the Bureau of Land Management for the past nine years. Where new management plans have been adopted by the land management agencies, the Service has found that the plans provided similar or improved outcomes. The existing management regime is protective of bull trout habitat, is likely to continue to the foreseeable future and no additional benefit would be realized by imposing a second regulatory scheme in the form of a critical habitat designation. The benefit of excluding the designations which is in terms of transactions costs to the agencies exceeds the benefit of designating critical habitat which will provide no additional protection in the face of the existing management.

For these reasons, we believe that Snake River Basin Adjudication, stream reaches in the State of Montana, the Willamette and Malheur River Basins, and stream reaches regulated under PACFISH/INFISH provides substantial protection and restoration for bull trout and bull trout habitat. Therefore, we have determined that the benefits of excluding lands covered by these plans from the final designation of critical habitat for the bull trout outweighs the benefits of including them in the designation. Consequently, areas covered by the Snake River Basin Adjudication, stream reaches in the State of Montana, the Willamette and Malheur River Basins, stream reaches regulated under PACFISH/INFISH are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

(1) Benefits of Inclusion

The principal benefit of any designated critical habitat is the requirement for consultation under section 7 of the Act for any activities having a Federal nexus that may adversely affect critical habitat. Consultation ensures that action entities avoid the destruction or adverse modification of critical habitat.

(2) Benefits of Exclusion

Consultation. One benefit would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. The economic analysis estimates that there have been over 200 formal consultations and thousands of informal consultations involving bull trout since its listing in 1998, and has involved numerous Federal action agencies. However, unless there are other types of Federal permitting or authorization within this area, private, and State-owned lands would not be affected.

Regulatory and protective conservation measures are already anticipated from the future consultations regarding the activities described above. Consequently, we do not believe that designating critical habitat within these areas would provide significant additional regulatory benefits for bull trout.

Education/Information. In *Sierra Club* v. *Fish and Wildlife Service*, 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including these areas within designated critical habitat for bull trout because the final rule identifies all areas that are essential to the conservation of bull trout, regardless of whether all of these areas are included in the regulatory designation.

Additionally, many partners at the Federal, State, local jurisdiction, private, and Tribal level have initiated active information programs. While this educational outcome is important for the conservation of bull trout, it is already being achieved through the existing management, education, and public outreach efforts carried out by landowners, conservation partners, and agencies. The plight of salmonids in the Pacific Northwest has been subject to a well-developed public outreach infrastructure that includes magazines, newsletters, well-publicized public events, annual festivals, school group activities, web-sites, and water-shed planning efforts. Consequently, few additional educational or informational benefits will be provided to bull trout if these areas are designated as critical habitat.

Voluntary Partnerships for Conservation and Restoration. Current and ongoing conservation activities for salmon are compatible with those for bull trout such that reestablishment of bull trout in historic range and recovery throughout its range should not be precluded in the future. Existing conservation efforts include the application of Federal and State funds to salmonid recovery through the Salmon Recovery Funding Board. Other programs are also focusing on both active and passive restoration of habitats. Many partners are cooperating to conducting monitoring and research.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have analyzed the benefits of including Snake River Basin Adjudication, the Montana Bull Trout Restoration Plan, the Willamette and Malheur River Basins, and stream reaches regulated under PACFISH/INFISH as part of the critical habitat designation and the benefits of excluding these areas, and determined that the benefits of exclusion outweigh those of inclusion. Therefore, we have excluded all Federal, State and private lands covered under Snake River Basin Adjudication, all lands covered under the Montana Bull Trout Restoration Plan, Federal lands within the Willamette and Malheur River Basins, and Federal lands containing stream reaches regulated under PACFISH/INFISH as part of the critical habitat designation from this final designation of critical habitat for the bull trout pursuant to section 4(b)(2) of the Act. Further, we have determined that the exclusion of areas covered by these plans would not result in the extinction of the bull trout based on the benefits provided the species through the plan and our consultation on these programs under section 7 of the Act.

All Waters Impounded Behind Dams (Reservoirs and Pools)

All waters impounded behind dams (reservoirs and pools) were excluded due to the potential for social and economic effects. In the case of reservoirs, the economic analysis found that potential modifications to the operations of reservoirs had the highest potential for economic effects. These costs result from consultations on ACOE and BOR dams and reservoirs, BPA consultations on the FCRPS, and FERC re-licensing consultations. ACOE and BOR consultations on dam and reservoir operations could lead to temperature control facilities, trap and haul passage, fish ladders, spillway modification and bull trout-related annual operation, maintenance, and study costs at various Federal dams. There is some potential for third party lawsuits to result in serious consequences for human health and safety as well as economic costs. Therefore, we have determined that the benefits of excluding lands covered by

these plans from the final designation of critical habitat for the bull trout outweighs the benefits of including them in the designation. Consequently, all impoundments behind dams are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act. Our rationale for these exclusions is discussed below.

(1) Benefits of Inclusion

The principal benefit of any designated critical habitat is the requirement for consultation under section 7 of the Act for any activities having a Federal nexus that may adversely affect critical habitat. Consultation ensures that action entities avoid the destruction or adverse modification of critical habitat. However, these impoundments are already subject to consultation due to the presence of bull trout. Therefore, we find that the benefits of inclusion are low.

(2) Benefits of Exclusion

Most of the forecast project modification costs resulting from the designation are dam and reservoir related (excluding USFS water diversions). These costs result from consultations on ACOE and BOR dams and reservoirs, BPA consultations on the FCRPS, and FERC re-licensing consultations. Particularly, in the case of the Willamette Basin Unit the cost of potential modifications to the ACOE Upper Willamette System Dams likely will be disproportionately large when compared to costs associated with other units. ACOE and BOR consultations on dam and reservoir operations could lead to temperature control facilities, trap and haul passage, fish ladders, spillway modification and bull trout-related annual operation, maintenance, and study costs at various Federal dams. In addition there is some concern that third party lawsuits may result in reservoir and dam operation conditions that have consequences to human health and safety. For these reasons, we believe the benefits of exclusion are high.

(3) The Benefits of Exclusion Outweigh the Benefits of Inclusion

Because the benefits of inclusion are low, and the benefits of exclusion are high, both in economic terms and with respect to potential concerns about human health and safety, we find that the benefits of exclusion outweigh the benefits of inclusion for dams and reservoirs throughout the proposed designation. Consequently, all impoundments behind dams are excluded from this critical habitat designation pursuant to section 4(b)(2) of the Act.

Lewis River Hydroelectric Projects Conservation Easements

We have been working with PacifiCorp since 1995 on relicensing the Yale hydroelectric project in Washington. Subsequently, NOAA—Fisheries and Cowlitz County PUD and other participants joined this process and included relicensing of Merwin, Swift No. 1, and Swift No. 2 hydroelectric projects on the Lewis River. We completed the biological opinion for the interim operation of the Lewis River hydroelectric projects in June 2002 (Service 2002d). Conservation measures were incorporated in the project description to minimize or compensate for the effects of the projects on listed species, including bull trout. Conservation measures included perpetual conservation easements on PacifiCorp's lands in the Cougar/Panamaker Creek area and along the Swift Creek arm of Swift Creek Reservoir. PacifiCorps signed and notarized covenant agreements and filed Cougar Creek in Clark and Cowlitz Counties, and Swift Creek in Clark and Skamania Counties (PacifiCorps 2003 a, b, c, d).

Swift Creek 0.3 mi (0.5 km) up to a barrier falls is likely used for foraging because habitat in this lower section of the creek is an extension of the Swift Arm segment of Swift Creek Reservoir. Swift Creek Reservoir provides foraging and overwintering habitat for the Pine and Rush Creek bull trout local populations, and subadult bull trout are known to use the Swift Arm segment of the reservoir. Actual use of the lower section of Swift Creek by bull trout is unknown; spawning and rearing is not known to occur here. Conservation measures for Swift Creek will be implemented including: (1) Conserving and protecting habitat for bull trout, cutthroat trout, and other aquatic species; (2) monitoring to minimize sedimentation due to human disturbance; and (3) development and implementation of vegetation management practices to include, but be not limited to, removal of nonnative or invasive plant species (PacifiCorp 2003 a, b).

Cougar Creek 1.7 mi (2.7 km) upstream to a lava tube barrier contains the smallest of the three local populations of bull trout in the Lewis River. Conservation measures included in PacifiCorp's conservation easement include: (1) Management to conserve and protect spawning and rearing habitat for bull trout; (2) monitoring to assure no detrimental changes to bull trout habitat have occurred due to upland management activities, winter storm damage, or other causes; (3) development and implementation of vegetation management practices to include, but will not be limited to, removal of nonnative or invasive plant species; and (4) development and implementation of a road maintenance plan to include provisions for repair or closure of roads (PacifiCorp 2003 c, d). The latter will include closing a road on the southeast boundary of the Cougar Creek lands to all vehicular access except maintenance equipment. In addition to these conservation measures, under the terms and conditions of the 2002 biological opinion, PacifiCorp will continue to develop annual plans and fund the cost of the net and haul system in place at the Yale tailrace (area below dam). Since 1995, the capture and transport of bull trout from the Yale tailrace to the mouth of Cougar Creek has probably contributed significantly to the spawning population (Service 2002).

We assessed the adequacy of the conservation easements to ensure that they provided: (1) A benefit to bull trout; (2) assurances of implementation; and (3) assurances they would be effective. We determined that bull trout will benefit from implementation of the conservation measures that are part of the conservation easements for Swift and Cougar Creeks. Thus, we have excluded lands within the conservation easements for Swift and Cougar Creeks from this final designation of critical habitat of the bull trout pursuant to section 4(b)(2) of the Act.

(1) Benefits of Inclusion

The principal benefit of any designated critical habitat is the requirement for consultation under section 7 of the Act for any activities having a Federal nexus that may adversely affect critical habitat. Consultation ensures that action entities avoid the destruction or adverse modification of critical habitat.

Habitat identification essential to the conservation of the species can provide information benefits to the public, State and local governments, scientific organizations, and Federal agencies. The heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. However, we believe little additional informational benefit will be gained by including Swift and Cougar Creeks in designated critical habitat for bull trout. PacifiCorps has begun implementing conservation recommendations, provided in our 2002 biological opinion, that include posting interpretive signs to

educate anglers on identifying and conserving native char, and techniques for catch and release to minimize incidental hooking mortality of bull trout. While we believe educational benefits are important for the conservation of bull trout, we believe it has already been achieved through PacifiCorp's conservation easement, publication of the proposed critical habitat rule, the many public and interagency meetings that have been held to discuss the proposal, and discussion contained in this final rule.

(2) Benefits of Exclusion

The benefits of excluding lands from critical habitat designation include maintaining and enhancing our ability to negotiate with hydroelectric power companies, counties, and other participants in relicensing negotiations. The complex process of negotiating relicensing for the Lewis River hydroelectric projects has been ongoing for 9 years. We have established valuable working relationships with the PacifiCorps, Cowlitz County PUD, and the other participants during these complex negotiations. Through the relicensing negotiations, we have built trust and encouraged open dialogue regarding aquatic and riparian management issues among the participants.

Excluding Swift Creek and Cougar Creek from critical habitat based on conservation easements will help maintain trust in our intentions to honor our agreements and facilitate negotiations for the final issuance of the new Lewis River hydroelectric project licenses. It will also facilitate our ability to negotiate in future consultations on other relicensing projects. The introduction of additional Federal influence through critical habitat designation could impact the spirit of cooperation established over the last several years. Exclusion would avoid impacting ongoing and future cooperative efforts, and will reduce the cost and logistical burden of unnecessary regulatory oversight.

The benefits of excluding areas covered by conservation easements from being designated critical habitat include relieving landowners and counties of any additional regulatory review that result from such a designation. Imposing an additional regulatory review after completion of conservation easements with adequate conservation measures may jeopardize conservation efforts and could be viewed as a disincentive to those developing conservation easements.

An additional benefit of excluding conservation easement areas is the encouragement of continued development of partnerships with States, local governments, conservation organizations, and private landowners. By excluding areas covered by conservation easements from designated critical habitat, we encourage more effective conservation actions in the future that would allow implementation of conservation actions we would be unable to accomplish alone.

Other important conservation benefits to developing conservation easements include developing biological information to guide conservation efforts and assist in species' recovery, and the creation of innovative solutions to conserve species while allowing commercial activity.

The conservation easements will provide greater conservation benefits to bull trout because they will assure long-term protection and management of bull trout in Swift and Cougar Creeks. Such assurances are typically not provided by section 7 consultations that, in contrast to conservation easements with conservation measures, often do not commit the project proponent to long-term species and habitat protections. Also, the protections of section 7, with respect to the jeopardy standard, and section 9 will still be in effect and will result in actions that protect the species.

By excluding lands included in the two conservation easements from designated critical habitat we will: (1) Maintain and enhance our ability to continue working with PacifiCorp, Cowlitz County PUD, FERC and other relicensing applicants; and (2) other jurisdictions, private landowners, and other entities will likely continue to see the benefit of working cooperatively with us. This will provide incentives to develop other conservation agreements, or other conservation actions such as HCPs, to provide the bases for future opportunities to conserve species and their habitats. Negotiating conservation measures under conditions of mutual trust can result in greater conservation benefits to the species than would result from including Swift and Cougar Creeks in designated critical habitat.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have determined that the benefits of excluding Swift and Cougar Creeks from critical habitat because the benefits of excluding them outweigh the benefits of including them in this final critical habitat designation. The net benefit of including them has been significantly minimized by PacifCorp's commitment to coordinate with us on their activities that may adversely affect these two streams. Conservation measures adopted by PacifiCorp will provide tangible benefits that will reduce the likelihood of extinction and increase the chances of recovery. Excluding these areas from designated critical habitat will not result in extinction of the species, particularly with implementation of the conservation measurements defined in the conservation easements, continuation of the capture and transport of bull trout from the Yale tailrace to Cougar Creek, and other conservation measures identified in our 2002 biological opinion. Consequently, we believe there is little or no additional benefit to bull trout by including Swift and Cougar Creeks in designated critical habitat.

The management commitments by PacifiCorp lead us to conclude that any additional, incremental regulatory benefits provided by a final critical habitat designation on their lands would be relatively small. Although we are excluding these streams, we still consider them essential to the conservation of the species. However, neither section 7 consultations nor a critical habitat designation would necessarily result in the implementation of actions needed for recovery of these species. PacifiCorp has committed to several proactive conservation management activities that will provide a conservation benefit to the species. We believe the benefits of critical habitat designation to be small for these two streams covered by conservation easements with adequate conservation measures, and the benefits of excluding them are significant. The conservation measures provided these two streams under the terms of our 2002 biological opinion and incorporated into the conservation easements will provide sufficient protection and provide conservation benefits to the species. The benefits of excluding Swift and Cougar Creeks from designated critical habitat outweigh the benefits of inclusion. Swift Creek Reservoir, the Swift Arm segment of the reservoir, and Pine and Rush Creeks are still included in designated critical habitat.

Military Lands

Bayview Acoustic Research Detachment (ARD)

The Bayview ARD, Naval Surface Warfare Center, Bayview, ID, property includes approximately 22 ac (9 ha) of developed land on the shore of Lake Pend Oreille and 16 ac (7 ha) 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.

(1) Benefits of Inclusion

The benefits of designating critical habitat on Bayview ARD are minimal because: (1) Of the small area that it encompasses; and (2) it only provides limited habitat that may only occasionally be used by bull trout with respect to the rest of Lake Pend Oreille. The area of lake bottom included in the Bayview ARD property does, however, contain some of the best kokanee spawning habitat in Lake Pend Oreille, and kokanee are a primary forage item for bull trout. Bayview ARD has submitted a draft integrated natural resource management plan (INRMP), which outlines protection and management strategies for natural resources on the center, including fish species and their habitats.

(2) Benefits of Exclusion

Designating critical habitat on Bayview ARD may impact their role in supporting ongoing U.S. Navy research, development, test, and evaluation programs in underwater acoustics. These efforts include the use of large scale models to simulate the characteristics of current and future Navy submarines in order to develop and evaluate advances in submarine silencing technology. Performing acoustic testing on large scale models provides the same accuracy as testing on actual submarines at a significantly lower cost. Bayview ARD is the only Navy facility capable of testing large scale models for hull-induced flow noise and propulsor noise, and the knowledge gained from these tests are directly applied to reducing the detectability of Navy submarines (Department of the Navy 2003).

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and consistent with the direction provided in section 4(b)(2) of the Act, we have determined that the benefits of excluding Bayview ARD as critical habitat outweigh the benefits of including it as critical habitat for bull trout. Further, we have determined that excluding the Bayview ARD will not result in the extinction of the bull trout. If significant additional information becomes available that changes our analysis of the benefits of excluding Bayview ARD from this critical habitat designation, we may revise this final designation accordingly.

Tribal Lands

We have considered whether or not Confederated Tribes of Warm Springs Reservation of Oregon (CTWS) Tribal lands should be excluded under subsection 4(b)(2) of the Act, which allows us to exclude areas from critical habitat designation where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species.

(1) Benefits of Inclusion

Habitat essential to bull trout conservation exists within CTWS lands. The primary direct benefit of inclusion of these lands as critical habitat would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed Federal actions do not destroy or adversely modify critical habitat. The benefit of a critical habitat designation would ensure that any actions authorized, funded, or carried out by a Federal agency would not likely destroy or adversely modify any critical habitat.

Another possible benefit of designating critical habitat is that the designation can educate the public regarding the potential conservation value of an area. This may contribute to conservation efforts by other parties by clearly delineating areas of high conservation value for the bull trout. Information about bull trout and their suitable habitat that was identified on CTWS lands could have a positive conservation benefit for the species. While we believe this educational outcome is important for bull trout conservation, we believe it has already been achieved through the existing management, education, and public outreach efforts carried out by the CTWS. A final designation of critical habitat on CTWS lands would simply affirm the recognized conservation value of these lands, which is already widely accepted by conservationists, public agencies, and most of the public.

We believe that a critical habitat designation for the bull trout on CTWS lands would provide a relatively low level of additional benefit. Any regulatory conservation benefits would accrue through the benefit associated with additional section 7 consultation associated with critical habitat. Based on a review of past consultations and consideration of the likely future activities in this specific area, there is little Federal activity expected to occur on CTWS lands that would trigger section 7 consultation. We also believe that a final critical habitat designation provides little additional educational benefits since the conservation value is already well known by the CTWS, the State, Federal agencies, private organizations, and the public.

(2) Benefits of Exclusion

Proactive voluntary conservation efforts are necessary to prevent the extinction and promote the recovery of the bull trout on CTWS lands. This is especially important in areas where the bull trout has been extirpated and its recovery requires access and permission for reintroduction efforts. For example, bull trout have been extirpated from some streams on CTWS lands, and repopulation is not likely without CTWS cooperation. The CTWS has a long history of carrying out proactive conservation actions on their lands. The CTWS's management plans provide guidelines for land uses that affect CTWS resources and serve as the basis for Tribal management decisions. We believe that the bull trout will benefit substantially from the CTWS's voluntary management actions due to their long-standing and broad application to Tribal management decisions.

We believe that exclusion of CTWS lands from critical habitat would have substantial benefits including the: (1) Furtherance of our Federal trust obligations; (2) establishment and maintenance of effective working relationships to promote the conservation of bull trout while streamlining the consultation process; (3) allowance for meaningful collaboration and cooperation in scientific studies to learn more about the life history and habitat requirements of bull trout populations that occur on their land; and (4) providing conservation benefits that might not otherwise occur to bull trout that depend on Tribal streams. Where consistent with the discretion provided by the Act, we believe it is necessary to implement policies that provide positive incentives to voluntarily conserve natural resources and that remove or reduce disincentives to conservation. Thus, we believe it is essential for the recovery of bull trout to build on continued conservation activities with a proven partner such as the CTWS, to provide positive incentives implementing voluntary conservation activities, and to respect CTWS concerns about incurring incidental regulatory or economic impacts.

Three of the five remaining bull trout populations in the lower Deschutes River exist on CTWS lands. Therefore, a successful recovery program is highly

dependent on developing working partnerships with a wide variety of entities, and the voluntary cooperation of the CTWS and others is essential to accomplishing recovery for listed species such as the bull trout. Because bull trout populations are located on CTWS lands, successful recovery of the bull trout in the Deschutes River basin is especially dependent upon working partnerships and the voluntary cooperation of the CTWS.

We believe that excluding these CTWS lands from critical habitat will help maintain and improve our partnership relationship by recognizing the CTWS's positive contribution to bull trout conservation. It will also reduce the cost and logistical burden of regulatory oversight. We believe this recognition will provide other landowners with a positive incentive to undertake voluntary conservation activities on their lands, especially where there is no regulatory requirement to implement such actions. Few additional benefits are provided by including the CTWS lands in this critical habitat designation beyond what will be achieved through the implementation of the CTWS's existing conservation plans.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and consistent with the direction provided in section 4(b)(2) of the Act, we have determined that the benefits of excluding CTWS lands as critical habitat for the bull trout outweigh the benefits of including them as critical habitat. We have also determined that the exclusion will not result in the extinction or endangerment of the species. The combined benefits of excluding these habitats are significant and include:

(1) Furtherance of our Federal trust obligations, including consistency with our government-to-government responsibilities under Secretarial Order 3206 and Executive Order 13175.

(2) Maintaining the effective working relationship that exists between the Service and CTWS. CTWS lands are already being managed to conserve bull trout. We believe that the bull trout will benefit from CTWS's voluntary management actions due to their long-standing and broad application to Tribal management decisions. Tribal lands are currently being managed on a voluntary basis in cooperation with the Service and others to achieve important conservation goals.

(3) Continuing the productive cooperative scientific efforts between the Service and CTWS. Tribal cooperation and support is required to prevent extinction and promote the recovery of listed species. Cooperation and support is required to prevent the extinction and promote the recovery of the bull trout due to the need to implement proactive conservation actions. This need for CTWS cooperation is especially acute because three of the five Deschutes River basin populations exist on CTWS lands. Future conservation efforts will require the cooperation of CTWS. Exclusion of CTWS lands from this critical habitat designation will help us maintain and improve our partnership with the CTWS by formally recognizing the positive contributions of the CTWS to bull trout recovery, and by streamlining or reducing unnecessary regulatory oversight.

(4) Recognition and continuation of the conservation benefits to the bull trout that come from the CTWS's existing conservation programs. The CTWS has cooperated with us to implement proactive conservation measures. They have cooperated with Federal and State agencies, and private organizations to implement voluntary conservation activities on their lands that have resulted in tangible conservation benefits.

Given the cooperative relationship between CTWS and the Service, we believe the additional regulatory and educational benefits of including these lands as critical habitat are relatively small. The designation of critical habitat can serve to educate the public regarding the potential conservation value of an area, but this goal is already being accomplished through the identification of these areas in the management plans described above and through the CTWS's outreach efforts.

We considered whether or not excluding these stream sections on CTWS lands would result in the extinction of bull trout within the foreseeable future. We have concluded that CTWS's voluntary conservation efforts will provide tangible conservation benefits that will reduce the likelihood of extinction and increase the likelihood for recovery. The exclusion of these areas will not increase the risk of endangerment or extinction to the bull trout, and may increase the likelihood that bull trout will recover by encouraging the CTWS to implement additional voluntary conservation measures.

The above analysis concludes that excluding CTWS lands from critical habitat will have a net beneficial impact with little risk of negative impacts. Thus, excluding these lands will not cause extinction of the bull trout, and may improve the chances for its recovery on CTWS lands.

CTWS Boundary Streams: Our analysis for the November 29, 2002 (67 FR 71235) proposed designation of critical habitat found that management within Warm Springs Tribal Conditional Use Areas (CUAs) provides a sufficient level of protection and certainty of implementation such that special management considerations or protection is not required. We did not include 39 mi (63 km) of streams within the CUAs as part of our proposed designation of critical habitat because we did not believe that these stream segments met the definition of critical habitat. However, we made an exception to our general finding regarding CUAs on the CTWS Reservation's southern and southeastern boundaries, where the boundary is defined by the Metolius and Deschutes Rivers. Here, we found that there was some uncertainty as to the ability of the Tribal management plans to adequately protect the entire waterway up to the river's bankfull elevation on either shore. This is because the opposite shore is not part of the Reservation and is not managed as part of a CUA. Therefore, we included the Metolius and Deschutes Rivers from bank to bank along the Reservation boundary as part of our proposed designation of critical habitat.

We have reassessed our proposed critical habitat designation along those streams which form the reservation's boundary. The 1855 Treaty between the CTWS and United States extends CTWS jurisdiction to the bankfull elevation on the opposite shore of the CTWS reservation boundary at Jefferson Creek and the Metolius River, and to the mid-point of the Deschutes River where it forms the reservation boundary. Executive Order 13175 and the Secretarial Order 3206 instruct us to respect Tribal self-government and sovereignty when considering a critical habitat designation on Tribal lands. Thus, we must assess whether Tribal management plans for Tribal trust resources are adequate to achieve the necessary conservation purpose. While this discussion mentions Tribal "lands," we have no reason to believe that this logic should not also extend to Tribal "waters."

Based on the above information, we find that the appropriate boundary on which to base a determination regarding the extent of critical habitat is the CTWS reservation boundary, which is the bankfull elevation on the opposite shore of Jefferson Creek (G3) and the Metolius River (E1), and the mid-point of the lower Deschutes River (A1), and the mid-point of the three Deschutes River

reservoirs (A2, A3, A4), where they form the reservation boundary. We find that the management provided within Warm Springs Tribal CUAs provides a sufficient level of protection and certainty of implementation such that special management considerations or protection is not required on Jefferson Creek (G3) and the Metolius River (E1). Therefore, on the basis of section 4(b)(2) of the Act, we will not include Jefferson Creek (G3) and the Metolius River (E1) in our final designation of critical habitat. We will not include the lower Deschutes River (A1) and the three Deschutes River reservoirs (A2, A3, A4) to their mid-point in our final designation of critical habitat, because the benefits of exclusion outweigh the benefits of inclusion.

Our reassessment of Tribal CUAs also found that our proposed designation of critical habitat had made several mapping errors. We included several streams which we had intended to exclude because they are within Tribal CUAs. These include the Whitewater River (F1), Parker Creek (G4), Bunchgrass Creek in the upper Warm Springs River (B1), and the upper Warm Springs River (B3) (B4) (B5). We are excluding these streams in this final rule.

We have reviewed the overall effect of the exclusion of the above-mentioned approved and draft HCPs, FFR, Tribal lands, and military installations for bull trout and their essential habitat. We have determined that the benefits of excluding these areas outweigh the benefits of including them in this critical habitat designation. Designation of critical habitat in these areas would most likely have a negative effect on the recovery and conservation of bull trout. The removal of these lands from critical habitat designation, as a result of these exclusions, will not lead to the species' extinction.

Stream Reaches Less Than 0.5 mi (0.8 km) in Length Under Private Land Ownership

During the development of the final designation, we determined that there were an estimated 1,831 stream segments under private landownership that were less than 0.5 mi (0.8 km) in length, accounting for approximately 287 mi (462 km) reaches in the proposed designation. We evaluated these stream segments to confirm whether they were essential to the conservation of the bull trout and to determine if the reaches warranted exclusion from the final designation pursuant to section 4(b)(2) of the Act based on disproportionate regulatory impacts to the private landowners or preservation of conservation partnerships. On the basis of this evaluation, we determined that these specific stream reaches warranted exclusion from the final designation pursuant to section 4(b)(2) of Act. Our rational for this determination is discussed below.

(1) Benefits of Inclusion

The principal benefit of any designated critical habitat is the requirement for consultation under section 7 of the Act for any activities having a Federal nexus that may adversely affect critical habitat. Consultation ensures that action entities avoid the destruction or adverse modification of critical habitat

Another possible benefit to including these lands is that the designation of critical habitat can serve to educate landowners and the public regarding the potential conservation value of an area. This may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation value for certain species.

(2) Benefits of Exclusion

One benefit would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed actions do not destroy or adversely modify critical habitat. The economic analysis estimates that there have been over 200 formal consultations and thousands of informal consultations involving bull trout since its listing in 1998, and has involved numerous Federal action agencies. However, unless there are other types of Federal permitting or authorization within this area, private, and State-owned lands would not be affected.

Regulatory and protective conservation measures are already anticipated from the future consultations regarding the activities described above. Consequently, we do not believe that designating critical habitat within these areas would provide significant additional regulatory benefits for bull trout, and in fact, may result in disproportionate regulatory and economic impacts to private land owners.

Education/Information. In *Sierra Club* v. *Fish and Wildlife Service,* 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. We agree with these findings; however, we believe that there would be little additional informational benefit gained from including these areas within designated critical habitat for bull trout because the final rule identifies all areas that are essential to the conservation of bull trout, regardless of whether all of these areas are included in the regulatory designation.

Additionally, many partners at the Federal, State, local jurisdiction, private, and Tribal level have initiated active information programs. While this educational outcome is important for the conservation of bull trout, it is already being achieved through the existing management, education, and public outreach efforts carried out by landowners, conservation partners, and agencies. The plight of salmonids in the Pacific Northwest has been subject to a well-developed public outreach infrastructure that includes magazines, newsletters, well-publicized public events, annual festivals, school group activities, Web sites, and water-shed planning efforts. Consequently, few additional educational or informational benefits will be provided to bull trout if these areas are designated as critical habitat.

Voluntary Partnerships for Conservation and Restoration. Current and ongoing conservation activities for salmon are compatible with those for bull trout such that reestablishment of bull trout in historic range and recovery throughout its range should not be precluded in the future. Existing conservation efforts include the application of Federal and State funds to salmonid recovery through the Salmon Recovery Funding Board. Other programs are also focusing on both active and passive restoration of habitats. Many partners are cooperating to conducting monitoring and research.

(3) Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, and in accordance with section 4(b)(2) of the Act, we have analyzed the benefits of including the 1,831 stream reaches that are less than 0.5 mi (0.8 km) in length that are under private landownership as part of the critical habitat designation. We have determined that the benefits of exclusion outweigh those of inclusion. Therefore, we have excluded the 1,831 stream reaches from this final designation of critical habitat for the bull trout pursuant to section 4(b)(2) of the Act. Further, we have determined that the exclusion of the 1,831 stream

reaches would not result in the extinction of the bull trout based on the benefits provided the species through existing management plans.

Critical Habitat Designation. Within the geographical areas presently known to be occupied by the Klamath River and Columbia River populations, we are designating only areas currently or historically occupied and known to be essential to the conservation of bull trout. We have found those occupied areas designated as essential to the conservation of the species, but the Secretary has not found any areas currently unoccupied as essential to the conservation of bull trout (50 CFR 424.12(e)). These areas designated already contain features and habitat characteristics that are necessary to sustain the species, and we do not foresee any changes to current practices in those areas. Rather, these designations designed to maintain existing practices and characteristics, and to review proposed changes where there is a Federal nexus in order to ensure that existing conditions remain unchanged with respect to their contribution to the conservation of bull trout. We are designating areas that currently have enough of the PCEs to provide essential life-cycle requisites of the species, as defined at 50 CFR 424.12(b). Moreover, certain areas with known occurrences of bull trout have not been designated as critical habitat. We did not designate critical habitat for some small scattered occurrences or habitats that are in highly fragmented areas, or no longer have hydrologic conditions that are sufficient to maintain bull trout habitat. We do not believe, based on the best available scientific information, that these areas are essential to the conservation of the species. Where information was unavailable, or we were uncertain as to whether those areas would, in fact, prove essential to the conservation of the species, we have not designated critical habitat. However, if future information proves that additional areas are necessary, we will revise our critical habitat designation.

The designated critical habitat areas described below constitute our best assessment at this time of the stream reaches, lakes, and marshes that are essential to the conservation of the Klamath River and Columbia River bull trout populations. We are designating approximately 1,748 mi (2,813 km) of streams and 61,235 ac (24,781 ha) of lakes and marshes for the Klamath River and the Columbia River populations of bull trout.

The lateral extent of critical habitat, for each designated stream reach, is the width of the stream channel as defined by its ordinary high line. Critical habitat extends from the ordinary high-water line as defined by the Corps in 33 CFR 329.11 and shall be used to determine the lateral extent of critical habitat. Adjacent floodplains are not designated as critical habitat. However, it should be recognized that the quality of aquatic habitat within stream channels is intrinsically related to the character of the floodplains and associated riparian zones, and human activities that occur outside the river channels can have demonstrable effects on physical and biological features of the aquatic environment. The lateral extent of lakes and reservoirs is defined by the perimeter of the water body as mapped on standard 1:24,000 scale maps (comparable to the scale of a 7.5 minute USGS Quadrangle topographic map).

Critical habitat includes bull trout habitat across the species' range in Idaho, Montana, Oregon, and Washington. Lands adjacent to designated critical habitat are under private, State, Tribal, and Federal ownership. The areas we are designating as critical habitat, described below, constitute our best assessment of areas essential to the conservation of the Klamath and Columbia River populations of bull trout.

In our proposed designation of critical habitat for the Klamath and Columbia River populations of the bull trout (November 29, 2002 (67 FR 71235)), we proposed to designate critical habitat in 25 CHUs that corresponded to recovery units identified in the draft Recovery Plan. For additional information regarding stream segments and bodies of water proposed for designation, please refer to the proposed critical habitat rule. However, we have excluded many areas determined to be essential to the conservation of bull trout from this final designation pursuant to section 4(b)(2) of the Act. As such, only 13 of the original 25 units are being designated as critical habitat for the Klamath and Columbia River populations of the bull trout. Please refer to the Regulations Promulgated section of this final rule for the descriptions of areas designated as critical habitat.

The approximate area designated as critical habitat for the Klamath and Columbia River populations of the bull trout by critical habitat unit are listed in Table 1

TABLE 1.—APPROXIMATE AREA DESIGNATED AS CRITICAL HABITAT FOR THE KLAMATH AND COLUMBIA RIVER POPULATIONS OF THE BULL TROUT BY CRITICAL HABITAT UNIT

Critical Habitat Unit	Stream Miles	Acres
Clark Fork River Basin	163	.....
Deschutes River Basin	39	.....
Grande Ronde River Basin	300	.....
Hells Canyon Complex	125	.....
Hood River Basin	30	.....
Imnaha-Snake River Basins	87	.....
Klamath River Basin	42	33,939
Umatilla-Walla Walla River Basins	241	.....
Coeur d'Alene Lake Basin	119	27,296
Lower Columbia River Basin	121	.....
Middle Columbia River Basin	269	.....
Northeast Washington River Basins	119	.....
Snake River Basin in Washington	94	.....
Total	1,748	61,235

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7 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. In our regulations at 50 CFR 402.2, we define destruction or adverse modification as "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to: Alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." We are currently reviewing the regulatory definition of adverse modification in relation to the conservation of the species.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued

existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory. If a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to 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. Through this consultation, the action agency ensures that the permitted actions do not destroy or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. "Reasonable and prudent alternatives" are defined 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, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid the destruction or adverse modification of 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 reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law.

We may issue a formal conference report, if requested by the Federal agency. Formal conference reports on proposed critical habitat contain a section 7(a)(2) finding that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as a biological opinion when critical habitat is designated, if no substantial new information or changes in the action warrant changes to the content of the opinion (see 50 CFR 402.10(d)).

Activities on Federal lands that may affect the bull trout or its designated critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the Corps under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (*e.g.*, FHA, Federal Aviation Administration, or Federal Emergency Management Agency (FEMA)), will also continue to be subject to compliance with section 7(a)(2) of the Act. Federal actions not affecting listed species or critical habitat, and actions which affect critical habitat but not a listed species, on non-Federal and private lands that are not federally funded, authorized, or permitted, do not require section 7 consultation.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat include those that appreciably reduce the value of critical habitat to the bull trout. We note that such activities may also jeopardize the continued existence of the species.

To properly portray the effects of critical habitat designation, we must first compare the section 7 requirements for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to "jeopardize the continued existence" of a species are those that would appreciably reduce the likelihood of the species' survival and recovery. Actions likely to "destroy or adversely modify" critical habitat are those that would appreciably reduce the conservation value of critical habitat to the listed species.

All areas designated as critical habitat are determined to be essential to the conservation of the bull trout, but some areas are currently not known to be occupied. Although these specific areas are not known to be occupied, they are within the geographical area occupied by bull trout. Areas with low levels of bull trout occupancy, or where presence of the species is undetermined, were included when they provided connectivity between areas of high-quality habitat, access to an abundant food base, served as important migration corridors for fluvial or adfluvial fish, or were identified in the draft Recovery Plan as necessary for local population expansion or reestablishment in order to achieve recovery, so that delisting can occur. Restoration of reproducing bull trout populations to additional portions of their historical range would significantly reduce the likelihood of extinction due to natural or human-caused factors that might otherwise further reduce population size and distribution. Thus, an integral component of the draft Recovery Plan is the selective reestablishment of secure, self-sustaining populations in certain areas where the species has apparently, but not necessarily conclusively, been extirpated. However, we believe, and the economic analysis discussed below illustrates, that the designation of critical habitat is not likely to result in a significant regulatory burden above that already in place due to the presence of the listed species. Few additional consultations are likely to be conducted due to the designation of critical habitat.

A number of Federal activities have the potential to destroy or adversely modify critical habitat for the bull trout. These activities may include land and water management actions of Federal agencies (*e.g.*, Corps, BOR, USFS, BLM, Natural Resources Conservation Service, and Bureau of Indian Affairs) and related or similar actions of other Federally regulated projects (*e.g.*, road and bridge construction activities by the FHA; dredge and fill projects, sand and gravel mining, and bank stabilization activities conducted or authorized by the Corps; and, National Pollutant Discharge Elimination System permits authorized by the EPA).

Specifically, activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that the conservation value of critical habitat for the bull trout is appreciably reduced. 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) Significant and detrimental altering 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 urban and suburban 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 (Gregory *et al.* 1991; Sullivan *et al.* in Naiman *et al.* 2000). The importance of riparian vegetation and channel bank condition for providing rearing habitat for salmonids in general is well documented (*e.g.*, Bossu 1954 and Hunt 1969, cited in Beschta and Platts 1987; MBTSG 1998);

(3) Significant and detrimental altering 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, 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) Significant and 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 release (non-point);

(5) Activities that are likely to result in the introduction, spread, or augmentation of nonnative aquatic species in any of the designated stream segments. Possible actions would include fish stocking for sport, aesthetics, biological control, or other purposes; use of live bait fish; aquaculture; construction and operation of canals; and interbasin water transfers; and

(6) 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.

If you have questions regarding whether specific activities will likely constitute destruction or adverse modification of critical habitat, contact the Field Supervisor of the nearest Fish and Wildlife Ecological Services Office. Requests for copies of the regulations on listed wildlife, and inquiries about prohibitions and permits may be addressed to the Division of Endangered Species, U.S. Fish and Wildlife Service, 911 NE 11th Avenue, Portland, OR 97232–4181 (telephone 503/231–6158; facsimile 503/231–6243).

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species concerned.

Following the publication of the proposed critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. The draft analysis was made available for public review on April 5, 2004 (69 FR 17634). We accepted comments on the draft analysis until May 5, 2004.

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for the bull trout. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. This economic analysis considers the economic efficiency effects that may result from the designation, including habitat protections that may be co-extensive with the listing of the species. It also addresses distribution of impacts, including an assessment of the potential effects on small entities and the energy industry. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector.

This analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. For example, regional management plans such as the NWFP, PACFISH, and INFISH provide significant protection to bull trout and its habitat while imposing significant costs within the region. Economic impacts that result from these types of protections are not included in the analysis as they are considered to be part of the regulatory and policy baseline.

The analysis examines activities taking place both within and adjacent to the designation. It 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. Accordingly, the analysis bases estimates on activities that are likely to occur within a 10-year time frame, from when the proposed rule became available to the public (November 30, 2002, 67 FR 71235). The 10-year time frame was chosen for the analysis because, as the time horizon for an economic analysis is expanded, the assumptions on which the projected number of projects and cost impacts associated with those projects becomes increasingly speculative. An exception to the 10-year analysis time horizon used in this analysis is for FERC licenses, which are renewed for up to 50 years. Accordingly, this analysis estimates the annualized costs of the expected impacts associated with section 7 bull trout consultations involving FERC re-licensing over a 50-year time horizon.

Costs can be expressed in terms of unit or river mile; both of these metrics are useful in describing economic impacts. On a cost per unit basis, the largest portion of forecast costs are expected to occur in Unit 4, the Willamette River Basin (18 percent). These costs are attributable to fish passage and temperature control projects and annual operating and maintenance and fish study costs at the

Corp's facilities in the Upper Willamette River System (Dexter, Lookout Point, Hills Creek, and Blue River Dams). The next most costly unit is Unit 16, the Salmon River Basin (12 percent). Because this is the largest unit in terms of river miles and proportion of USFS-managed land, and because future USFS activities are expected to generate approximately 70 percent of the consultation activity, this unit bears the greatest number of future bull trout-related consultations. Therefore, the administrative costs account for a large portion of the costs in this unit. Together, these two units account for 30 percent (approximately $8.2 million) of forecast costs. The next three most costly units, Hells Canyon complex (Unit 12), and the Clark Fork River (Unit 2), and Malheur River (Unit 13) Basins, each account for 8 percent (a unit cost range of approximately $2.1 million to $2.3 million) of forecast costs. In total, these five units account for almost 55 percent of forecast costs (approximately $14.8 million).

Based on our analysis, we concluded that the designation of critical habitat would not result in a significant economic impact, and estimated the potential economic effects over a 10-year period would range from $200 to $260 million ($20 to $26 million per year) for bull trout. It is expected that Federal agencies will bear 70 percent of these costs. The total estimated costs associated with bull trout consultation is expected be $9.8 million annually, and total project modification costs are expected to range from $19.5 to $26.1 million annually. Although we do not find the economic costs to be significant, they were considered in balancing the benefits of including and excluding areas from critical habitat.

A copy of the final economic analysis with supporting documents are included in our administrative record and may be obtained by contacting U.S. Fish and Wildlife Service, Branch of Endangered Species (*see* **ADDRESSES** section).

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule in that it may raise novel legal and policy issues, but will not have an annual effect on the economy of $100 million or more or affect the economy in a material way. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule. As explained above, we prepared an economic analysis of this action. We used this analysis to meet the requirement of section 4(b)(2) of the Act to determine the economic consequences of designating the specific areas as critical habitat. We also used it to help determine whether to exclude any area from critical habitat, as provided for under section 4(b)(2), if we determine that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless we determine, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA) (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to 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 effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a statement of factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA also amended the RFA to require a certification statement.

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 if 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 if the rule 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.

Designation of critical habitat only affects activities conducted, funded, or permitted by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they fund, permit, or implement that may affect bull trout. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinitiate consultation for ongoing Federal activities. The Columbia River and Klamath River populations of bull trout were federally listed as threatened in June 1998. In fiscal years 1998 through 2002, we conducted 152 formal section 7 consultations and several hundred informal consultations with other Federal agencies, mainly the USFS, to ensure that their actions will not jeopardize the continued existence of the bull trout.

Our economic analysis found that timber management, grazing, dam and reservoir operations, stream habitat improvement and fisheries restoration, road construction and maintenance, and flood control projects are the primary

activities anticipated to take place within the area designated as critical habitat for the bull trout. To be conservative (*i.e.*, more likely to overstate impacts than understate them), we assumed in our economic analysis that a unique business entity would undertake each of the projected consultations in a given year. Therefore, the number of businesses affected annually is equal to the total annual number of consultations (both formal and informal).

Based on the economic analysis which looked at the critical habitat for bull trout, and including consultations on FERC relicensing of hydroelectric facilities, we estimated that in each year, there could be approximately 52 formal consultations involving bull trout, and it is expected that the USFS will constitute about 70 percent of the total number of formal consultations.

In general, two different mechanisms in section 7 consultations could lead to additional regulatory requirements for the approximately four small businesses, on average, that may be required to consult with us each year regarding their project's impact on bull trout and its habitat. First, if we conclude, in a biological opinion, that a proposed action is likely to jeopardize the continued existence of a species or adversely modify its 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 jeopardizing the continued existence of listed species or result in adverse modification of 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 jeopardy or 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.

Second, if we find that a proposed action is not likely to jeopardize the continued existence of a listed animal or plant species, we may identify reasonable and prudent measures designed to minimize the amount or extent of take and require the Federal agency or applicant to implement such measures through non-discretionary terms and conditions. We may also identify discretionary conservation recommendations designed to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, help implement recovery plans, or to develop information that could contribute to the recovery of the species.

Based on our experience with consultations pursuant to section 7 of the Act for all listed species, virtually all projects—including those that, in their initial proposed form, would result in jeopardy or adverse modification determinations in section 7 consultations—can be implemented successfully with, at most, the adoption of reasonable and prudent alternatives. These measures, by definition, must be economically feasible and within the scope of authority of the Federal agency involved in the consultation. We can only describe the general kinds of actions that may be identified in future reasonable and prudent alternatives. These are based on our understanding of the needs of the species and the threats it faces, as described in the final listing rule and this critical habitat designation. Within the final CHUs, the types of Federal actions or authorized activities that we have identified as potential concerns are:

(1) Regulation of activities affecting waters of the United States by the Corps under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization implemented or licensed by Federal agencies;

(3) Regulation of timber harvest, grazing, mining, and recreation by the USFS and BLM;

(4) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities;

(5) Hazard mitigation and post-disaster repairs funded by the FEMA; and

(6) Activities funded by the EPA, U.S. Department of Energy, or any other Federal agency.

It is likely that a developer or other project proponent could modify a project or take measures to protect bull trout. The kinds of actions that may be included if future reasonable and prudent alternatives become necessary include conservation set-asides, management of competing nonnative species, restoration of degraded habitat, and regular monitoring. These are based on our understanding of the needs of the species and the threats it faces, as described in the final listing rule and proposed critical habitat designation. These measures are not likely to result in a significant economic impact to project proponents.

In summary, we have considered whether this would result in a significant economic effect on a substantial number of small entities. We have determined, for the above reasons and based on currently available information, that it is not likely to affect a substantial number of small entities. Federal involvement, and thus section 7 consultations, would be limited to a subset of the area proposed. The most likely Federal involvement could include Corps permits, permits we may issue under section 10(a)(1)(B) of the Act, FHA funding for road improvements, hydropower licenses issued by FERC, and regulation of timber harvest, grazing, mining, and recreation by the USFS and BLM. A regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C 801 et seq.)

Under SBREFA, this rule is not a major rule. Our detailed assessment of the economic effects of this designation is described in the economic analysis. Based on the effects identified in the economic analysis, we believe that this rule will not have an annual effect on the economy of $100 million or more, will not cause a major increase in costs or prices for consumers, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Refer to the final economic analysis for a discussion of the effects of this determination.

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This final rule to designated critical habitat for the bull trout is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

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, 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; AFDC 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 who receive Federal funding, assistance, permits or 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 on to State governments.

(b) We do not believe that this rule will significantly or uniquely affect small governments because it will 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 designation of critical habitat imposes no obligations on State or local governments. As such, Small Government Agency Plan is not required.

Takings

In accordance with Executive Order 12630, this rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the bull trout. Due to current public knowledge of the species' protection, the prohibition against take of the species both within and outside of the designated areas, and the fact that critical habitat provides no incremental restrictions, we do not anticipate that property values will be affected by the critical habitat designation. While real estate market values may temporarily decline following designation, due to the perception that critical habitat designation may impose additional regulatory burdens on land use, we expect any such impacts to be short term. Additionally, critical habitat designation does not preclude development of HCPs and issuance of incidental take permits. Owners of areas that are included in the designated critical habitat will continue to have opportunity to use their property in ways consistent with the survival and conservation of the bull trout.

Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of Interior and Department of Commerce policy, we requested information from, and coordinated development of, this critical habitat designation with appropriate State resource agencies in Washington, Oregon, Montana, and Idaho. The designation of critical habitat in areas currently occupied by the bull trout imposes no additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have designated critical habitat in accordance with the provisions of the Endangered Species Act of 1973, as amended. The final rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the bull trout.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act. 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 Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld in the courts of the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996).

Government-to-Government Relationship With Tribes

In accordance with 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 Department of 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.

During our development of this critical habitat designation for the Columbia River and Klamath River populations of bull trout, we evaluated Tribal lands to determine if they are essential to the conservation of the species. We have designated critical habitat for portions of the Klickitat River and South Fork Ahtanum Creek within the Yakama Reservation; the Umatilla River, Meacham Creek, and Squaw Creek within the Umatilla Reservation; Lake Coeur d'Alene within the Coeur d'Alene Reservation; the Pend Oreille River within the Kalispell Reservation; the Clearwater River, North Fork Clearwater River, Middle Fork Clearwater River, South Fork Clearwater River, Lolo Creek, Clear Creek, and Dworshak Reservoir within the Nez Perce Reservation; portions of Flathead Lake, the lower Flathead River, and the Jocko River watershed on the Flathead Reservation; and portions of the Jocko River watershed, Mission Creek, and Post Creek on the CSKT lands on the Flathead Reservation. A total of approximately 144 mi (232 km) of stream segments and approximately 735 ac (297 ha) of lake/reservoir habitat on Tribal lands is included in our critical habitat designation.

Currently, the Yakama Nation, Coeur d'Alene, Kalispell, Nez Perce, CSKT, and Umatilla Tribes do not have resource management plans that provide protection or conservation for the bull trout and its habitat. The CSKT have a resource management plan addressing bull trout conservation that is being applied in the Jocko River watershed. However, as a result of our meetings with the Tribes on September 26, 2002, we mutually agreed to include habitat within the Jocko River watershed in this rule designating critical habitat (notes of government-to-government meeting, September 26, 2002, in our administrative record files).

We held government-to-government consultations with the Confederated Tribes of Warm Springs Reservation of Oregon (CTWS) to discuss their policy and position regarding the proposal. At these meetings, the CTWS provided us with documents pertaining to the Tribe's conservation activities which benefit the bull trout. These documents include their IRMP I and II, Water Code, Water Quality Standards, Implementation Plan for Water Quality, Water Resources Inventory, Streamside Management Plan, Field Guide to IRMP Standards and Best Management Practices. They also provided us with information on specific actions they have taken that benefit the bull trout.

During the last several decades, the CTWS has implemented many conservation measures on Tribal lands that have benefited bull trout. For example, their Comprehensive Plan is a broad document that includes Tribal ordinances, the Tribe's IRMPs, and Tribal resolutions. Ordinances are Tribal laws that address issues such as water use, water quality, implementation of water quality standards, natural resource management, and range management. The IRMPs include several resource assessment processes such as Project Impact Statements and Project Assessments, Best Management Practices, and the use of measurable standards for project evaluations. Tribal resolutions address fishing and hunting seasons on Tribal lands. The CTWS has closed the mouth of the Metolius River to fishing since 1997 to provide sanctuary to adult bull trout which gather here before beginning their upstream migration to spawning streams. The CTWS also implemented a bag limit of one bull trout per day in Lake Billy Chinook. The Tribe's Resource Management Interdisciplinary Team is responsible for implementing the measures described above (Robert Brunoe, CTWS, pers. comm. 2003).

Other conservation measures include habitat protection and restoration measures, as well as monitoring and research. The lower 6 mi (10 km) of Shitike Creek are a migratory corridor for bull trout, and have been affected by channel simplification and a headworks facility. The headworks facility was removed as part of the Lower Shitike Creek Habitat Improvement Project, which was adopted by Tribal Council as resolution 7838. The project was implemented in two phases between 1988 and 1989, to improve fish passage and increase Tribal fisheries resources in Shitike Creek. Instream habitat structures were constructed in lower Shitike Creek between 1990 and 1994 to increase channel complexity. The CTWS has also constructed numerous riparian fencing projects along the mainstem Deschutes River, Shitike Creek, and Warm Springs River. The CTWS has made efforts to prevent removal of large wood from the Metolius River and has replaced culverts in Bunchgrass Creek to facilitate upstream fish passage.

The CTWS has been actively involved in bull trout monitoring, research, and conservation efforts since 1998. This work has been focused mostly on the Warm Springs River, Shitike Creek, and the Whitewater River, which are on Tribal land and have bull trout populations. Tribal biologists have also performed research on bull trout in the mainstem Deschutes River. The CTWS collects data on juvenile bull trout abundance, has radio-tagged adult bull trout to track their seasonal migration (Brun 1999; Brun and Dodson 2000, 2001, 2002), and they plan to continue these activities in the future. The BPA has provided funding to the CTWS to determine bull trout life history, genetics, and abundance in the lower Deschutes River. Tribal biologists were participants in the Recovery Unit Team for our Deschutes River basin draft Recovery Plan.

The CTWS has written two IRMPs that address issues affecting bull trout. IRMP I pertains to forested lands, and was approved by Tribal Council on in 1992 as Tribal Ordinance 74. The Tribe's IRMP I discusses the history of Tribal forestry. During the 1940s and 1950s, the Tribes harvested ponderosa pine and took measures to protect forest health. Ponderosa pine forests were managed by selection cutting and shelterwood regeneration during the 1960s and 1970s. In the 1980s, they reduced harvest goals several times to increase protection for other resources. The IRMP provides management direction for some 398,466 ac (161,254 ha) of forested Tribal land. This includes a system of riparian buffers, leaving snags and live trees after harvest, erosion control, and transportation system management.

IRMP II pertains to non-forested and rural lands, and was approved by Tribal Council in 1999 as Resolution 9723. This action amended Ordinance 74 to include IRMP II. The Tribal IRMP II addresses 15 issues, including the location of Extensive Management Zones, management of woodlands outside of commercial forestry areas, uplands management, riparian management, fish screen criteria, transportation system management, and measures to protect, enhance, and reintroduce threatened or endangered species. It recommends average road density guidelines that reduce road density to less than 1.0 mi (1.6 km) per section in riparian and wetland zones. The IRMP II also recommends reducing the number of roads in non-forested

areas, and reducing impacts through road closures, culvert placement, and revegetation of cutbanks.

The Tribe's Streamside Management plan was written in 1982 to help maintain Tribal water quality standards and improve water quality. These standards became Tribal law when the Tribal Council adopted the Water Code in 1968 as ordinance number 45. Tribal Council also adopted the Implementing Provisions of the Water Code as resolution number 5772. It includes a stream classification system and management guidelines for forestry, fuel treatment, livestock, grazing, and transportation.

The Water Resource Inventory and Water Management Plan for the Warm Springs Indian Reservation was authorized by Tribal Council on August 3, 1967, as resolution number 2980. On April 17, 1968, Tribal Council passed ordinance number 45 to make the Water Management Plan the official Water Code of the Warm Springs Reservation. The plan determines what water resources exist on CTWS lands, the priority of present and future uses, and explains how to allocate and control water resource use. The plan assessed water needs for fish and biotic life, and stated that the volume of streamflow should never be reduced below that required for the maintenance of the biotic environment. It also established grazing capacity for the reservation, and made recommendations for grazing management. Though irrigation demands were minimal, the plan assessed Tribal demands for irrigation water.

The CTWS also published in 1992 a Field Guide to INRMP Standards and Best Management Practices. This guide included best management practices for forest activities, riparian areas, threatened and endangered species, fire management, forage management, transportation systems, and aquatic resources.

We are committed to maintaining a positive working relationship with all of the Tribes, and will work with them on developing resource management plans for Tribal lands that include conservation measures for bull trout.

References Cited

A complete list of all references cited in this proposed rule is available on request from the U.S. Fish and Wildlife Service, Branch of Endangered Species Office, Portland, OR (*see* **ADDRESSES** section).

Authors

The primary authors of this rule are the staff of the U.S. Fish and Wildlife Service.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

■ Accordingly, we 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. In § 17.11(h) revise the entry for "Trout, bull'' under "FISHES'' to read as follows:

17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*		*
FISHES							
*	*	*	*	*	*		*
Trout, bull	*Salvelinus confluentus.*	U.S.A. (AK, Pacific NW into CA, ID, NV, MT), Canada (NW Territories).	U.S.A, coterminous (lower 48 states).	T	637, 639E, 659, 670	17.95(e)	17.44(w), 17.44(x).
*	*	*	*	*	*		*

■ 3. Amend § 17.95(e) by adding critical habitat for the bull trout (Salvelinus confluentus) in the same alphabetical order as this species occurs in § 17.11 (h).

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(e) * * *

Bull Trout (Salvelinus confluentus)

(1) Critical habitat is depicted for Ada, Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Canyon, Clearwater, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Latah, Lewis, Nez Perce, Pend Oreille, Shoshone, Valley, and Washington Counties, ID; Deer Lodge, Flathead, Lake, Granite, Lewis and Clark, Lincoln, Mineral, Missoula, Payette, Powell, Ravalli, and Sanders Counties, MT; Baker, Clatsop, Columbia, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler Counties, OR; and Asotin, Benton, Chelan, Columbia, Clark, Cowlitz, Douglas, Garfield, Grant, Franklin, Kittitas, Klickitat, Okanogan, Pacific, Pend Oreille, Skamania, Wahkiakum, Walla Walla, Whitman, and Yakima Counties, WA, on the maps and as described below.

(2) Critical habitat includes the stream channels within the stream reaches indicated on the maps in this critical habitat designation, and includes a lateral extent from 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 shall be used to determine the lateral extent of critical habitat. The lateral extent of proposed lakes and reservoirs is defined by the perimeter of the water body as mapped on standard 1:24,000 scale topographic maps.

(3) Within these areas, 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. Existing human-constructed features and structures within the critical habitat boundary, such as buildings, powerlines, roads, railroads, urban development, and other paved areas will not contain one or more of the primary constituent elements; consequently, Federal actions limited to those areas would not trigger a consultation under section 7 of the Act unless they affect the species and/or primary constituent elements in adjacent critical habitat. The PCEs are:

(i) Water temperatures ranging from 36 to 59 °F (2 to 15 °C), 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;

(ii) Complex stream channels with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structures;

(iii) 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 of fine substrate less than 0.25 in (0.63 cm) in diameter and minimal substrate embeddedness are characteristic of these conditions;

(iv) A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation;

(v) Springs, seeps, groundwater sources, and subsurface water connectivity to contribute to water quality and quantity;

(vi) Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows;

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

(viii) Few or no nonnative predatory, interbreeding, or competitive species present; and

(ix) Permanent water of sufficient quantity and quality such that normal reproduction, growth and survival are not inhibited.

(4) Critical habitat does not include non-Federal lands covered by an incidental take permit for the Columbia River population of bull trout issued under section 10(a)(1)(B) of the Act on or before October 6, 2004, as long as such permit, or a conservation easement providing comparable conservation benefits, remains legally operative on such lands.

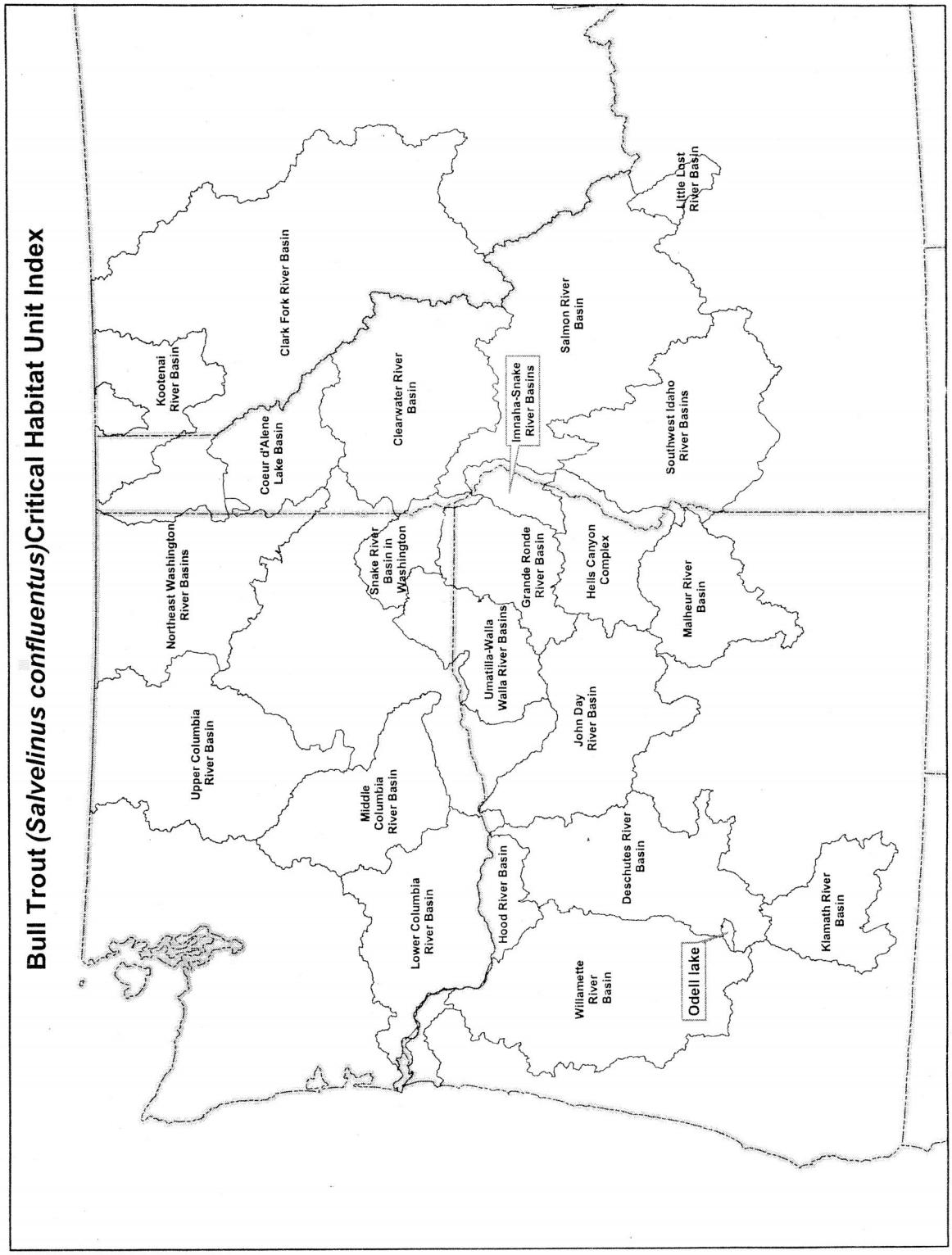
(5) The following lands have been determined to be essential to the conservation of the Klamath River and Columbia River populations of bull trout, but have been excluded from designated critical habitat pursuant to section 4(b)(2) of the Act:

(i) Non-Federal lands regulated under the Washington Forest Practices Act (RCW Ch. 76.09), as amended by "Engrossed Substitute House Bill 2019" (1999), and Montana Forested Trust Lands administered by the Montana Department of Natural Resources;

(ii) All stream segments less than 0.5 mi (0.8 km) in length that are under private landownership.

(6) Index map follows:

BILLING CODE 4310–55–P


Bull Trout (Salvelinus confluentus) Critical Habitat Unit Index
Kootenai River Basin
Clark Fork River Basin
Coeur d'Alene Lake Basin
Clearwater River Basin
Salmon River Basin
Little Lost River Basin
Immaha-Snake River Basins
Southwest Idaho River Basins
Northeast Washington River Basins
Snake River Basin in Washington
Grande Ronde River Basin
Hells Canyon Complex
Malheur River Basin
Umatilla-Walla Walla River Basins
Upper Columbia River Basin
John Day River Basin
Middle Columbia River Basin
Deschutes River Basin
Hood River Basin
Lower Columbia River Basin
Klamath River Basin
Willamette River Basin
Odell lake

(7) Unit 1: Klamath River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream. Lakes are designated in their entirety.

(i) Upper Klamath Lake Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint or lake center latitude	Stream endpoint or lake center longitude
Sun Creek	42.898	−122.096	42.735	−122.008
Agency Lake	Located at		42.541	−121.963

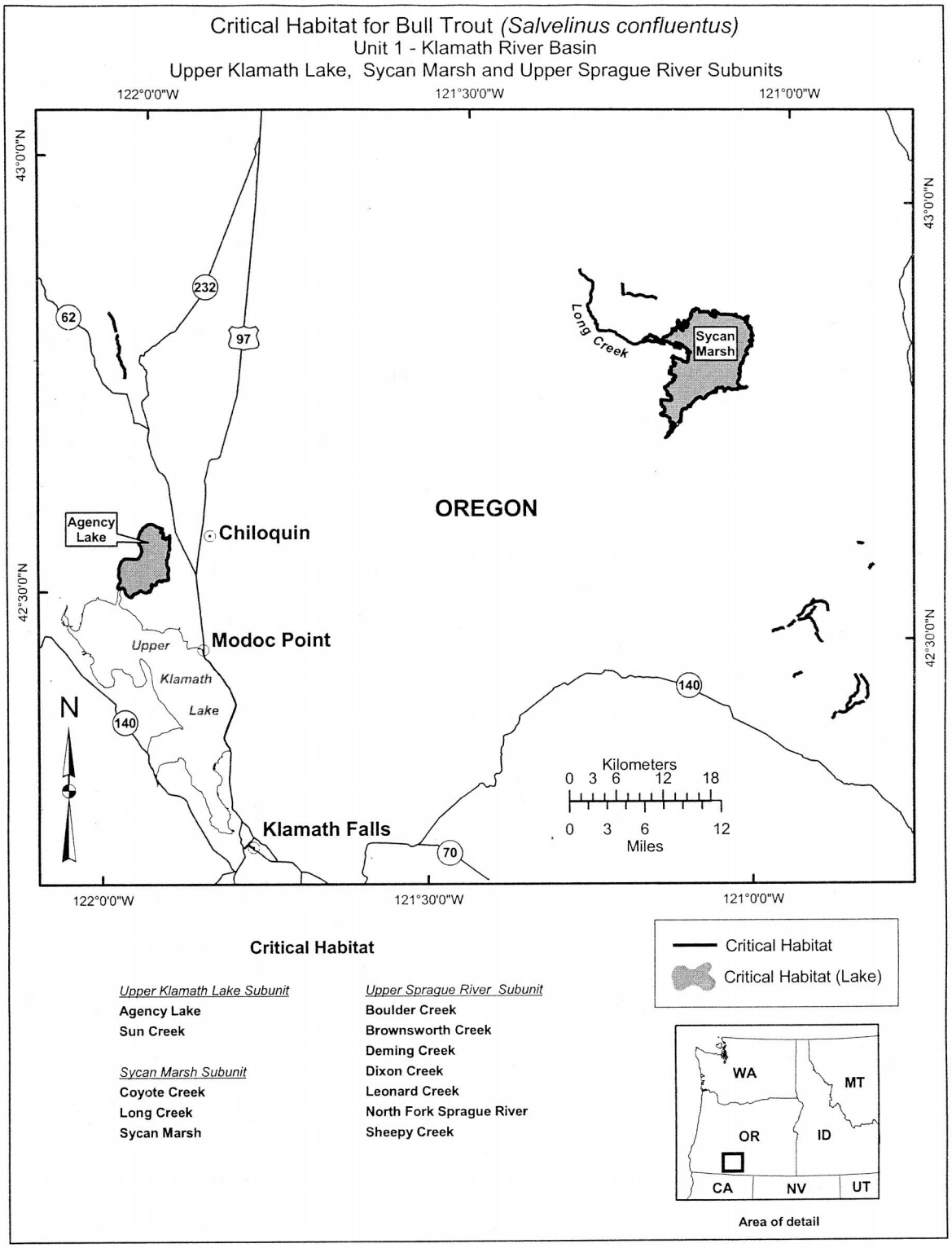
(ii) Sycan Marsh Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Streams endpoint or lake center latitude	Stream endpoint or lake center longitude
Coyote Creek	42.893	−121.246	42.854	−121.158
Long Creek	42.933	−121.338	42.826	−121.209
Sycan Marsh	Located at		42.811	−121.113

(iii) Upper Sprague River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Boulder Creek	42.495	−120.884	42.517	−120.951
Brownsworth Creek	42.469	−120.854	42.392	−120.913
Deming Creek	42.486	−120.885	42.448	−120.953
Dixon Creek	42.532	−120.923	42.518	−120.937
Leonard Creek	42.465	−120.864	42.413	−120.867
North Fork Sprague River	42.557	−120.839	42.497	−121.008
Sheepy Creek	42.514	−120.890	42.534	−120.931

(iv) **Note:** Map of the Klamath River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 1 - Klamath River Basin
Upper Klamath Lake, Sycan Marsh and Upper Sprague River Subunits
122°0'0"W
121°30'0"W
121°0'0"W
43°0'0"N
42°30'0"N
232
62
97
140
70
Long Creek
Sycan Marsh
OREGON
Agency Lake
Chiloquin
Modoc Point
Upper Klamath Lake
Klamath Falls
N
Kilometers
0 3 6 12 18
0 3 6 12
Miles
Critical Habitat
Critical Habitat (Lake)
Critical Habitat
Upper Klamath Lake Subunit
Agency Lake
Sun Creek
Sycan Marsh Subunit
Coyote Creek
Long Creek
Sycan Marsh
Upper Sprague River Subunit
Boulder Creek
Brownsworth Creek
Deming Creek
Dixon Creek
Leonard Creek
North Fork Sprague River
Sheepy Creek
WA
MT
OR
ID
CA
NV
UT
Area of detail

(8) Unit 2: Clark Fork River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

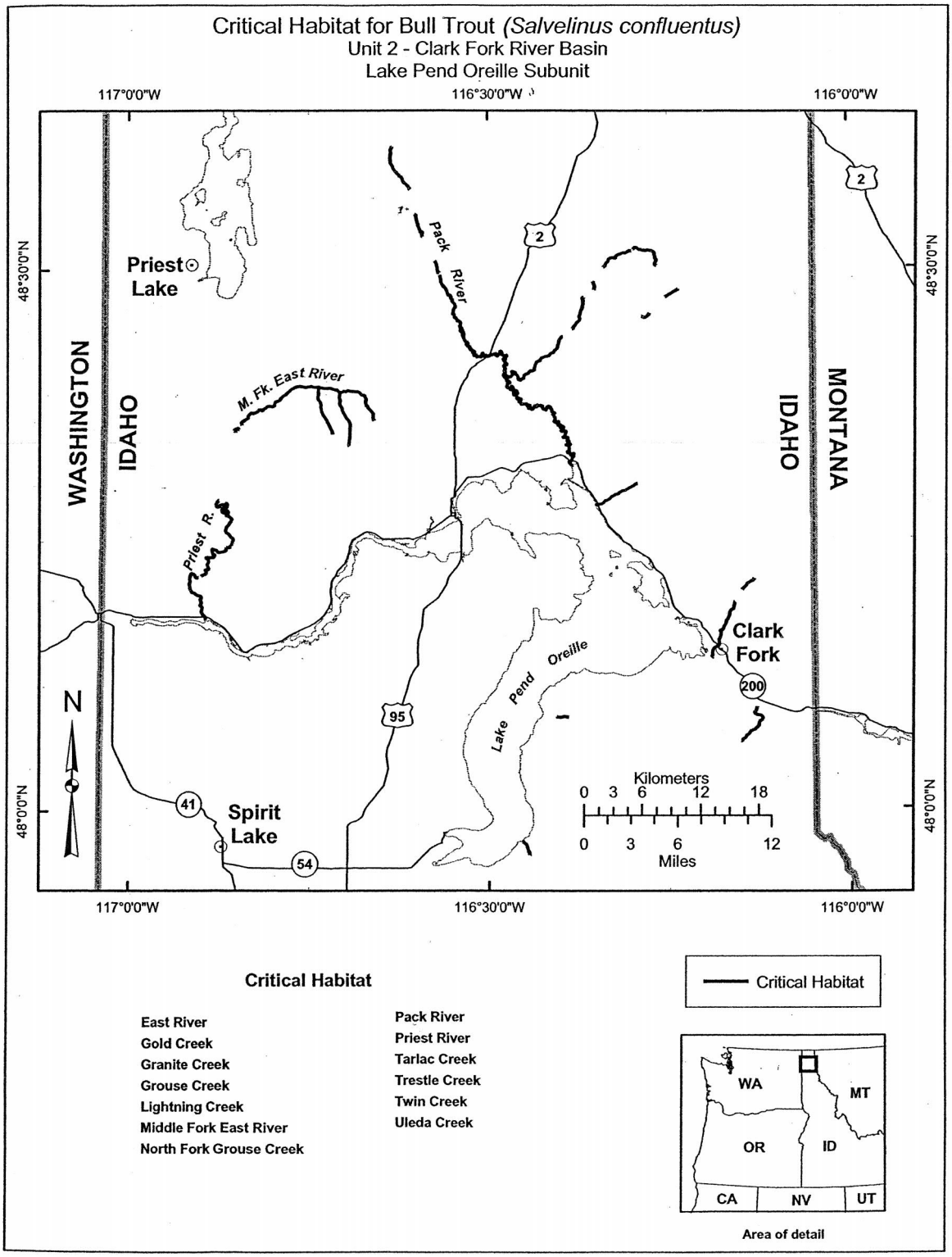
(i) Lake Pend Oreille Subunit.

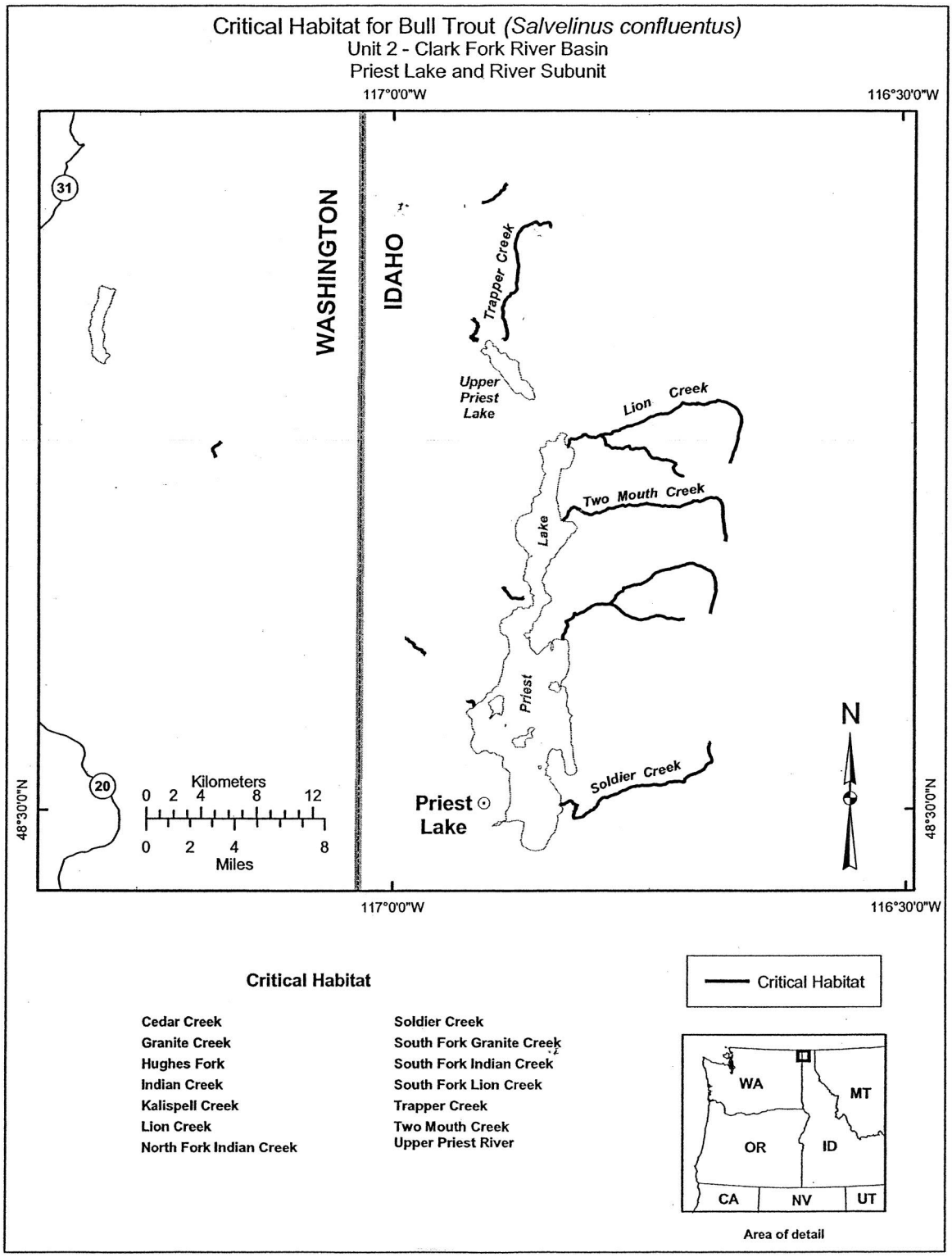
Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
East River	48.371	−116.819	48.353	−116.852
Gold Creek	47.954	−116.451	47.971	−116.454
Granite Creek	48.060	−116.329	48.087	−116.427
Grouse Creek	48.483	−116.228	48.403	−116.477
Lightning Creek	48.353	−116.175	48.140	−116.191
Middle Fork East River	48.362	−116.659	48.371	−116.819
North Fork Grouse Creek	48.502	−116.265	48.452	−116.373
Pack River	48.613	−116.634	48.320	−116.382
Priest River	48.353	−116.852	48.178	−116.892
Tarlac Creek	48.349	−116.717	48.393	−116.737
Trestle Creek	48.352	−116.234	48.283	−116.352
Twin Creek	48.063	−116.151	48.094	−116.129
Uleda Creek	48.339	−116.694	48.388	−116.707

(ii) Priest Lakes and River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Cedar Creek	48.909	−116.885	48.880	−116.959
Granite Creek	48.700	−117.029	48.639	−116.863
Hughes Fork	48.946	−117.023	48.805	−116.923
Indian Creek	48.634	−116.789	48.610	−116.836
Kalispell Creek	48.626	−117.134	48.567	−116.921
Lion Creek	48.725	−116.672	48.736	−116.831
North Fork Indian Creek	48.627	−116.691	48.634	−116.789
Soldier Creek	48.547	−116.698	48.503	−116.838
South Fork Granite Creek	48.761	−117.147	48.700	−117.029
South Fork Indian Creek	48.624	−116.716	48.634	−116.789
South Fork Lion Creek	48.716	−116.718	48.743	−116.797
Trapper Creek	48.877	−116.846	48.796	−116.896
Two Mouth Creek	48.674	−116.676	48.688	−116.836
Upper Priest River	49.000	−116.936	48.799	−116.911

(iii) **Note:** Maps of the Lake Pend Oreille Subunit and the Priest Lakes and River Subunit of the Clark Fork River Basin follow:

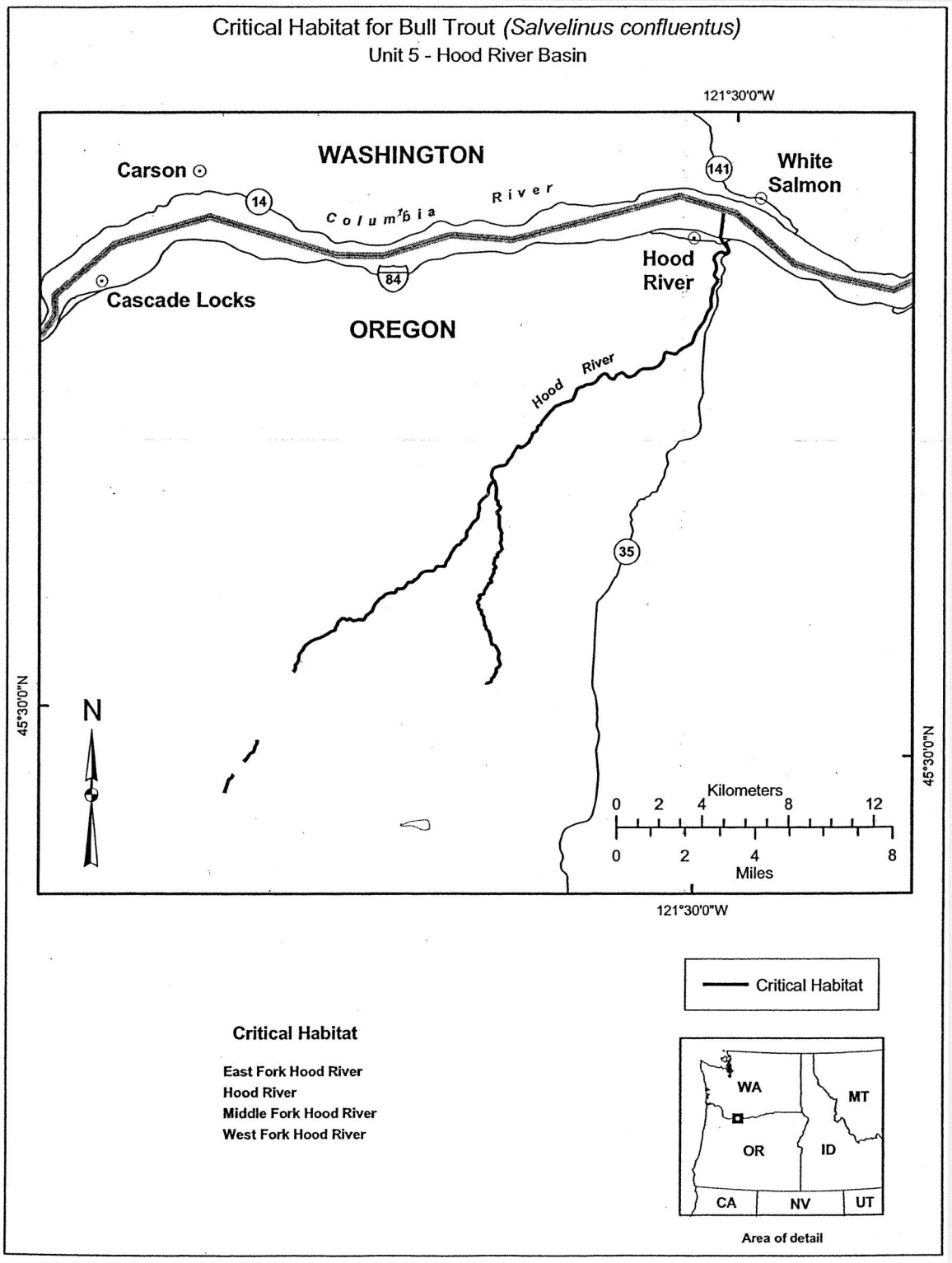

Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 2 - Clark Fork River Basin
Lake Pend Oreille Subunit
117°0'0"W
116°30'0"W
116°0'0"W
48°30'0"N
48°0'0"N
Priest Lake
Pack River
M. Fk. East River
Priest R.
WASHINGTON
IDAHO
IDAHO
MONTANA
Clark Fork
Lake Pend Oreille
Spirit Lake
N
Kilometers
0 3 6 12 18
0 3 6 12
Miles
Critical Habitat
East River
Gold Creek
Granite Creek
Grouse Creek
Lightning Creek
Middle Fork East River
North Fork Grouse Creek
Pack River
Priest River
Tarlac Creek
Trestle Creek
Twin Creek
Uleda Creek
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 2 - Clark Fork River Basin
Priest Lake and River Subunit
117°0'0"W
116°30'0"W
48°30'0"N
WASHINGTON
IDAHO
31
20
Trapper Creek
Upper Priest Lake
Lion Creek
Two Mouth Creek
Priest Lake
Soldier Creek
Priest Lake
N
Kilometers
0 2 4 8 12
0 2 4 8
Miles
Critical Habitat
Cedar Creek
Granite Creek
Hughes Fork
Indian Creek
Kalispell Creek
Lion Creek
North Fork Indian Creek
Soldier Creek
South Fork Granite Creek
South Fork Indian Creek
South Fork Lion Creek
Trapper Creek
Two Mouth Creek
Upper Priest River
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail

(9) Unit 5: Hood River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
East Fork Hood River	45.575	−121.626	45.605	−121.632
Hood River	45.605	−121.632	45.721	−121.506
Middle Fork Hood River	45.463	−121.645	45.575	−121.626
West Fork Hood River	45.456	−121.781	45.605	−121.632

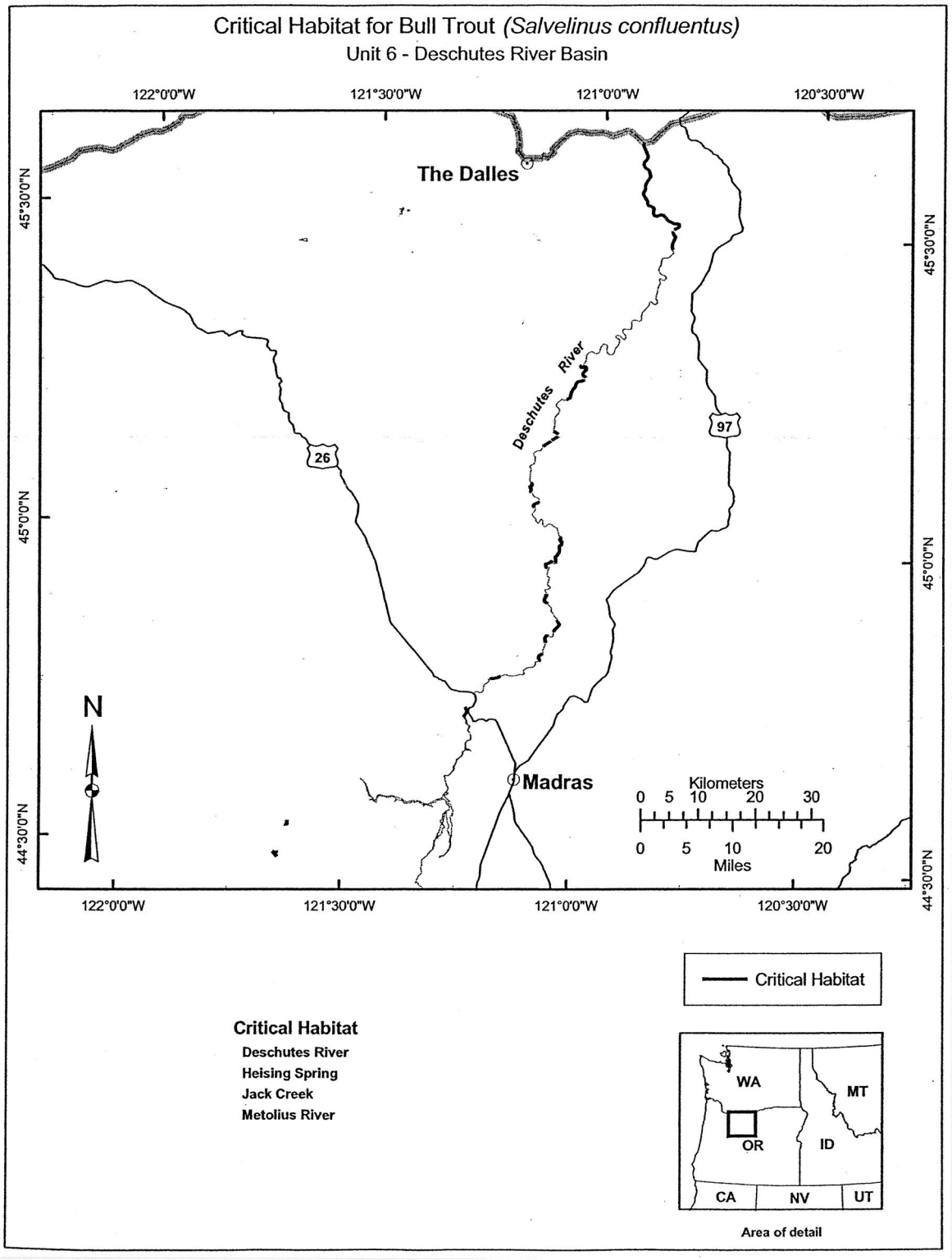
(i) **Note:** Map of the Hood River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 5 - Hood River Basin
121°30'0"W
WASHINGTON
Carson
White Salmon
Columbia River
Hood River
Cascade Locks
OREGON
Hood River
45°30'0"N
N
Kilometers
0 2 4 8 12
0 2 4 8
Miles
Critical Habitat
Critical Habitat
East Fork Hood River
Hood River
Middle Fork Hood River
West Fork Hood River
WA
MT
OR
ID
CA
NV
UT
Area of detail

(10) Unit 6: Deschutes River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Deschutes River	44.373	−121.291	45.639	−120.914
Heising Spring	44.491	−121.651	44.494	−121.648
Jack Creek	44.472	−121.725	44.493	−121.647
Metolius River	44.434	−121.637	44.577	−121.619

(i) **Note:** Map of the Deschutes River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 6 - Deschutes River Basin
122°0'0"W
121°30'0"W
121°0'0"W
120°30'0"W
45°30'0"N
45°0'0"N
44°30'0"N
The Dalles
Deschutes River
26
97
Madras
N
Kilometers
0 5 10 20 30
0 5 10 20
Miles
Critical Habitat
Critical Habitat
Deschutes River
Heising Spring
Jack Creek
Metolius River
WA
MT
OR
ID
CA
NV
UT
Area of detail

(11) Unit 9: Umatilla-Walla Walla River Basins: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

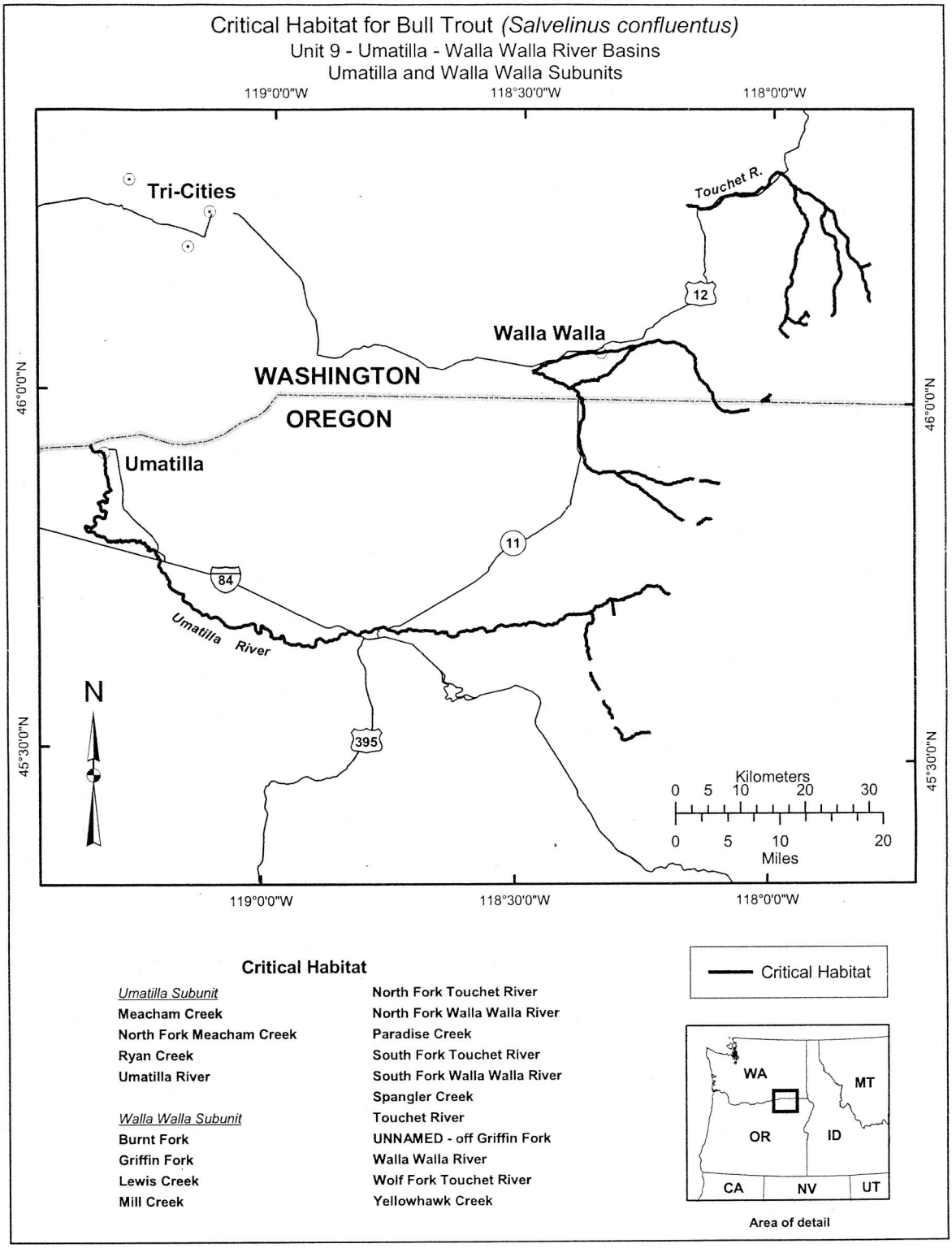
(i) Umatilla Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Meacham Creek	45.527	−118.290	45.702	−118.359
North Fork Meacham Creek	45.575	−118.174	45.527	−118.290
Ryan Creek	45.694	−118.308	45.723	−118.314
Umatilla River	45.726	−118.187	45.923	−119.356

(ii) Walla Walla Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Burnt Fork	46.087	−117.940	46.105	−117.985
Griffin Fork	46.099	−117.913	46.121	−117.973
Lewis Creek	46.156	−117.771	46.191	−117.824
Mill Creek	46.011	−117.941	46.039	−118.478
North Fork Touchet River	46.093	−117.864	46.302	−117.959
North Fork Walla Walla River	45.947	−117.990	45.899	−118.307
Paradise Creek	46.001	−117.990	46.004	−118.017
South Fork Touchet River	46.105	−117.985	46.302	−117.959
South Fork Walla Walla River	45.966	−117.963	45.899	−118.307
Spangler Creek	46.099	−117.802	46.149	−117.806
Touchet River	46.302	−117.959	46.272	−118.174
UNNAMED—off Griffin Fork	46.120	−117.922	46.113	−117.948
Walla Walla River	45.899	−118.307	46.039	−118.478
Wolf Fork Touchet River	46.075	−117.903	46.274	−117.895
Yellowhawk Creek	46.077	−118.272	46.017	−118.400

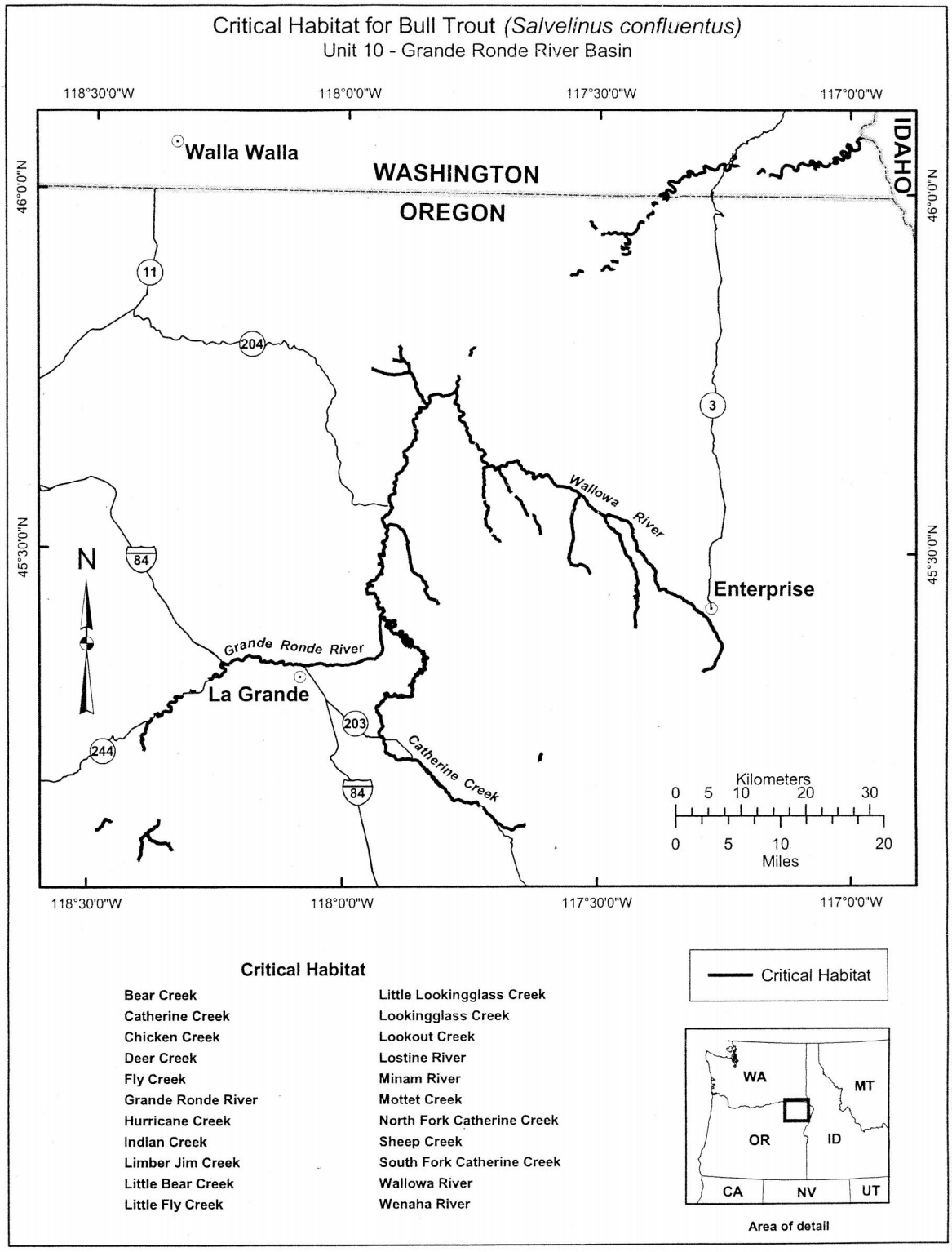
(iii) **Note:** Map of the Umatilla-Walla Walla River Basins follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 9 - Umatilla - Walla Walla River Basins
Umatilla and Walla Walla Subunits
119°0'0"W
118°30'0"W
118°0'0"W
46°0'0"N
45°30'0"N
Tri-Cities
Touchet R.
12
Walla Walla
WASHINGTON
OREGON
Umatilla
11
84
Umatilla River
N
395
Kilometers
0 5 10 20 30
0 5 10 20
Miles
Critical Habitat
Umatilla Subunit
Meacham Creek
North Fork Meacham Creek
Ryan Creek
Umatilla River
Walla Walla Subunit
Burnt Fork
Griffin Fork
Lewis Creek
Mill Creek
North Fork Touchet River
North Fork Walla Walla River
Paradise Creek
South Fork Touchet River
South Fork Walla Walla River
Spangler Creek
Touchet River
UNNAMED - off Griffin Fork
Walla Walla River
Wolf Fork Touchet River
Yellowhawk Creek
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail

(12) Unit 10: Grande Ronde River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Bear Creek	45.323	−117.480	45.584	−117.540
Catherine Creek	45.120	−117.646	45.408	−117.930
Chicken Creek	45.024	−118.385	45.095	−118.394
Deer Creek	45.423	−117.587	45.620	−117.699
Fly Creek	45.121	−118.465	45.210	−118.394
Grande Ronde River	44.967	−118.254	46.080	−116.978
Hurricane Creek	45.274	−117.310	45.420	−117.301
Indian Creek	45.337	−117.721	45.534	−117.919
Limber Jim Creek	45.085	−118.229	45.089	−118.343
Little Bear Creek	45.428	−117.479	45.485	−117.554
Little Fly Creek	45.110	−118.475	45.121	−118.465
Little Lookingglass Creek	45.817	−117.901	45.750	−117.874
Lookingglass Creek	45.779	−118.078	45.707	−117.841
Lookout Creek	45.078	−118.540	45.110	−118.475
Lostine River	45.246	−117.374	45.552	−117.489
Minam River	45.148	−117.371	45.621	−117.720
Mottet Creek	45.788	−117.942	45.767	−117.886
North Fork Catherine Creek	45.225	−117.604	45.120	−117.646
Sheep Creek	45.016	−118.507	45.105	−118.381
South Fork Catherine Creek	45.112	−117.513	45.120	−117.646
Wallowa River	45.420	−117.301	45.726	−117.784
Wenaha River	45.951	−117.794	45.946	−117.450

(i) **Note:** Map of the Grande Ronde River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 10 - Grande Ronde River Basin
118°30'0"W
118°0'0"W
117°30'0"W
117°0'0"W
46°0'0"N
45°30'0"N
Walla Walla
WASHINGTON
OREGON
IDAHO
11
204
3
84
244
203
Wallowa River
Enterprise
Grande Ronde River
La Grande
Catherine Creek
N
Kilometers
0 5 10 20 30
0 5 10 20
Miles
Critical Habitat
Bear Creek
Catherine Creek
Chicken Creek
Deer Creek
Fly Creek
Grande Ronde River
Hurricane Creek
Indian Creek
Limber Jim Creek
Little Bear Creek
Little Fly Creek
Little Lookingglass Creek
Lookingglass Creek
Lookout Creek
Lostine River
Minam River
Mottet Creek
North Fork Catherine Creek
Sheep Creek
South Fork Catherine Creek
Wallowa River
Wenaha River
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail

(13) Unit 11: Imnaha-Snake River Basins: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

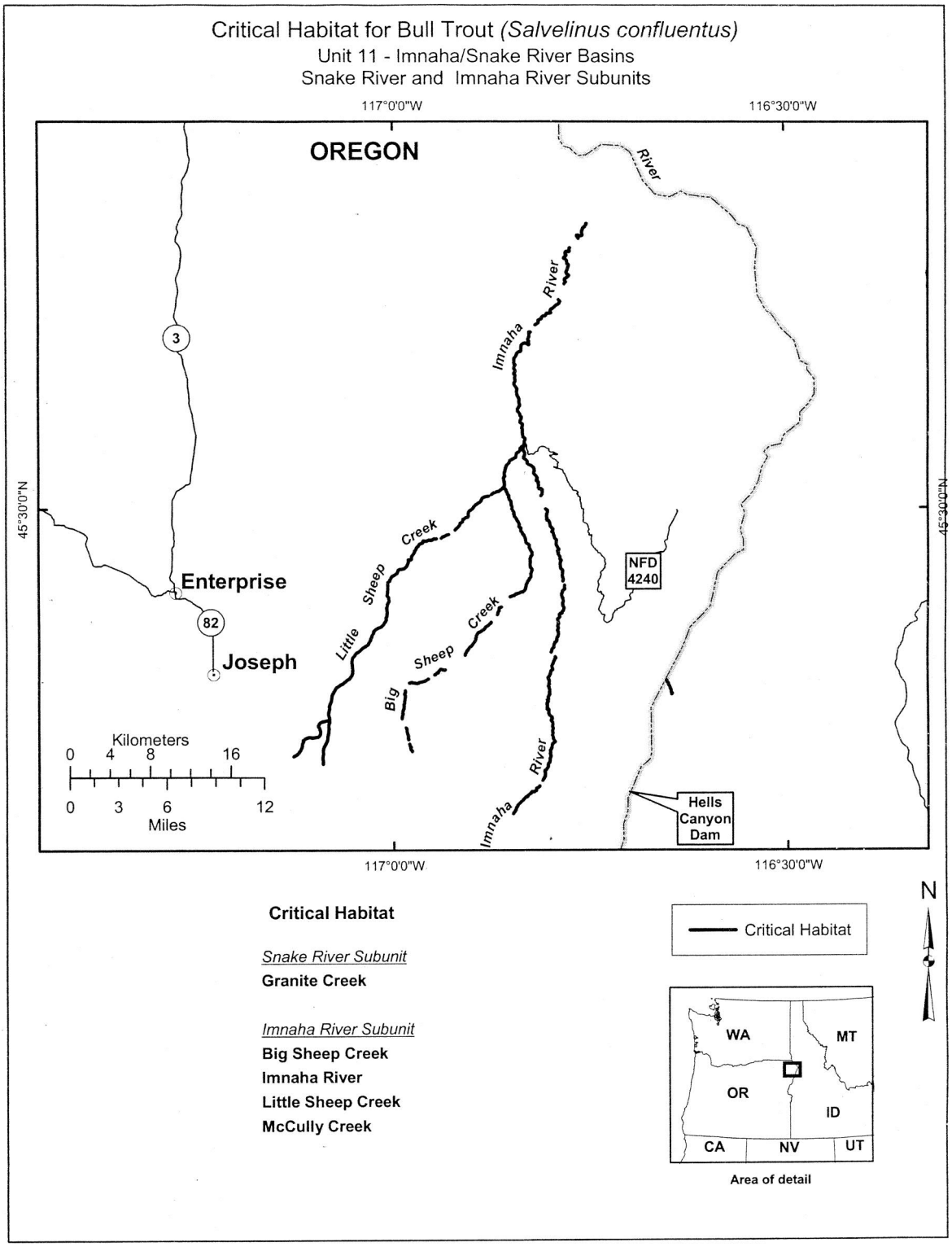
(i) Snake River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Granite Creek	45.263	−116.611	45.349	−116.654

(ii) Imnaha River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Big Sheep Creek	45.178	−117.119	45.557	−116.834
Imnaha River	45.113	−117.125	45.817	−116.764
Little Sheep Creek	45.232	−117.093	45.520	−116.859
McCully Creek	45.211	−117.140	45.311	−117.082

(iii) **Note:** Map of the Imnaha-Snake River Basins follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 11 - Imnaha/Snake River Basins
Snake River and Imnaha River Subunits
117°0'0"W
116°30'0"W
OREGON
River
Imnaha
River
3
45°30'0"N
Enterprise
82
Joseph
Little
Sheep
Creek
Big
Sheep
Creek
NFD
4240
Imnaha
River
Hells
Canyon
Dam
Kilometers
0 4 8 16
0 3 6 12
Miles
Critical Habitat
Snake River Subunit
Granite Creek
Imnaha River Subunit
Big Sheep Creek
Imnaha River
Little Sheep Creek
McCully Creek
Critical Habitat
N
WA
MT
OR
ID
CA
NV
UT
Area of detail

(14) Unit 12: Hells Canyon Complex: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

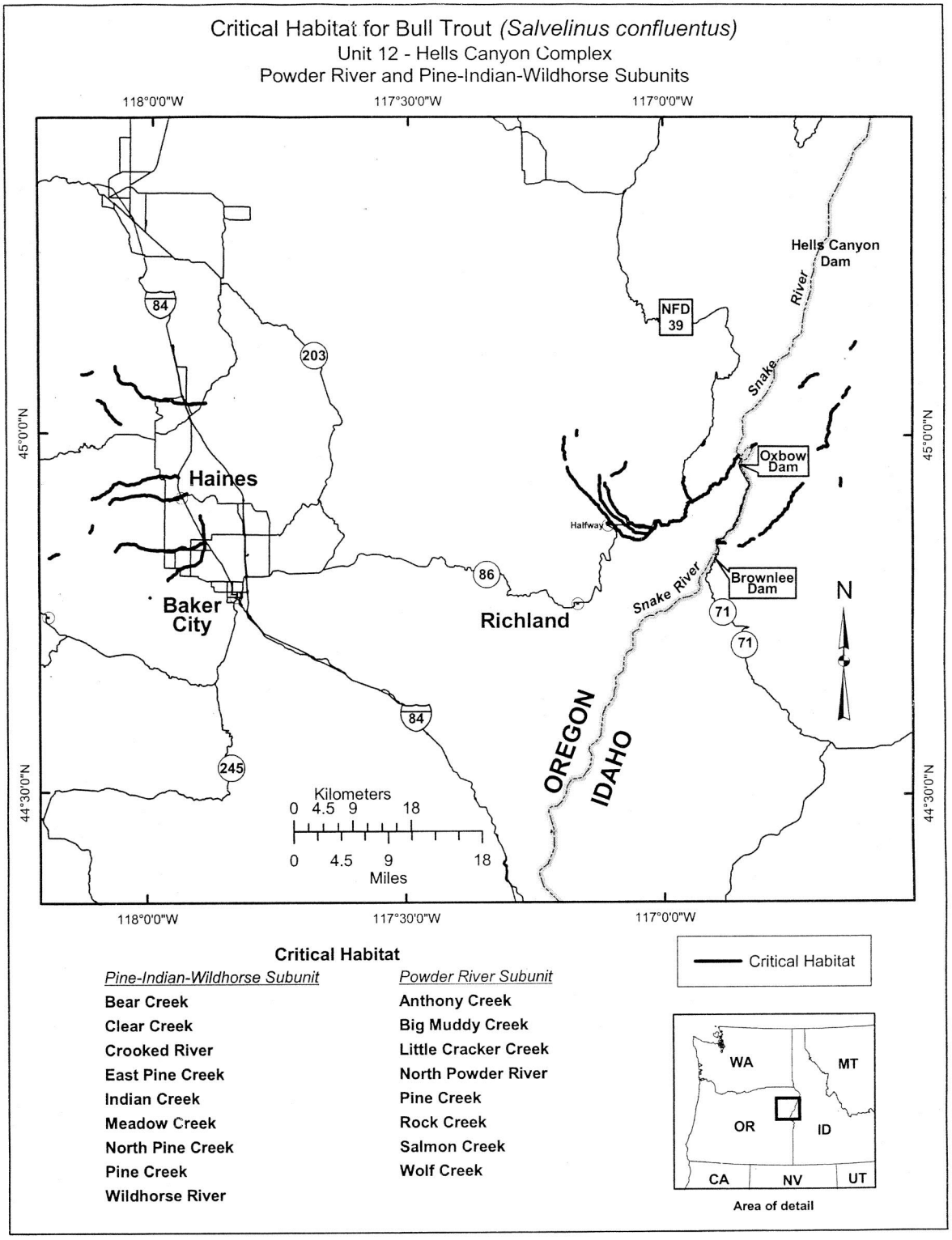
(i) Pine-Indian-Wildhorse Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Bear Creek	45.136	−116.524	44.959	−116.724
Clear Creek	45.043	−117.143	44.866	−117.029
Crooked River	44.817	−116.742	44.959	−116.724
East Pine Creek	45.046	−117.119	44.872	−117.020
Indian Creek	45.150	−116.590	44.985	−116.828
Meadow Creek	45.017	−117.171	44.990	−117.142
North Pine Creek	45.079	−116.897	44.910	−116.948
Pine Creek	45.039	−117.215	44.974	−116.853
Wildhorse River	44.959	−116.724	44.851	−116.896

(ii) Powder River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Anthony Creek	44.953	−118.220	45.013	−118.059
Big Muddy Creek	44.899	−118.131	44.940	−117.945
Little Cracker Creek	44.840	−118.166	44.826	−118.196
Pine Creek	44.826	−118.078	44.849	−117.893
Rock Creek	44.856	−118.124	44.918	−117.929
Salmon Creek	44.767	−118.019	44.888	−117.902
Wolf Creek	45.068	−118.193	45.044	−117.893

(iii) **Note:** Map of the Hells Canyon Complex follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 12 - Hells Canyon Complex
Powder River and Pine-Indian-Wildhorse Subunits
118°0'0"W
117°30'0"W
117°0'0"W
45°0'0"N
44°30'0"N
Hells Canyon Dam
Snake River
NFD 39
Oxbow Dam
Halfway
Brownlee Dam
Snake River
Haines
Baker City
Richland
OREGON
IDAHO
84
203
86
71
245
N
Kilometers
0 4.5 9 18
0 4.5 9 18
Miles
Critical Habitat
Pine-Indian-Wildhorse Subunit
Bear Creek
Clear Creek
Crooked River
East Pine Creek
Indian Creek
Meadow Creek
North Pine Creek
Pine Creek
Wildhorse River
Powder River Subunit
Anthony Creek
Big Muddy Creek
Little Cracker Creek
North Powder River
Pine Creek
Rock Creek
Salmon Creek
Wolf Creek
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail

(15) Unit 14: Coeur d'Alene Lake Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream. Lakes are designated in their entirety.

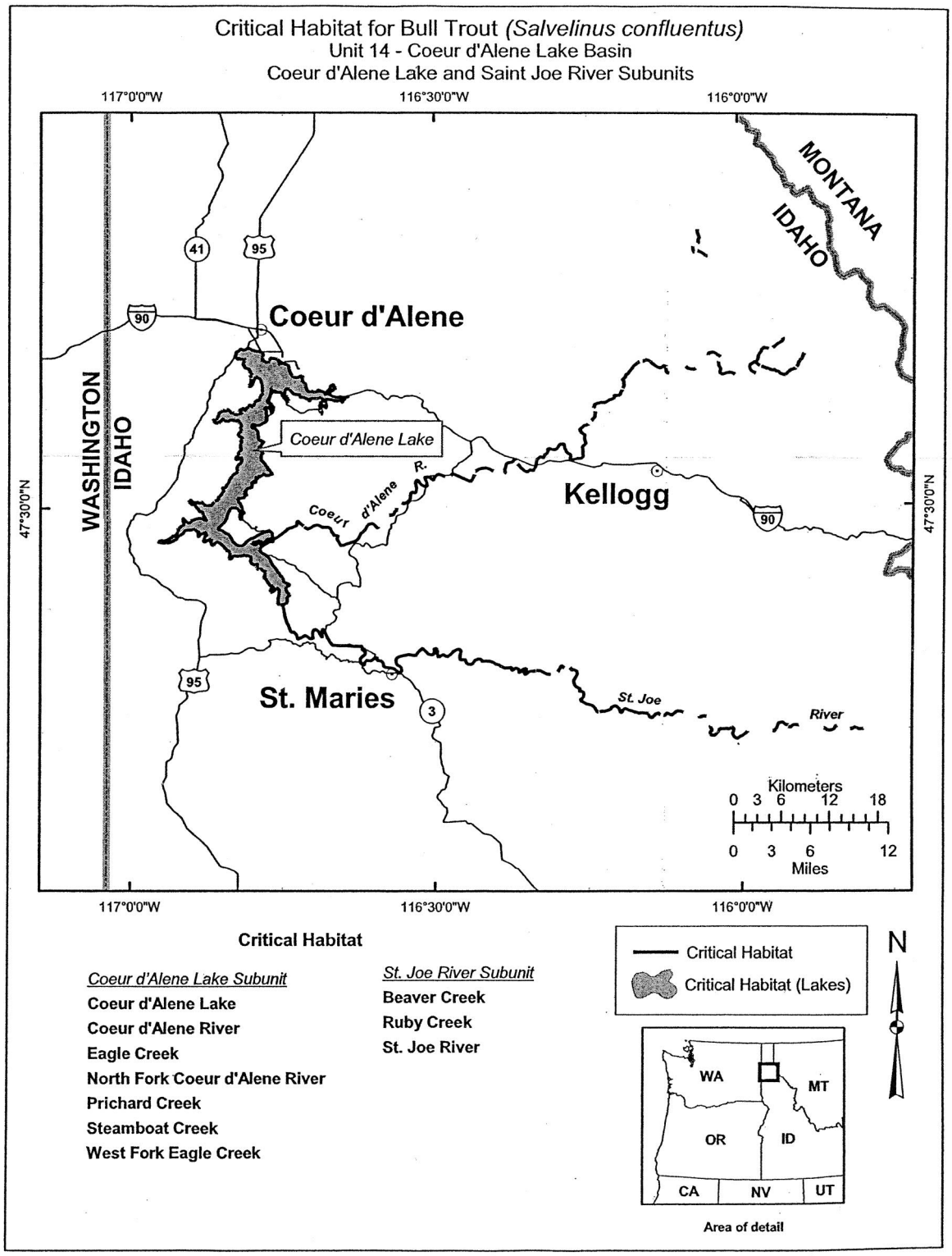
(i) Coeur d'Alene Lake Subunit.

Designated stream and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint or lake center latitude	Stream endpoint or lake center longitude
Coeur d'Alene Lake	Located at		47.548	−116.802
Coeur d'Alene River	47.558	−116.257	47.460	−116.798
Eagle Creek	47.652	−115.903	47.644	−115.921
North Fork Coeur d'Alene River	48.006	−116.321	47.558	−116.257
Prichard Creek	47.644	−115.921	47.658	−115.976
Steamboat Creek	47.716	−116.199	47.662	−116.154
West Fork Eagle Creek	47.750	−115.803	47.652	−115.903

(ii) St. Joe River Subunit.

Designated Streams and Lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Beaver Creek	47.064	−115.480	47.083	−115.355
Ruby Creek	46.961	−115.430	46.983	−115.367
St. Joe River	47.017	−115.078	47.393	−116.749

(iii) **Note:** Map of the Coeur d'Alene Lake Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 14 - Coeur d'Alene Lake Basin
Coeur d'Alene Lake and Saint Joe River Subunits
117°0'0"W
116°30'0"W
116°0'0"W
47°30'0"N
MONTANA
IDAHO
WASHINGTON
IDAHO
Coeur d'Alene
Coeur d'Alene Lake
Coeur d'Alene R.
Kellogg
St. Maries
St. Joe River
41
95
90
3
Kilometers
0 3 6 12 18
0 3 6 12
Miles
Critical Habitat
Coeur d'Alene Lake Subunit
Coeur d'Alene Lake
Coeur d'Alene River
Eagle Creek
North Fork Coeur d'Alene River
Prichard Creek
Steamboat Creek
West Fork Eagle Creek
St. Joe River Subunit
Beaver Creek
Ruby Creek
St. Joe River
Critical Habitat
Critical Habitat (Lakes)
N
WA
MT
OR
ID
CA
NV
UT
Area of detail

(16) Unit 19: Lower Columbia River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

(i) Lewis River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Lewis River (Lower)	45.957	−122.555	45.850	−122.782
Lewis River (Upper)	46.154	−121.882	46.066	−122.019
Pine Creek	46.142	−122.095	46.071	−122.016
UNNAMED—off Swift Creek Reservoir	46.030	−122.024	46.043	−122.038
UNNAMED 1—off Pine Creek	46.099	−122.068	46.092	−122.058

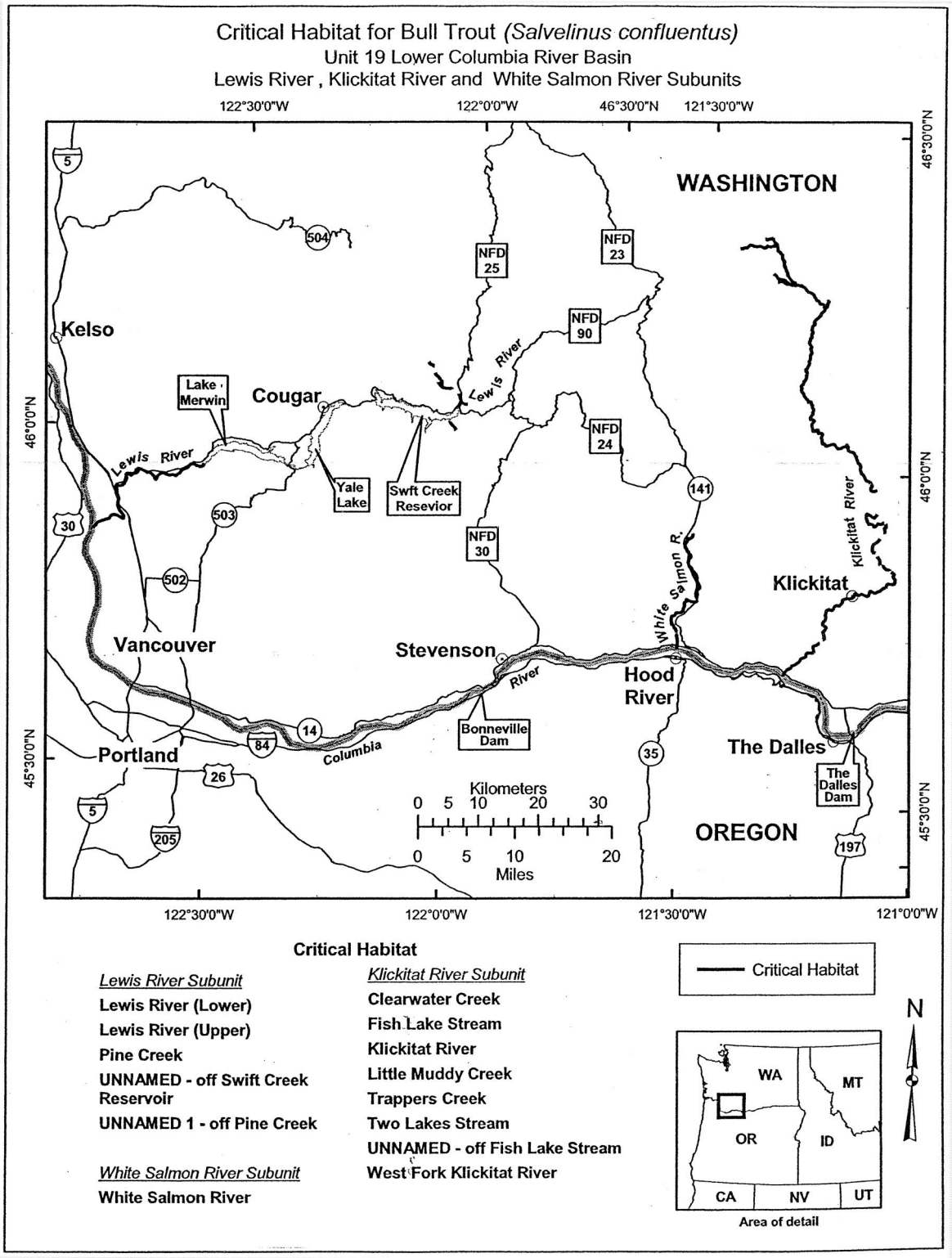
(ii) White Salmon River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
White Salmon River	45.897	−121.503	45.723	−121.521

(iii) Klickitat River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Clearwater Creek	46.278	−121.330	46.276	−121.327
Fish Lake Stream	46.342	−121.368	46.275	−121.312
Klickitat River	46.255	−121.239	45.691	−121.293
Little Muddy Creek	46.278	−121.352	46.275	−121.312
Trappers Creek	46.290	−121.362	46.275	−121.330
Two Lakes Stream	46.340	−121.384	46.342	−121.368
UNNAMED—off Fish Lake Stream	46.323	−121.437	46.331	−121.359
West Fork Klickitat River	46.275	−121.312	46.242	−121.246

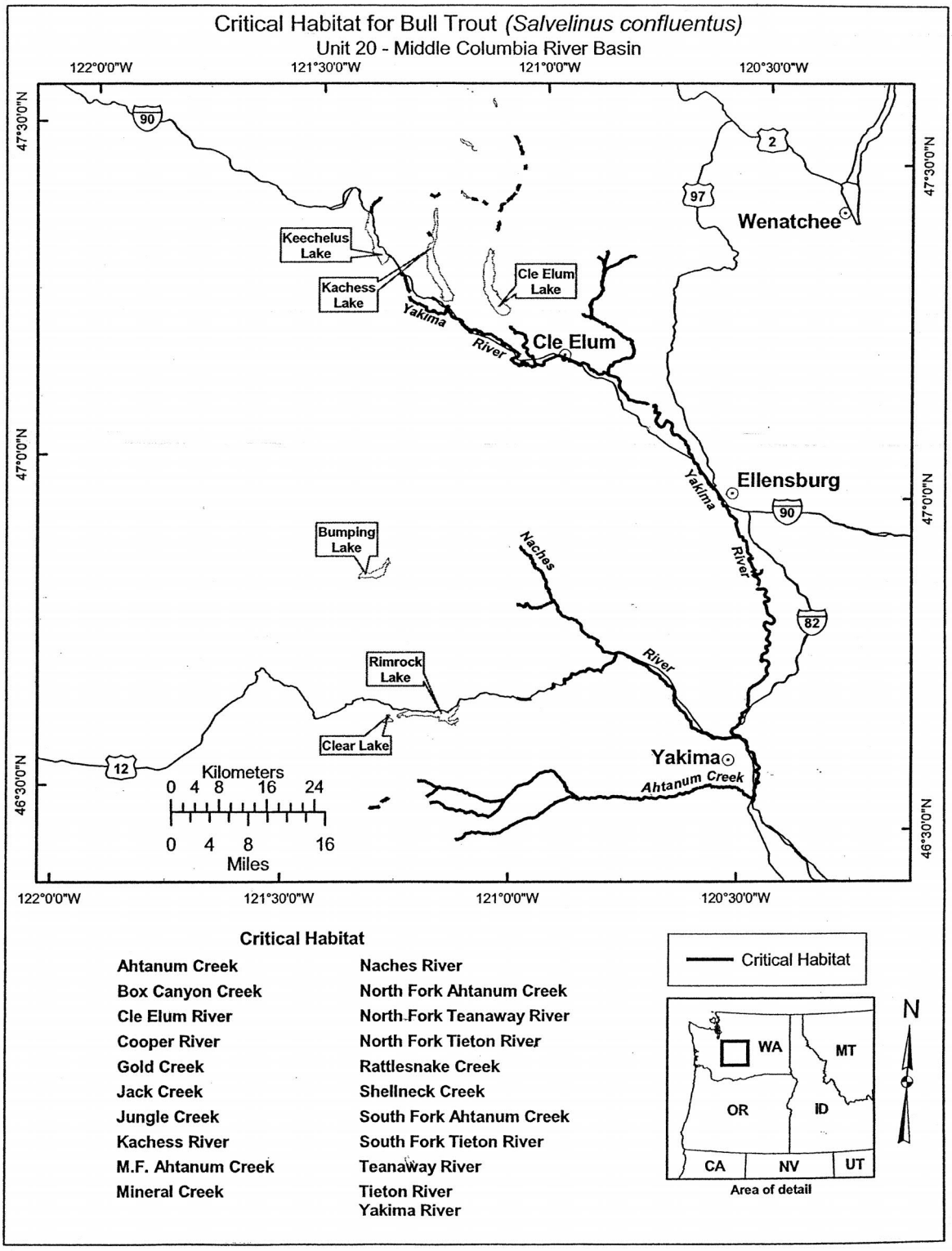
(iv) **Note:** Map of the Lower Columbia River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 19 Lower Columbia River Basin
Lewis River , Klickitat River and White Salmon River Subunits
122°30'0"W
122°0'0"W
46°30'0"N
121°30'0"W
46°0'0"N
45°30'0"N
121°0'0"W
WASHINGTON
OREGON
Kelso
Lake Merwin
Cougar
Yale Lake
Swft Creek Resevior
Lewis River
NFD 25
NFD 23
NFD 90
NFD 24
NFD 30
Klickitat River
Klickitat
White Salmon R.
Vancouver
Stevenson
Hood River
Bonneville Dam
Columbia River
Portland
The Dalles
The Dalles Dam
Kilometers
0 5 10 20 30
0 5 10 20
Miles
Critical Habitat
Lewis River Subunit
Lewis River (Lower)
Lewis River (Upper)
Pine Creek
UNNAMED - off Swift Creek Reservoir
UNNAMED 1 - off Pine Creek
White Salmon River Subunit
White Salmon River
Klickitat River Subunit
Clearwater Creek
Fish Lake Stream
Klickitat River
Little Muddy Creek
Trappers Creek
Two Lakes Stream
UNNAMED - off Fish Lake Stream
West Fork Klickitat River
Critical Habitat
N
WA
MT
OR
ID
CA
NV
UT
Area of detail

(17) Unit 20: Middle Columbia River Basin: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Ahtanum Creek	46.523	−120.853	46.529	−120.472
Box Canyon Creek	47.377	−121.257	47.361	−121.243
Cle Elum River	47.589	−121.161	47.177	−120.990
Cooper River	47.455	−121.213	47.391	−121.098
Gold Creek	47.475	−121.316	47.390	−121.382
Jack Creek	47.334	−120.742	47.319	−120.855
Jungle Creek	47.333	−120.923	47.333	−120.855
Kachess River	47.429	−121.222	47.251	−121.200
M.F. Ahtanum Creek	46.507	−121.179	46.518	−121.014
Mineral Creek	47.424	−121.251	47.420	−121.240
Naches River	46.989	−121.094	46.630	−120.514
North Fork Ahtanum Creek	46.538	−121.211	46.523	−120.853
North Fork Teanaway River	47.454	−120.965	47.251	−120.877
North Fork Tieton River	46.508	−121.435	46.635	−121.261
Rattlesnake Creek	46.760	−121.315	46.820	−120.929
Shellneck Creek	46.516	−121.187	46.531	−121.158
South Fork Ahtanum Creek	46.454	−121.118	46.523	−120.853
South Fork Tieton River	46.496	−121.314	46.627	−121.132
Teanaway River	47.257	−120.897	47.167	−120.834
Tieton River	46.656	−121.129	46.746	−120.786
Yakima River	47.322	−121.339	46.529	−120.472

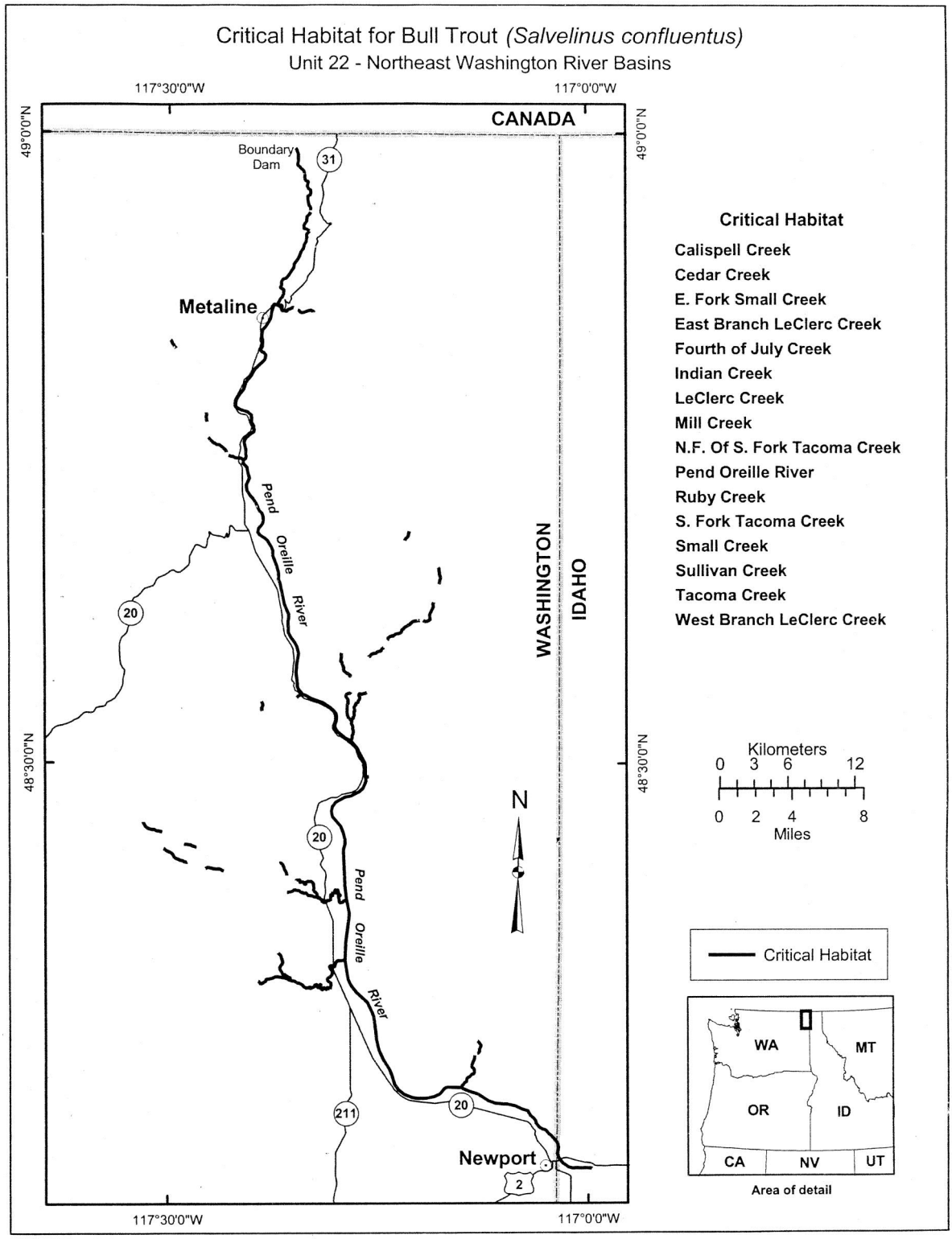
(i) **Note:** Map of the Middle Columbia River Basin follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 20 - Middle Columbia River Basin
122°0'0"W
121°30'0"W
121°0'0"W
120°30'0"W
47°30'0"N
47°0'0"N
46°30'0"N
90
2
97
Wenatchee
Keechelus Lake
Kachess Lake
Cle Elum Lake
Yakima River
Cle Elum
Ellensburg
Bumping Lake
Naches River
82
Rimrock Lake
Clear Lake
12
Yakima
Ahtanum Creek
Kilometers
0 4 8 16 24
0 4 8 16
Miles
Critical Habitat
Ahtanum Creek
Box Canyon Creek
Cle Elum River
Cooper River
Gold Creek
Jack Creek
Jungle Creek
Kachess River
M.F. Ahtanum Creek
Mineral Creek
Naches River
North Fork Ahtanum Creek
North Fork Teanaway River
North Fork Tieton River
Rattlesnake Creek
Shellneck Creek
South Fork Ahtanum Creek
South Fork Tieton River
Teanaway River
Tieton River
Yakima River
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail
N

(18) Unit 22: Northeast Washington River Basins: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Calispell Creek	48.321	−117.307	48.344	−117.289
Cedar Creek	48.846	−117.521	48.742	−117.411
E. Fork Small Creek	48.371	−117.398	48.328	−117.354
East Branch LeClerc Creek	48.673	−117.188	48.534	−117.282
Fourth of July Creek	48.573	−117.200	48.556	−117.272
Indian Creek	48.299	−117.151	48.243	−117.151
LeClerc Creek	48.534	−117.282	48.518	−117.283
Mill Creek	48.493	−117.239	48.489	−117.265
N.F. of S. Fork Tacoma Creek	48.436	−117.482	48.399	−117.361
Pend Oreille River	48.989	−117.348	48.178	−116.996
Ruby Creek	48.568	−117.509	48.556	−117.342
S. Fork Tacoma Creek	48.432	−117.506	48.394	−117.323
Small Creek	48.337	−117.409	48.321	−117.307
Sullivan Creek	48.950	−117.070	48.865	−117.370
Tacoma Creek	48.445	−117.507	48.392	−117.288
West Branch LeClerc Creek	48.701	−117.211	48.534	−117.282

(i) **Note:** Map of the Northeast Washington River Basins follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 22 - Northeast Washington River Basins
117°30'0"W
117°0'0"W
49°0'0"N
48°30'0"N
CANADA
Boundary Dam
31
Metaline
Pend Oreille River
20
WASHINGTON
IDAHO
N
211
Newport
2
Critical Habitat
Calispell Creek
Cedar Creek
E. Fork Small Creek
East Branch LeClerc Creek
Fourth of July Creek
Indian Creek
LeClerc Creek
Mill Creek
N.F. Of S. Fork Tacoma Creek
Pend Oreille River
Ruby Creek
S. Fork Tacoma Creek
Small Creek
Sullivan Creek
Tacoma Creek
West Branch LeClerc Creek
Kilometers
0 3 6 12
0 2 4 8
Miles
Critical Habitat
WA
MT
OR
ID
CA
NV
UT
Area of detail

(19) Unit 23: Snake River Basin in Washington: Critical habitat is designated on the streams listed below, but only for non-federal lands that have greater than ½ mile of river frontage and are located between the associated endpoints for the stream.

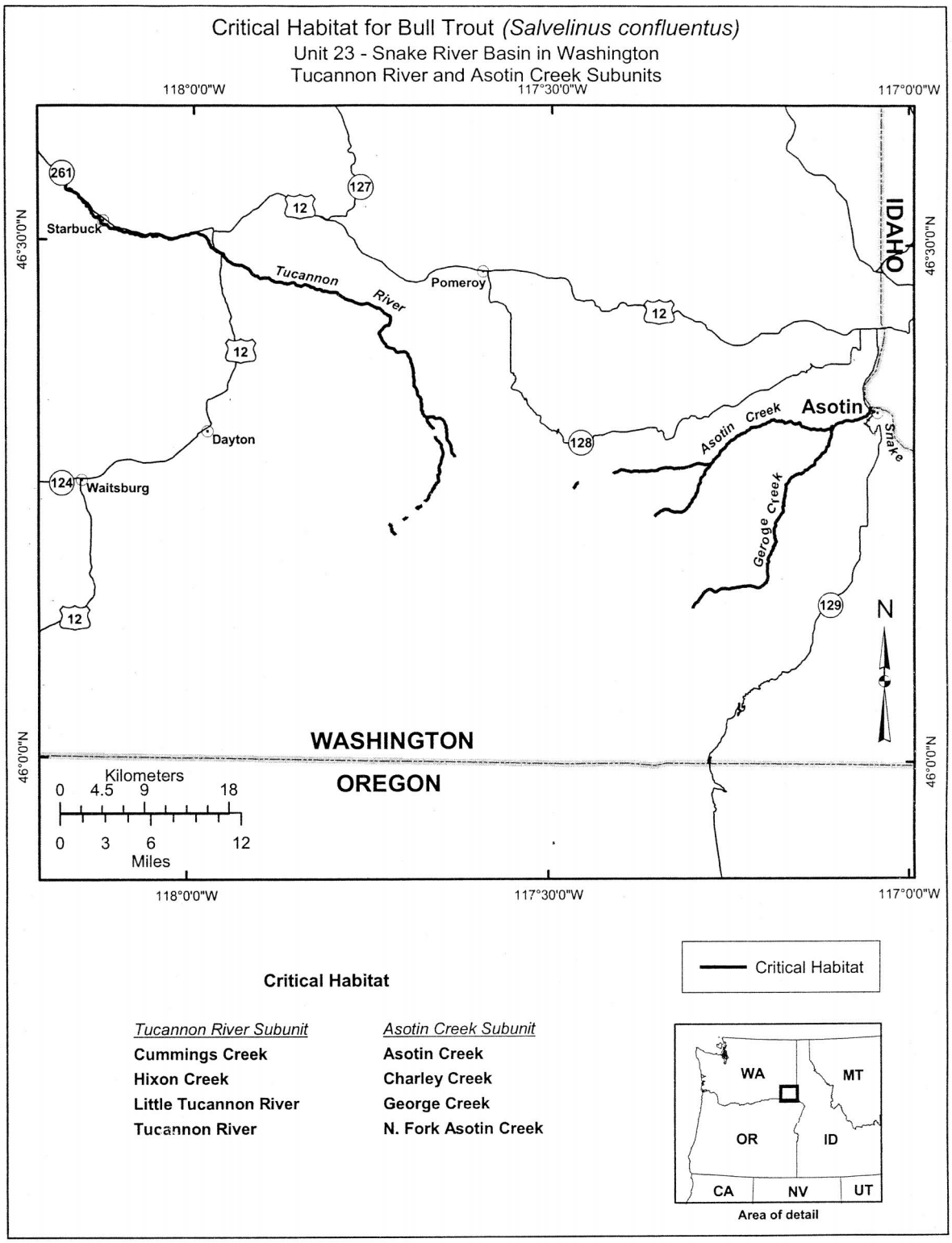
(i) Tucannon River Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Cummings Creek	46.219	−117.595	46.333	−117.674
Hixon Creek	46.219	−117.651	46.246	−117.683
Little Tucannon River	46.181	−117.751	46.228	−117.721
Tucannon River	46.139	−117.520	46.558	−118.174

(ii) Asotin Creek Subunit.

Designated streams and lakes	Stream endpoint latitude	Stream endpoint longitude	Stream endpoint latitude	Stream endpoint longitude
Asotin Creek	46.272	−117.291	46.345	−117.053
Charley Creek	46.210	−117.552	46.289	−117.278
George Creek	46.118	−117.363	46.326	−117.105
N. Fork Asotin Creek	46.196	−117.568	46.272	−117.291

(iii) **Note:** Map Snake River Basin in Washington follows:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit 23 - Snake River Basin in Washington
Tucannon River and Asotin Creek Subunits
118°0'0"W
117°30'0"W
117°0'0"W
46°30'0"N
46°0'0"N
261
127
12
Starbuck
Tucannon
River
Pomeroy
IDAHO
Dayton
128
Asotin Creek
Asotin
Snake
124
Waitsburg
Geroge Creek
129
N
WASHINGTON
OREGON
Kilometers
0 4.5 9 18
0 3 6 12
Miles
Critical Habitat
Tucannon River Subunit
Cummings Creek
Hixon Creek
Little Tucannon River
Tucannon River
Asotin Creek Subunit
Asotin Creek
Charley Creek
George Creek
N. Fork Asotin Creek
WA
MT
OR
ID
CA
NV
UT
Area of detail

* * * * *

Dated: September 21, 2004.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 04–22038 Filed 10–5–04; 8:45 am]

BILLING CODE 4310–55–C