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# Part III

# Department of the Interior

## Fish and Wildlife Service

## 50 CFR Part 17

## Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Populations of Bull Trout; Proposed Rule

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**RIN 1018–AJ12**

## Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River Populations of Bull Trout

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout (*Salvelinus* confluentus) pursuant to the Endangered Species Act of 1973, as amended (Act). For the Jarbidge River population, the proposed critical habitat designation includes approximately 131 miles (mi) (211 kilometers (km)) of streams in Idaho and Nevada. For the Coastal-Puget Sound population, the proposed critical habitat designation totals approximately 2,290 mi (3,685 km) of streams, 52,540 acres (ac) (21,262 hectares (ha)) of lakes, and 985 mi (1,585 km) of marine shoreline in Washington. For the Saint Mary-Belly River population, the proposed critical habitat designation totals approximately 88 mi (142 km) of streams and 6,295 ac (2,548 ha) of lakes in Montana.

Section 4 of the Act requires us to consider the economic and other relevant impacts of specifying any area as critical habitat. We will conduct an analysis of the economic impacts of designating these areas in a manner that is consistent with the ruling of the 10th Circuit Court of Appeals in *N.M. Cattle Growers Ass'n* v. *USFWS.* We hereby solicit data and comments from the public on all aspects of this proposal, including data on economic and other impacts of the designation. We may revise this proposal prior to final designation to incorporate or address new information received during public comment periods.

**DATES:** We will accept comments until August 24, 2004.

### Public Hearing

The Act provides for a public hearing on this proposal, if requested. Given the high likelihood of requests, we have scheduled a public hearing to be held on Tuesday, August 10, 2004, in Washington State.

Persons needing reasonable accommodations in order to attend and participate in the public hearing should contact Patti Carroll at 503/231–2080 as soon as possible. In order to allow sufficient time to process requests, please call no later than 1 week before the hearing date.

**ADDRESSES:** If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods:

1. You may submit written comments and information to John Young, Bull Trout Coordinator, U.S. Fish and Wildlife Service, Branch of Endangered Species, 911 N.E. 11th Avenue, Portland, OR 97232 (telephone 503/231–6194; facsimile 503/231–6243).

2. You may hand-deliver written comments to our Regional Office, at the address given above during normal business hours.

3. You may send comments by electronic mail (e-mail) to: *r1bulltroutch@r1.fws.gov.* Please see the Public Comments Solicited section below for file format and other information about electronic filing. In the event that our internet connection is not functional, please submit your comments by the alternate methods mentioned above.

All comments and materials received, as well as supporting documentation used in preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the above address.

*Public Hearing:* We will hold public hearings at the Comfort Inn and Conference Center, 1620 74th Ave. Southwest, Tumwater, WA. Public hearings will be held from 1 p.m. until 3 p.m. and from 6 p.m. until 8 p.m.

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

**SUPPLEMENTARY INFORMATION:**

### Public Comments Solicited

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) The reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefit of designation will outweigh any threats to the species due to designation;

(2) Specific information on the amount and distribution of bull trout habitat, and what habitat is essential to the conservation of the species and why;

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

(4) Any foreseeable economic or other potential impacts resulting from the proposed designation, in particular, any impacts on small entities;

(5) Whether our approach to critical habitat designation could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concern and comments;

(6) We are seeking comment on the use of tidal datum to delineate the area of the photic zone (uppermost layer of water into which daylight penetrates sufficiently to influence living organisms), and we are interested in any proposed alternatives that appropriately identify proposed critical habitat for bull trout in the marine nearshore waters; and

(7) We are specifically seeking public comment on areas of habitat for which we do not have documented evidence of occupancy, but which may be essential to provide additional spawning and rearing areas or foraging, migratory, and overwintering (FMO) habitat for existing bull trout populations. Specific areas include: the headwater tributaries of the Jarbidge River system; the Bruneau River and its tributaries; tributaries of the Skokomish, Dungeness, Hoh, Queets, Quinault, and Chehalis River systems; independent tributaries to Hood Canal, Pacific Coast from Cape Flattery to Willapa Bay, and Grays Harbor; Sumas River and tributaries of the Chilliwack River system; tributaries of the Nooksack River system, especially those to its major forks; tributaries of the Skagit River system; tributaries of Diablo Lake and the Thunder Creek system; tributaries of Ross Lake and the Lightning Creek system; tributaries of the Stillaguamish River system, especially those to its major forks; tributaries of the Skykomish River and its major forks; and tributaries of the Puyallup River system, especially those to the Carbon, West Fork White, upper White, and Greenwater Rivers.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES** section). The proposed rule, maps, fact sheets, photographs, and other materials relating to this proposal, can be found on our Pacific Region bull trout Web site at *http://species.fws.gov/bulltrout.*

Please submit e-mail comments to *r1bulltroutch@r1.fws.gov* in ASCII file format and avoid the use of special characters or any form of encryption. Please also include ''Attn: bull trout'' in your e-mail subject header and your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly by calling our Regional Office at phone number 503/872–2766. Please note that the Internet address *r1bulltroutch@r1.fws.gov* will be closed out at the termination of the public comment period. In the event that our Internet connection is not functional, please submit your comments by the alternate methods mentioned above.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

**Public Hearings**

The Act provides for one or more public hearings on this proposal, if requested. Requests for public hearings must be made in writing within 45 days of the publication of the proposal. Public hearing requests must be received by August 9, 2004. However, due to the high probability of receiving a request for a public hearing on this proposal, we have scheduled public hearings to be held on Tuesday, August 10, 2004, in Tumwater, WA. If, as the result of public requests, we decide to schedule additional public hearings on this proposal, we will announce the dates, times, and places of those hearings in the **Federal Register** and local newspapers at least 15 days prior to the first hearing. See **DATES** and **ADDRESSES** for information on the public hearings currently scheduled.

Anyone wishing to make oral comments for the record at the public hearing is encouraged to provide a written copy of their statement and present it to us at the hearing. In the event there is a large attendance, the time allotted for oral statements may be limited. Oral and written statements receive equal consideration.

*Designation of Critical Habitat Provides Little Additional Protection to Species*

In 30 years of implementing the Endangered Species Act of 1973, as amended (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 is driven by litigation 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.''

Currently, only 445 species or 36 percent of the 1,244 listed species in the U.S. under our jurisdiction have designated critical habitat. 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.

*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 and to comply with the growing number of adverse court orders. As a result, our own proposals to undertake conservation actions based on biological priorities are significantly delayed.

The accelerated schedules of court ordered designations have left us with almost no ability to provide for additional public participation beyond those minimally required by the Administrative Procedures Act, the Act, and our implementing regulations, or to take additional time for review of comments and information to ensure the rule has addressed all the pertinent issues 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 will suffer adverse impacts from these decisions challenge them. 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, all are part of the cost of critical habitat designation. These costs result in minimal benefits 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.

*Bull Trout Biology, Life History Strategies, and Distribution*

**Biology**

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 are relatively dispersed in the Columbia River and Snake River basins, extending east to headwater streams in Montana and Idaho, and into Canada. Bull trout also occur in the Klamath River basin of south-central Oregon. For additional information on the biology and habitat requirements of the bull trout, please refer to the proposed critical habitat rule for the Klamath River and Columbia River populations (68 FR 6863, February 11, 2003), and listing rules for the Klamath River and Columbia River population (63 FR 31647, June 10, 1998), Jarbidge River population (64 FR 17110, April 8, 1999), and Coastal-Puget Sound and Saint Mary-Belly River populations (64 FR 58910, November 1, 1999).

**Life-History Strategies**

Bull trout exhibit a number of life-history strategies: stream-resident, migratory, and amphidromous. Stream-resident bull trout complete their entire life cycle in the tributary streams where they spawn and rear. Some bull trout are migratory, spawning in tributary streams where juvenile fish usually rear from 1 to 4 years before migrating to either a larger river (fluvial) or lake (adfluvial) where they spend their adult life, returning to the tributary stream to spawn (Fraley and Shepard 1989). Resident and migratory forms may be found together, and either form can produce resident or migratory offspring (Rieman and McIntyre 1993).

Some bull trout populations, coastal cutthroat trout populations, and some other species are commonly referred to as anadromous, as are Pacific salmon. Technically, however, unlike Pacific salmon, bull trout, coastal cutthroat trout, and some other species that enter the marine environment are more properly termed amphidromous. Unlike strict anadromy, amphidromus individuals often return seasonally to freshwater as subadults, sometimes for several years, before returning to spawn (Wilson 1997). For bull trout, the ''amphidromous'' life history form is unique to the Coastal-Puget Sound population.

In the Coastal-Puget Sound population, amphidromous bull trout require access to marine habitat to complete their life history. For amphidromous bull trout populations, estuaries and marine nearshore areas provide an important component of their FMO habitat, and are integral to maintaining the complex amphidromous life-history strategy, which is unique to the Coastal-Puget Sound distinct population segment. When juvenile bull trout emigrate downstream to marine waters, they enter a more productive marine environment that allows them to achieve rapid growth and energy storage (similar to adfluvial forms migrating to lakes and reservoirs) (Washington Department of Fish and Wildlife (WDFW) *et al.* 1997). Bull trout ''smolts'' typically enter marine water at 2 years of age and around 6 in (150 mm) or longer, although much smaller individuals have been reported (Curtis Kraemer, WDFW, in litt. 2003). While in marine waters, bull trout appear to primarily occupy productive estuarine and nearshore habitat and feed on a variety of prey items, especially small marine fish such as Pacific herring (*Clupea pallasii*), surf smelt (*Hypomesus pretiosus*), and sandlance (*Ammodytes hexapterus*) (WDFW *et al.* 1997; Brenkman and Corbett 2003). Subadult bull trout use marine habitat to forage, generally from late spring to early fall, and as migration corridors to and from essential marine foraging areas.

These marine habitats also serve as migration corridors to and from non-natal watersheds providing other essential freshwater foraging and overwintering habitat outside of their natal watersheds (Brenkman and Corbett 2003). Subadults typically leave marine waters in the fall to overwinter in mainstem rivers for a period of time before returning to marine areas to forage (WDFW 1998). They repeat this cycle until maturing at about age 4.

Bull trout migration and life-history strategies are closely related to their feeding and foraging strategies. Optimal foraging theory can be used to describe how fish choose between alternative sources of food by weighing the benefits and costs of capturing one possible choice over another. For example, food (prey) often occur in concentrated patches of abundance (patch model in Gerking 1994). As the predator feeds, the prey population is reduced sooner or later, and it becomes more profitable to seek a new patch of prey rather than continue feeding on the original one, which is why bull trout appear to wander from one marine site to another.

Bull trout appear to be largely opportunistic feeders, and bull trout habitat use can be variable depending upon foraging opportunities (Montana Bull Trout Scientific Group (MBTSG) 1998). According to optimal foraging theory, as positions of patches and the types of prey change with the seasons, the predator must constantly modify its behavior in order to stay alive and maximize fitness (Hart 1986). In the Puget Sound area, bull trout may seasonally prey upon salmon eggs, smolts, or hatchery salmon. At other times, they may enter marine waters to prey upon surf smelt and Pacific herring where these fish school or spawn (Kraemer 1994). Seasonally, bull trout may also enter marine areas in order to locate abundant freshwater prey species in adjacent rivers not connected to their core area (Sam Brenkman, Olympic National Park, in litt. 2003). In a Montana study in Flathead Lake (Leathe and Graham 1982), kokanee (*Oncorhynchus nerka*) were an important food source for bull trout during spring months. By autumn, the bull trout had moved to near the mouth of the Flathead River, reportedly to exploit a pygmy whitefish (*Prosopium coulteri*) spawning run (Leathe and Graham 1982).

Upon reaching maturity, amphidromous bull trout begin reentering mainstem rivers in late spring and early summer to migrate to their spawning tributaries (WDFW 1998). Similar to the adfluvial life history, after amphidromous forms complete spawning, they usually return downstream to lower mainstem rivers and marine habitats (Kraemer 1994).

**Jarbidge River Distinct Population Segment Distribution**

Although historical records are lacking, bull trout were likely more abundant and widely distributed in the Bruneau and Jarbidge River Basins than they are today because of barriers to fish passage and past habitat degradation (Gilbert and Evermann 1894; Durrant 1935; McNeill *et al.* 1997). Currently, bull trout occur primarily in the Jarbidge River Basin in both Idaho and Nevada. The Jarbidge River population includes six local populations of resident bull trout: the East Fork Jarbidge River (including the East Fork headwaters, Cougar Creek, and Fall Creek), West Fork Jarbidge River (including Sawmill Creek), Dave Creek, Jack Creek, Pine Creek, and Slide Creek, and some remnant fluvial bull trout. These populations are considered to be quite low in abundance and at risk of extirpation (J. Dunham, University of Nevada-Reno, in litt. 1998).

Among the many factors that contributed to the decline of bull trout in the Jarbidge River Basin, those which appear to have been particularly significant are as follows: (1) Isolation of the population due to dams and water

diversions that impeded migratory bull trout movements (Gilbert and Evermann 1894; Lay 2000); (2) habitat degradation, including alterations in water temperature, water quality, and sedimentation rates, resulting from past forest and rangeland management practices, mining, and roads (McNeill *et al.* 1997); and (3) fisheries management, particularly fishing pressure and potential overharvest, and the introduction of competing nonnative species (Durrant 1935; Nevada Division of Wildlife 1961, 1975; Johnson 1990; Frederick and Klott 1999).

**Coastal-Puget Sound Distinct Population Segment Distribution**

The Coastal-Puget Sound population includes bull trout residing in the Puget Sound and Olympic Peninsula regions of western Washington. Historical reports for this population demonstrates that bull trout, especially the amphidromous form, were once more abundant and more widely distributed (Suckley and Cooper 1860; Service 1913; Norgore and Anderson 1921; King County Department of Natural Resources (KCDNR) 2000). Bull trout still occur in most major watersheds within the population, but the distribution and abundance within these watersheds often has been reduced by human-caused conditions (Service 2002, 2004). Bull trout are now rarely observed in the Nisqually River and Chehalis River systems, which may have supported spawning populations in the past (Service 2002, 2004). In the Puyallup River system, the amphidromous life history form currently exists in low numbers, as does the migratory form in the South Fork Skokomish River (Service 2002, 2004). In the Elwha River and parts of the Nooksack River, amphidromous bull trout are unable to access historic spawning habitat resulting from manmade barriers (Service 2002, 2004).

The Coastal-Puget Sound region is affected by the same significant factors that contributed to the decline of bull trout in the Columbia River and Klamath River Basins (67 FR 71236). These include the fragmentation and isolation of local populations due to dams and diversions, degradation of spawning and rearing habitat, and introduction of nonnative fish species. In addition to these factors, amphidromous bull trout distribution and abundance in the Coastal-Puget Sound region is threatened by the degradation of mainstem river FMO habitat, and the degradation and loss of marine nearshore foraging and migration habitat.

**Saint Mary-Belly River Distinct Population Segment Distribution**

The Saint Mary-Belly River population includes headwaters of the Saint Mary and Belly River systems in the U.S. These two streams flow north, from high-elevation slopes along the Rocky Mountain front in north-central Montana. This population is the only portion of the conterminous U.S. range of bull trout that is located east of the Continental Divide. Most of the Saint Mary River and Belly River watersheds are located in Alberta, Canada. The interjurisdictional nature of the Saint Mary River and Belly River watersheds is relatively unique in the bull trout's range and makes international coordination especially critical. Major land ownership includes Glacier National Park and the Blackfeet Nation in the United States, and the Province of Alberta, Waterton Lakes National Park, the Blood Tribe, and various private entities in Canada.

The Saint Mary River watershed occurs in steep, glaciated valleys in Glacier National Park. It flows northward through the glaciated troughs of two large lakes, Saint Mary Lake and Lower Saint Mary Lake, and then across the northwest corner of the Blackfeet Reservation before crossing the international border into Alberta, Canada. In addition to the two major lakes, the watershed contains many smaller high-elevation lakes, three of which have existing bull trout populations. There are at least five tributary drainages in the U.S. with important bull trout spawning and rearing habitat. The Saint Mary River, in Canada, flows northeast through southwest Alberta and enters the Oldman River a few miles upstream from Lethbridge, Alberta.

The Belly River originates on the east slope of the Rocky Mountains, in the northernmost portion of Glacier National Park, between the Saint Mary River drainage to the east and the Waterton River drainage to the west. The Belly River flows north for about 12.0 mi (19.3 km), entirely within glaciated valleys and lakes in Glacier National Park, before crossing the international border into Alberta, Canada. In Canada, the Belly River flows through mostly prairie foothill habitat from the international border to the confluence of the Oldman River, some 112 mi (180 km) downstream. Only a few miles of the headwaters of the Belly River in the United States contain bull trout (Fitch 1997).

Within the Saint Mary-Belly River Recovery Unit in the United States, the historical distribution of bull trout is believed to be relatively intact. However, abundance of bull trout in U.S. portions of these watersheds has been reduced, and portions of the habitat are fragmented from natural condition due to manmade structures such as dams and diversions (Service 1993). It is considered likely that the mountains and transitional zones of the Saint Mary and Belly Rivers (the U.S. headwaters and upper reaches in Canada) were historical strongholds for bull trout in these drainages (Fitch 1997). In the lower reaches of the Saint Mary and Belly Rivers in Alberta, bull trout may have been occasionally present, though they were not commonly distributed in these prairie streams (Clayton 1999). Historical connectivity for bull trout to migrate between the Saint Mary and Belly River systems may not have occurred, at least not for much of the recent post-glaciated period that extends over approximately the past 10,000 years (Costello *et al.* 2003).

*Threats to Bull Trout Populations*

The range of the bull trout is likely to have contracted and expanded over time in relation to natural climate changes; the distribution of the species probably was likely patchy even in pristine environments. However, regardless of uncertainty about the exact historical range, the number and size of historical populations, and the role of natural factors in the status of the species, there is widespread agreement in scientific literature that many factors related to human activities have impacted bull trout and continue to pose significant risks of further extirpations of local populations (see Fitch 1997; Clayton 1999; Post and Johnson 2002; Costello *et al.* 2003). In the Saint Mary River drainage within the United States, the primary threat to bull trout habitat is water diversions in the U.S. and Canada, which can cause entrainment of fish, disruption of migratory corridors, dewatering of instream habitat, and alteration of stream temperature regimes, and may preclude connectivity with some local headwater populations, such as in Lee Creek.

A second major issue is the lingering effect of a half-century of fish introductions, particularly the widespread stocking and establishment of brook trout (*Salvelinus fontinalis*), which may compete with and hybridize with bull trout. Lake trout (*Salvelinus namaycush*) and northern pike (*Esox lucius*), two species with the potential to compete with bull trout, are native in the Saint Mary River drainage. As a result, bull trout were probably precluded from establishing strong

migratory populations in the most productive lowland lacustrine habitats in the drainage, such as in Saint Mary Lakes (Donald and Alger; Service 2002). In addition, much of the potential habitat for adfluvial populations of bull trout in headwater lakes was historically isolated and fishless, due to barriers formed by natural waterfalls. Hence, bull trout populations in the Saint Mary system seem to have developed a mixture of fluvial and adfluvial migratory life history patterns, spending much of their time in the Saint Mary River and several of its major tributaries. Localized habitat impacts occur in some of the watersheds from forestry, livestock grazing, agriculture, mining, and transportation corridors. These impacts are generally site-specific and less pervasive than the impacts due to the diversions (Fitch 1997; Clayton 1999; Service 2002).

In the Belly River drainage, the reasons for decline were similar, though they occur mostly in downstream reaches in Canada. The headwater lakes in Glacier National Park currently support mostly populations of nonnative rainbow trout (*Oncorhynchus mykiss*), Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), brook trout, and kokanee. The habitat in U.S. portions of the Belly River drainage is mostly intact, as it occurs primarily in backcountry areas of Glacier National Park.

For populations of bull trout throughout their range, the ramifications and effects of isolation and habitat fragmentation on various aspects of the life cycle of bull trout are highlighted in much of the scientific literature on this species. Isolation of populations and habitat fragmentation resulting from barriers to migration has negatively impacted bull trout in several ways that have important implications for the conservation of the species. These include: (1) Reducing geographical distribution (Rieman and McIntyre 1993; MBTSG 1998); (2) increasing the probability of losing individual local populations (Rieman and McIntyre 1993; Rieman *et al.* 1995; MBTSG 1998; Dunham and Rieman 1999; Nelson *et al.* 2002); (3) increasing the probability of hybridization with introduced brook trout (Rieman and McIntyre 1993); (4) reducing the potential for movements that are necessary to meet developmental, foraging, and seasonal habitat requirements (Rieman and McIntyre 1993; MBTSG 1998); and (5) reducing reproductive capability by eliminating the larger, more fecund migratory form of bull trout from many subpopulations (Rieman and McIntyre 1993; MBTSG 1998).

Introduced brook trout threaten bull trout throughout most of their range through competition, hybridization, and possibly predation (Leary *et al.* 1993). Brook trout appear to be better adapted to degraded habitat than bull trout, and brook trout are more tolerant of high water temperatures. Hybridization between brook trout and bull trout has been reported in Montana, Oregon, Washington, and Idaho (Leary *et al.* 1985). In addition, brook trout mature at an earlier age and have a higher reproductive rate than bull trout. This difference appears to favor brook trout over bull trout when they occur together, often leading to the decline or extirpation of bull trout (Leary *et al.* 1993; MBTSG 1998). Nonnative lake trout also negatively affect bull trout. A study of 34 lakes in Montana, Alberta, and British Columbia found that lake trout reduce the distribution and abundance of migratory bull trout in mountain lakes, and concluded that lacustrine populations of bull trout usually cannot be maintained if lake trout are introduced (Donald and Alger 1993).

*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. We now provide information on actions as they relate just to the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations.

On June 10, 1998, we published in the **Federal Register** (63 FR 31693) a proposed rule to list the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River population segments of bull trout as a threatened species. On August 11, 1998, we published an emergency rule in the **Federal Register** (63 FR 42757) listing the Jarbidge River population as endangered. We published the final rule listing the Jarbidge River population as threatened on April 8, 1999 (64 FR 17110), and listed the Coastal-Puget Sound and Saint Mary-Belly River populations as threatened on November 1, 1999 (64 FR 58910). At the time of each listing, we made the finding that critical habitat was not determinable for these populations because their habitat needs were not sufficiently well known (64 FR 58927).

On January 26, 2001, the Alliance for the Wild Rockies, Inc. and Friends of the Wild Swan, Inc. filed a lawsuit in the U.S. District Court of Oregon challenging our failure to designate critical habitat for bull trout. We entered into a settlement agreement on January 14, 2002, in which we agreed to submit for publication in the **Federal Register** a proposed rule for critical habitat designation for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations by October 1, 2003, and a final rule by October 1, 2004. A subsequent agreement resulted in extending the date for finalizing the proposed rule by June 15, 2004, and completing a final rule by June 15, 2005.

*Critical Habitat*

Critical habitat is defined in section 3 of the Act as—(i) the specific areas within the geographic 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) that 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 that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is 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 carried out, funded, or authorized 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.

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 using the best scientific and commercial data available, habitat areas that provide essential life cycle needs 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.

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), and 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. We specifically anticipate that federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

## Methods

As required by section 4(b)(1)(A) of the Act, we used the best scientific data available to determine areas essential to the conservation of the bull trout, including proposing critical habitat, we review the overall 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 industry 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 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 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, for juvenile and resident bull trout (Peterson *et al.* 2002).

Areas where presence of the species is undetermined may be essential to the conservation of the species if they provide connectivity between areas of high-quality habitat or access to an abundant food base, served as important migration corridors for fluvial or adfluvial fish, or were identified in the Draft Recovery Plan (Service 2002, 2004) 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 (Service 2002, 2004) is the selective reestablishment of secure, self-sustaining populations in certain areas where the species has apparently, but not necessarily conclusively, been extirpated.

In some areas (*e.g.*, areas of Montana where bull trout surveys have been consistently conducted for a decade or more), we feel there is a relatively reliable level of information available on bull trout distribution. However, given the limitations of our current knowledge and the specific life history traits of bull trout described above, we feel that in many areas across their range a lack of bull trout detections to date does not provide definitive evidence of their absence in a particular lake, stream, or river. Accordingly, we considered information gathered during the bull trout recovery planning process, as supplemented by even more recent information developed by State agencies, Tribes, the U.S. Forest Service (USFS), and other entities, in the development of our critical habitat proposal. Data concerning accessibility, proximity to known bull trout streams, habitat conditions, and status of primary constituent elements were also considered when available. To address areas where data gaps exist, we also solicited expert opinions from knowledgeable fisheries biologists in the local area.

However, because of our desire to limit any potential regulatory effects of a critical habitat designation to those areas where we believe we have the greatest set of supporting information, we have limited this critical habitat proposal to areas of known occupancy that we consider essential to the conservation of the species. We acknowledge that considerable scientific information exists as to the importance of other areas to the conservation of the species where bull trout-specific surveys have not been conducted. Accordingly, we are specifically seeking public comment on areas of habitat for which we do not have documented evidence of occupancy, but which may be important to provide additional spawning and rearing areas or FMO habitat for existing bull trout populations. These habitat areas may contain the primary constituent elements, in particular an adequate forage base, and are accessible to existing bull trout populations. Additionally, we are seeking information on areas of habitat with evidence of occupancy of which we are unaware.

Specific areas for which we are seeking additional information include: the headwater tributaries of the Jarbidge River system; the Bruneau River and its

tributaries; tributaries of the Skokomish, Dungeness, Hoh, Queets, Quinault, and Chehalis River systems; independent tributaries to Hood Canal, Pacific Coast from Cape Flattery to Willapa Bay, and Grays Harbor; Sumas River and tributaries of the Chilliwack River system; tributaries of the Nooksack River system, especially those to its major forks; tributaries of the Skagit River system; tributaries of Diablo Lake and the Thunder Creek system; tributaries of Ross Lake and the Lightning Creek system; tributaries of the Stillaguamish River system, especially those to its major forks; tributaries of the Skykomish River and its major forks; and tributaries of the Puyallup River system, especially those to the Carbon, West Fork White, upper White, and Greenwater Rivers. If we receive evidence of occupancy of stream segments in any of these areas, we will evaluate the appropriateness of including them in the final critical habitat designation.

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 especially assisted by the recovery strategy described in the Draft Recovery Plan (Service 2002, 2004). We took into account that preferred habitat for bull trout ranges from small headwater streams that are used largely for spawning and rearing, to downstream, mainstem portions of river networks that are used for rearing, foraging, overwintering, and migration.

Our method 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 McIntyre 1993; Hard 1995; Healey and Prince 1995; Rieman *et al.* 1995; MBTSG 1998; Dunham and Rieman 1999; Nelson *et al.* 2002). As explained previously, habitat for movement upstream and downstream is important 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 important for movement between populations (*e.g.* 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. 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 consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species, and that may require special management considerations or protection. These features are used for all listed species and include, but are not limited to: space for individual and population growth and for normal behavior; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding and reproduction; and habitats that are protected from disturbance or are representative of the historic and geographical and ecological distributions of a species.

The specific biological and physical features, otherwise referred to as the primary constituent elements, which comprise bull trout habitat are based on specific components that provide for the essential biological components of the species as described below.

Bull trout have more specific habitat requirements than most other salmonids (Rieman and McIntyre 1993). Habitat components that particularly influence their distribution and abundance include water temperature and quality; cover; channel form and stability; spawning and rearing substrate conditions; appropriate hydrograph; migratory corridors: food base abundance; and the absence of predatory or interbreeding species or species that compete for resources.

Relatively cold water temperatures, particularly summer water temperatures, are characteristic of bull trout habitat. Water temperatures above 59 °Fahrenheit (F) (15 °Celsius (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 69 °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).

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. They 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). Adult bull trout migrating to spawning areas have been recorded as staying 2 to 4 weeks at the mouths of spawning tributaries in deeper holes or near log or cover debris (Fraley and Shepard 1989).

The stability of stream channels and stream flows are important habitat characteristics for bull trout populations (Rieman and McIntyre 1993). The side channels, stream margins, and pools with suitable cover for bull trout are sensitive to activities that directly or

indirectly affect stream channel stability and alter natural flow patterns. For example, altered stream flow in the fall may disrupt bull trout during the spawning period, and channel instability may decrease survival of eggs and young juveniles in the gravel during winter through spring (Fraley and Shepard 1989; Pratt 1992; Pratt and Huston 1993).

Watson and Hillman (1997) concluded that watersheds must have specific physical characteristics to provide the necessary habitat requirements for bull trout spawning and rearing, and that the characteristics are not necessarily ubiquitous throughout the watersheds in which bull trout occur. The preferred spawning habitat of bull trout consists of low-gradient stream reaches with loose, clean gravel (Fraley and Shepard 1989). Bull trout typically spawn from August to November during periods of decreasing water temperatures (Swanberg 1997). However, migratory forms are known to begin spawning migrations as early as April, and to move upstream as much as 155 mi (250 km) to spawning areas (Fraley and Shepard 1989; Swanberg 1997). Fraley and Shepard (1989) reported that initiation of spawning by bull trout in the Flathead River system appeared to be related largely to water temperature, with spawning initiated when water temperatures dropped below 48 to 50 °F (9 to 10 °C). Goetz (1989) reported a temperature range from 39 to 50 °F (4 to 10 °C) (Goetz 1989). Such areas often are associated with cold-water springs or groundwater upwelling (Rieman *et al.* 1997; Baxter *et al.* 1999). Fraley and Shepard (1989) also found that groundwater influence and proximity to cover are important factors influencing spawning site selection. They reported that the combination of relatively specific requirements resulted in a restricted spawning distribution in relation to available stream habitat. Depending on the water temperature, egg incubation is normally 100 to 145 days (Pratt 1992). Water temperatures of 34.2 to 41.7 °F (1.2 to 5.4 °C) have been reported for incubation, with an optimum (best embryo survivorship) temperature reported to be from 36 to 39 °F (2 to 4 °C) (Fraley and Shepard 1989; McPhail and Baxter 1996).

Juveniles remain in the substrate after hatching, such that the time from egg deposition to emergence of fry can exceed 200 days. During the relatively long incubation period in the gravel, bull trout eggs are especially vulnerable to fine sediments and water quality degradation (Fraley and Shepard 1989). Increases in fine sediment appear to reduce egg survival and emergence (Pratt 1992). Weaver and Fraley (1991) reported an 80 percent emergence success rate when no fine material was present and less than a 5 percent emergence success rate when half of the incubation gravel was smaller than 0.25 in (0.635 cm). Juveniles are likely to be negatively affected as well. High juvenile densities have been reported in areas characterized by a diverse cobble substrate and a low percent of fine sediments (Shepard *et al.* 1984).

The stability of stream channels and stream flows are important habitat characteristics for bull trout populations (Rieman and McIntyre 1993). The side channels, stream margins, and pools with suitable cover for bull trout are sensitive to activities that directly or indirectly affect stream channel stability and alter natural flow patterns. For example, altered stream flow in the fall may disrupt bull trout during the spawning period, and channel instability may decrease survival of eggs and young juveniles in the gravel during winter through spring (Fraley and Shepard 1989; Pratt 1992; Pratt and Huston 1993).

The ability to migrate is important to the persistence of local bull trout (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). The use of migratory corridors by bull trout also results in increased dispersion, facilitating gene flow among local populations when individuals from different local populations interbreed, stray, or return to nonnatal streams. 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; Montana Bull Trout Scientific Group (MBTSG) 1998).

While stream habitats have received more attention, lakes and reservoirs also figure prominently in meeting the life cycle requirements of bull trout. For adfluvial bull trout populations, lakes and reservoirs provide an important component of the core foraging, migrating, and overwintering habitat, and are integral to maintaining the adfluvial life history strategy that is commonly exhibited by bull trout. When juvenile bull trout emigrate downstream to a lake or reservoir from the spawning and rearing streams in the headwaters, they enter a more productive lentic environment that allows them to achieve rapid growth and energy storage. Typically, juvenile bull trout are at least 2 years old and 4 in (100 mm) or longer upon entry to the lake environment. For the next 2 to 4 years they grow rapidly. At a typical age of 5 years or older, when total length normally exceeds 16 in (400 mm), they reach sexual maturity. The lake environment provides the necessary attributes of food, space, and shelter for the subadult fish to prepare for the rigors of migratory passage upstream to the natal spawning area, a migration that may last as long as 6 months and cover distances as much as 155 mi (250 km) upriver.

When adfluvial bull trout reach adulthood and complete the spawning migration, mating in the fall in the stream where they originated, they usually return downstream to the lake very rapidly. Adult adfluvial bull trout may live as long as 20 years and can complete multiple migrations between the lake and the spawning stream. In many populations, alternate year spawning is the normal pattern, and adult fish may require as much as 20 months in the lake or reservoir habitat to facilitate adequate energy storage and gamete development before they return to spawn again.

One of the key factors influencing the distribution and abundance of bull trout is the extent to which habitat patches in sufficient number and proximity provide for the natural reestablishment of local subpopulations. Ratliff and Howell (1992) noted that habitat fragmentation and the resulting isolation of populations can exacerbate problems facing declining populations, including reduced genetic variability that can lead to inbreeding depression, further lowering productivity and increasing the risk of extinction. They described the loss of fluvial and adfluvial life histories as a major concern for bull trout conservation, noting that these larger fish have greater reproductive potential because of their increased fecundity and also are less likely to hybridize with the smaller brook trout (*Salvelinus fontinalis*) that often co-occur in spawning areas.

Although the loss of a few populations may have little effect on overall genetic diversity, without conserving suites of populations and their habitats (*i.e.*, core areas and, on a larger scale, recovery units), the loss of phenotypic diversity may be substantial, with negative consequences to the viability of the species (Rieman and McIntyre 1993; Hard 1995; Healey and

Prince 1995; MBTSG 1998; Taylor *et al.* 1999; Nelson *et al.* 2002). Therefore, the maintenance of phenotypic variability and plasticity for adaptive traits (*e.g.*, variability in body size and form, foraging efficiency, and timing of migrations, spawning, and maturation) is achieved by conserving populations, their habitats, and opportunities for the species to take advantage of habitat diversity (Hard 1995; Healey and Prince 1995).

The ramifications and effects of isolation and habitat fragmentation on various aspects of the life cycle bull trout are highlighted in much of the scientific literature on this species. Isolation of populations and habitat fragmentation resulting from barriers to migration have negatively impacted affected bull trout in several ways that have important implications for the conservation of the species. These include: (1) Reducing geographical distribution (Rieman and McIntyre 1993; MBTSG 1998); (2) increasing the probability of losing individual local populations (Rieman and McIntyre 1993; Rieman *et al.* 1995; MBTSG 1998; Dunham and Rieman 1999; Nelson *et al.* 2002); (3) increasing the probability of hybridization with introduced brook trout (Rieman and McIntyre 1993); (4) reducing the potential for movements that are necessary to meet developmental, foraging, and seasonal habitat requirements (Rieman and McIntyre 1993; MBTSG 1998); and (5) reducing reproductive capability by eliminating the larger, more fecund migratory form of bull trout from many subpopulations (Rieman and McIntyre 1993; MBTSG 1998).

Introduced brook trout threaten bull trout through competition, hybridization, and possibly predation (Leary *et al.* 1993). Brook trout appear to be better adapted to degraded habitat than bull trout, and brook trout are more tolerant of high water temperatures. Hybridization between brook trout and bull trout has been reported in Montana, Oregon, Washington, and Idaho. In addition, brook trout mature at an earlier age and have a higher reproductive rate than bull trout. This difference appears to favor brook trout over bull trout when they occur together, often leading to the decline or extirpation of bull trout (Leary *et al.* 1993; MBTSG 1998). Nonnative lake trout also negatively affect bull trout. A study of 34 lakes in Montana, Alberta, and British Columbia found that lake trout reduce the distribution and abundance of migratory bull trout in mountain lakes and concluded that lacustrine populations of bull trout usually cannot be maintained if lake trout are introduced (Donald and Alger 1993).

The effects of pollutant discharges on water quality and bull trout range from benign to extreme, depending upon the type and concentration of material delivered (MBTSG 1998). NMFS has studied the effects of contaminated sediments on salmon populations and noted reduced growth and disease resistance of juvenile chinook salmon when exposed to environmentally relevant levels of compounds like PCBs and PAHs (Varanasi *et al.* 1993a, Arkoosh *et al.* 1991, 1998). Similar effects are likely to occur in bull trout.

Pursuant to our regulations, we are required to identify the known physical and biological features, *i.e.*, primary constituent elements, essential to the conservation of bull trout, together with a description of any critical habitat that is proposed. In identifying the primary constituent elements, we used the best available scientific and commercial data available. The primary constituent elements determined essential to the conservation of bull trout are:

(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;

(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. 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;

(4) 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;

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

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

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

The bull trout critical habitat for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations are designed to incorporate what is essential for their conservation. All lands identified as essential and proposed as critical habitat contain one or more of the primary constituent elements for bull trout.

**Special Management Considerations or Protection**

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 this proposed rule, in the previous proposal of critical habitat for the Klamath and Columbia River segments of bull trout (67 FR 71236, November 29, 2002), in the draft Recovery Plan for the Klamath, Columbia, and St. Mary-Belly River segments of bull trout, 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 (primary constituent elements) are caused by negative changes in water quality, stream complexity, quality and quantity of stream substrate, stream hydrology, migratory corridors, food sources, and non-native competitors and predators. It is essential for the survival of this species to protect those features that define the remaining essential habitat, through purchase or special management plans, from irreversible threats and habitat conversion. These impacts can be ameliorated by educating landowners and managers

about the location and value of these resources and requesting that they protect these resources.

Threats to the features that define habitat essential to the conservation of the bull trout should be assessed for each site. Sites should be protected from activities that negatively alter or destroy bull trout aquatic habitat. An appropriate management and monitoring plan should address these threats. As such, we believe that within each area proposed for designation 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 address the current and future threats to the bull trout and habitat essential to its conservation to ensure the overall recovery of the species.

Relatively cold water temperatures are characteristic of bull trout habitat. Water temperatures above 15 °Celsius (C) (59 °Fahrenheit (F)) 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 20 °C (68 EF), Gamett (1999) documented steady and substantial declines in abundance in stream reaches where water temperature ranged from 15 to 20 °C (59 to 68 °F). 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). Activities that reduce stream flows or alter the natural hydrograph may affect stream temperatures (*e.g.*, stream diversions).

The stability of stream channels and stream flows are important habitat characteristics for bull trout populations (Rieman and McIntyre 1993). The side channels, stream margins, and pools with suitable cover for bull trout are sensitive to activities that directly or indirectly affect stream channel stability and alter natural flow patterns. For example, altered stream flow in the fall may disrupt bull trout during the spawning period, and channel instability may decrease survival of eggs and young juveniles in the gravel during winter through spring (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. They 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.

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). The use of migratory corridors by bull trout also results in increased dispersion, facilitating gene flow among local populations when individuals from different local populations interbreed, stray, or return to non-natal streams. Also, local populations that have been extirpated by catastrophic events may become reestablished as a result of movements by bull trout through migratory corridors (Rieman and McIntyre 1993, Montana Bull Trout Scientific Group (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 (*Salvelinus fontinalis*) and lake trout (*Salvelinus namaycush*), 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.

**Criteria Used To Identify Critical Habitat**

The Draft Recovery Plan (Service 2002, 2004) identifies the specific recovery needs of the bull trout and provides guidance for identifying areas that warrant critical habitat designation. As described below, the information contained in the Draft Recovery Plan was used as the principal basis for identifying this proposed critical habitat designation. Critical habitat for bull trout was also delineated using multiple sources including State databases of bull trout distribution.

The draft recovery strategy 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) migratory corridors by maintaining or restoring habitat conditions that retain migration routes. Migratory corridors allow for the potential of gene flow between local populations, as well as provide opportunities for the full expression of migratory life-history forms to ensure adaptive resilience (Rieman and McIntyre 1993; MBTSG 1998; Morita and Yamamoto 2002; Colden Baxter, Colorado State University and Christian Torgerson, U.S. Geological Survey, in litt. 2003; Philip Howell, USFS, in litt. 2003).

Critical habitat units are patterned after recovery units identified in the Draft Recovery Plan (Service 2002, 2004) for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River population segments. Using the guidance from those plans, 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.

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).

*Relationship to Section 4(a)(3) of the Act*

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an Integrated Natural Resource Management Plan (INRMP). An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found there. Each INRMP includes an assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. We consult with the military on the development and implementation of INRMPs for installations with listed species.

Section 318 of fiscal year 2004 the National Defense Authorization Act (Pub. L. 108–136) amended section 3 of the Endangered Species Act. This provision prohibits us from designating as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an INRMP prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if we determine in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

We identified habitat essential for the conservation of the bull trout within the Jim Creek drainage, which is partially encompassed within the Naval Reservation for the Naval Radio Station Jim Creek. We have examined the INRMP for the Naval Radio Station Jim Creek to determine coverage for the bull trout. The INRMP includes measures that attempt to minimize impacts to riparian areas and strive to prevent entry of herbicides into waterbodies in the Jim Creek basin during antenna field vegetation management. Additionally, the riparian areas that border the reach of Jim Creek within the Naval Reservation and identified as essential habitat are managed primarily for riparian protection and wildlife. Based on the beneficial measures for the bull trout contained in the INRMP for Naval Radio Station Jim Creek, we have not included this area in the proposed designation of critical habitat for bull trout pursuant section 4(a)(3) of the Act. We will continue to work cooperatively with the Department of the Navy to assist the Naval Radio Station Jim Creek in implementing and refining the programmatic recommendations contained in this plan that provide benefits to the bull trout. The non-inclusion of Naval Radio Station Jim Creek demonstrates the important contributions approved INRMPs have to conservation of the species. As with HCP exclusions, a related benefit of excluding Department of Defense lands with approved INRMPs is that it would encourage continued development of partnerships with other stakeholders, including States, local governments, conservation organizations, and private landowners to develop adequate management plans that conserve and protect bull trout habitat.

*Relationship to Section 4(b)(2) of the Act*

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, the impact to national security, 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, following an analysis, 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. Consequently, we may exclude an area from designated critical habitat based on economic impacts, national security, or other relevant impacts such as preservation of conservation partnerships, if we determine the benefits of excluding an area from critical habitat outweigh the benefits of including the area in critical habitat, provided the action of excluding the area will not result in the extinction of the species. In our critical habitat designations we have used the provisions outlined in sections 4(b)(2) of the Act to evaluate those specific areas that are proposed for designation as critical habitat and those areas which are subsequently finalized (*i.e.*, designated).

*Relationship to 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 a habitat conservation plan, or 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.

The vast majority of land within the Saint Mary-Belly River population of bull trout is either managed by the National Park Service in Glacier National Park or is tribal land managed by the Blackfeet Nation. The majority of land within the Jarbidge River population of bull trout is Federal. There are no existing or proposed HCPs that cover the Saint Mary-Belly River or Jarbidge River populations of bull trout.

Within the range of the Coastal-Puget Sound population of bull trout, there are six HCPs that include bull trout as a covered species. Four of these encompass stream segments and lakes identified as proposed critical habitat; these HCPs are from the Washington Department of Natural Resources (WDNR), City of Seattle, Tacoma Water, and Simpson Timber Company. The WDNR and Simpson Timber HCPs have been developed, in part, to provide for the conservation needs of bull trout while also allowing for otherwise lawful timber management activities. The Tacoma Water and City of Seattle Cedar

River Watershed HCPs have been developed, in part, to provide for the conservation needs of bull trout while also allowing for water management and watershed restoration and protection activities. The duration of the permits associated with these HCPs ranges from 50 to 100 years. The permittees have the option, however, of terminating at any time if they so choose, with a 60-day notice to the Service. Moreover, some permittees may retain their permits but sell some of their lands covered by an HCP. All of these HCPs contain a provision that allow buyers of lands covered by the HCP to assume the permit if they so desire.

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.

The City of Seattle Cedar River Watershed HCP includes provisions that: (1) Allow for the sale or exchange of parcels not in excess of 640 ac (259 ha) to any party as long as the cumulative total of all such transactions does not exceed 1,920 ac (777 ha) per township, or a total of 6,338 ac (2,565 ha); and (2) allow lands in all other circumstances to be sold or exchanged if parties negotiate conditions on the property transferred, or alternative mitigation which will not compromise the effectiveness of the HCP. However, to maintain protection of the public water supply, the City of Seattle is unlikely to sell or exchange lands.

The Tacoma Water HCP addresses reservoir operations and forest management activities associated with the management of the upper Green River watershed and associated water supply. Although the operational effects to bull trout in the downstream reaches of the Green River are covered under this HCP, Tacoma Water does not possess management authority over other habitat-altering activities that may occur along these lower reaches.

The Tacoma Water HCP includes provisions that: (1) Generally allow for the sale or exchange of lands to an agency of the Federal Government; (2) allow for the sale or exchange of any lands to a non-Federal entity that has entered into an agreement acceptable to the Services to ensure that the 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 160 ac (65 ha). However, Tacoma Water is more likely to acquire land for the purpose of protecting the public water supply, rather than sell lands.

The Simpson Timber Company HCP covers approximately 287,000 ac (116,145 ha), all within the range of the Coastal-Puget Sound population. Provisions in the HCP allow for sale or exchange of lands with the following provisions: (1) Sale or exchange does not involve a Core Area (as defined in the HCP) and the total acreage of all lands sold or exchanged will not exceed 39,200 ac (15,864 ha); or (2) the lands are transferred to a Comparable Transferee, such as an agency of the Federal Government; or (3) the HCP and Incidental Take Permit are modified to delete such land in accordance with the modification procedures as described in the Incidental Take Permit.

We evaluated lands covered by these existing HCPs to determine whether they are: (1) Occupied by bull trout and essential to the conservation of the species; (2) in need of special management considerations or protection; and (3) currently not known to be occupied but essential to the conservation of the species. We evaluated each HCP 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. 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. While these consultations on permit issuance have not specifically addressed the issue of destruction or adverse modification of critical habitat for bull trout, they have addressed the very similar concept of jeopardy to bull trout in the plan area. Since these large regional HCPs address land use within the plan boundaries, habitat issues within the plan boundaries have been thoroughly addressed in the HCP and the consultation on the permit associated with the HCP. Our experience is that, under most circumstances, consultations under the jeopardy standard will reach the same result as consultations under the adverse modification standard. Common to both approaches is an appreciable detrimental effect on both survival and recovery of a listed species, in the case of critical habitat by reducing the value of the habitat so designated. Thus, actions satisfying the standard for adverse modification are nearly always found to also jeopardize the species concerned, and the existence of a critical habitat designation does not materially affect the outcome of consultation. Therefore, additional measures to protect the habitat from adverse modification above those addressing actions that may jeopardize the species are not likely to be required.

As noted above, lands within these HCPs are subject to disposal (*e.g.*, through sale or exchange), subject to various sideboards included in each HCP. In already approved HCPs, we have provided assurances to permit holders that once the protection and management required under the plans are in place, and for as long as the permit holders are fulfilling their obligations under the plans, no additional mitigation in the form of land or financial compensation will be required of the permit holders and in some cases, specified third parties.

The benefits of including HCP lands in critical habitat are normally small. The principal benefit of any designated critical habitat is that Federal require consultation under section 7 of the Act. Such consultation would ensure that adequate protection is provided to avoid adverse modification of critical habitat. However, if there is no Federal nexus, no consultation is required. Where HCPs are in place, our experience indicates that the benefit of designation is small or non-existent. Further, HCPs typically provide for greater conservation benefits to a covered species than section 7 consultations because HCPs assure the long-term protection and management of a covered species and its habitat. Such assurances are typically not provided by section 7 consultations which, in contrast to HCPs, often do not commit the project proponent to long-term special management or protections. In addition, HCP conservation protections cover all lands rather than just those lands where there is a Federal nexus.

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. Also, the HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat used by a species, and the adaptive management provisions provide for ongoing data collection and analysis. The process enables us to understand the importance of such lands to the long-term survival of the species in the context of constructing a biologically configured system of interlinked habitat areas. For these reasons, then, we believe that designation of critical habitat normally has little benefit in areas covered by HCPs.

The benefits of excluding HCPs from being designated as critical habitat include relieving landowners, communities and counties of additional regulatory costs and delays that result from such a designation. Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery of covered species. Imposing an additional regulatory review after HCP completion would stifle conservation efforts and partnerships in many areas and would be viewed as a disincentive to those developing HCPs.

The benefits to the landowner community of excluding HCPs encourage the continued development of partnerships with participants, including States, local governments, conservation organizations, and private landowners, that together can implement conservation actions we would be unable to accomplish solely through regulatory control. By excluding areas covered by HCPs from critical habitat designation, we preserve these partnerships, encourage continued development of HCPs, and set the stage for more effective species conservation.

In general, we believe the benefits of critical habitat designation to be small in areas covered by approved HCPs. We also believe that the benefits of excluding HCPs from designation are significant. Weighing the small benefits of inclusion against the benefits of exclusion, including the benefits of relieving property owners of costs and delays related to regulations, together with the encouragement of conservation partnerships, we have excluded the WDNR, City of Seattle Cedar River Watershed, Tacoma Water, and Simpson Timber Company HCPs from this proposed critical habitat pursuant to section 4(b)(2) of the Act.

In the event that future HCPs covering bull trout are developed within the boundaries of designated critical habitat, we will work with applicants to ensure that the HCPs provide for protection and management of habitat areas essential for the conservation of the bull trout by either directing development and habitat modification to nonessential areas, or appropriately modifying activities within essential habitat areas so that such activities will not adversely modify the primary constituent elements. Furthermore, we will complete intra-Service consultation on our issuances of section 10(a)(1)(B) permits for these HCPs to ensure permit issuance will not destroy or adversely modify critical habitat. If an HCP that addresses the bull trout as a covered species is ultimately approved, we may reassess the critical habitat boundaries in light of the HCP.

**Relationship to the Washington State Forest Practices Rules and Regulations, as Amended by the Forest and Fish Law**

A collaborative effort (known as the Forest and Fish Report or FFR) to address the needs of listed salmonids, and avoid conflicts between State regulations and the Act, was initiated by members of six caucuses: Federal agencies, State agencies, Native American Tribes, non-industrial forest landowners, environmental organizations, and the timber industry. In April of 1999, FFR reached a point where complete agreement by all parties was unlikely. The environmental organizations and some of the Native American Tribes did not support the final version of the report. FFR was adopted by the 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).

This collaborative effort addressed the needs of salmonids, other fish, and stream-associated amphibians, and specifically addressed the needs of bull trout and bull trout habitat in the following ways. 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. 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 the primary constituent elements for bull trout critical habitat. Forest practices conducted consistent with the FFR are expected to maintain a high-level of water quality. In addition, the FFR is 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. We do not expect forest practices to introduce or favor nonnative competitors or predators.

These rules apply to 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. 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.

We assessed the adequacy of FFR as a plan to determine whether lands covered by it were in need of the special management or protection that would require a designation. 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 provides substantial protection and restoration for bull trout and bull trout habitat, and therefore, these areas do not meet the definition of critical habitat as they do not require special management consideration or protection. However, we also assessed the FFR area for exclusion pursuant to section 4(b)(2), and are proposing to exclude to exclude it under section 4(b)(2).

**Relationship to Tribal Lands**

None of the Jarbidge River population is under Tribal jurisdiction. We evaluated Tribal lands in Montana to determine if they are essential to the conservation of the species. None of the Belly River headwaters is under Tribal jurisdiction. We have proposed critical habitat for portions of the Saint Mary River, the headwaters of Lee Creek, the lower reaches of Otatso Creek, Kennedy Creek, Boulder Creek, Swiftcurrent Creek, and Divide Creek, and in Lower Saint Mary Lake on the Blackfeet Reservation. A total of approximately 41.9 mi (67.4 km) of stream segments and approximately 2,189 ac (886 ha) of lakes on Tribal lands are included in our proposed critical habitat designation.

Within the Coastal-Puget Sound population, we have proposed critical habitat for portions of the Nooksack River and Puget Sound nearshore adjacent to the Lummi Indian Reservation; portion of the Nooksack River adjacent to the Nooksack Indian Reservation; Swinomish Channel and portions of Puget Sound nearshore within or adjacent to the Swinomish Indian Reservation; portion of the Sauk River adjacent to the Sauk-Suiattle Indian Reservation; portions of the Snohomish River, and Puget Sound nearshore within or adjacent to the Tulalip Indian Reservation; portions of the White River within or adjacent to the Muckleshoot Indian Reservation; portions of the Puyallup River and Puget Sound nearshore within or adjacent to the Puyallup Indian Reservation; portions of the Nisqually River within or adjacent to the Nisqually Indian Reservation; portions of the Skokomish River, Nalley Slough, Skobob Creek, and Hood Canal nearshore within or adjacent to the Skokomish Indian Reservation; portions of the Dungeness River within or adjacent to the Jamestown S'Klallam Tribal lands; portions of the Elwha River and the Strait of Juan de Fuca nearshore within or adjacent to the Lower Elwha S'Klallam Indian Reservation; portions of the Hoh River and Pacific Coast nearshore within or adjacent to the Hoh Indian Reservation; portions or all of the Quinault River, Lake Quinault, Pacific Coast nearshore, Raft River, Queets River, Salmon River, Moclips River, Cook Creek, Elk within or adjacent to the Quinault Indian Reservation; and a portion of the Chehalis River within or adjacent to the Chehalis Indian Reservation.

**Quinalt Indian Reservation**

The Quinault Indian Nation and the Bureau of Indian Affairs (BIA) recently developed a forest management plan (FMP) for the entire Quinault Indian Reservation. The FMP covers all forestland (about 173,000 acres) under tribal and BIA timber management, including individually Indian owned trust and tribally owned land. Included in the area of the FMP are the lower Quinault River, the tributaries of the lower Quinault River, the lower Queets River, the Salmon River (including the Middle and South Fork Salmon Rivers), portions of the Raft River, and portions of the Moclips River. The FMP is a 10-year plan covering the period from October 2002 through September 2012. The FMP is being implemented by the Quinault Department of Natural Resources and the BIA Taholah Field Office. Many types of projects could occur under the FMP. These include timber harvest, road construction, fuels management, mineral pit management, cedar salvage, and adaptive management and monitoring plan development and use.

In 2003, we completed the bull trout consultation on the FMP (minus the North Boundary Area) and rendered a no jeopardy biological opinion on the Plan (USDI 2003). Although the upper Quinault Reservation (North Boundary Area) was not included as part of the biological opinion, provisions of the FMP will apply to the North Boundary Area. Consultation on timber management of the North Boundary Area occurred separately and also concluded with a no jeopardy biological opinion for bull trout (USDI 2000). Both biological opinions contain reasonable and prudent measures, with their implementing terms and conditions, which are designed to minimize impacts to bull trout that might otherwise result from the FMP.

Based on our analysis of the FMP and the North Boundary Area, as described in the two biological opinions, we have determined that forest management on

Quinault Reservation lands, with the terms and conditions from the biological opinions, provides a sufficient level of protection and certainty of implementation such that additional special management consideration or protection is not required. Therefore, we are proposing to exclude 161 km (100 mi) of streams within the reservation from the final designation of critical habitat for the bull trout pursuant to section 4(b)(2) of the Act. We are proposing to exclude all or portions of the following streams: Quinault River, Pacific Coast nearshore, Raft River, Queets River, Salmon River, Harlow Creek, Moclips River, North Fork Moclips River, Mounts Creek, Joe Creek, Cook Creek, Elk Creek, Red Creek, (lower) Boulder Creek, Ten O'Clock Creek, Prairie Creek, McCalla Creek, and (upper) Boulder Creek. In some cases, a stream segment proposed for exclusion has non-Tribal land ownership on one shore and, therefore, that segment of shore would not be managed as part of the Quinault FMP. However, for the above identified streams, except the Raft River, the majority of ownership is on Quinault reservation lands and is covered in the FMP; therefore we are proposing to exclude these streams from critical habitat for the bull trout. For the Raft River, where the majority of ownership is non-Tribal, we will be excluding only those segments of the Raft River that have Tribal ownership on both shores. On Lake Quinault only a small segment of the shoreline is covered by the FMP, and we are including Lake Quinault in our proposed designation of critical habitat.

The benefits of including Quinault reservation lands, with their approved FMP that provides measures to help protect the needs of bull trout, as critical habitat are small. The principal benefit of any designated critical habitat is that activities that may affect such habitat require consultation under section 7 of the Act if such action involves a Federal nexus. Where an approved management plan is in place, our experience indicates that this benefit is small or non-existent.

The benefits of excluding Tribal lands having approved resource management plans from being designated as critical habitat include relieving the Tribe from additional regulatory review and costs that result from such designation and promoting the conservation efforts and partnerships and encourage Tribes to develop species and habitat management plans. In general, we believe the benefits of critical habitat designation in areas covered by approved Tribal resource managements would be small while that the benefits of excluding the area covered by the Quinalt FMP are greater. Therefore, we are proposing to exclude areas covered by the Quinalt FMP from the designation of final critical habitat for the bull trout.

**Proposed Critical Habitat Designation**

Within the geographical areas presently known to be occupied by the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations, we are proposing to designate only areas currently known to be essential to the conservation of bull trout. These areas already contain features and habitat characteristics that are necessary to sustain the species. We are designating areas that currently have one or more of the primary constituent elements that 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 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.

The proposed critical habitat areas described below constitute our best assessment at this time of the stream reaches and lakes that are essential to the conservation of the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River bull trout populations. We are designating approximately 131 mi (211 km) of streams in Idaho and Nevada for the Jarbidge River population, and 2,290 mi (3,685 km) of streams, 52,540 ac (21,262 ha) of lakes, and 985 mi (1,585 km) of marine shoreline in Washington for the Coastal-Puget Sound population. For the Saint Mary-Belly River population, the critical habitat designation totals approximately 88 mi (142 km) of streams and 6,295 ac (2,548 ha) of lakes in Montana.

The lateral extent of critical habitat, for each designated stream reach, is the width of the stream channel as defined by its bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain (Rosgen 1996) and is reached at a discharge which generally has a recurrence interval of 1 to 2 years on the annual flood series (Leopold *et al.* 1992). Critical habitat extends from the bankfull elevation on one side of the stream channel to the bankfull elevation on the opposite side. If bankfull elevation is not evident on either bank, the ordinary high-water line, as defined by the U.S. Army Corps of Engineers (Corps) in 33 CFR 329.11, 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. In addition, human activities that occur within or adjacent to streams or stream reaches that flow into critical habitat can also have demonstrable effects on physical and biological features of designated reaches. 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 U.S. Geological Survey Quadrangle topographic map). 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.

The inshore extent of critical habitat for marine nearshore areas is the mean higher high-water (MHHW) line, including tidally influenced freshwater heads of estuaries. This refers to the average of all the higher high-water heights of the two daily tidal levels. Adjacent shoreline riparian areas, bluffs, and uplands are not proposed as critical habitat. However, it should be recognized that the quality of marine habitat along shorelines is intrinsically related to the character of these adjacent features, and human activities that occur outside of the MHHW can have major effects on physical and biological features of the marine environment. The offshore extent of critical habitat for marine nearshore areas is based on the extent of the photic zone, which is the layer of water in which organisms are exposed to light. Proposed critical habitat extends offshore to the depth of 33 feet (ft) (10 meters (m)) relative to mean lower low water (MLLW; average of all the lower low-water heights of the two daily tidal levels). This equates to the average depth of the photic zone, and is consistent with the offshore extent of the nearshore habitat identified under the Puget Sound Nearshore Ecosystem Restoration Project (Corps and WDFW 2001). This area between MHHW and minus 10 MLLW is considered the habitat most consistently used by bull trout in marine waters based on known use,

forage fish availability, and ongoing migration studies (Kramer 1994; Frederick Goetz, Corps, in litt. 2003), and captures geological and ecological processes important to maintaining these habitats. This area contains essential foraging habitat and migration corridors such as estuaries, bays, inlets, shallow subtidal areas, and intertidal flats.

The types and approximate percentages of land ownership adjacent to proposed critical habitat in aquatic areas are shown for the Jarbidge River population in Table 1, in Table 2 for the Coastal-Puget Sound population, and in Table 3 for the Saint Mary-Belly River population.

TABLE 1.—APPROXIMATE LINEAR QUANTITY OF PROPOSED CRITICAL HABITAT OF STREAMS (MILES (MI) (KILOMETERS (KM)), AND ADJACENT LAND OWNERSHIP PERCENTAGES FOR THE JARBIDGE RIVER POPULATION.

| State | Streams | Federal (percent) | Tribal (percent) | State (percent) | Private (percent) |
|---|---|---|---|---|---|
| Nevada | 93 mi (150 km) | 91.7 | 0 | 0 | 8.3 |
| Idaho | 38 mi (61.6 km) | 92.4 | 0 | 6.1 | 1.5 |
| Total | 131 mi (211 km) | 92 | 0 | 3 | 5 |

TABLE 2.—APPROXIMATE LINEAR QUANTITY OF PROPOSED CRITICAL HABITAT OF STREAMS (MILES (MI) (KILOMETERS (KM)), ADJACENT SHORELINE (MI (KM)), AND SURFACE AREA OF LAKES (ACRES (AC) (HECTARES (HA)), AND ADJACENT LAND OWNERSHIP PERCENTAGES FOR THE COASTAL-PUGET SOUND RIVER POPULATION BY CRITICAL HABITAT SUBUNITS (CHSU) IN WASHINGTON, INCLUDING SUBTOTALS FOR UNIT 27: OLYMPIC PENINSULAR RIVER BASINS, AND UNIT 28: PUGET SOUND

| CHSU | Marine shoreline (mi) | Streams (mi) | Lakes (ac) | Federal (percent) | Tribal (percent) | State (percent) | Private (percent) |
|---|---|---|---|---|---|---|---|
| Skokomish | 0 | 60 mi (96.5 km) | 4,007 ac 1,622 ( ha). | 54 | 3 | 4 | 39 |
| Dungeness | 0 | 30 mi (48 km) | 0 | 59 | <1 | 7 | 33 |
| Elwha | 0 | 55 mi (88.5 km) | 746 ac (302 ha) | 84 | <2 | 6 | 8 |
| Hoh | 0 | 89 mi (143 km) | 0 | 41 | <1 | 14 | 45 |
| Queets | 0 | 139 mi (224 km) | 0 | 56 | 14 | 18 | 11 |
| Quinault | 0 | 91 mi (146 km) | 3,565 ac (1,443 ha). | 60 | 40 | 0 | 0 |
| Hood Canal | 106 mi (170.5 km) | 0 | 0 | 0 | 6 | 8 | 86 |
| Strait of Juan de Fuca. | 130 mi (209 km) | 20 mi (32 km) | 0 | 9 | 0 | 6 | 84 |
| Pacific Coast | 94 mi (151 km) | 64 mi (103 km) | 0 | 10 | <1 | 8 | 82 |
| Chehalis River/Grays Harbor | 89 mi (143 km) | 216 mi (347.5 km). | 0 | 3 | 0 | 1 | 96 |
| Subtotal: Unit 27. | 419 mi (674 km) | 764 mi (1,229 km) | 8,318 ac (3,366 ha). | 38 | 7 | 7 | 48 |
| Chilliwack | 0 | 29 mi (47 km) | 0 | 65 | 0 | 0 | 35 |
| Nooksack | 0 | 187 mi (301 km) | 0 | 18 | 1 | 11 | 69 |
| Lower Skagit | 0 | 414 mi (666 km) | 7,024 ac (2,842 ha). | 47 | 0 | 5 | 48 |
| Upper Skagit | 0 | 84 mi (135 km) | 12,276 ac (4,968 ha). | 86 | 0 | 0 | 14 |
| Stillaguamish | 0 | 181 mi (291 km) | 0 | 23 | 0 | 10 | 66 |
| Snohomish/ Skykomish. | 0 | 254 mi (409 km) | 0 | 20 | 1 | 7 | 72 |
| Chester Lake | 0 | 16 mi (26 km) | 1,971 ac (798 ha) | 0 | 0 | 0 | 100 |
| Puyallup | 0 | 235 mi (378 km) | 0 | 33 | 4 | 2 | 61 |
| Samish | 0 | 24 mi (39 km) | 0 | 0 | 0 | 0 | 100 |
| Lake Washington | 0 | 0 | 22,951 ac (9,288 ha). | 1 | 0 | 3 | 96 |
| Lower Green | 0 | 62 mi (100 km) | 0 | 0 | 0 | 18 | 82 |
| Lower Nisqually | 0 | 40 mi (64 km) | 0 | 33 | 13 | 0 | 54 |
| Puget Sound Marine. | 566 mi (911 km) | 0 | 0 | 3 | 15 | 6 | 76 |
| Subtotal: Unit 28 0. | 566 mi (911 km) | 1,526 mi (2,455 km). | 44,222 ac (17,910 ha). | 25 | 3 | 5 | 67 |
| Total for both units. | 985 mi (1,585 km) | 2,290 mi (3,685 km). | 52,540 ac (21,262 ha). | 32 | 5 | 6 | 57 |

TABLE 3.—APPROXIMATE LINEAR QUANTITY OF PROPOSED CRITICAL HABITAT OF STREAMS (MILES (MI) (KILOMETERS (KM)) AND SURFACE AREA OF LAKES (IN ACRES (AC) (HECTARES (HA)), AND ADJACENT LAND OWNERSHIP PERCENTAGES FOR THE SAINT MARY-BELLY RIVER POPULATION

| State | Streams | Lakes | Federal (percent) | Tribal (percent) | State (percent) | Private (percent) |
|---|---|---|---|---|---|---|
| Montana | 88 mi (142 km) | 6,295 ac (2,548 ha) | 45 | 45 | 0 | 10 |

Critical habitat includes bull trout habitat across the species' range in Idaho, Montana, Nevada, and Washington. Lands adjacent to designated critical habitat are under private, State, Tribal, and Federal ownership, with Federal lands including lands managed by the USFS and Bureau of Land Management (BLM). Three critical habitat units have been delineated. The areas we are designating as critical habitat, described below, constitute our best assessment of areas essential to the conservation of the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout.

These critical habitat units correspond to recovery units identified in the Draft Recovery Plan (Service 2002, 2004). Brief descriptions of each unit, the critical habitat subunits (CHSUs) within them, and the specific areas designated as critical habitat, are presented below.

The streams, lakes, and marine shoreline indicated below are generally described from the bottom to the top of a watershed within a critical habitat unit or subunit. For example, river or stream ''A'' would be described from its mouth up to the first major tributary (stream ''B'') that is also being designated as critical habitat. At that point, tributary stream ''B'' and any of its associated tributaries that are also being designated would be described, again from the mouth of stream ''B'' upstream to either the next tributary being designated or to the limit of critical habitat within stream ''B.'' Once this description is complete, the text again reverts to river/stream ''A'' and continues upstream, either to the next tributary being designated (*e.g.*, stream ''C'') or to the upstream limit of critical habitat in stream ''A''. This provides a ''roadmap'' that enables the reader to appreciate the extent of the proposal in a particular watershed or stream system, as well as to have the ability to work their way up from a landmark more likely to be familiar to locate a particular, generally more obscure, tributary in the upper watershed. Together with the maps included with this proposed rule, readers should be able to easily locate where a stream of interest that is being designated as bull trout critical habitat occurs on the landscape.

The legal descriptions provided in the regulatory portion of this proposed rule (see Regulation Promulgation section) correspond to the critical habitat units and subunits described below. However, the legal descriptions of individual streams and lakes within each subunit paragraph are arranged in alphabetical order by stream or lake name within a paragraph.

**Unit 26: Jarbidge River Unit**

The Jarbidge River Unit encompasses the Jarbidge and Bruneau River Basins, which drain into the Snake River within C.J. Strike Reservoir upstream of Grand View, Idaho. The Jarbidge River Unit is located within Owyhee County in southwestern Idaho and Elko County in northeastern Nevada.

The Jarbidge River Unit includes a total of approximately 131 mi (211 km) of streams proposed as critical habitat. Approximate percentages of land ownership associated with the streams proposed for designation are 92.4 percent Federal, 1.5 percent private, and 6.1 percent State in Idaho, and 91.7 percent Federal and 8.3 percent private in Nevada. The Jarbidge River Unit contains six local populations of resident and migratory bull trout. These stream segments and reservoirs provide either FMO habitat, or provide spawning and rearing habitat. These habitats are essential to the long-term conservation of the Jarbidge River population as they will help maintain populations and the migratory life-history form essential to the species' long-term conservation, and also provide habitat necessary for the recovered distribution of bull trout (Service 2004). The stream segments that make up the Jarbidge Unit are described below.

(A) Jarbidge River from the confluence with the Bruneau River approximately 29.4 mi (47.3 km) upstream to the joint confluence of the East and West Forks of the Jarbidge River. The mainstem Jarbidge River provides FMO habitat; the downstream extent of current use is unknown.

(B) West Fork of the Jarbidge River (also termed Jarbidge River) from the confluence with the East Fork of the Jarbidge River approximately 20.9 mi (33.6 km) upstream to the perennial headwaters. The lower West Fork of the Jarbidge River provides FMO habitat between the confluence with the East Fork and the confluence with Snowslide Gulch. Spawning and rearing habitat for the West Fork Jarbidge River local population and migratory bull trout currently are located upstream of Snowslide Gulch in the headwaters. Unnamed western headwater tributary from the confluence with the West Fork of the Jarbidge River approximately 0.9 mi (1.4 km) upstream to the perennial headwaters. The unnamed western headwater tributary provides additional spawning and rearing habitat for the West Fork Jarbidge River local population. Sawmill Creek, from the confluence with the West Fork of the Jarbidge River approximately 0.8 mi (1.3 km) upstream to the perennial headwaters, provides spawning and rearing habitat for the West Fork Jarbidge River local population.

(C) Deer Creek from the confluence with the West Fork of the Jarbidge River approximately 6.5 mi (10.4 km) upstream to the perennial headwaters. Deer Creek provides foraging habitat and a cool refuge from elevated temperatures in the lower West Fork of the Jarbidge River for migratory bull trout, but the extent and frequency of current occupancy is unknown. Deer Creek may also provide spawning and rearing habitat under recovered conditions.

(D) Jack Creek from the confluence with the West Fork of the Jarbidge River approximately 5.2 mi (8.4 km) upstream to the perennial headwaters. Lower Jack Creek provides FMO habitat necessary to maintain connectivity among local populations in the Jarbidge River population. Jack Creek provides spawning and rearing habitat upstream of the confluence with Jenny Creek.

(E) Pine Creek (also termed West Fork Pine Creek) from the confluence with the West Fork of the Jarbidge River approximately 4.5 mi (7.2 km) upstream to perennial headwaters. Unnamed western tributary from the confluence of Pine Creek approximately 1.0 mi (1.6 km) upstream to the perennial

headwaters. Unnamed eastern headwater tributary from the confluence of Pine Creek approximately 1.5 mi (2.4 km) upstream to the perennial headwaters. Pine Creek and its tributaries provide spawning and rearing habitat for the Pine Creek local population and migratory bull trout from the West Fork of the Jarbidge River.

(F) East Fork of the Jarbidge River from the confluence with the West Fork of the Jarbidge River approximately 23.1 mi (37.2 km) upstream to perennial headwaters. The lower East Fork of the Jarbidge River provides FMO habitat from the confluence with the West Fork upstream to the confluence of Fall Creek and provides connectivity for local populations. Spawning and rearing habitat is located upstream of Fall Creek in the headwaters. Unnamed western headwater tributary from the confluence with the East Fork of the Jarbidge River approximately 2.2 mi (3.5 km) upstream to the perennial headwaters. The unnamed western headwater tributary provides additional spawning and rearing habitat. Fall Creek from the confluence with the East Fork of the Jarbidge River approximately 4.3 mi (6.9 km) upstream to the perennial headwaters. Unnamed lower western tributary from the confluence with Fall Creek approximately 2.2 mi (3.5 km) upstream to the perennial headwaters. Unnamed upper western tributary from the confluence with Fall Creek upstream approximately 1.8 mi (2.9 km) to the perennial headwaters. Fall Creek and its tributaries provide spawning and rearing habitat for the East Fork Jarbidge River local population. Cougar Creek, from the confluence with the East Fork of the Jarbidge River approximately 4.2 mi (6.8 km) upstream to the perennial headwaters, provides spawning and rearing habitat for resident and possibly migratory bull trout from the East Fork of the Jarbidge River.

(G) Dave Creek from the confluence with the East Fork of the Jarbidge River approximately 9.9 mi (15.9 km) upstream to the perennial headwaters. Dave Creek provides FMO habitat in the lower reach and provides connectivity among local populations in the Jarbidge River population. Spawning and rearing habitat for the Dave Creek local population is present in the upper reach. Upper Dave Creek also likely provides spawning and rearing habitat for migratory bull trout from the East Fork of the Jarbidge River.

(H) The following reaches provide spawning and rearing habitat for the Slide Creek local population and possibly migratory bull trout from the East Fork of the Jarbidge River upstream to their respective perennial headwaters: Slide Creek from the confluence with the East Fork of the Jarbidge River approximately 5.4 mi (8.7 km); God's Pocket Creek from the confluence with Slide Creek approximately 3.9 mi (6.3 km); unnamed lower southern tributary from the confluence with Slide Creek approximately 1.6 mi (2.6 km); unnamed upper southern tributary from the confluence with Slide Creek approximately 1.8 mi (2.9 km); unnamed northern headwater tributary approximately 0.3 mi (0.5 km); unnamed eastern headwater tributary approximately 0.2 mi (0.3 km).

**Unit 27: Olympic Peninsula River Basins**

The Olympic Peninsula Unit is located in northwestern Washington. Bull trout populations inhabiting the Olympic Peninsular comprise the coastal component of the Coastal-Puget Sound population. The unit includes approximately 764 mi (1,229 km) of stream, 8,318 ac (3,366 ha) of lakes, and 419 mi (674 km) of marine shoreline proposed for designation as critical habitat for bull trout. This unit covers an area approximately 6.5 million ac (2.6 million ha), and is bordered by Hood Canal to the east, Strait of Juan de Fuca to the north, Pacific Ocean to the west and the Lower Columbia and Puget Sound Recovery Units to the south. It extends across portions of Grays Harbor, Clallam, Mason, Pacific, and Jefferson Counties. All of the major river basins initiate from the Olympic Mountains. The Olympic Peninsula Unit is divided into 10 critical habitat subunits (CHSUs). The Draft Recovery Plan (Service 2004) indicates the need to maintain these 10 local populations, to restore two identified potential local populations, and to maintain freshwater and marine FMO habitats within these CHSUs in order to provide for the recovered distribution, abundance, and productivity of bull trout. Although delta areas and small islands are difficult to map and may not be specifically identified by name, included within the critical habitat proposal are delta areas where streams form sloughs and braids, and the nearshore of small islands found within the proposed marine areas.

*(i) Skokomish CHSU*

The North Fork Skokomish River and the South Fork Skokomish River headwaters originate in the Olympic Mountains and flow eastward to join at the Skokomish River, which then flows into the southernmost portion of Hood Canal. The North Fork Skokomish River flows through Lake Cushman and Lake Kokanee before meeting with the South Fork Skokomish River. Approximately 60 mi (96.5 km) of stream and 4,011 ac (1,623 ha) of lake are being proposed as critical habitat in the Skokomish basin. Land ownership along the stream reaches and lakes proposed for critical habitat is 54 percent Federal, 4 percent State, 39 percent private, and 3 percent Tribal (3.0 mi (4.8 km) within the Skokomish Indian Reservation). The stream segments that make up the Skokomish CHSU are described below.

(A) The Skokomish River from its confluence with Hood Canal upstream 8.6 mi (13.8 km) to the confluence with the North and South Forks Skokomish Rivers and extending upstream in the following tributaries: Nalley Slough 0.5 mi (0.8 km) to a natural barrier; Skobob Creek 2.2 mi (3.5 km) to a natural barrier; Purdy Creek 1.3 mi (2.1 km) to a natural barrier; and Rickert Springs 0.3 mi (0.5 km) to its headwaters. Bull trout have been documented throughout the Skokomish River, which provides FMO habitat including a migratory corridor from Hood Canal to the North and South Fork Skokomish Rivers. Skobob Creek, Purdy Creek, and Rickert Springs have had bull trout documented in recent years (Marty Ereth, Skokomish Tribe, in litt. 2003; Larry Ogg, USFS, in litt. 2003), and they provide foraging, overwintering, and seasonal subadult rearing habitat in the Skokomish River. Nalley Slough is part of the braided Skokomish River and provides connectivity to the Skokomish estuary (WDFW 2003).

(B) The South Fork Skokomish River from its confluence with the Skokomish River upstream 25.0 mi (40.2 km) and extending upstream in the following tributaries: Brown Creek 5.3 mi (8.5 km); Lebar Creek 1.2 mi (1.9 km); Pine Creek 0.7 mi (1.1 km); Church Creek 0.4 mi (0.6 km). Multiple age classes of bull trout have been observed in the amphidromous reaches of Brown, Lebar, and Pine Creeks. These creeks are used for juvenile rearing, foraging, and overwintering. Juvenile bull trout have been observed throughout the South Fork Skokomish River, and spawning has been documented in Church Creek and the upper South Fork Skokomish River (Ogg and Stutsman 2002). Brown Creek has suitable, accessible spawning habitat, and is identified as a potential local population necessary for recovery in the Skokomish core area.

(C) North Fork Skokomish River from its confluence with the Skokomish River upstream 13.1 mi (21.1 km), ending at Lake Kokanee dam, and restarts again at the inlet to Lake Cushman, and including the area of inundation for

Lake Cushman (4,011 ac (1,623 ha)), and extending up the accessible reaches of the following tributaries: Elk Creek 0.8 mi (1.3 km); and Slate Creek 1.0 mi (1.6 km). Bull trout have been observed in the North Fork Skokomish River, which provides foraging and overwintering habitat and connectivity with the mainstem Skokomish River. Spawning has been documented in the upper North Fork Skokomish River, Elk Creek, and Slate Creek. Bull trout have been documented in Lake Cushman, but not in Lake Kokanee, which is located on the North Fork Skokomish River below Lake Cushman. Lake Kokanee is not being proposed as critical habitat, because implementation of the Federal Energy Regulatory Commission license for the Cushman project is expected to result in construction of trap-and-haul fish passage facilities (George Ging, Service, in litt. 2004). These facilities will restore connectivity between lower and upper North Fork Skokomish Rivers, but will bypass the inundated 2.3 mi (3.7 km) long Lake Kokanee section.

*(ii) Dungeness River CHSU*

The Dungeness CHSU includes the Dungeness River, its primary tributary, the Gray Wolf, and associated tributaries. The Dungeness River is located in the northeastern portion of the Olympic Peninsula and flows from its headwaters in the Olympic Mountains to the Strait of Juan de Fuca. Approximately 30 mi (48 km) of stream is being proposed as critical habitat in the Dungeness River basin. Land ownership along the stream reaches proposed for critical habitat is 59 percent Federal, 7 percent State, 33 percent private, and less than 1 percent Tribal (less than 1.0 mi (1.6 km) within Jamestown S'Klallam Tribal lands).

(A) The Dungeness River from its confluence with the Strait of Juan de Fuca upstream 18.7 mi (30.1 km) to an impassable barrier and extending up the following tributaries to their headwaters or an impassable barrier: Hurd Creek 0.5 mi (0.8 km); Gray Wolf River 9.4 mi (15.1 km); and Gold Creek 1.6 mi (2.6 km). The Dungeness River and its tributaries provide foraging, overwintering, and rearing habitat. The Dungeness River also serves as a corridor for movement to the Strait of Juan de Fuca (L. Ogg, pers. comm. 2004). Spawning and rearing has been documented in the Gray Wolf River (Randy Cooper, WDFW, in litt. 2002). Bull trout have also been observed in Hurd Creek and Gold Creek.

*(iii) Elwha CHSU*

The Elwha River originates on the south and east sides of Mount Olympus, flows south, and then turns northward before entering the Strait of Juan de Fuca. The Elwha Rivers flows through two reservoirs, Lake Mills and Lake Aldwell. Approximately 55 mi (88.5 km) of stream and 1,097 ac (444 ha) of lake are being proposed as critical habitat in the Elwha River basin. Land ownership along the stream reaches proposed for critical habitat is 84 percent Federal, 6 percent State, 8 percent private, and less than 2 percent Tribal (less than 1.0 mi (1.6 km) within Lower Elwha S'Klallam Tribal lands). The stream segments that make up the Elwha CHSU are described below.

(A) The Elwha River from its confluence with the Strait of Juan de Fuca upstream 38.8 mi (62.4 km) to an impassable barrier, including the area of inundation for Lake Aldwell (302 ac (122 ha)) and Lake Mills (444 ac (180 ha)), and extending upstream in the following tributaries: Little River 7.4 mi (11.9 km); Hughes Creek 0.2 mi (0.3 km); Griff Creek 0.8 mi (1.3 km); Boulder Creek 0.5 mi (0.8 km); Cat Creek 3.1 mi (5.0 km); Prescott Creek 0.2 mi (0.3 km); Hayes Creek 1.5 mi (2.4 km); Godkin Creek 1.0 mi (1.6 km); Buckinghorse Creek 0.6 mi (1.0 km); and Delabarre Creek 0.8 mi (1.3 km). Multiple age classes have been documented throughout the Elwha River which provides FMO habitat. Lake Aldwell, Little River, Hughes Creek, Griff Creek, Lake Mills, Boulder Creek, Cat Creek, Prescott Creek, Hayes Creek, Godkin Creek, Buckinghorse Creek, and Delabarre Creek have documented bull trout use (Morrill and McHenry 1994; Brenkman and Meyer 2001). The mainstem Elwha River and tributaries above Lake Mills are presumed to provide primary spawning and rearing habitat in the Elwha CHSU. Bull trout in this area are considered a single local population (Olympic Peninsula Bull Trout Recovery Unit, in litt. 2003).

The Elwha and Glines Canyon Dams are scheduled to be removed beginning in 2007, resulting in restoration of connectivity and anadromous salmonids, and increased abundance of bull trout. Because suitable spawning habitat is present, following dam removal, as abundance increases in the Elwha core area, it is expected that Little River will be used for spawning and rearing. Little River has been identified by the Olympic Peninsula Recovery Unit Team as a potential local population necessary for recovery in the Elwha core area. Following dam removal, it is expected that the bull trout amphidromous life-history form will be restored in the Elwha River, prey base will be increased as salmon re-colonize the river, and bull trout abundance will increase, resulting in greater use of accessible tributaries.

*(iv) Hoh River CHSU*

The Hoh River flows westward from its headwaters in the Baily Range and the north slope of Mount Olympus to its confluence with the Pacific Ocean. Approximately 89 mi (143 km) of stream is being proposed as critical habitat in the Hoh River basin. Land ownership along the stream reaches proposed for critical habitat is 41 percent Federal, 14 percent State, 45 percent private, and less than 1 percent Tribal (less than 1.0 mi (1.6 km) within Hoh Indian Reservation lands).

(A) The Hoh River from its confluence with the Pacific Ocean upstream 50.1 mi (80.6 km) to an impassable barrier and extending upstream in the following tributaries to an impassable barrier or headwaters: Nolan Creek 7.9 mi (12.7 km); Winfield Creek 5.8 mi (9.3 km); Owl Creek 3.9 mi (6.3 km); South Fork Hoh River 15.5 mi (24.9 km); Mount Tom Creek 5.0 mi (8.0 km); Cougar Creek 0.5 mi (0.8 km); OGS Creek 0.1 mi (0.2 km); and Hoh Creek 0.5 mi (0.8 km). Recent radio telemetry studies have documented bull trout throughout the Hoh River, which provides spawning, rearing, and FMO habitat. The Hoh River also serves as a migration corridor for bull trout moving to and from the Pacific Ocean. Spawning and juvenile rearing have been documented in the upper Hoh River and the South Fork Hoh River (Brenkman and Meyer 1999). Bull trout have also been documented in Nolan Creek, Mt. Tom Creek, Cougar Creek, OGS Creek, and Hoh Creek, with historic use reported in Owl and Winfield Creeks (McLeod 1944). All of these streams are accessible to bull trout, are occupied by anadromous salmonids, and likely provide bull trout foraging or overwintering habitat in the Hoh River basin.

*(v) Queets River CHSU*

The Queets River flows west from its headwaters in Mount Queets, Bear Pass, and Mount Barnes to its confluence with the Pacific Ocean. Major tributaries include the Sams and Clearwater Rivers. Approximately 139 mi (224.0 km) of stream is being proposed as critical habitat in the Queets River basin. Land ownership along the stream reaches proposed for critical habitat is 56 percent Federal, 18 percent State, 11 percent private, and 14 percent Tribal (approximately 20.0 mi (32.2 km) on Quinault Indian Nation lands).

(A) The Queets River from its confluence with the Pacific Ocean upstream 48.8 mi (78.5 km) to an impassable barrier and extending upstream in the following tributaries to an impassable barrier or headwaters: Clearwater River 36.8 mi (59.2 km); Salmon River 13.2 mi (21.2 km); Matheny Creek 17.7 mi (28.5 km); Sams River 9.5 mi (15.3 km); and Tshletshy Creek 13.2 mi (21.2 km). The Queets River and its tributaries provide FMO and rearing habitat. The Queets River also serves as a migration corridor for bull trout moving to and from the Pacific Ocean. Bull trout spawning has been observed in the upper Queets River above the confluence with Tshletshy Creek (Gross 2002). Bull trout have been documented in the Clearwater, Salmon, and Sams Rivers, and Matheny Creek, with historic use reported in Tshletshy Creek (McLeod 1944). Bull trout surveys have not been conducted in these streams since human access is extremely difficult.

*(vi) Quinault River CHSU*

The Quinault River originates in the Olympic Mountains and flows west to the Pacific Ocean. The Quinault CHSU includes the mainstem Quinault River, North Fork Quinault River, tributaries, and Lake Quinault. Approximately 91 mi (146 km) of stream and 3,570 ac (1,445 ha) are being proposed as critical habitat in the Quinault River basin. Land ownership along the stream reaches and lake proposed for critical habitat is 60 percent Federal and 40 percent Tribal (approximately 35.0 mi (56.3 km) are within Quinault Indian Nation lands).

(A) The Quinault River from its confluence with the Pacific Ocean upstream 64.6 mi (103.9 km) to an impassable barrier, including the area of inundation for Lake Quinault (3,543 ac (1,434 ha)), and extending upstream in the following tributaries to an impassable barrier or headwaters: Cook Creek from its confluence with the Quinault River upstream 4.7 mi (7.6 km); O'Neil Creek 0.7 mi (1.1 km); Ignar Creek 0.2 mi (0.3 km); and Pyrites Creek 0.4 mi (0.6 km). The Quinault River and its tributaries provide FMO and rearing habitat. The Quinault River also serves as a migration corridor for bull trout moving to and from the Pacific Ocean. Multiple age classes have been observed in upper Quinault River, and it's likely that spawning occurs there and its accessible tributaries (Olympic National Park, in litt. 2001). Bull trout recently have been documented in Cook Creek, Lake Quinault, O'Neil Creek, Ignar Creek, and Pyrites Creek (Olympic National Park, in litt. 2001; Dave Zajac, Service, pers. comm. 2002; Scott Craig, Service, in litt. 2003; Mark Ostwald, Service, in litt. 2003).

(B) The area of inundation for Irely Lake (27 ac (11 ha)), Irely Creek 0.1 mi (0.2 km); and Big Creek 7.0 mi (11.3). Bull trout recently have been documented in Irely Lake, with historic use reported in Big Creek (McLeod 1944; S. Brenkman, in litt. 2001). Irely Creek provides bull trout access to Irely Lake from Big Creek and the Quinault River.

(C) North Fork Quinault River from its confluence with the Quinault River upstream 10.7 mi (17.2 km) to an impassable barrier, and its tributary, Rustler Creek, upstream 2.8 mi (4.5 km) to an impassable barrier (Olympic National Park, in litt. 2001). Multiple age classes of bull trout have been observed in the North Fork Quinault River and Rustler Creek.

For the next four CHSUs, nearshore marine waters are essential for access to foraging habitat in watersheds that are not believed to have spawning populations. While in marine waters, bull trout appear to primarily occupy estuarine and nearshore habitats and feed on a variety of prey items, especially small marine fish such as herring, surf smelt, and sandlance (F. Goetz, in litt. 2003; Brenkman and Corbett 2003). It is likely that these waters are also used as refuge from high flows in the natal rivers. Although the extent of bull trout use in these waters and their independent tributaries are not well known, information for Puget Sound and Pacific Ocean nearshore marine use indicates that bull trout with access to marine waters use them to access prey base in both marine and independent freshwater tributaries. Independent tributaries that flow directly to marine waters are not expected to provide spawning habitat, but do provide essential foraging and overwintering habitat for bull trout outside their natal watersheds. Nearshore marine habitat is also essential for connectivity to and between these independent tributaries. Although use of FMO habitat may be seasonal or brief, it is nonetheless a critical element for migratory bull trout to persist (Lohr *et al.* 2001). The current distribution data most likely under-represents the amount of occupied marine shoreline, due to the depressed status of these populations, the seasonal and temporal variability in migratory behavior, and the difficulty of sampling in large estuarine and marine environments (Pentec Environmental 2002). As bull trout in these CHSUs recover and increase in abundance, it is expected that FMO habitat use of marine waters will also increase.

*(vii) Hood Canal CHSU*

The estuarine and nearshore marine waters of the southern and western boundaries of Hood Canal provide foraging and migration habitat for amphidromous bull trout outside of freshwater core areas. Land ownership along the nearshore marine habitat is 8 percent State, 86 percent private, and 6 percent Tribal (approximately 6.0 mi (9.6 km) within Skokomish Indian Reservation lands).

(A) Approximately 106 mi (171 km) of nearshore marine habitat on the southern and western borders of Hood Canal from an unnamed tributary south of Union River to the entrance to Fisherman's Harbor on the southern border of Toandos Peninsula is proposed as critical habitat. Amphidromous bull trout have been documented in estuaries and lower rivers of Hood Canal, including the Quilcene, Dosewallips, Duckabush, and Hamma Hamma Rivers on the western side of Hood Canal (Service 1913; McLeod 1944; Phil Hilgert, R2 Consulting, pers. comm. 2000; John Meyer and Chuck Hamstreet, Service, in litt. 2001). It is unlikely that these rivers provide spawning habitat but they have abundant prey base and do provide essential foraging and overwintering habitats outside natal watersheds.

*(viii) Strait of Juan de Fuca CHSU*

Approximately 130 mi (209 km) of nearshore marine habitat in the Strait of Juan de Fuca, and 20 mi (32 km) of independent streams draining into it are proposed as critical habitat. Land ownership along the stream reaches and nearshore proposed for critical habitat is approximately 9 percent Federal, 6 percent State, and 84 percent private.

(A) Nearshore marine habitat on the southern boundary of the Strait of Juan de Fuca for 130.0 mi (209.2 km) from its eastern boundary at Cape George to its western boundary at Pillar Point; Bell Creek from its confluence with the Strait of Juan de Fuca upstream 3.8 mi (6.1 km) to a natural barrier; Siebert Creek from its confluence with the Strait of Juan de Fuca upstream 6.3 mi (10.1 km) to its confluence with ''0175'' Creek (Phinney and Bucknell 1975); Morse Creek from its confluence with the Strait of Juan de Fuca upstream 4.9 mi (7.9 km) to a natural barrier; and Ennis Creek from its confluence with the Strait of Juan de Fuca upstream 5 mi (8 km) to a natural barrier. The estuarine and marine waters of the Strait of Juan de Fuca provide FMO habitat for amphidromous bull trout outside of

freshwater core areas. Bull trout have also been documented in Bell, Ennis, Morse, and Siebert Creeks (WDFW 1998; Joel Freudenthal, Clallam County, in litt. 2001; R. Cooper, in litt. 2003, indicating that they are used at least seasonally for foraging and overwintering. Use of these independent tributaries to the Strait of Juan de Fuca requires migration by bull trout from their natal rivers through the marine waters of the Strait of Juan de Fuca.

Although the extent of bull trout use along the southern shoreline of the Strait of Juan de Fuca and its independent tributaries is not well known, information for Puget Sound and Pacific Ocean nearshore marine use indicates that bull trout appear to primarily occupy estuarine and nearshore habitats and feed on a variety of prey items (F. Goetz, in litt. 2003; S. Brenkman, in litt. 2003).

*(ix) Pacific Coast CHSU*

Bull trout can be found throughout the eastern nearshore waters of the Pacific Ocean from Goodman Creek south to Grays Harbor. Approximately 94 mi (151 km) of nearshore marine habitat on the Pacific Coast, and 64 mi (103 km) of independent streams draining into the Pacific Ocean are proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 10 percent Federal, 8 percent State, 82 percent private, and less than 1 percent Tribal (less than 1.0 mi (1.6 km) within Chehalis Tribe Reservation lands).

(A) Nearshore marine habitat on the western coast of the Pacific Ocean for 93.8 mi (150.0 km) from its northern boundary at ''0089'' Creek (Phinney and Bucknell 1975) to its southern boundary at the mouth of Grays Harbor at the jetty on Point Brown; Goodman Creek from its confluence with the pacific Ocean upstream 10.9 mi (17.5 km) to its confluence with ''0413'' Creek (Phinney and Bucknell 1975); Mosquito Creek upstream from its confluence with the Pacific Ocean 6.9 mi (11.1 km) to a natural barrier; Cedar Creek from its confluence with the Pacific Ocean 4.2 mi (6.8 km) to its headwaters; Steamboat Creek from its confluence with the Pacific Ocean 3.6 mi (5.8 km) to a natural barrier; Kalaloch Creek from its confluence with the Pacific Ocean upstream 3.9 mi (6.3 km) to its confluence with West Fork Kalaloch Creek; Raft River upstream from its confluence with the Pacific Ocean 8.0 mi (12.9 km) to confluence with South Fork Raft River; Moclips River upstream from its confluence with the Pacific Ocean upstream 7.0 mi (11.3 km) to a natural barrier; Joe Creek upstream from its confluence with the Pacific Ocean upstream 3.6 mi (5.8 km) to a natural barrier; and Copalis River upstream from its confluence with the Pacific Ocean upstream 15.9 mi (25.6 km) to a natural barrier. Recent observations have documented bull trout use in the following independent tributaries: Raft, Moclips, and Copalis Rivers, Goodman, Cedar, Kalaloch, and Joe Creek (WDFW 1998; B. Freymond, WDFW, in litt. 2001; S. Brenkman, in litt. 2003; Scott Potter, Quinault Indian Nation, in litt. 2003; Steve Corbett, National Park Service, in litt. 2004). Although there are no recent surveys for bull trout in Mosquito Creek, historic use is documented in McLeod (1944).

*(x) Chehalis River/Grays Harbor CHSU*

The Chehalis River flows west to it confluence with Grays Harbor. Bull trout have been documented throughout the Chehalis River downstream from Garrard Creek and in Grays Harbor. Bull trout do not appear at this time to spawn in the Grays Harbor/Chehalis River basin and these fish probably originate from core areas north of the basin (Jeanes *et al.* 2003). Approximately 89 mi (142.5 km) of nearshore marine habitat in Grays Harbor and 216 mi (347.5 km) of rivers draining into Grays Harbor are proposed as critical habitat. Land ownership along the nearshore and river reaches proposed for critical habitat is 3 percent Federal, 1 percent State, and 96 percent private.

(A) Nearshore marine habitat of Grays Harbor for 88.6 mi (142.5 km) from its mouth at the Pacific Ocean, north to jetty at Point Brown, south to jetty at Point Chehalis, including the extent of tidal influence, and east to the Chehalis River; Humptulips River from its confluence with Grays Harbor upstream 27.9 mi (44.9 km) to the confluence with East and West Forks Humptulips River; Wishkah River from its confluence with Grays Harbor upstream 33.8 mi (54.4 km) to a natural barrier. The estuarine and marine waters of the Grays Harbor provide FMO habitat for amphidromous bull trout outside of freshwater core areas. There are abundant prey fish and seasonally abundant smolts in the Grays Harbor nearshore marine habitat, which provide essential forage for bull trout. Although no bull trout had been observed in Grays Harbor since 1981, during 2002 beach seining surveys targeting bull trout, three fish were captured (Jeanes *et al.* 2003). Bull trout have been documented in the Wishkah and Humptulips Rivers (Keizer 1990; Nate Dachtler, WDFW, in litt. 2001; M. Ereth, in litt. 2002). Bull trout are not known to spawn in either the Wishkah or Humptulips River basins, and these fish likely originate from core areas north of Grays Harbor. These river provide bull trout foraging and overwintering habitat.

(B) Chehalis River from its mouth at Grays Harbor upstream 47.0 mi (75.6 km) to its confluence with Garrard Creek, and Wynoochee River upstream 50.9 mi (81.9 km) to the Wynoochee Dam. The Chehalis River has both historic and recent documentation of bull trout (Brix 1974; Keizer 1990; Simensted *et al.* 2001; Jeanes *et al.* 2003). Bull trout have also been documented in the Wynoochee River (Keizer 1990; T. Hooper, NOAA-Fisheries, pers. comm. 2004). Bull trout have been observed entering these rivers following salmon and steelhead spawning runs and during smolt out-migrations. The Chehalis and Wynoochee Rivers provide FMO habitat and are accessible from the marine waters of Grays Harbor.

(C) Satsop River upstream 6.3 mi (10.1 km) to the confluence with West Fork Satsop River; West Fork Satsop River upstream 37.4 mi (60.2 km) to a natural barrier; and Canyon River upstream 13.1 mi (21.1 km) to a natural barrier. Although there are no recent observations of bull trout in the Satsop River, historically bull trout were regularly observed in the Satsop River, West Fork Satsop River and Canyon River (Keizer 1990; Jay Hunter, WDFW, in litt. 2001). These rivers are accessible from marine waters, and provide, at least seasonally, important foraging and overwintering habitat. Water temperatures are suitable for all bull trout life-history stages (L. Ogg, in litt. 2003).

**Unit 28: Puget Sound**

The Puget Sound Unit includes approximately 1,526 mi (2,455 km) of streams, and 44,222 ac (17,896 ha) of lakes, and 566 mi (911 km) of marine shoreline proposed for designation as critical habitat within the Puget Sound Recovery Unit. The unit covers an area of approximately 8.4 million ac (3.4 million ha) and is bordered by the Cascade crest to the East, Puget Sound to the West, the Lower Columbia and Olympic Peninsula Recovery Units to the South, and the United States-Canada border to the North. It extends across Whatcom, Skagit, Snohomish, King, Pierce, Thurston, and Island Counties. The major river basins initiate from the Cascade Mountain Range, and flow west discharging into Puget Sound, with the exception of the Chilliwack River system, which flows northwest into British Columbia discharging into the Fraser River. The Puget Sound Unit is

divided into eight CHSUs. The Draft Recovery Plan (Service 2004) identifies the need to maintain the 57 local populations and five potential local populations, and the freshwater and marine FMO habitats within these CHSUs as they are essential for the recovered distribution, abundance, and productivity of bull trout, especially the amphidromous life-history form. The State of Washington has assigned all streams a stream catalog number. If an unnamed stream, or stream with no official U.S. Geological Survey name, is proposed for critical habitat with the Puget Sound Unit, the stream catalog number is provided for reference.

*(i) Chilliwack CHSU*

The Chilliwack River system is a transboundary watershed flowing northwest into British Columbia, Canada, where it discharges into the Fraser River. The Chilliwack CHSU includes only those portions of this transboundary system that are within the United States. The Draft Bull Trout Recovery Plan (Service 2004) describes the Chilliwack core area as including portions of the Sumas River and Chilliwack River and its tributaries contained within the United States. A total of approximately 29 mi (47 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 100 percent Federal.

(A) The Chilliwack River from the U.S.-Canada border upstream approximately 11.7 mi (18.8 km) to the limit of accessible headwater habitat at the confluence with Copper Creek; and the following tributaries provide spawning and rearing habitat for the local population upstream from their mouths to natural barriers: Bear Creek 0.3 mi (0.5 km); Indian Creek 1.0 mi (1.6 km); Brush Creek 0.3 mi (0.5 km); and Easy Creek 0.5 mi (0.8 km). Spawning adults have been observed in the Chilliwack River, and juveniles have been observed in Bear, Brush, Indian, and Easy Creeks (Reed Glesne, in litt. 1993; Doyle *et al.* 2000).

Little Chiliwack River upstream approximately 4.0 mi (6.4 km) to its headwaters, and provide spawning and rearing habitat for migratory bull trout in the local population (Service 2004). Juvenile bull trout were observed in the mid-1970s during the last survey of this stream (R. Glesne, in litt. 1993). This stream is within North Cascades National Park, so habitat remains essentially in pristine condition.

(B) Depot Creek from the U.S.-Canada border upstream 1.7 mi (2.7 km) to the limit of accessible headwater habitat provides spawning and rearing habitat for migratory bull trout in the local population (Service 2004). Bull trout spawning and rearing has been recorded within stream reaches in British Columbia, with accessible habitat extending to the border (M.A. Whelen and Associates and The Steelhead Society Habitat Restoration Corporation (TSSHRC) 1996). No surveys have been conducted in accessible stream reaches located within the United States upstream from the border.

(C) Silesia Creek from the U.S.-Canada border upstream approximately 9.5 mi (15.3 km) to the limit of accessible headwater habitat provides spawning and rearing habitat for migratory bull trout in the local population (Service 2004). Bull trout spawning and rearing has been recorded within stream reaches in British Columbia, with accessible habitat extending to the border (M.A. Whelen and Associates and TSSHRC 1996). No surveys have been conducted in accessible stream reaches located within the United States upstream from the border.

*(ii) Nooksack CHSU*

The Nooksack CHSU is located on the western slopes of the Cascade Mountains. The Nooksack River system flows west from the Cascade Mountain Range towards Puget Sound, discharging into Bellingham Bay. A total of approximately 187 mi (301 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is approximately 22 percent Federal, 11 percent State, less than 1 percent Tribal, and 67 percent private.

(A) The Nooksack River from its mouth at Puget Sound upstream approximately 39.6 mi (63.7 km) to the confluence of the North and Middle Forks of the Nooksack River, including associated sloughs, provides foraging and overwintering habitat, as well as an essential migratory corridor for amphidromous bull trout. Bull trout have been documented throughout the mainstem Nooksack River (WDFW 1998; Ned Currence, Lummi Nation, in litt. 2003; Treva Coe, Nooksack Tribe, in litt. 2003). Its tributary, Smith Creek, from its mouth upstream 2.7 mi (4.3 km) to the mouth of McCauley Creek provides FMO habitat. Subadult bull trout have been captured in Smith Creek.

(B) North Fork Nooksack River from its confluence with the Middle Fork Nooksack River upstream approximately 24.6 mi (39.6 km) to Nooksack Falls provides spawning and rearing habitat upstream of its confluence with Canyon Creek, and combined rearing and FMO habitat in its reaches downstream of Canyon Creek (WDFW 1998; Darren Sahlfeld, pers. comm. 2003; Ned Currence, Nooksack Tribe, in litt. 2003). Racehorse Creek upstream 1.1 mi (1.8 km) to a falls; and Kendall Creek upstream 2.7 mi (4.3 km) to the outlet of a wetland provide accessible FMO habitat. Bull trout have been documented in both Racehorse and Kendall Creeks.

The following tributaries provide accessible spawning and rearing habitat for the Lower North Fork Nooksack River and Canyon Creek local populations, from their mouths upstream to a natural barrier: Maple Creek 1.4 mi (2.2 km); Boulder Creek 1.3 mi (2.1 km); unnamed tributary (stream catalog #0425) 0.5 mi (0.8 km); McDonald Creek (stream catalog #0435) 0.9 mi (1.4 km); Wildcat Creek 1.0 mi (1.6 km); and Canyon Creek approximately 3.1 mi (5.0 km) to barrier falls. Bull trout have been documented in Maple, Boulder, McDonald, Wildcat, and Canyon Creeks.

The following tributaries provide spawning and rearing habitat for the Middle North Fork Nooksack River local population, from their mouths upstream to a natural barrier: Hedrick Creek 0.8 mi (1.3 km); Cornell Creek 1.0 mi (1.6 km); Gallop Creek 0.9 mi (1.4 km), and its tributary, Son of Gallop 0.4 mi (0.6 km). Bull trout have been documented in Hedrick, Gallop, and Son of Gallop Creeks. Cornell Creek is accessible from a known occupied stream, with historic use reported by Norgore and Anderson (1921). No recent surveys have been conducted to specifically detect bull trout.

(C) The following tributaries provide spawning and rearing habitat for the Glacier Creek local population, from their mouths upstream to natural barriers or confluence: Glacier Creek approximately 6.9 mi (11.1 km) to the barrier at the confluence with Grouse Creek, and its tributaries, Little Creek approximately 0.7 mi (1.1 km); Davis Creek 0.2 mi (0.3 km); Thompson Creek 2.1 mi (3.4 km); Deep Creek 0.2 mi (0.3 km); unnamed tributary (stream catalog #0476) 0.3 mi (0.5 km); Coal Creek (upper) 0.2 mi (0.3 km); and Falls Creek 0.8 mi (1.3 km) to the confluence with Lookout Creek. Bull trout have been documented in Glacier, Little, Davis, Thompson, Coal, and Falls Creeks (Doug Huddle, in litt. 1995; WDFW and USFS, in litt. 2002). Deep Creek and stream #0476 are also identified as occupied by bull trout (WDFW 2002).

(D) The following tributaries provide spawning and rearing habitat for the Upper North Fork Nooksack River local population, from their mouths upstream to natural barriers: Boyd Creek 0.4 mi (0.6 km); Cascade Creek 0.1 mi (0.2 km);

Deerhorn Creek 0.2 mi (0.3 km); Ditch Creek 0.2 mi (0.3 km); Chainup Creek 0.3 mi (0.5 km); Dead Horse Creek 0.3 mi (0.5 km); Powerhouse Creek 0.3 mi (0.5 km); and Wells Creek 1.5 mi (2.4 km). Bull trout have been documented in Boyd, Cascade, Deerhorn, Ditch, Chainup, Dead Horse, Powerhouse, and Wells Creeks (D. Huddle, in litt. 1995; WDFW and USFS, in litt. 2002).

(E) Middle Fork Nooksack River from the confluence with the North Fork Nooksack River upstream approximately 17.7 mi (28.5 km) to a gradient barrier near its confluence with Ridley Creek provides spawning and rearing habitat upstream of Box Canyon (STS Heislers Creek Hydro 1994; James Lee, Whatcom County River and Flood Section Engineer, pers. comm. 2003), and combined spawning, rearing, and FMO habitat in its reaches downstream of Box Canyon (WDFW 1998; Paul Schlenger, Anchor Environmental, LLC, in litt. 2002). The following tributaries all provide combined spawning, rearing, and FMO habitat for the Lower Middle Fork Nooksack River local population, from their mouths upstream to natural barriers: Canyon Creek (Canyon Lake Creek) 1.9 mi (3.1 km); unnamed tributary (stream catalog #0347) 1.5 mi (2.4 km); unnamed tributary (stream catalog #0349) 0.9 mi (1.4 km) to its confluence with unnamed tributary; Porter Creek 0.9 mi (1.4 km); and Peat Bog Creek (stream catalog #0352) 1.0 mi (1.6 km) to a lower lake outlet.

The following tributaries all provide spawning and rearing habitat for the Upper Middle Fork Nooksack River local population, from their mouths upstream to natural barriers: Clearwater Creek 4.5 mi (7.2 km); Galbraith Creek 0.4 mi (0.6 km); Sister Creek 1.0 mi (1.6 km); Warm Creek 0.5 mi (0.8 km); Wallace Creek 0.5 mi (0.8 km); Green Creek 0.5 mi (0.8 km); and Rankin Creek 0.6 mi (1.0 km). Bull trout have been documented in Clearwater and Warm Creeks (Jim Johnston, WDFW, in litt. 1999; FERC 2002). The other identified streams are accessible from a known occupied stream, with historic use reported in Galbraith Creek (Pautzke 1943), and Sister and Rankin Creeks (Norgore and Anderson 1921), and Wallace Creek (C. Kraemer, pers. comm. 2002). No recent surveys have been conducted to specifically detect bull trout in these streams. Once improved fish passage at Bellingham Diversion (just upstream of Box Canyon) is completed, it is expected that amphidromous bull trout will be restored to the upper Middle Fork Nooksack River. As a result, the prey base will increase as salmon re-colonize the river, and bull trout abundance will increase, resulting in greater use of accessible tributaries.

(F) South Fork Nooksack River from the confluence with the mainstem Nooksack River upstream approximately 40.0 (64.4 km) to headwaters provides spawning and rearing habitat upstream of Wanlick Creek (WDFW and USFS, in litt. 2002; Stan Zyskowski, National Park Service, pers. comm. 2003), and combined spawning, rearing, and FMO habitat in its reaches downstream of Wanlick Creek (WDFW, in litt. 1994). The following tributaries provide spawning and rearing habitat, and additional FMO habitat for the Lower and Upper South Fork Nooksack River local populations, from their mouths upstream to natural barriers: Hutchinson Creek 6.0 mi (9.6 km); Skookum Creek 2.2 mi (3.5 km); Cavanaugh Creek 0.6 mi (1.0 km) barrier; Deer Creek 0.6 mi (1.0 km); Howard Creek 0.8 mi (1.3 km); Bear Lake Outlet (stream catalog #0317) 0.2 mi (0.3 km); Bell Creek 0.3 mi (0.5 km); and Elbow Creek/Lake Doreen Outlet (stream catalog # 0331) 1.7 mi (2.7 km) to headwaters. Bull trout have been documented in Hutchinson, Skookum, Cavanaugh, Deer, and Bear Lake Outlet Creeks. Howard Creek is also identified as occupied by bull trout (WDFW 2002). The other identified streams are accessible from a known occupied stream, with historic use reported in Bell Creek and Elbow Creek/Lake Doreen Outlet (Norgore and Anderson 1921), and Edfro Creek (C. Kraemer, pers. comm. 2002). No recent surveys have been conducted to specifically detect bull trout, but water temperature data indicate habitat is optimal for spawning and rearing in most of these streams (Watershed Sciences LLC 2002).

(G) Wanlick Creek from the mouth upstream 4.5 mi (7.2 km) to the headwaters, and its tributaries; Monument Creek (stream catalog #0324) upstream 0.5 mi (0.8 km) to a natural barrier; and Loomis Creek upstream 1.0 mi (1.6 km) to its headwaters provide spawning and rearing habitat for the local population. Bull trout have been documented in Wanlick, Monument, and Loomis Creeks (Ecotrust, in litt. 2002; S. Zyskowski, pers comm. 2003).

*(iii) Lower Skagit CHSU*

The Lower Skagit CHSU is located on the western slopes of the Cascade Mountains. The Skagit River system initiates from British Columbia, Canada, and flows southwest into Ross Lake, a transboundary reservoir formed by Ross Dam. Immediately below Ross Dam is Diablo Lake, another reservoir formed behind Diablo Dam. The Skagit River flows through one more reservoir (Gorge Lake) formed by Gorge Dam, and then continues west discharging into Skagit Bay of Puget Sound. The Lower Skagit CHSU includes the mainstem, its major forks, lakes/reservoirs, and associated tributaries downstream of Diablo Dam. A total of approximately 414 mi (666 km) of stream and 7,024 ac (2,842 ha) of lake surface area in three lakes is proposed as critical habitat. Land ownership along the stream reaches and lakes proposed for critical habitat is 49 percent Federal, 4 percent State, and 47 percent private.

(A) The Skagit River from its mouth at Puget Sound upstream approximately 88.4 mi (142.2 km) to Diablo Dam including the North (6.4 mi (10.3 km)) and South (7.7 mi (12.4 km)) Forks of the Skagit River and associated sloughs connected to these forks and Puget Sound (*e.g.*, Freshwater Slough, Brandstedt Slough, Dry Slough) provide foraging and overwintering habitat, as well as an essential migratory corridor for amphidromous bull trout. Rearing habitat occurs upstream of the confluence with the Sauk River. The following tributaries provide FMO habitat outside of local populations for the Lower Skagit core area, from their mouths upstream to a natural or manmade barrier, or confluence: Nookachamps Creek 11.9 mi (19.1 km) to the confluence of its unnamed tributary (stream catalog #0261); Day Creek 6.7 mi (10.8 km); Jones Creek 1.6 mi (2.6 km); Alder Creek 2.4 mi (3.9 km) to the confluence of its unnamed tributary (stream catalog #0360); Grandy Creek 5.7 mi (9.2 km) to the outlet of Grandy Lake; Finney Creek 12.1 mi (19.5 km); Jackman Creek 1.4 mi (2.2 km); Rocky Creek approximately 0.7 mi (1.1 km); Corkindale Creek 1.0 mi (1.6 km); Diobsud Creek 1.8 mi (2.9 km); and Alma Creek 0.9 mi (1.4 km). The mainstem Skagit River and mouths of listed and unlisted tributaries also provide some post-dispersal rearing habitat. Nookachamps, Day, Jones, Alder, Grandy, Finney, Jackman, Rocky, Corkindale, Diobsud, and Alma Creeks are known to be occupied by bull trout (WDFW 2002).

Goodell Creek from the mouth upstream approximately 9.9 mi (15.9 km) to a gradient barrier provides spawning and rearing habitat for the local population. Newhalem Creek upstream 0.6 mi (1.0 km) to a natural barrier provides spawning and rearing habitat for the local population. Gorge Lake (220 ac (89 ha)) upstream of Gorge Dam provides FMO habitat for the Stetattle Creek potential local population of adfluvial bull trout. This lake may also provide some juvenile rearing habitat, especially near the

mouth of the lake's spawning tributaries. Stetattle Creek from the mouth upstream approximately 0.8 mi (1.3 km) to a natural barrier provides FMO habitat and spawning and rearing habitat for the potential local population.

(B) Baker River from the confluence with the Skagit River upstream approximately 11.6 mi (18.7 km) to a natural barrier, provides combined spawning and rearing, and FMO habitat upstream of its confluence with Baker Lake, and FMO habitat in its reaches downstream of Baker Lake. Lake Shannon (2,057 ac (832 ha)) and its associated arms provide FMO habitat, and Baker Lake (4,747 ac (1,921 ha)) and its associated arms currently provide FMO habitat for the Baker Lake local population of adfluvial bull trout. Baker Lake may also provide some juvenile rearing habitat, especially near the mouth of the lake's spawning tributaries. Sulphur Creek upstream 1.1 mi (1.8 km) to a natural barrier provides the available spawning and rearing habitat for the Sulphur Creek (Lake Shannon) potential local population. The following tributaries provide spawning and rearing habitat for the Baker Lake local population, from their mouths or confluence upstream to a natural barrier: Park Creek from its confluence with Baker Lake 1.5 mi (2.4 km); Swift Creek from its confluence with Baker Lake 1.0 mi (1.6 km); Lake Creek 0.5 mi (0.8 km); Sulphide Creek 1.3 mi (2.1 km); Crystal Creek 0.5 mi (0.8 km); Bald Eagle Creek 0.8 mi (1.3 km); and Pass Creek 0.4 mi (0.6 km). Bull trout have been documented in all these streams, and in Baker Lake and Lake Shannon (R. Glesne, in litt. 1993; WDFW 1998, 2002; R2 Resource Consultants 2003; Emily Greenberg and Marcus Appy, R2 Resource Consultants, Inc., in litt. 2003; S. Zyskowski, pers. comm. 2003).

(C) Sauk River from its confluence with the Skagit River upstream approximately 38.9 mi (62.6 km) to the confluence with the North and South Forks of Sauk River provides combined spawning, rearing, and FMO habitat (WDFW *et al.* 1997) for local populations in the Sauk River system. Dan Creek upstream 2.9 mi (4.7 km) to a natural barrier provides rearing and FMO habitat. Falls Creek upstream 0.9 mi (1.4 km) to a natural barrier; and North Fork Sauk River from the confluence with the South Fork Sauk River upstream 1.1 mi (1.8 km) to North Fork Falls provide spawning and rearing habitat for the Forks of Sauk River local population. Dan Creek, Falls Creek and North Fork Sauk River are known to be occupied by bull trout (WDFW *et al.* 1997; WDFW 2002).

(D) Suiattle River from its confluence with the Sauk River upstream approximately 37.8 (60.8 km) to a natural barrier provides spawning and rearing habitat upstream of river mile 30 (lower extent of Upper Suiattle River local population), and combined spawning, rearing, and FMO habitat in its reaches downstream of river mile 30 (WDFW 1998). Big Creek upstream 0.6 mi (1.0 km) to a natural barrier provides combined rearing and foraging habitat. The following tributaries provide spawning and rearing habitat for local bull trout populations, from their mouths upstream to a natural barrier, headwater, or confluence: Tenas Creek 1.5 mi (2.4 km); Straight Creek 1.4 mi (2.2 km), and its tributary Black Creek 1.0 mi (1.6 km); Buck Creek 7.6 mi (12.2 km) to its headwaters, and its tributary Horse Creek 1.6 mi (2.6 km) to the mouth of its unnamed tributary (stream catalog #0839); Lime Creek approximately 2.6 mi (4.2 km) to the mouth of Meadow Creek; Downey Creek 6.6 mi (10.6 km), and its tributary Goat Creek 0.5 mi (0.8 km); Sulphur Creek 6.0 mi (9.6 km); Milk Creek 3.2 mi (5.1 km); Canyon Creek 0.8 mi (1.3 km); Vista Creek 1.2 mi (1.9 km); Miners Creek 0.5 mi (0.8 km) to the mouth of an unnamed tributary (stream catalog #1049); Dusty Creek 3.2 mi (5.1 km) to accessible headwaters; and Small Creek approximately 1.5 mi (2.4 km) to accessible headwaters. All these streams are part of the current bull trout distribution (WDFW 2002).

(E) White Chuck River from the confluence with the Sauk River upstream approximately 20.6 mi (33.1 km) to a natural barrier provides spawning and rearing habitat for the Lower White Chuck River and Upper White Chuck River local populations (WDFW 2002). The following tributaries provide spawning and rearing habitat for the Lower White Chuck River local population, from their mouths upstream to a natural barrier: Black Oak Creek 0.6 mi (1.0 km); unnamed tributary (stream catalog #1119) 0.3 mi (0.5 km); Crystal Creek 0.2 mi (0.3 km); Pugh Creek 0.6 mi (1.0 km); Owl Creek 0.6 mi (1.0 km); and Camp Creek 1.0 mi (1.6 km). The following tributaries provide spawning and rearing habitat for the Upper White Chuck River local population, from their mouths upstream: Fire Creek 0.6 mi (1.0 km); Fourteenmile Creek 1.2 mi (1.9 km) to its headwaters; Pumice Creek 4.4 mi (7.1 km) to its headwaters; and Glacier Creek 2.0 mi (3.2 km) to accessible headwaters. All these streams are part of the current bull trout distribution (WDFW *et al.* 1997; WDFW 2002).

(F) South Fork Sauk River from the confluence with the North Fork Sauk River upstream 10.9 mi (17.5 km) to its confluence with Glacier Creek and Seventysix Gulch provides spawning and rearing habitat for the Forks of Sauk River local population downstream of Monte Cristo Lake, and for the Upper South Fork Sauk River local population upstream from Monte Cristo Lake. Merry Brook Creek upstream 0.2 mi (0.3 km) to a natural barrier; Bedal Creek upstream 3.2 mi (5.1 km) to its headwaters; Chocwick Creek upstream 1.6 mi (2.6 km) to its headwaters; and Elliot Creek upstream 3.3 mi (5.3 km) to its confluence with its unnamed tributary (stream catalog #1216) draining Ida Lake provide spawning and rearing habitat for the Forks of Sauk River local population. The following tributaries provide spawning and rearing habitat for the Upper South Fork Sauk River local population, from their mouths or confluence upstream to a natural barrier: Weden Creek 1.3 mi (2.1 km); Seventysix Gulch from the confluence with Glacier Creek 1.0 mi (1.6 km); and Glacier Creek from the confluence with Seventysix Gulch 1.3 mi (2.1 km). All these streams are part of the current bull trout distribution (WDFW *et al.* 1997; WDFW 2002).

(G) Illabot Creek from its confluence with the Skagit River upstream approximately 13.7 (22.0 km) to accessible headwaters, and its tributaries Arrow Creek upstream 1.3 mi (2.1 km) to accessible headwaters; and Otter Creek upstream 0.3 mi (0.5 km) to a natural barrier provide spawning and rearing habitat for the local population.

(H) Cascade River from its confluence with the Skagit River upstream approximately 18.2 mi (29.3 km) to the confluence of the North and South Forks of the Cascade River provides spawning and rearing habitat upstream of river mile 16 for the Cascade River local population, and combined rearing, foraging, and migration habitat below river mile 16 (approximately mouth of Hard Creek). Jordan Creek upstream 0.5 mi (0.8 km) to a natural barrier; Boulder Creek upstream 0.4 mi (0.6 km) to a natural barrier; and Marble Creek upstream 1.6 mi (2.6 km) to a natural barrier, provide combined rearing, foraging, and migration habitat. Kindy Creek upstream 2.3 mi (3.7 km) to its confluence with Mutchler Creek, and Sonny Boy Creek upstream 2.8 mi (4.5 km) to the extent of accessible headwater habitat provide spawning and rearing habitat for the Cascade River local population. South Fork Cascade River from the confluence with the North Fork Cascade River, upstream 6.3 mi (10.1 km) to the upper extent of

accessible headwater habitat provides spawning and rearing habitat for the South Fork Cascade River local population.

(I) Bacon Creek from its confluence with the Skagit River upstream approximately 8.3 mi (13.3 km) to a natural barrier, and its tributary East Fork Bacon Creek from the confluence with Bacon Creek upstream 4.0 mi (6.4 km) to the extent of accessible habitat provide spawning and rearing habitat for the local population.

*(iv) Upper Skagit CHSU*

The Upper Skagit CHSU is located on the upper western slopes of the Cascade Mountains. The Skagit River system initiates from British Columbia, Canada, and flows southwest into Ross Lake, a transboundary reservoir formed by Ross Dam. Immediately below Ross Dam is Diablo Lake, another reservoir formed behind Diablo Dam. These reservoirs provide foraging, migration, and overwintering habitat for adfluvial populations. A number of smaller tributaries feed into Ross Lake providing the spawning and rearing habitat for that portion of the population within the United States, whereas the upper Skagit River and its tributaries provide the spawning and rearing habitat in Canada. The Upper Skagit CHSU includes Diablo Lake and its tributaries, and only those portions of Ross Lake and its associated tributaries within the United States. A total of approximately 84 mi (135 km) of stream and 12,276 ac (4,968 ha) of lake surface area in two lakes is proposed as critical habitat. Land ownership along the stream reaches and lakes proposed for critical habitat is 84 percent Federal and 16 percent private.

(A) Diablo Lake (802 ac (325 ha)) and Ross Lake (11,474 ac (4,643 ha)) provide foraging, migration, and overwintering habitat for adfluvial bull trout in the Upper Skagit core area. Deer Creek from Diablo Lake upstream 0.6 mi (1.0 km) to a gradient change would provide spawning and rearing habitat for the potential local population established in Deer Creek. Bull trout were observed spawning in this stream in 1976 (R. Gkesne, in litt. 12993). Roland Creek from Ross Lake upstream 1.5 mi (2.4 km) to gradient barrier provides additional foraging and subadult rearing habitat; Pierce Creek upstream 0.6 mi (1.0 km) to a natural barrier provides spawning and rearing habitat for the Pierce Creek local population; Devil Creek from Ross Lake upstream 1.5 mi (2.4 km) to a natural barrier provides additional foraging and subadult rearing habitat; Big Beaver Creek from Ross Lake upstream 11.1 mi (17.9 km) to its confluence with Luna Creek (location of gradient barrier); Little Beaver Creek from Ross Lake upstream approximately 12.9 mi (20.8 km) to a gradient barrier just upstream of the confluence with Pass Creek; and Silver Creek from Ross Lake upstream approximately 4.4 mi (7.1 km) to gradient barrier provide spawning and rearing habitat for the Big Beaver Creek, Little Beaver Creek, and Silver Creek local populations, respectively.

(B) Thunder Creek from Diablo Lake upstream approximately 9.9 mi (15.9 km) to confluence with West Fork Thunder Creek provides spawning and rearing habitat for the Thunder Creek local population. Thunder Creek is part of the current bull trout distribution (WDFW 2002).

(C) Ruby Creek from Ross Lake upstream 4.2 mi (6.8 km) to the confluence of Granite and Canyon Creeks, and its tributary Granite Creek upstream 2.4 mi (3.9 km) to a gradient barrier provide part of the spawning and rearing habitat for the local population. Panther Creek upstream approximately 7.0 mi (11.3 km) to its confluence with Gabriel Creek (location of gradient barrier) provides spawning and rearing habitat for the Ruby Creek local population.

(D) Canyon Creek upstream 9.0 mi (14.5 km) to a gradient barrier located approximately 1.0 mi (1.6 km) above the confluence with North Fork Canyon Creek, and its tributary, Slate Creek upstream 0.5 mi (0.8 km) to a gradient barrier, provide part of the spawning and rearing habitat for the Ruby Creek local population. Bull trout have been documented in Canyon and Slate Creeks.

(E) Lightning Creek from Ross Lake upstream 11.0 mi (17.7 km) to the United States-Canadian border, and its tributary, Three Fools Creek, upstream 6.3 mi (10.1 km) to the confluence of Castle Creek; and Trouble Creek forks (location of a gradient barrier), provide spawning and rearing habitat for the local population. Bull trout have been documented in Lightning and Three Fools Creeks.

*(v) Stillaguamish CHSU*

The Stillaguamish CHSU is located on the western slopes of the Cascade Mountains and includes the mainstem Stillaguamish River and its two major forks, the North and South Forks, and their associated tributaries. The Stillaguamish River system flows west from the Cascade Mountain Range towards Puget Sound, discharging into Port Susan Bay at the north end of Camano Island. A total of approximately 181 mi (291 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is approximately 20 percent Federal, 11 percent State, and 69 percent private.

(A) The Stillaguamish River from its mouth at Puget Sound (including South (1.1 mi (1.8 km)) and West (1.2 mi (1.9 km)) Passes) upstream approximately 22.9 mi (35.8 km) through Hat Slough (2.4 mi (3.9 km)) to the confluence of the North and South Forks and its associated sloughs provides foraging and overwintering habitat, and an essential migratory corridor for amphidromous bull trout.

(B) North Fork Stillaguamish River from its confluence with the South Fork Stillaguamish River upstream approximately 37.7 mi (60.7 km) to a natural barrier provide rearing, foraging, and overwintering habitat for the North Fork Stillaguamish local population downstream from Boulder River, and spawning and rearing habitat for that population upstream of Boulder River. It also provides an essential migratory corridor for amphidromous bull trout. Boulder River 5.1 mi (8.2 km) to a natural barrier provides spawning and rearing habitat for the North Fork Stillaguamish River local population. Squire Creek from its mouth upstream 7.9 mi (12.7 km) provides rearing, foraging, and migration habitat, and potentially spawning habitat. Bull trout have been documented in the North Fork Stillaguamish River, Boulder River, and Squire Creek (WDFW 1998; Pete Castle, WDFW, pers. comm. 2003; George Pess, NOAA-Fisheries, in litt. 2003).

(C) Deer Creek from the confluence with the North Fork Stillaguamish River upstream 18.7 mi (30.1 km) to natural barrier provides combined spawning, rearing, foraging, and migration habitat for the Deer Creek local population. Higgins Creek upstream 4.9 mi (7.9 km) to accessible headwaters provides spawning and rearing habitat for the local population. Bull trout have been documented in Deer Creek and Higgins Creek.

(D) South Fork Stillaguamish River from its confluence with the North Fork Stillaguamish River upstream approximately 49.8 mi (80.1 km) to accessible headwaters provides spawning and rearing habitat upstream of Wiley Creek, and foraging and overwintering habitat downstream from Wiley Creek. It also provides an essential migratory corridor for amphidromous bull trout. Jim Creek upstream 12.2 mi (19.6 km) to Cub Creek provides some FMO habitat outside of local populations for the Stillaguamish core area. The South Fork

Stillaguamish River and mouths of listed and unlisted tributaries also provide some post-dispersal rearing habitat. The following tributaries provide spawning and rearing habitat for the local population, from their mouths upstream to a natural barrier: Big Four Creek 0.7 mi (1.1 km); Perry Creek 1.6 mi (2.6 km); Buck Creek 0.5 mi (0.8 km); and Palmer Creek 0.7 mi (1.1 km). Bull trout have been documented in Big Four, Perry, Buck, and Palmer Creeks (WDFW 2002; Karen Chang, USFS, in litt. 2003; Mark Downen, WDFW, in litt. 2003).

(E) Canyon Creek from the confluence with the South Fork Stillaguamish River upstream 11.1 mi (17.9 km) to confluence of North and South Forks provides FMO habitat below the unnamed tributary (stream catalog #0365), and spawning and rearing habitat for the South Fork Canyon Creek local population upstream of this unnamed tributary. North Fork Canyon Creek from the confluence with the South Fork upstream 0.5 mi (0.8 km) to a natural barrier; and South Fork Canyon Creek from the confluence with the North Fork upstream 1.6 mi (2.6 km) to a natural barrier just upstream of Saddle Creek provide spawning and rearing habitat for the local population. Bull trout have been documented in Canyon Creek, and the North and South Forks of Canyon Creek.

*(vi) Snohomish-Skykomish CHSU*

The Snohomish-Skykomish CHSU is located on the western slopes of the Cascade Mountains and includes the mainstem Snohomish River, the lower Snoqualmie River, mainstem Skykomish River and its two major forks, the North and South Forks, and associated tributaries accessible to bull trout. The Snohomish-Skykomish River system flows west from the Cascade Mountain Range towards Puget Sound, discharging into Possession Sound near the city of Everett. A total of approximately 254 mi (409 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 17 percent Federal, 8 percent State, less than 1 percent Tribal, and 75 percent private (including county and city ownership).

(A) The Snohomish River from its mouth at Puget Sound upstream 20.1 mi (32.3 km) to the confluence of the Skykomish and Snoqualmie Rivers, including Ebey Slough (13.2 mi (21.2 km)), Steamboat Slough (5.9 mi (9.5 km)), and Union Slough (4.9 mi (7.9 km)), provide foraging and overwintering habitat, and an essential migratory corridor for amphidromous bull trout. Pilchuck River upstream 35.5 mi (57.1 km) to a natural barrier; provides FMO habitat in the lower reaches of the Snohomish River. Bull trout have been documented in the Snohomish and Pilchuck Rivers.

(B) Snoqualmie River from the mouth upstream approximately 39.3 mi (63.2 km) to Snoqualmie Falls; Tolt River upstream 8.4 mi (13.5 km) to confluence of North and South Forks of the Tolt River; North Fork Tolt River upstream 3.8 mi (6.1 km) to a natural barrier; and South Fork Tolt River upstream 8.1 mi (13.0 km) to a natural barrier provide FMO habitat for the Snohomish-Skykomish core area. Bull trout have been documented in all of these identified streams (KCDNR 2000).

(C) The following tributaries provide FMO habitat for the Snohomish-Skykomish core area upstream from their mouths or confluence: Skykomish River from its confluence with the Snohomish and Snoqualmie Rivers 29.0 mi (46.7 km) to the confluence of the North and South Forks; Sultan River 9.7 mi (15.6 km) to Everett Diversion Dam; Wallace River 8.9 mi (14.3 km) to Wallace Falls. The Skykomish River provides an essential migratory corridor for amphidromous bull trout. Bull trout have also been identified in the Sultan and Wallace Rivers

(D) The following tributaries provide spawning and rearing habitat for the North Fork Skykomish local population and extended rearing habitat for the Salmon Creek local population in the Snohomish-Skykomish core area, from their mouths upstream to a natural barrier or falls: North Fork Skykomish River approximately 19.0 mi (30.6 km) to a natural barrier falls located between Goblin and Quartz Creeks; Trout Creek 3.7 mi (5.9 km); West Cady Creek 0.7 mi (1.1 km); and Goblin Creek 0.4 mi (0.6 km). The North Fork Skykomish River also provides an essential migratory corridor for amphidromous bull trout. Salmon Creek upstream 2.5 mi (4.0 km) to a natural barrier, and South Fork Salmon Creek upstream 0.5 mi (0.8 km) to a natural barrier provide spawning and rearing habitat for the local population. Troublesome Creek upstream approximately 3.2 mi (5.1 km) to a natural barrier provides spawning and rearing habitat for the Troublesome Creek local population of resident bull trout upstream of the amphidromous barrier at rmi 0.25 (0.4 km), and additional spawning and rearing habitat for the North Fork Skykomish River local population downstream of the amphidromous barrier. Bull trout have been documented in North Fork Skykomish River, Trout Creek, West Cady Creek, Goblin Creek, Salmon Creek, South Fork Salmon Creek, and Troublesome Creek (WDFW 1998).

(E) South Fork Skykomish River from its confluence upstream approximately 19.6 mi (31.5 km) to the confluence of the Tye and Foss Rivers provides FMO habitat in the South Fork Skykomish River system. The South Fork Skykomish River also provides an essential migratory corridor for amphidromous bull trout.

Beckler River upstream 12.2 mi (19.6 km) to a natural barrier provides spawning and rearing habitat for the South Fork Skykomish River local population. Bull trout recently have been documented spawning in the Beckler River (C. Kraemer, in litt. 2003b). It is expected that as amphidromous bull trout increase in abundance, greater use of these streams and other accessible tributaries to the South Fork Skykomish and Beckler Rivers will occur.

(F) Foss River upstream 4.3 mi (6.9 km) to the confluence of the East and West Forks of Foss River provides foraging and overwintering habitat and potentially rearing habitat for the South Fork Skykomish River local population. It also provides an essential migratory corridor for amphidromous bull trout. East Fork Foss River upstream 1.0 mi (1.6 km) to a natural barrier provides habitat for spawning and rearing for the South Fork Skykomish River local population. Bull trout have been documented in the East Fork Foss River (WDFW 1998). It is expected that as amphidromous bull trout increase in abundance, greater use of these streams and other accessible tributaries will occur.

*(vii) Chester Morse Lake CHSU*

The Chester Morse Lake CHSU is located in the upper Cedar River watershed above a natural migration barrier, Lower Cedar Falls. This is a municipal watershed, providing the major source of water for the City of Seattle and surrounding communities within King County. The Chester Morse Lake CHSU includes Chester Morse Lake and its major tributaries, the Cedar and Rex Rivers, and a number of their associated tributaries. It also includes several minor tributaries to Chester Morse Lake. A total of approximately 16 mi (26 km) of stream and 1,971 ac (798 ha) of lake surface area is proposed as critical habitat. Land ownership along the stream reaches and lake proposed for critical habitat is 100 percent private (consists primarily of city ownership).

(A) Chester Morse Lake (1,769 ac (716 ha)) includes Masonry Pool (202 ac (82 ha)) and the main lake. Chester Morse Lake provides the only FMO habitat for

the population of adfluvial bull trout in the core area (WDFW 1998). The lake shoreline also supports juvenile rearing, especially near the mouths of the spawning tributaries. Rack Creek from its confluence with Chester Morse Lake upstream 0.5 mi (0.8 km) to a natural barrier provides spawning and rearing habitat for the local population. Shotgun Creek from its confluence with Chester Morse Lake upstream 0.3 mi (0.5 km) to natural barrier provides spawning and rearing habitat for the potential local population. Bull trout have been documented in the lake and in both Rack and Shotgun Creeks (Dwayne Paige, Seattle Public Utilities, in litt. 2003).

(B) The following tributaries provide spawning and rearing habitat, from their mouths or confluence upstream to a natural barrier or confluence: Cedar River from its confluence with Chester Morse Lake 8.0 mi (12.9 km) to its confluence with the North and South Forks of the Cedar River, including slough and side channel habitat in the lower river; unnamed tributary (stream catalog #0439) 0.1 mi (0.2 km); North Fork Cedar River from the confluence with the South Fork 0.7 mi (1.1 km); and South Fork Cedar River from the confluence with the North Fork 0.8 mi (1.3 km) to a manmade barrier. Bull trout have been documented in all these streams (D. Paige, in litt. 2003).

(C) Rex River from its confluence with Chester Morse Lake upstream 3.1 mi (5.0 km) to a natural barrier, and its tributaries, Cabin Creek upstream 0.8 mi (1.3 km) to a natural barrier; and Lindsay Creek upstream 0.3 mi (0.5 km) to a natural barrier provide spawning and rearing habitat for the local population in the Chester Morse Lake core area. Boulder Creek from its confluence with the Rex River upstream 1.5 mi (2.4 km) to a natural barrier provides spawning and rearing habitat for the local population. Bull trout have been documented in all these streams (D. Paige, in litt. 2003).

*(viii) Puyallup CHSU*

The Puyallup CHSU is located on the western slopes of the Cascade Mountains. The Puyallup River system is fed primarily by the glaciers of Mount Rainier, and flows west discharging into Puget Sound at Commencement Bay adjacent to the city of Tacoma. The Puyallup CHSU includes the Puyallup River and its two major tributary systems, the White River and Carbon River, and their associated tributaries accessible to bull trout. A total of approximately 235 mi (378 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 33 percent Federal, 2 percent State, 5 percent Tribal, and 60 percent private.

(A) The Puyallup River from its mouth at Puget Sound upstream approximately 46.2 mi (74.3 km) to the confluence of the North and South Puyallup Rivers provides FMO habitat for the Puyallup core area. It also provides an essential migratory corridor for amphidromous bull trout. The Puyallup River tributary, Niesson Creek upstream 2.4 mi (3.9 km) to a natural barrier, provides FMO habitat for the lower Puyallup River. The following upper Puyallup River tributaries provide spawning and rearing habitat for the Upper Puyallup and Mowich Rivers local population, from their mouths upstream: Deer Creek 2.8 mi (4.5 km) to a natural barrier; Swift Creek 0.6 mi (1.0 km) to a natural barrier; South Puyallup River from the confluence with the North Puyallup River 7.7 mi (12.4 km) to the headwaters; and its tributary, St. Andrews Creek, 3.1 mi (5.0 km) to the headwaters. Bull trout have been documented in all these streams (Barbara Samora, Mount Rainier National Park, in litt. 2001; WDFW 2002).

(B) Mowich River from its confluence with the Puyallup River 7.5 mi (12.1 km) to the confluence of the North and South Mowich Rivers; South Mowich River 4.1 mi (6.6 km) to the headwaters provide spawning and rearing habitat for the Upper Puyallup and Mowich Rivers local population. Bull trout have been documented in the Mowich and South Fork Mowich Rivers (B. Samora, in litt. 2001).

(C) Carbon River from the confluence with the Puyallup River upstream approximately 30.4 mi (48.9 km) to accessible headwaters near the mouth of Spukwush Creek provides spawning and rearing habitat for the Carbon River local population upstream of river mile 15 (top of canyon reach near Fairfax Bridge), and FMO habitat downstream of river mile 15. The Carbon River provides an essential migratory corridor for amphidromous bull trout. The following tributaries provide spawning and rearing habitat for the local population from their mouths upstream to a natural barrier or falls: Ranger Creek 1.0 mi (1.6 km) to Ranger Falls; Chenuis Creek 0.1 mi (0.2 km) to Chenuis Falls; and Ipsut Creek 0.7 mi (1.1 km) to Isput Falls. Bull trout have been documented in Ranger, Chenuis, and Isput Creeks (B. Samora, in litt. 1998; Marks *et al.* 2002).

(D) White River from its confluence with Puyallup River upstream 72.2 mi (116.2 km) to the mouth of Inter Fork provides FMO habitat downstream of the confluence with the Clearwater River, and combined rearing and FMO habitat, and potentially spawning habitat upstream of the confluence. The following tributaries provide spawning and rearing habitat for the White River local population from their mouths upstream to a natural barrier or headwaters: Huckleberry Creek 7.1 mi (11.4 km); Silver Springs (near Silver Creek) 0.2 mi (0.3 km); Crystal Creek 1.0 mi (1.6 km); Klickitat Creek 0.5 mi (0.8 km); unnamed tributary (stream catalog #0364) 0.8 mi (1.3 km); and Fryingpan Creek 3.8 mi (6.1 km) to accessible headwaters provide spawning and rearing habitat for the local population. Bull trout have been documented in Huckleberry Creek, Silver Springs, Crystal Creek, Klickitat Creek, stream #3064, and Fryingpan Creek (Eugene Stagner, Service, pers comm. 2003; MRMP, in litt. 2001; Marks *et al.* 2002).

Clearwater River from the confluence with the White River 6.5 mi (10.4 km) upstream to a natural barrier provides spawning and rearing habitat for the Clearwater River potential local population, and additional FMO habitat for the Puyallup core area. Bull trout have been documented in the lower Clearwater River (Travis Nelson, WDFW, in litt. 2003).

(E) The following tributaries provide spawning and rearing habitat for the Greenwater River local population, from theirs mouth or confluence upstream to a natural barrier: Greenwater River from the confluence with the White River 12.5 mi (20.1 km); Midnight Creek (stream catalog #0126) 1.4 mi (2.2 km); Slide Creek 0.7 mi (1.1 km); and Pyramid Creek 1.3 mi (2.1 km). Bull trout have been documented in the Greenwater River, Midnight, Slide, and Pyramid Creeks (USFS, in litt. 1990, in litt. 1991).

(F) The following tributaries provide spawning and rearing habitat for the West Fork White River local population from their mouths or confluence upstream to a natural barrier: West Fork White River from the confluence with the White River upstream 16.0 mi (25.7 km); Cripple Creek 0.8 mi (1.3 km); unnamed tributary (stream catalog #0217) 0.5 mi (0.8 km); unnamed tributary (stream catalog #0234) 0.5 mi (0.8 km); its unnamed tributary (stream catalog #0226) 0.4 mi (0.6 km); and Lodi Creek 1.8 mi (2.9 km) to Afi Falls. Bull trout have been documented in the West Fork White River, Cripple Creek, stream #0217, stream #0226, stream #0234, and Lodi Creek (USFS, in litt. 1982; B. Samora, in litt. 2002).

*(ix) Samish CHSU*

The Samish CHSU is located in the Puget Sound lowlands with its headwaters in the broad flat valley floor above Wickersham. The Samish River system flows southwest towards Puget Sound, discharging into Samish Bay. The Samish CHSU includes the Samish River, its major tributary, Friday Creek, and other associated tributaries. The amphidromous bull trout using this productive salmon system are likely from several core areas within Puget Sound (*e.g.*, Nooksack, Lower Skagit, Stillaguamish). A total of approximately 24 mi (39 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 100 percent private.

(A) The Samish River from the mouth at Puget Sound, upstream 23.8 mi (38.3 km) to an unnamed tributary (stream catalog #0079), provides FMO habitat for amphidromous bull trout outside of currently delineated core areas in the Puget Sound Recovery Unit. Bull trout have been documented in the Samish River since at least the 1970s (C. Kraemer, in litt. 2003c; Dean Toba, WDFW, pers. comm. 2003).

*(x) Lake Washington CHSU*

The Lake Washington CHSU lies within central Puget Sound. Lake Washington is connected to Puget Sound by the Lake Washington Ship Canal, which flows into Salmon Bay through the Ballard Locks system in Seattle. The Lake Washington CHSU includes Lake Washington, Cedar and Sammamish Rivers, and associated tributaries. It does not include the upper Cedar River basin above Cedar Falls. This productive salmon system supports bull trout foraging, migration, and overwintering habitat for amphidromous bull trout outside of currently designated core areas. The bull trout using this system are likely from several core areas within Puget Sound in close proximity to this system (*e.g.*, Stillaguamish, Snohomish-Skykomish) and perhaps from core areas further away. A total of approximately 22,951 ac (9,288 ha) of lake surface area is proposed as critical habitat. Land ownership around the lakes proposed for critical habitat is 1 percent Federal, 3 percent State, and 96 percent private (including county and city ownership).

(A) Lake Washington (21,915 ac (8,869 ha), including the Ship Canal and Lake Union (1,036 ac (419 ha)) between the Ballard Locks and Lake Washington, provide FMO habitat for amphidromous bull trout outside of currently delineated core areas in the Puget Sound Recovery Unit. Bull trout have been documented in various areas of Lake Washington and in the fish ladder at Ballard Locks (KCDNR 2000; Hans Berge, in litt. 2003).

*(xi) Lower Green CHSU*

The Lower Green CHSU includes the Duwamish and Green Rivers and associated tributaries below Tacoma's Headworks Diversion Dam. The Green River is a productive salmon system, initiating in the Cascade Mountains flowing west into Howard Hansen Reservoir. It is free flowing below the City of Tacoma's Headworks Diversion Dam (located approximately 4.5 mi (7.2 km) downstream of Howard Hansen Dam) eventually becoming the Duwamish River before discharging into Elliott Bay. This system supports foraging, migration, and overwintering habitat for amphidromous bull trout outside of currently designated core areas. The amphidromous bull trout using this system are likely from several core areas within Puget Sound in close proximity to this system (*e.g.*, Puyallup, Snohomish-Skykomish) and perhaps even from core areas further away. Historic accounts (Suckley and Cooper 1860) suggest that bull trout were much more abundant in the Green River and likely used this system for spawning and rearing in the past. A total of approximately 62 mi (100 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 18 percent State, and 82 percent private (including city ownership).

(A) Duwamish River from the mouth at Puget Sound (including the East and West Waterways) upstream 13.1 mi (21.1 km) to the Black River, and the Green River from the confluence of the Black River upstream 48.9 mi (78.7 km) to the City of Tacoma's Headworks Diversion Dam provides FMO habitat for amphidromous bull trout outside of currently delineated core areas in the Puget Sound Recovery Unit. Bull trout have been documented in both the Duwamish and Green Rivers (KCDNR 2000; Berge and Mavros 2001; Jim Shannon, Taylor Associates, Inc., in litt. 2001).

*(xii) Lower Nisqually CHSU*

The Lower Nisqually CHSU includes the Nisqually River and associated tributaries below La Grande Dam. The Nisqually River system, fed primarily by the glaciers of Mount Rainier, flows west to Alder Lake and through Alder and La Grande Dams before discharging into Puget Sound at the Nisqually River Delta at the Nisqually National Wildlife Refuge. The Nisqually River system supports foraging, migration, and overwintering habitat for amphidromous bull trout outside of currently designated core areas. The amphidromous bull trout currently observed in this system and those likely to use this system in the future, are believed to be from other core areas within Puget Sound (*e.g.*, Puyallup, Snohomish-Skykomish). A total of approximately 40 mi (64 km) of stream is proposed as critical habitat. Land ownership along the stream reaches proposed for critical habitat is 33 percent Federal, 13 percent Tribal, and 54 percent private.

(A) The Nisqually River from the mouth at Puget Sound upstream 40.1 mi (64.5 km) to La Grande Dam provides FMO habitat for amphidromous bull trout outside of currently delineated core areas in the Puget Sound Recovery Unit. Although bull trout are now rarely observed in the Nisqually River (WDFW 1998; John Barr, Nisqually Tribe, pers. comm. 2003), historic accounts (Suckley and Cooper 1860) suggest that bull trout were much more abundant and likely used this system for spawning and rearing in the past. It is expected that amphidromous bull trout use of the Nisqually River will increase significantly as bull trout populations recover in the Puyallup core area.

*(xiii) Puget Sound Marine CHSU*

The estuarine and marine waters of Puget Sound provide foraging and migration habitat for amphidromous bull trout outside of freshwater core areas. Amphidromous bull trout use nearshore habitat along the eastern shore of Puget Sound from the Canadian border south to the Nisqually River delta. Bull trout have also been documented using nearshore habitat of islands along this eastern shore, especially in the northern part of the sound. The extent of bull trout use along the western Puget Sound shoreline is not well known, but currently available information suggest it is used to a much lesser degree. The current distribution data for bull trout most likely under represents the amount of occupied marine nearshore habitat, due to the depressed status of some amphidromous bull trout populations, the seasonal and temporal variability in their migratory behavior, and perhaps most importantly, the difficulty of sampling for subadult and adult life stages in large estuarine and marine environments. The Puget Sound Marine CHSU includes the estuarine and nearshore areas along Puget Sound shorelines. A total of approximately 566 mi (911 km) of marine and estuarine shoreline is proposed as critical habitat. Land ownership along marine nearshore

proposed for critical habitat is 3 percent Federal, 6 percent State, 15 percent Tribal, and 76 percent private (including county and city ownership).

(A) The eastern shoreline of Puget Sound (north) (129.4 mi (208.2 km)), including associated bays and estuaries, and Swinomish Channel (6.5 mi (10.5 km)) from the Canadian border to Harbor Park (Fidalgo Island), and from Sares Head (Fidalgo Island) to Nisqually Head at the southern end of the Nisqually River Delta provide important marine foraging and migration habitat for amphidromous bull trout.

(B) The shoreline of Lummi Island (eastern shoreline from Village Point to Carter Point) (13.4 mi (21.6 km)), Portage Island (8.0 mi (12.9 km)), Guemes Island (eastern shoreline from Southeast Point to Clark Point) (6.1 mi (9.8 km)), Whidbey Island (eastern shoreline from north end of West Beach to Possession Point) (91.1 mi (146.6 km)), Hope Island (2.5 mi (4.0 km)), Goat Island (1.8 mi (2.9 km)), Ika Island (2.3 mi (3.7 km)), Gedney Island (4.2 mi (6.8 km)), and Vashon Island (southeastern shoreline from northeast Summerhurst to Neill Point) (16.3 mi (26.2 km)) provide marine foraging and migration habitat for amphidromous bull trout. Bull trout have been documented in nearshore areas around Lummi, Whidbey, and Ika Islands. The remaining identified island shorelines are presumed occupied based on their proximity to known occupied areas, use documented along similar shorelines, and forage fish availability.

**Unit 29: Saint Mary-Belly River**

We are proposing to designate critical habitat for bull trout in 17 identified stream segments and six lakes in the Saint Mary River CHSU in Montana, and an additional single stream in the Belly River CHSU. The Saint Mary River CHSU contains five core areas and eight local populations of bull trout, and the Belly River CHSU includes only one core area and a single local population in the headwaters of the North Fork Belly River.

Within the Saint Mary-Belly River Recovery Unit, the documented historical distribution of bull trout is nearly basin wide, with the exception of blocked headwater areas (natural barriers) that occur with frequency in this rugged terrain. Within the U.S. portion of the Saint Mary River drainage, most major streams and lakes are occupied by bull trout.

As a result of the extreme topography in the high peaks of the Belly River headwaters, major portions of Glacier National Park were historically fishless and bull trout occupancy in that drainage is currently confined to only a minor portion of the U.S. habitat.

The total stream distance proposed for designation as critical habitat in Montana is about 88 mi (142 km), and the lakes have a surface coverage of about 6,295 ac (2,548 ha). All areas proposed as critical habitat are currently considered regularly occupied by bull trout, based on recent historical records.

*(i) Saint Mary River CHSU*

The Saint Mary River CHSU includes the Saint Mary River drainage in northwest Montana in its entirety. The drainage originates along the east slopes of the Rocky Mountains, with most of the headwaters emanating from the peaks and glacial lakes of Glacier National Park. The Saint Mary River flows directly north into Canada, where it joins the Belly and Waterton River drainages to form the Oldman River. Eventually, the Saint Mary River waters flow into Hudson Bay via the South Saskatchewan River system. The entire U.S. portion of the Saint Mary River drainage is located in Glacier County, Montana.

Land ownership in this CHSU is primarily public land. Land ownership along the streams proposed for critical habitat designation is about evenly split between about 45 percent that are in Glacier National Park and about 44 percent that are in Blackfeet Tribal ownership. The remaining 10 percent is in private ownership.

(A) The entire mainstem of the Saint Mary River in the U.S. is proposed for designation as critical bull trout FMO habitat, from the U.S./Canada border 15.5 mi (24.9 km) upstream to Lower Saint Mary Lake, including the basins of Lower Saint Mary Lake (2,189 ac (886 ha)) and Saint Mary Lake (3,883 ac (1,571 ha)) to their high water marks, and also the 1.1 mi (1.8 km) portion of the Saint Mary River between the lakes. The 0.6 mi (1.0 km) reach of the Saint Mary River upstream of Saint Mary Lake to the base of Saint Mary Falls, provides spawning and rearing habitat for bull trout.

(B) Portions of the mainstem of Lee Creek (4.4 mi (7.1 km)), its tributary Jule Creek (2.6 mi (4.2 km)), and the Middle Fork Lee Creek (2.7 mi (4.3 km)) from the U.S./Canada border upstream to identified natural or man-caused fish passage barriers in their upper reaches provide spawning and rearing habitat for bull trout that migrate from Canada.

(C) Kennedy Creek (13.7 mi (22.0 km)), from its confluence with the Saint Mary River to a natural barrier at the outlet of Poia Lake provides rearing habitat, and is one of two primary spawning streams documented within the basin.

(D) The lower 8.2 mi (13.2 km) of Otatso Creek, from its junction with Kennedy Creek to a natural barrier located near the Glacier National Park boundary with the Blackfeet Indian Reservation, provides rearing and potential spawning habitat for bull trout that most likely emigrate from upstream waters isolated above barriers in Otatso Creek, or from adjacent Kennedy Creek or other downstream waters.

(E) Swiftcurrent Creek, from its junction with Lower Saint Mary Lake upstream 5.7 mi (9.2 km) to Sherburne Dam provides FMO habitat for migratory bull trout.

(F) Boulder Creek, from its junction with Swiftcurrent Creek upstream 13.1 mi (21.1 km) to its headwaters (unnamed lakes at the base of Mount Siyeh) provides rearing habitat, and is one of two primary spawning streams used by migratory bull trout within the basin.

(G) Divide Creek, from its junction with the reach of the Saint Mary River between the Saint Mary lakes to a natural barrier located 9.2 mi (14.8 km) upstream in the headwaters west of White Calf Mountain provides spawning and rearing habitat.

(H) The two interconnected basins of Slide Lakes (45 ac (18 ha)) provide FMO habitat for the disjunct Slide Lakes core area. The following reaches provide spawning and rearing habitat for resident and/or migratory bull trout: the major tributary to Otatso Lake, upper Otatso Creek (1.0 mi (1.6 km)), extending from Slide Lakes to an unnamed barrier falls, including a short reach of stream between the lake basins (0.2 mi (0.3 km)). A reach of Otatso Creek (1.1 mi (1.8 km)) extending downstream from Slide Lakes to the natural barrier at the Reservation Boundary.

(I) The basin of Cracker Lake (42 ac (17 ha)) provides FMO habitat for a reproducing population of bull trout believed to have been introduced in the early 20th century. Its tributary, Canyon Creek, either upstream of the lake to its glacial outwash headwaters (0.7 mi (1.1 km)) or downstream (4.1 mi (6.6 km)) to the impounded pool of Lake Sherburne provides spawning and rearing habitat, though documentation is currently limited.

(J) The basin of Red Eagle Lake (136 ac (55 ha)) is FMO habitat for the disjunct Red Eagle Lake core area. Its tributary, Red Eagle Creek, to an unnamed barrier falls 1.2 mi (1.9 km) upstream from the lake provides spawning and rearing habitat. About 1.0 mi (1.6 km) of Red Eagle Creek

downstream from the lake may function as spawning and rearing habitat for this core area, and it is contiguous with the portion of Red Eagle Creek described for the Saint Mary River core area downstream.

*(ii) Belly River CHSU*

The Belly River CHSU includes the headwaters of the Belly River drainage in the northeast corner of Glacier National Park in Glacier County, northwest Montana. The drainage originates in glaciated lakes on the east slopes of the Rocky Mountains. Due to natural barriers, these lakes historically were mostly fishless. The Belly River flows directly north into Canada, where it joins the Waterton River drainage to the west and Saint Mary River drainage to the east to form much of the headwaters of the Oldman River basin. Eventually, the Belly River waters flow into Hudson Bay via the South Saskatchewan River system.

The entire headwaters portion of the Belly River drainage lies in Glacier National Park, with 100 percent of the land in Federal ownership. The Draft Recovery Plan (Service 2002) identified a single core area and only one local population of bull trout in the North Fork Belly River drainage in this recovery unit as essential to recovery.

The North Fork Belly River mainstem in the U.S., from the international border with Canada upstream to Miche Wabun Falls (1.5 mi (2.4 km)), is well-documented as the only spawning and rearing habitat for bull trout in this core area. The spawning fish migrate up the Belly River from FMO habitat located primarily in Alberta.

**Effects of Critical Habitat Designation**

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.

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 proposed species 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 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. Consequently, some Federal agencies may request reinitiation of consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

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

Activities on Federal lands that may affect the bull trout or its critical habitat will require consultation under section 7 of the Act. Activities on private, State, county, or lands under local jurisdictions requiring a permit from a Federal agency, such as a permit from the Corps under section 404 of the Clean Water Act, or some other Federal action, including funding (*e.g.*, Federal Highway Administration (FHA), Federal Aviation Administration, or Federal Emergency Management Agency (FEMA)), will continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on non-Federal lands that are not federally funded 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 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 for the conservation of the bull trout. Within critical habitat, this pertains only to those areas containing the primary constituent elements. 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 requirements pursuant to section 7 of the Act for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 of the Act 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 value of critical habitat for the survival and recovery of the listed species.

Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to destroy or adversely modify critical habitat would often result in jeopardy to the species

concerned when the area of the proposed action is occupied by the species concerned.

A number of Federal activities have the potential to destroy or adversely modify critical habitat for the bull trout. These activities may include:

(1) Land and water management actions of Federal agencies (*e.g.*, Corps, Bureau of Reclamation, 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;

(2) Dredge and fill projects, sand and gravel mining, and bank stabilization activities conducted or authorized by the Corps; and

(3) National Pollutant Discharge Elimination System permits authorized by the Environmental Protection Agency (EPA)).

Specifically, activities that may destroy or adversely modify critical habitat are those that alter the primary constituent elements to an extent that the value of critical habitat for both the survival and recovery of the bull trout is appreciably reduced. Activities that, when carried out, funded, or authorized by a Federal agency, may destroy or adversely modify critical habitat for bull trout include, but are not limited to:

(1) Significant and detrimental altering of the existing regime of any of the proposed stream segments. Possible actions would include groundwater pumping, impoundment, water diversion, and hydropower generation.

(2) Alterations to the proposed 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 proposed 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 proposed 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 proposed 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 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 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 impact, impact to national security, and other relevant impacts of designating a specific 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.

We will conduct an analysis of the economic impacts of designating these areas as critical habitat prior to making a final determination. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://pacific.fws.gov/bulltrout,* or by contacting the John Young, Bull Trout Coordinator directly (see **ADDRESSES** section).

We will also evaluate the potential impacts of this proposed designation on any relevant factors, including but not limited to, national security, tribal nations, and conservation partnerships and programs that benefit the bull trout.

## Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We will send these peer reviewers copies of this proposed rule immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

We will consider all comments and information received during the comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

## Required Determinations

### *Clarity of the Rule*

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements

in the proposed rule clearly stated? (2) Does the proposed rule contain technical jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of the sections, use of headings, paragraphing, and so forth) aid or reduce its clarity? (4) Is the description of the notice in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make this proposed rule easier to understand?

Send a copy of any comments on how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may e-mail your comments to this address: *Exsec@ios.doi.gov*.

*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 it is not anticipated to 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. The Service is preparing a draft economic analysis of this proposed action. We will use 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 and possibly excluding any area from critical habitat if it is determined that the benefits of such exclusion outweigh the benefits of specifying such areas as part of the critical habitat, unless failure to designate such area as critical habitat will lead to the extinction of the Riverside fairy shrimp. This analysis will also be used to determine compliance with Executive Order 12866, Regulatory Flexibility Act, Small Business Regulatory Enforcement Fairness Act, and Executive Order 12630.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are listed above in the section on Section 7 Consultation.

The availability of the draft economic analysis will be announced in the **Federal Register** and in local newspapers so that it is available for public review and comments.

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

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, 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 effects 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 the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the Regulatory Flexibility Act (RFA) to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, we lack the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, the RFA finding is deferred until completion of the draft economic analysis prepared pursuant to section 4(b)(2) of the Act and Executive Order 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, we will publish a notice of availability of the draft economic analysis of the proposed designation and reopen the public comment period for the proposed designation for an additional 60 days. We will include with the notice of availability, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. We have concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provides the necessary opportunity for public comment.

*Executive Order 13211*

On May 18, 2001, the President issued an Executive Order 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 proposed rule may be a significant regulatory action under Executive Order 12866.

Currently available information on the potential effects of this proposal on energy supply, distribution, and use is very limited and does not provide a basis for us to reach a definitive conclusion regarding such effects at this time. We will conduct an analysis of the potential economic impacts of this proposed critical habitat designation, as required under section 4(b)(2) of the Act. The economic assessment will include consideration of information relevant to effects on energy supply, distribution, and use. We will make the economic analysis available for public review and comment before completing a final designation. We also expect to obtain information on this topic as a result of public comments on the proposed rule. Should such economic analysis, public comments, or other information indicate that this rule will significantly affect energy supply, distribution, and use, we will take any actions that are appropriate.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501), the Service makes 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) 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 this rule will significantly or uniquely affect small governments. As such, Small Government Agency Plan is not required. We will, however, further evaluate this issue as we conduct our economic analysis and revise this assessment if appropriate.

*Takings*

In accordance with Executive Order 12630, the 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 proposed 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 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 DOI and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies. 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 Office of the Solicitor has determined that the 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 proposed designating critical habitat in accordance with the provisions of the Endangered Species Act. This proposed 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 the National Environmental Policy Act 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 512 DM 2, we are coordinating 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. The Secretarial Order further states that in designating critical habitat, ''the Service shall evaluate and document the extent to which the conservation needs of a listed species can be achieved by limiting the designation to other lands.''

During our development of this proposed critical habitat designation for the Jarbidge River, Coastal-Puget Sound, and Saint Mary-Belly River populations of bull trout, we evaluated Tribal lands to determine if they are essential to the conservation of the species. There are no Tribal lands proposed as critical habitat within the Jarbidge River population area.

Within the Coastal-Puget Sound population, we have proposed to designate critical habitat for portions of land within or adjacent to the following Tribal reservations: Lummi Indian Reservation, Swinomish Indian

Reservation, Sauk-Suiattle Indian Reservation, Tulalip Indian Reservation, Muckleshoot Indian Reservation, Puyallup Indian Reservation, Nisqually Indian Reservation, Skokomish Indian Reservation, Jamestown S'Klallam Tribal lands, Lower Elwha S'Klallam Indian Reservation, Hoh Indian Reservation, Quinault Indian Reservation, and Chehalis Indian Reservation. We are proposing to exclude most of the Quinault Indian Reservation based on their Forest Management Plan. We have met with the Northwest Indian Fisheries Commission and some of the Tribes they represent. We plan to meet with the balance of the Tribes in the Olympic Peninsula and Puget Sound area to consult with them regarding the bull trout critical habitat process, and to discuss any existing or planned Tribal conservation measures for bull trout and the appropriateness of excluding additional Tribal lands in the final designation.

Within the Saint Mary-Belly River population, none of the Belly River headwaters is under Tribal jurisdiction. For the Saint Mary portion of the bull trout population, we have proposed critical habitat within the Blackfeet Reservation.

No specific management plans exist to guide Tribal fishery resource decisions in the Saint Mary-Belly River population. We conduct management surveys and make stocking recommendations and other proposals to the Tribe for their approval and implementation. Creston National Fish Hatchery conducts fish stocking activities in Tribal lakes per those recommendations.

We have had a number of government-to-government meetings with Blackfeet Tribal Council representatives to discuss bull trout critical habitat and associated recovery issues. The Blackfeet Fish and Wildlife Director or their representative biologist has been generally supportive of the development of this critical habitat proposal (Ira Newbreast, Blackfeet Tribe, pers. comm. 2002; G. Skunkcap, Blackfeet Tribe, pers. comm. 2002, 2003).

A total of approximately 229 mi (368 km) of stream segments on Tribal land within the Coastal-Puget Sound and Saint Mary-Belly River populations of bull trout are included in our proposed critical habitat designation. We will work closely with Tribes to protect essential bull trout habitat. 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. We were required to prepare this critical habitat designation based on our analysis of whether habitat within these Tribal reservation lands is essential to the conservation of the species and may require special management considerations or protection. Prior to issuing a final determination, we will be consulting with Tribes that are included in this proposed designation of critical habitat, to assess the appropriateness of excluding those areas based on the conservation measures provided for the species. Please refer to the *Relationship to Section 4(b)(2) of the Act*—Relationship to Tribal Lands section of this rule for a more detailed discussion of Tribal lands included within this proposal.

## 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 proposed rule are: John Young, U.S. Fish and Wildlife Service, Regional Office, Portland, OR; Wade Fredenberg, U.S. Fish and Wildlife Service, Creston Fish and Wildlife Center, Kalispell, MT; Selena Werdon, U.S. Fish and Wildlife Service, Nevada State Office, Reno, NV; Jeff Chan and Shelley Spalding, U.S. Fish and Wildlife Service, Western Washington Office, Lacey, WA.

## List of Subjects in 50 CFR Part 17

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

## Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations as set forth below:

## PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Critical habitat for the bull trout (*Salvelinus confluentus*) in § 17.95(e) which was proposed on November 29, 2002, at 67 FR 71236, is proposed to be further amended by revising paragraphs (1), (2), and (4), and adding paragraphs (30) through (34) as follows:

### § 17.95 Critical habitat—fish and wildlife.

* * * * *

(e) * * *

Bull Trout (*Salvelinus confluentus*)

(1) Critical habitat is designated in the following counties and as described in paragraphs (2) through (34)

| State | Counties |
|---|---|
| Idaho | Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Clearwater, Custer, Idaho, Kootenai, Lemhi, Latah, Lewis, Nez Perce, Owyhee, Pend Oreille, Shoshone, Valley, Washington. |
| Montana | Flathead, Glacier, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders. |
| Nevada | Elko. |
| Oregon | Baker, Columbia, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler. |
| Washington | Asotin, Benton, Chelan, Clallam, Columbia, Clark, Cowlitz, Douglas, Franklin, Garfield, Grays Harbor, Island, King, Kittitas, Klickitat, Mason, Okanogan, Pacific, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, Walla Walla, Whitman, Yakima. |

(2) Critical habitat includes the stream channels within the proposed stream reaches and inshore extent of critical habitat for marine nearshore areas (the mean high high-water (MHHW) line), including tidally influenced freshwater heads of estuaries indicated on the maps in paragraphs (30) through (34).

(i) Critical habitat includes the stream channels within the proposed stream reaches, 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.

(ii) Critical habitat includes the inshore extent of critical habitat for marine nearshore areas (the MHHW line), including tidally influenced freshwater heads of estuaries. This refers to the average of all the higher high water heights of the two daily tidal levels. Adjacent shoreline riparian areas, bluffs and uplands are not proposed as critical habitat.

However, it should be recognized that the quality of marine habitat along shorelines is intrinsically related to the character of these adjacent features, and human activities that occur outside of the MHHW can have major effects on physical and biological features of the marine environment. The offshore extent of critical habitat for marine nearshore areas is based on the extent of the photic zone, which is the layer of water in which organisms are exposed to light. Critical habitat extends offshore to the depth of 33 ft (10 m) relative to the MLLW (average of all the lower low-water heights of the two daily tidal levels). This equates to the average depth of the photic zone, and is consistent with the offshore extent of the nearshore habitat identified under the Puget Sound Nearshore Ecosystem Restoration Project (NOAA 2000; 68 FR 31689). This area between MHHW and minus 10 MLLW is considered the habitat most consistently used by bull trout in marine waters based on known use, forage fish availability, and ongoing migration studies, and captures geological and ecological processes important to maintaining these habitats. This area contains essential foraging habitat and migration corridors such as estuaries, bays, inlets, shallow subtidal areas, and intertidal flats.

* * * * *

(4) 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 Endangered Species Act of 1973, as amended on or before the date of publication of the final rule, as long as such permit, or a conservation easement providing comparable conservation benefits, remains legally operative on such lands.

* * * * *

(30) Index map of proposed critical habitat for the Olympic Peninsula, Puget Sound, Jarbidge, and Saint Mary-Belly populations of bull trout follows:

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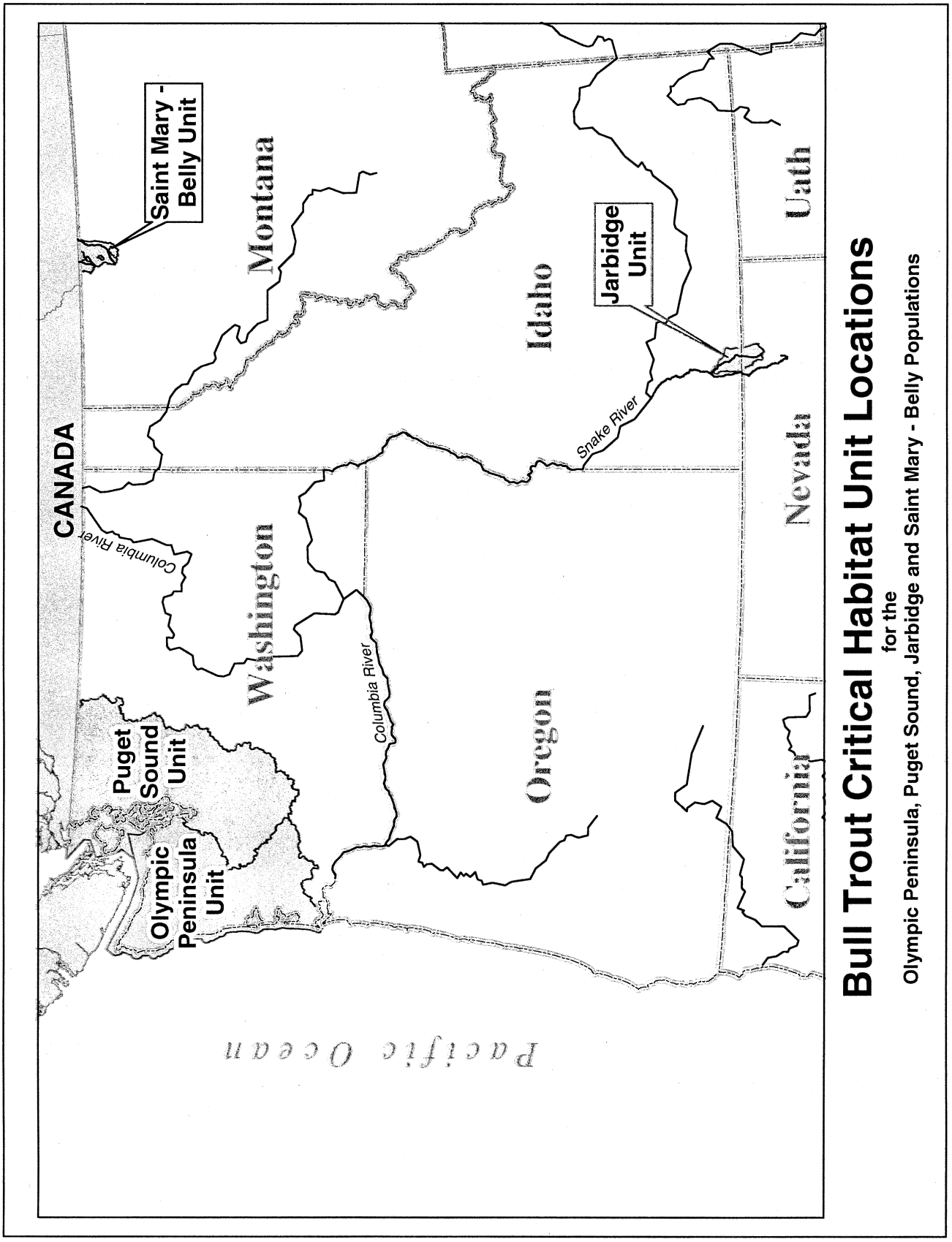


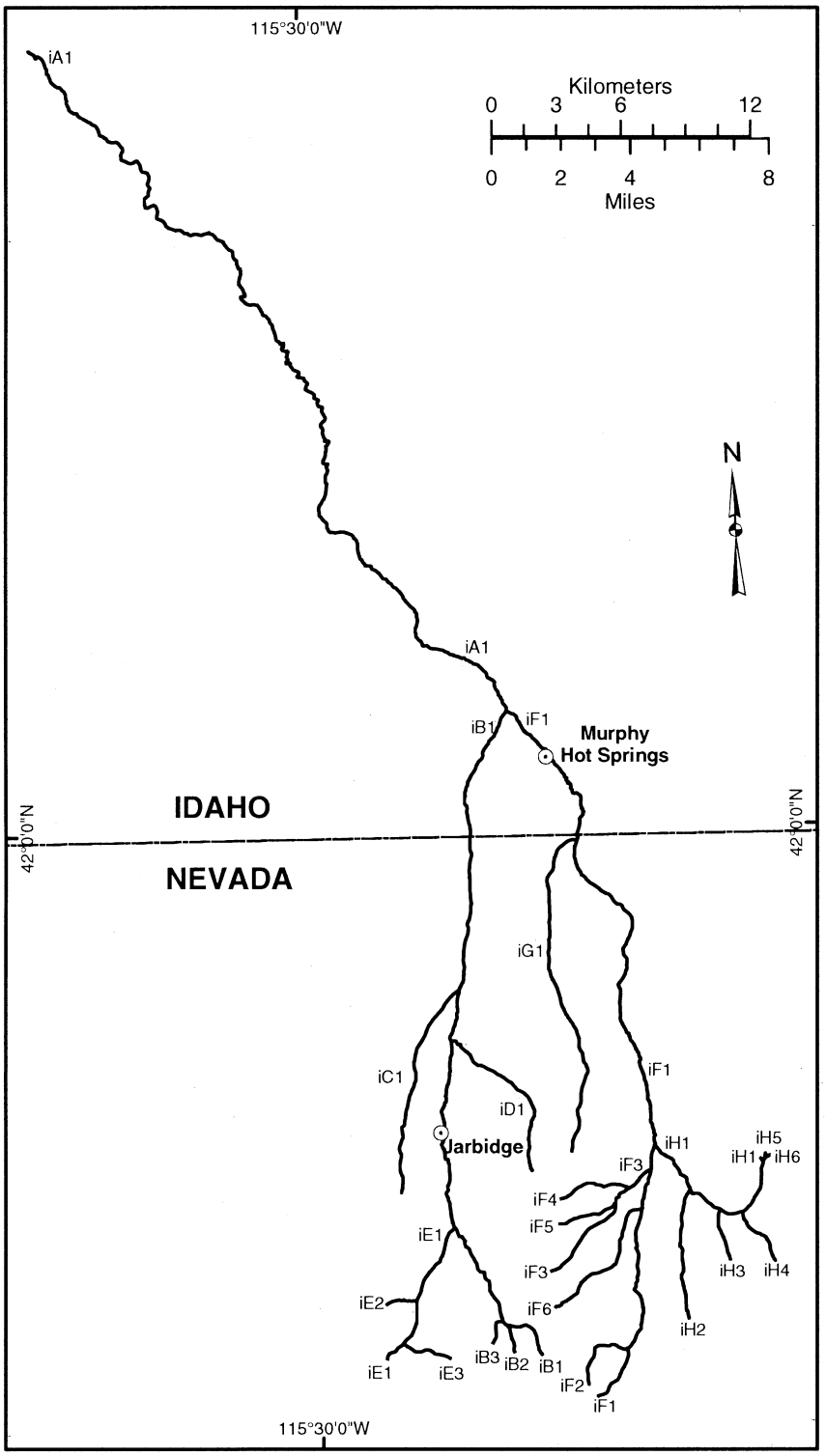

(31) Unit 26: Jarbidge River Unit

(i) Unit 26—Jarbidge River Unit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| A1—Jarbidge River | 42.329 N. | 115.651 W. | 42.049 N. | 115.390 W. |
| B1—West Fork Jarbidge River | 42.049 N. | 115.390 W. | 41.780 N. | 115.377 W. |
| B2—Unnamed W Trib off Jarbidge R | 41.792 N. | 115.396 W. | 41.781 N. | 115.392 W. |
| B3—Sawmill Creek | 41.794 N. | 115.398 W. | 41.785 N. | 115.405 W. |
| C1—Deer Creek | 41.933 N. | 115.419 W. | 41.849 N. | 115.454 W. |
| D1—Jack Creek | 41.912 N. | 115.424 W. | 41.857 N. | 115.380 W. |
| E1—Pine Creek | 41.834 N. | 115.424 W. | 41.779 N. | 115.464 W. |
| E2—Unnamed W Trib off Pine Creek | 41.803 N. | 115.446 W. | 41.802 N. | 115.464 W. |
| E3—Unnamed E Trib off Pine Creek | 41.786 N. | 115.454 W. | 41.779 N. | 115.428 W. |
| F1—East Fork Jarbidge River | 42.049 N. | 115.390 W. | 41.762 N. | 115.347 W. |
| F2—Unnamed Headwater Trib off E Fk Jarbidge R | 41.782 N. | 115.329 W. | 41.767 N. | 115.351 W. |
| F3—Fall Creek | 41.856 N. | 115.314 W. | 41.815 N. | 115.372 W. |
| F4—Unnamed Lower Trib off Fall Cr | 41.849 N. | 115.327 W. | 41.845 N. | 115.365 W. |
| F5—Unnamed Upper Trib off Fall Cr | 41.843 N. | 115.334 W. | 41.834 N. | 115.366 W. |
| F6—Cougar Creek | 41.840 N. | 115.320 W. | 41.799 N. | 115.369 W. |
| G1—Dave Creek | 41.995 N. | 115.352 W. | 41.864 N. | 115.358 W. |
| H1—Slide Creek | 41.867 N. | 115.312 W. | 41.860 N. | 115.253 W. |
| H2—Gods Pocket Creek | 41.847 N. | 115.292 W. | 41.794 N. | 115.295 W. |
| H3—Unnamed Lower Trib off Slide Cr | 41.839 N. | 115.276 W. | 41.818 N. | 115.271 W. |
| H4—Unnamed Upper Trib off Slide Cr | 41.838 N. | 115.264 W. | 41.817 N. | 115.246 W. |
| H5—Unnamed N Headwater Trib off Slide Cr | 41.859 N. | 115.252 W. | 41.863 N. | 115.250 W. |
| H6—Unnamed E Headwater Trib off Slide Cr | 41.860 N. | 115.250 W. | 41.861 N. | 115.247 W. |

(ii) Map of Unit 26—Jarbidge River Unit follows:

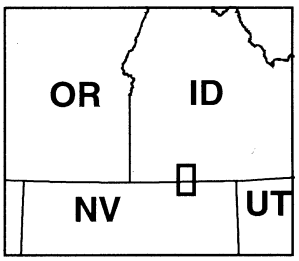
Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 26: Jarbidge River Unit




**Proposed Critical Habitat (map key)**

**iA1-Jarbidge River**
**iB1-West Fork Jarbidge River**
**iB2-Unamed west tributary off Jarbidge River**
**iB3-Sawmill Creek**
**iC1-Deer Creek**
**iD1-Jack Creek**
**iE1-Pine Creek**
**iE2- Unnamed west tributary off Pine Creek**
**iE3- Unnamed east headwater tributary off Pine Creek**
**iF1-East Fork Jarbidge River**
**iF2- Unnamed west headwater tributary off East Fork Jarbidge River**
**iF3-Fall Creek**
**iF4- Unnamed lower west tributary off Fall Creek**
**iF5- Unnamed upper west tributary off Fall Creek**
**iF6-Cougar Creek**
**iG1-Dave Creek**
**iH1-Slide Creek**
**iH2-Gods Pocket Creek**
**iH3- Unnamed lower south tributary off Slide Creek**
**iH4- Unnamed upper south tributary off Slide Creek**
**iH5- Unnamed north headwater tributary off Slide Creek**
**iH6- Unnamed east headwater tributary off Slide Creek**

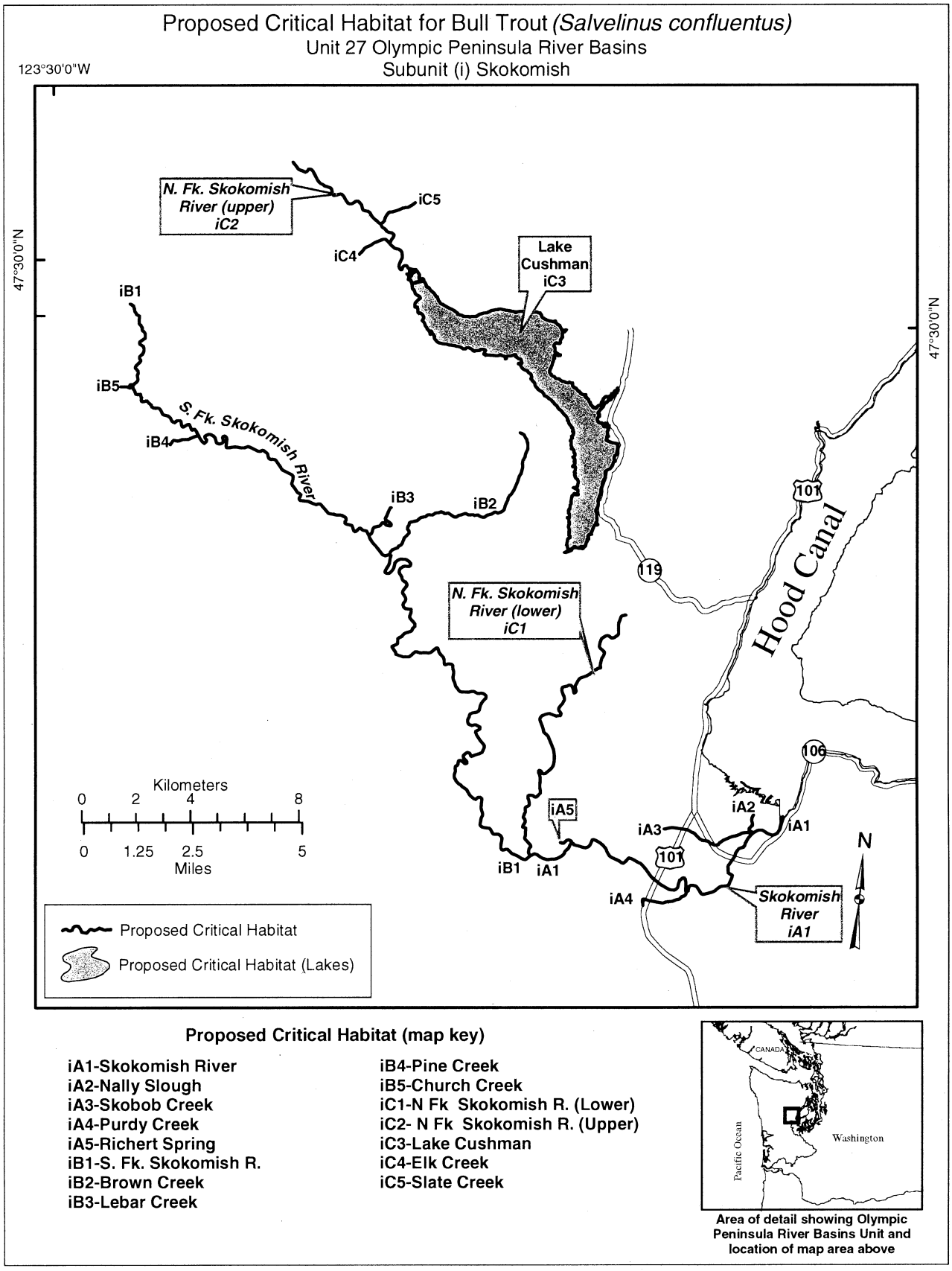
Proposed Critical Habitat




**Area of detail showing location of maps above**

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iA1—Skokomish River | 47.335 N. | 123.116 W. | 47.315 N. | 123.238 W. |
| iA2—Nalley Slough | 47.334 N. | 123.130 W. | 47.328 N. | 123.130 W. |
| iA3—Skobob Creek | 47.328 N. | 123.131 W. | 47.328 N. | 123.174 W. |
| iA4—Purdy Creek | 47.307 N. | 123.160 W. | 47.302 N. | 123.181 W. |
| iA5—Richert Spring | 47.320 N. | 123.218 W. | 47.320 N. | 123.224 W. |
| iB1—South Fork Skokomish River | 47.315 N. | 123.238 W. | 47.488 N. | 123.454 W. |
| iB2—Brown Creek | 47.412 N. | 123.318 W. | 47.455 N. | 123.259 W. |
| iB3—Lebar Creek | 47.417 N. | 123.329 W. | 47.427 N. | 123.319 W. |
| iB4—Pine Creek | 47.446 N. | 123.416 W. | 47.443 N. | 123.429 W. |
| iB5—Church Creek | 47.461 N. | 123.450 W. | 47.460 N. | 123.455 W. |
| iC1—North Fork Skokomish River (Lower) | 47.315 N. | 123.238 W. | 47.398 N. | 123.200 W. |
| iC2—North Fork Skokomish River (Upper) | 47.419 N. | 123.224 W. | 47.539 N. | 123.380 W. |
| iC3—Lake Cushman | Located at | | 47.478 N. | 123.252 W. |
| iC4—Elk Creek W. | 47.515 N. | 123.330 | 47.510 N. | 123.344 W. |
| iC5—Slate Creek W. | 47.521 N. | 123.335 | 47.529 N. | 123.319 W. |

(A) Map of Unit 27—Olympic Peninsula River Basin—Skokomish Critical Habitat Subunit follows:




(B) [Reserved]

(ii) Dungeness River Critical Habitat Subunit Descriptions:

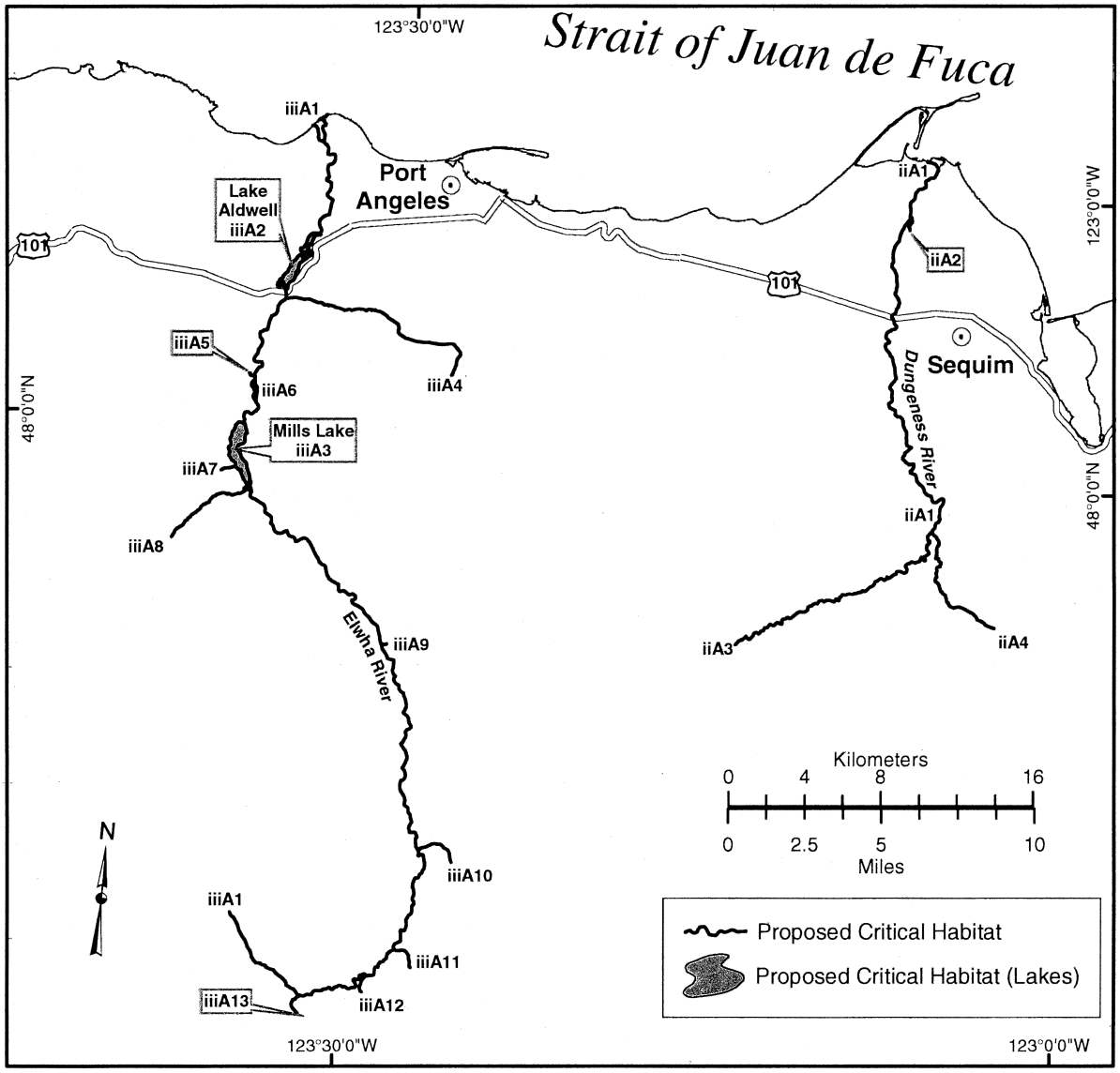
| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiA1—Dungeness River | 48.151 N. | 123.133 W. | 47.942 N. | 123.091 W. |
| iiA2—Hurd Creek | 48.124 N. | 123.142 W. | 48.118 N. | 123.142 W. |
| iiA3—Gray Wolf River | 47.977 N. | 123.111 W. | 47.916 N. | 123.242 W. |
| iiA4—Gold Creek | 47.942 N. | 123.091 W. | 47.933 N. | 123.062 W. |

(iii) Elwha River Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiiA1—Elwha River | 48.151 N. | 123.558 W. | 47.771 N. | 123.580 W. |
| iiiA2—Lake Aldwell | Located at | | 48.080 N. | 123.570 W. |
| iiiA3—Mills Lake | Located at | | 47.990 N. | 123.604 W. |
| iiiA4—Little River | 48.063 N. | 123.576 W. | 48.033 N. | 123.456 W. |
| iiiA5—Hughes Creek | 48.025 N. | 123.594 W. | 48.026 N. | 123.598 W. |
| iiiA6—Griff Creek | 48.013 N. | 123.591 W. | 48.023 N. | 123.593 W. |
| iiiA7—Boulder Creek | 47.982 N. | 123.602 W. | 47.979 N. | 123.612 W. |
| iiiA8—Cat Creek | 47.971 N. | 123.593 W. | 47.946 N. | 123.642 W. |
| iiiA9—Prescott Creek | 47.903 N. | 123.490 W. | 47.904 N. | 123.486 W. |
| iiiA10—Hayes River | 47.808 N. | 123.453 W. | 47.803 N. | 123.428 W. |
| iiiA11—Godkin Creek | 47.760 N. | 123.464 W. | 47.752 N. | 123.451 W. |
| iiiA12—Buckinghorse Creek | 47.747 N. | 123.481 W. | 47.739 N. | 123.484 W. |
| iiiA13—Delabarre Creek | 47.735 N. | 123.526 W. | 47.726 N. | 123.527 W. |

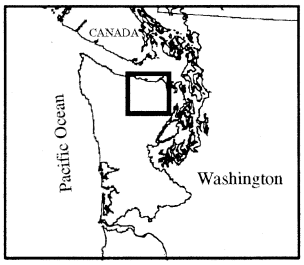
(A) Map of Unit 27—Olympic Peninsula River Basins—Dungeness River and Elwha River critical habitat subunits follow:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunits (ii) - Dungeness and (iii) - Elwha




**Proposed Critical Habitat (map key)**

**Dungeness CHSU**
**iiA1-Dungeness River**
**iiA2-Hurd Creek**
**iiA3-Gray Wolf River**
**iiA4-Gold Creek**
**Elwha CHSU**
**iiiA1-Elwha River**
**iiiA2-Lake Aldwell**
**iiiA3-Mills Lake**
**iiiA4-Little River**
**iiiA5-Hughes Creek**
**iiiA6-Griff Creek**
**iiiA7-Boulder Creek**
**iiiA8-Cat Creek**
**iiiA9-Prescott Creek**
**iiiA10-Hayes River**
**iiiA11-Godkin Creek**
**iiiA12-Buckinghorse Cr.**
**iiiA28-Slate Creek**
**iiiA13-Delabarre Creek**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

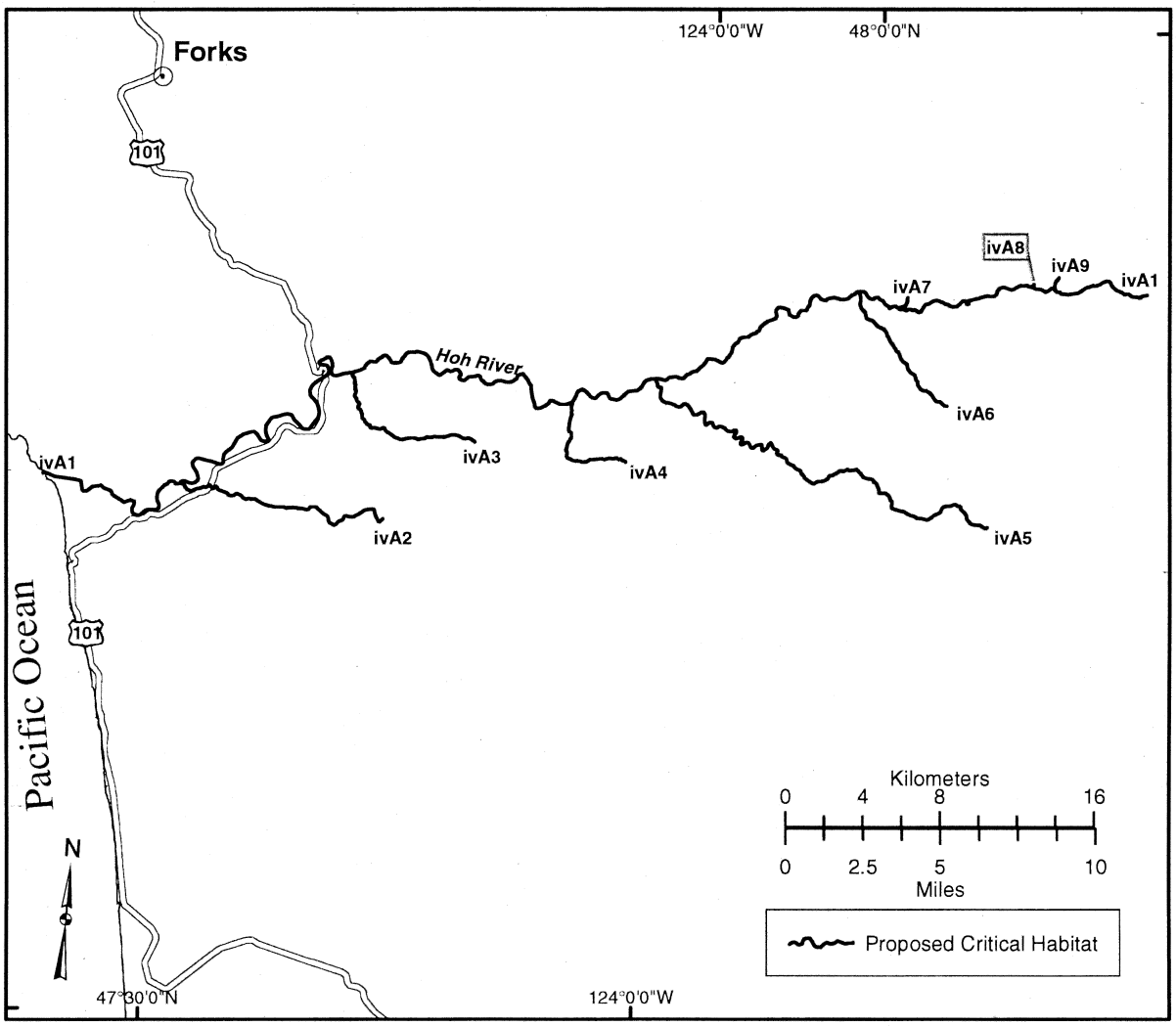
(B) [Reserved]

(iv) Hoh Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| ivA1—Hoh River | 47.751 N. | 124.437 W. | 47.878 N. | 123.688 W. |
| ivA2—Nolan Creek | 47.752 N. | 124.343 W. | 47.743 N. | 124.201 W. |
| ivA3—Winfield Creek | 47.810 N. | 124.231 W. | 47.783 N. | 124.142 W. |
| ivA4—Owl Creek | 47.805 N. | 124.078 W. | 47.780 N. | 124.037 W. |
| ivA5—South Fork Hoh River | 47.820 N. | 124.022 W. | 47.764 N. | 123.785 W. |
| ivA6—Mount Tom Creek | 47.868 N. | 123.887 W. | 47.819 N. | 123.820 W. |
| ivA7—Cougar Creek | 47.862 N. | 123.859 W. | 47.868 N. | 123.853 W. |
| ivA8—OGS Creek | 47.878 N. | 123.770 W. | 47.879 N. | 123.767 W. |
| ivA9—Hoh Creek | 47.877 N. | 123.753 W. | 47.883 N. | 123.750 W. |

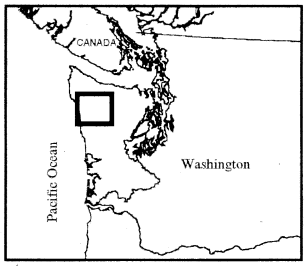
(A) Map of Unit 27—Olympic Peninsula River Basins—Hoh critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (iv) Hoh




**Proposed Critical Habitat (map key)**

**ivA1-Hoh River**
**ivA2-Nolan Creek**
**ivA3-Winfield Creek**
**ivA4-Owl Creek**
**ivA5-South Fork Hoh**
**ivA6-Mount Tom Creek**
**ivA7-Cougar Creek**
**ivA8-OGS Creek**
**ivA9-Hoh Creek**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

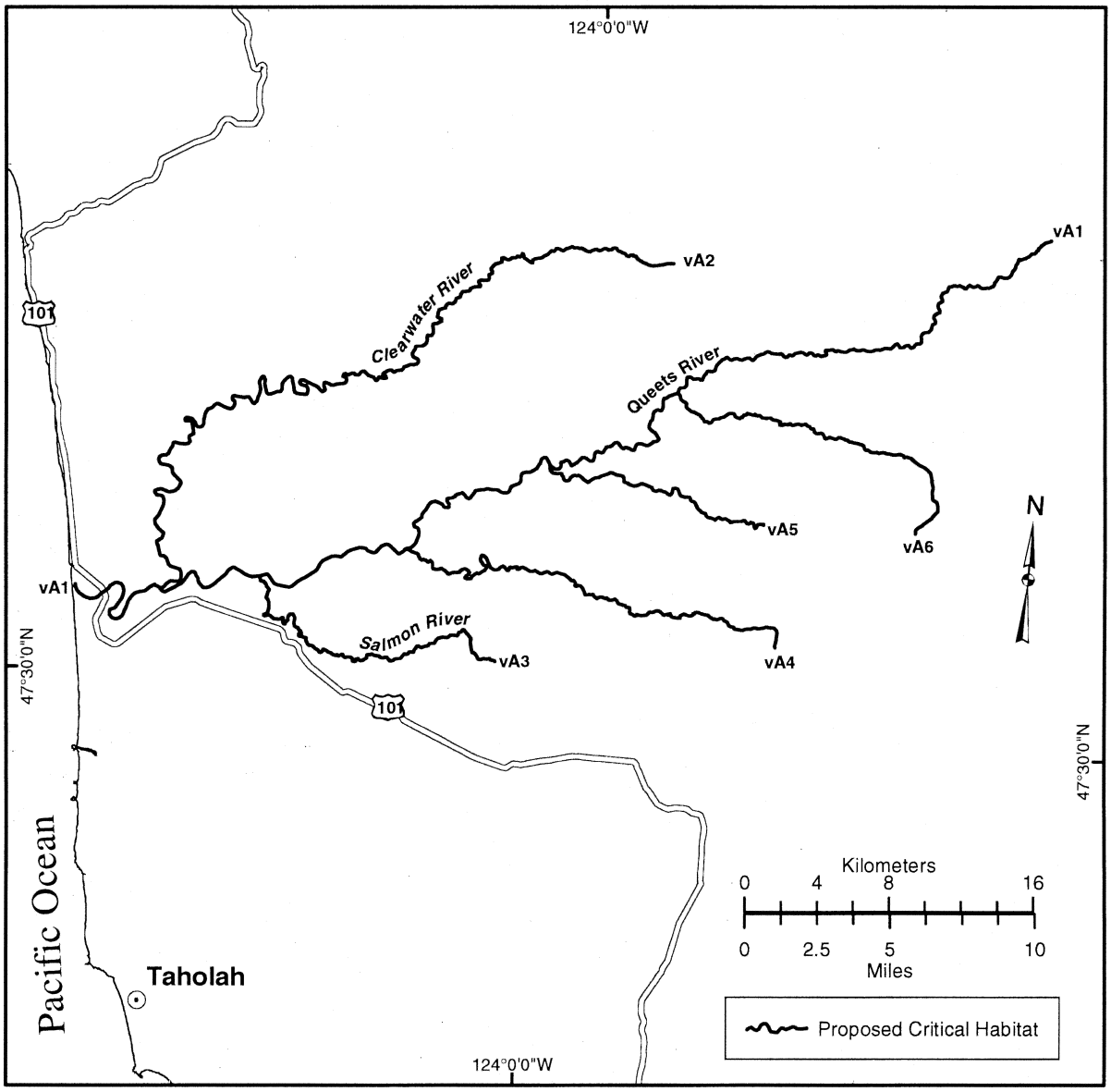
(B) [Reserved]

(v) Queets Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| vA1—Queets River | 47.544 N. | 124.354 W. | 47.758 N. | 123.657 W. |
| vA2—Clearwater River | 47.546 N. | 124.291 W. | 47.730 N. | 123.934 W. |
| vA3—Salmon River | 47.557 N. | 124.219 W. | 47.524 N. | 124.040 W. |
| vA4—Matheny Creek | 47.576 N. | 124.113 W. | 47.543 N. | 123.835 W. |
| vA5—Sams River | 47.625 N. | 124.012 W. | 47.604 N. | 123.851 W. |
| vA6—Tshletshy Creek | 47.666 N. | 123.923 W. | 47.606 N. | 123.739 W. |

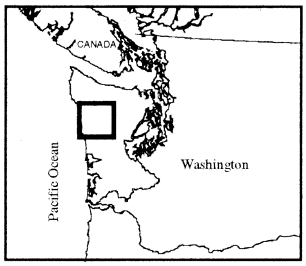
(A) Map of Unit 27—Olympic Peninsula River Basins—Queets critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (v) Queets




**Proposed Critical Habitat (map key)**

**vA1-Queets River**
**vA2-Clearwater River**
**vA3-Salmon River**
**vA4-Matheny Creek**
**vA5-Sams River**
**vA6-Tshletshy Creek**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

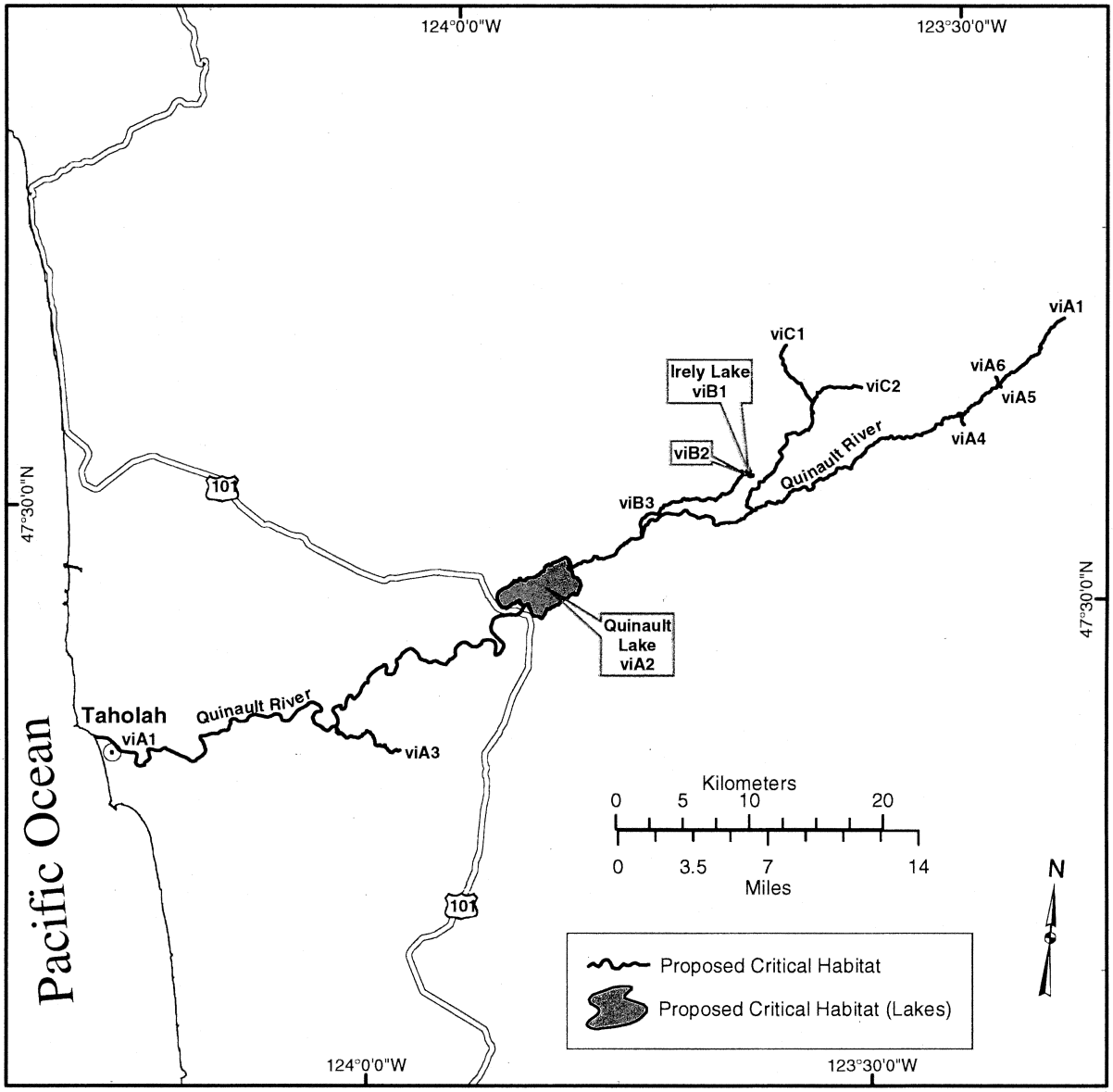
(B) [Reserved]

(vi) Quinault Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viA1—Quinault River | 47.349 N. | 124.299 W. | 47.687 N. | 123.371 W. |
| viA2—Quinault Lake | Located at | | 47.566 N. | 123.673 W. |
| viA3—Cook Creek | 47.371 N. | 124.061 W. | 47.359 N. | 123.995 W. |
| viA4—O'Neil Creek | 47.616 N. | 123.470 W. | 47.610 N. | 123.463 W. |
| viA5—Ignar Creek | 47.639 N. | 123.432 W. | 47.637 N. | 123.429 W. |
| viA6—Pyrites Creek | 47.639 N. | 123.432 W. | 47.644 N. | 123.435 W. |
| viB1—Irely Lake | Located at | | 47.566 N. | 123.673 W. |
| viB2—Irely Creek | 47.565 N. | 123.678 W. | 47.567 N. | 123.672 W. |
| viB3—Big Creek | 47.518 N. | 123.773 W. | 47.566 N. | 123.680 W. |
| viC1—North Fork Quinault River | 47.540 N. | 123.666 W. | 47.654 N. | 123.646 W. |
| viC2—Rustler Creek | 47.617 N. | 123.615 W. | 47.629 N. | 123.568 W. |

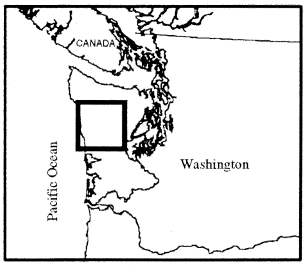
(A) Map of Unit 27—Olympic Peninsula River Basins—Quinault critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (vi) Quinault




**Proposed Critical Habitat (map key)**

**viA1-Quinault River**
**viA2-Quinault Lake**
**viA3-Cook Creek**
**viA4-O'Neil Creek**
**viA5-Ignar Creek**
**viA6-Pyrites Creek**
**viB1-Irely Lake**
**viB2-Irely Creek**
**viB3-Big Creek**
**viC1-N. Fk. Quinault River**
**viC2-Rustler Creek**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

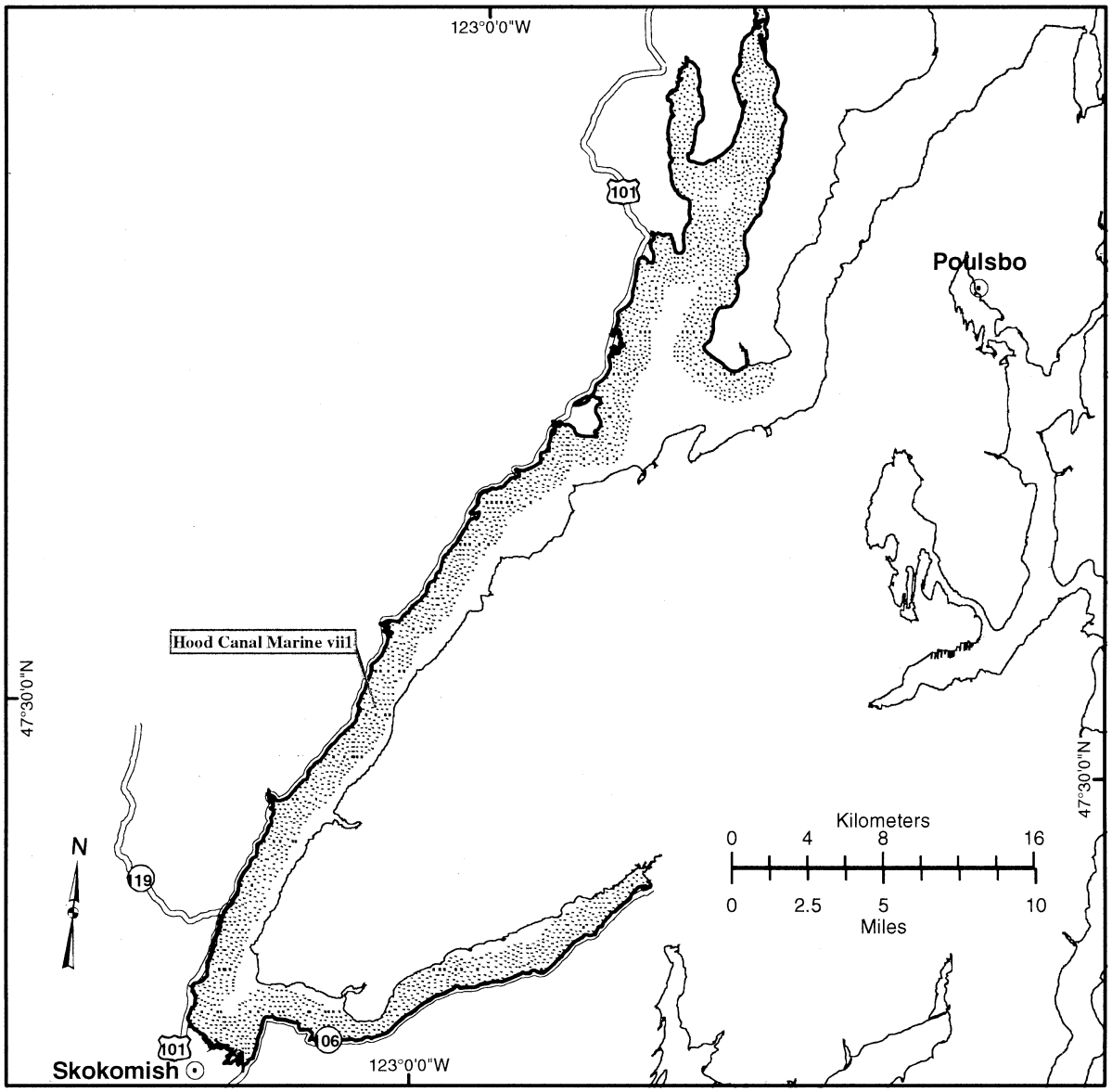
(B) [Reserved]

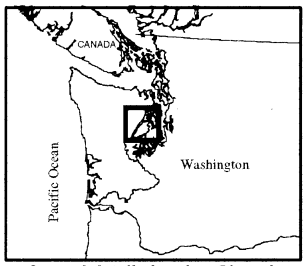
(vii) Hood Canal Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viiA1—Hood Canal Marine | 47.685 N. | 122.800 W. | 47.434 N. | 122.841 W. |

(A) Map of Unit 27—Olympic Peninsula River Basins—Hood Canal critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (vii) Hood Canal (Marine)




Area of detail showing Olympic Peninsula River Basins Unit and location of map area above

*** The indicated marine areas are intended to reflect a general diagrammatic representation of the critical habitat proposal. The specific proposal for marine areas was developed relative to the average depth limit of the photic zone. Please refer to the Proposed Critical Habitat Section in the proposed rule for specific details.**

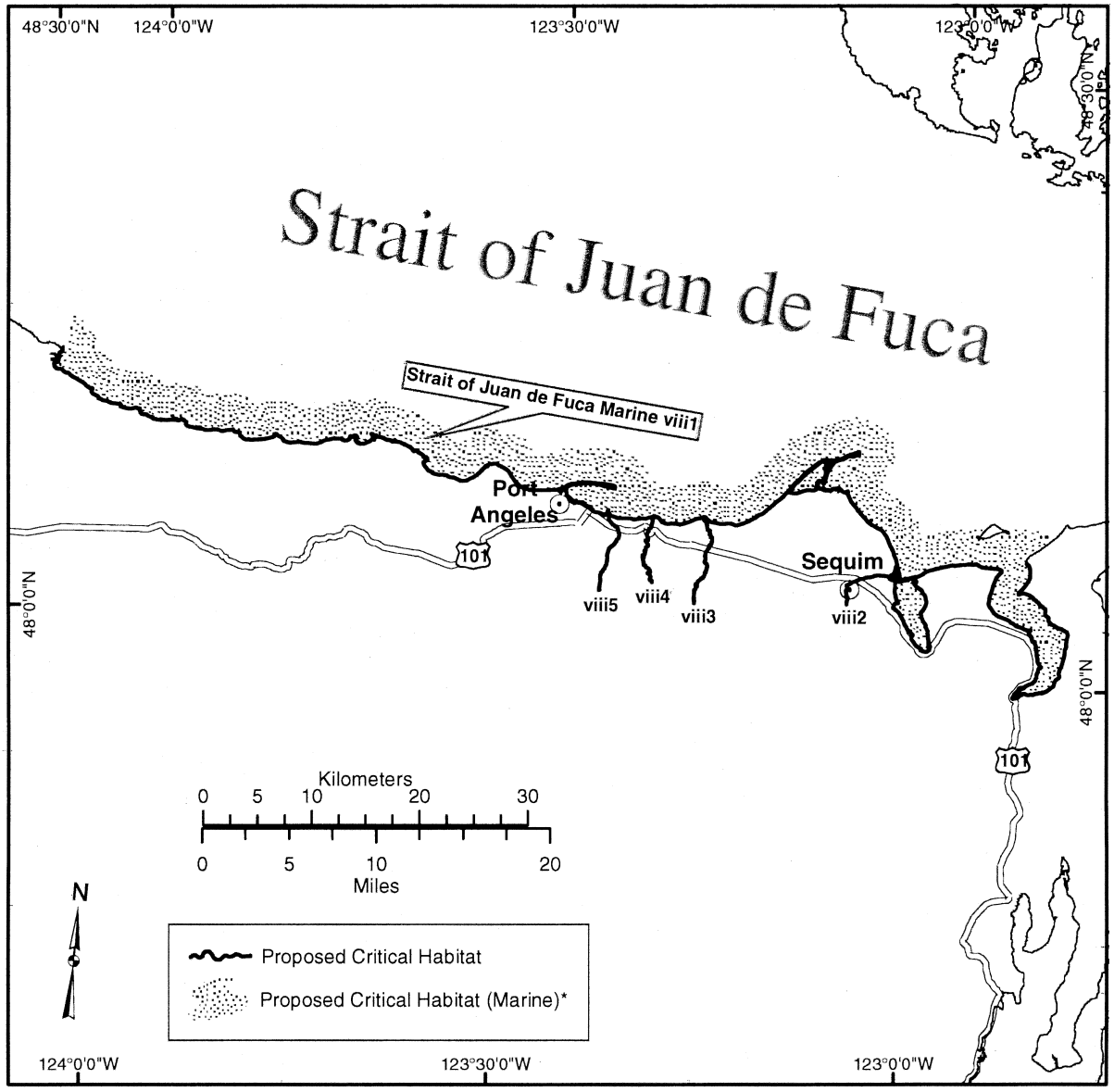
(B) [Reserved]

(viii) Strait of Juan de Fuca Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viiiA1—Strait of Juan de Fuca Marine | 48.103 N. | 122.884 W. | 48.217 N. | 124.100 W. |
| viiiA2—Bell Creek | 48.083 N. | 123.052 W. | 48.057 N. | 123.102 W. |
| viiiA3—Siebert Creek | 48.121 N. | 123.289 W. | 48.049 N. | 123.291 W. |
| viiiA4—Morse Creek | 48.118 N. | 123.350 W. | 48.064 N. | 123.346 W. |
| viiiA5—Ennis Creek | 48.117 N. | 123.404 W. | 48.053 N. | 123.410 W. |

(A) Map of Unit 27—Olympic Peninsula River Basins—Strait of Juan de Fuca critical habitat subunit follows:

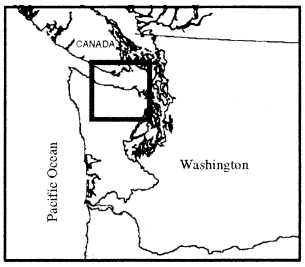
Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (viii) Strait of Juan de Fuca




**Proposed Critical Habitat (map key)**

**viii1-Strait of Juan de Fuca**
**viii2-Bell Creek**
**viii3-Siebert Creek**
**viii4-Morse Creek**
**viii5-Ennis Creek**

*** The indicated marine areas are intended to reflect a general diagrammatic representation of the critical habitat proposal. The specific proposal for marine areas was developed relative to the average depth limit of the photic zone. Please refer to the Proposed Critical Habitat Section in the proposed rule for specific details.**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

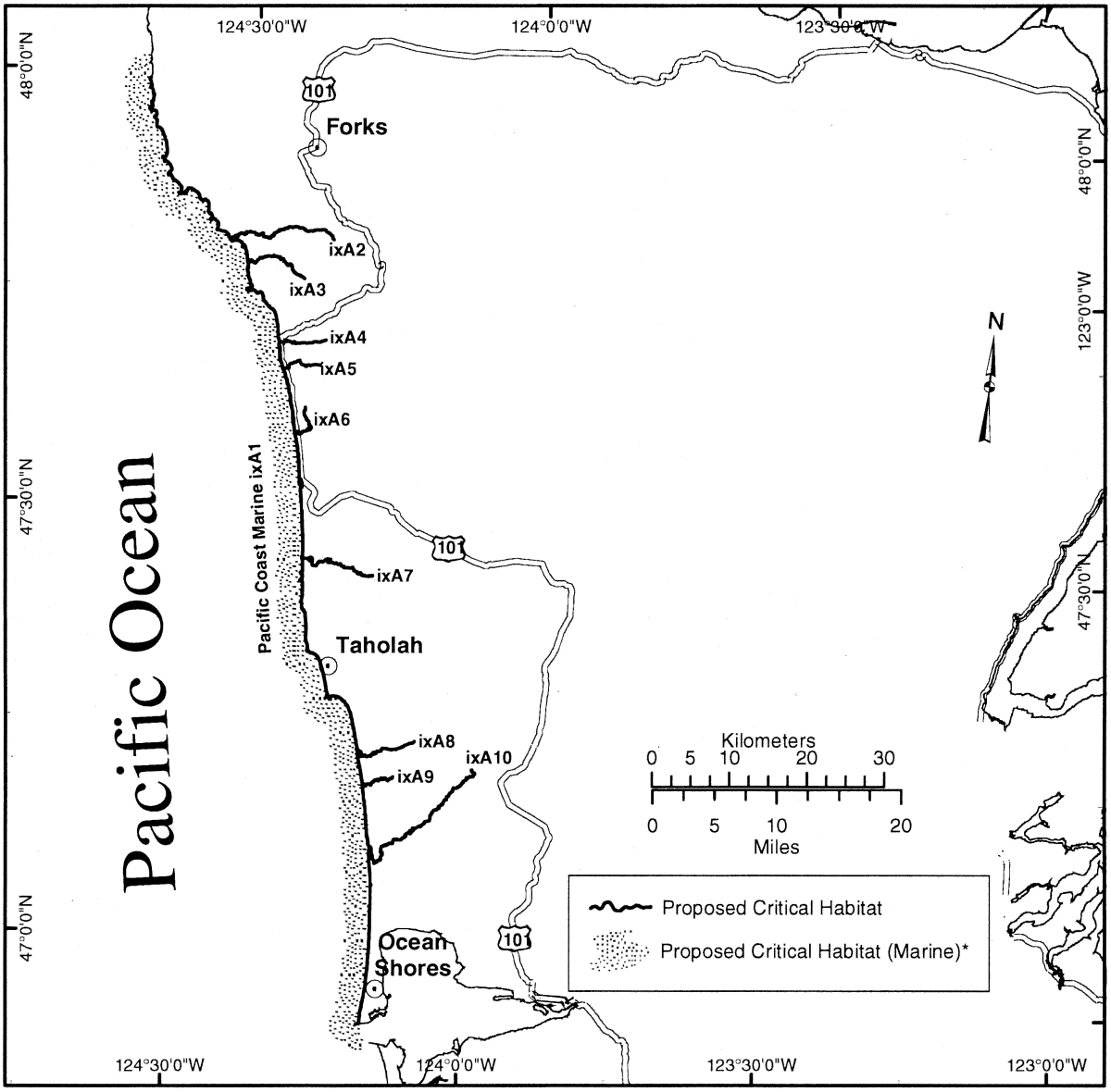
(B) [Reserved]

(ix) Pacific Coast Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| ixA1—Pacific Coast Marine | 48.003 N. | 124.678 W. | 46.927 N. | 124.179 W. |
| ixA2—Goodman Creek | 47.825 N. | 124.512 W. | 47.835 N. | 124.338 W. |
| ixA3—Mosquito Creek | 47.799 N. | 124.481 W. | 47.787 N. | 124.382 W. |
| ixA4—Cedar Creek | 47.712 N. | 124.415 W. | 47.717 N. | 124.335 W. |
| ixA5—Steamboat Creek | 47.679 N. | 124.403 W. | 47.688 N. | 124.349 W. |
| ixA6—Kalaloch Creek | 47.607 N. | 124.374 W. | 47.637 N. | 124.360 W. |
| ixA7—Raft River | 47.462 N. | 124.341 W. | 47.449 N. | 124.219 W. |
| ixA8—Moclips River | 47.248 N. | 124.219 W. | 47.260 N. | 124.122 W. |
| ixA9—Joe Creek | 47.206 N. | 124.202 W. | 47.217 N. | 124.153 W. |
| ixA10—Copalis River | 47.133 N. | 124.180 W. | 47.234 N. | 124.020 W. |

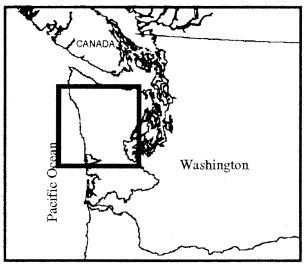
(A) Map of Unit 27—Olympic Peninsula River Basins—Pacific Coast critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (ix) Pacific Coast




**Proposed Critical Habitat (map key)**

**ixA1-Pacific Coast Marine**
**ixA2-Goodman Creek**
**ixA3-Mosquito Creek**
**ixA4-Cedar Creek**
**ixA5-Steamboat Creek**
**ixA6-Kalaloch Creek**
**ixA7-Raft River**
**ixA8-Moclips River**
**ixA9-Joe Creek**
**ixA10-Copalis River**




**Area of detail showing Olympic Peninsula River Basins Unit and location of map area above**

*** The indicated marine areas are intended to reflect a general diagrammatic representation of the critical habitat proposal. The specific proposal for marine areas was developed relative to the average depth limit of the photic zone. Please refer to the Proposed Critical Habitat Section in the proposed rule for specific details.**

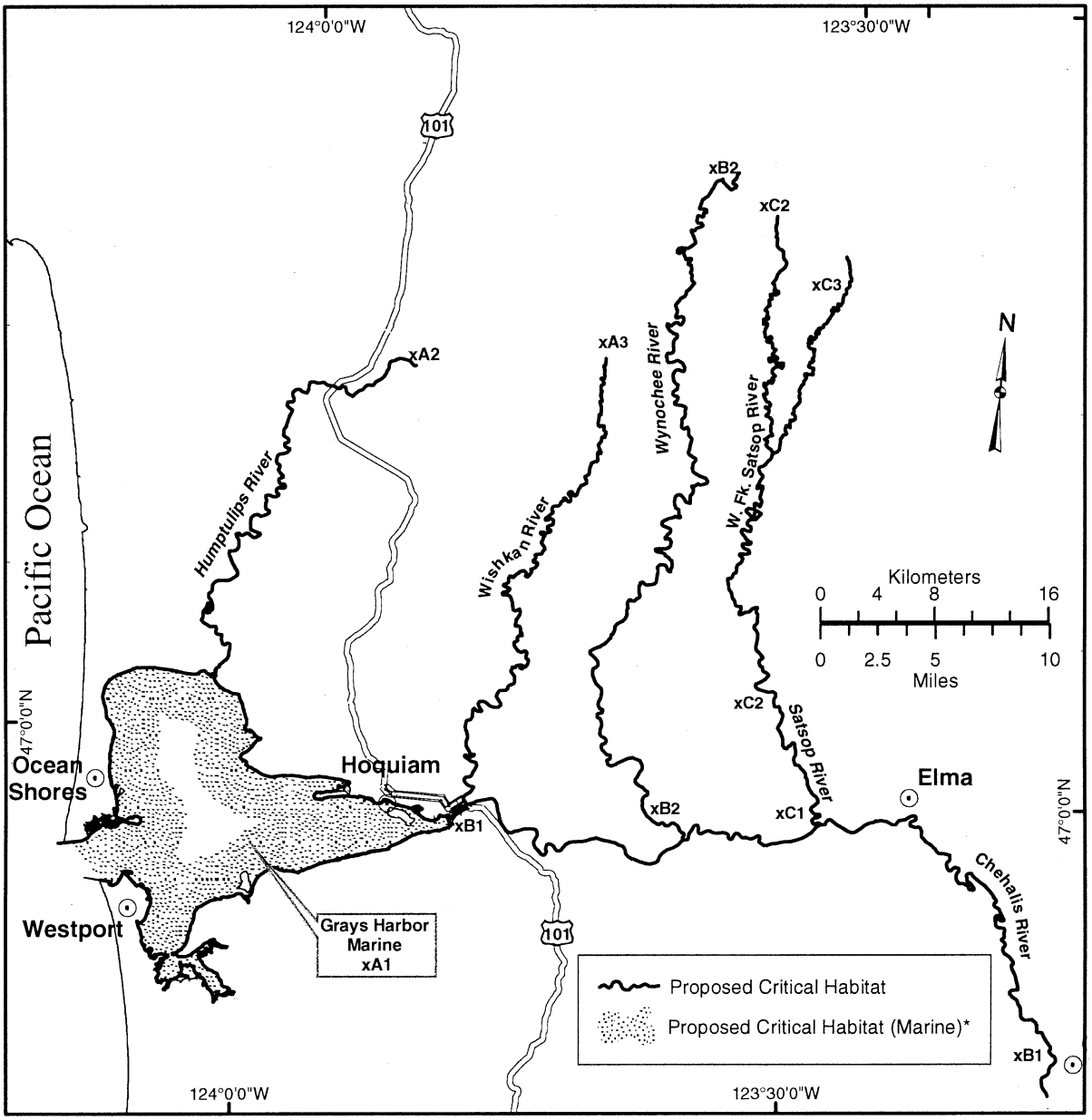
(B) [Reserved]

(x) Chehalis River/Grays Harbor
Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| xA1—Grays Harbor Marine | 46.927 N. | 124.179 W. | 46.906 N. | 124.138 W. |
| xA2—Humptulips River | 47.045 N. | 124.048 W. | 47.247 N. | 123.888 W. |
| xA3—Wishkah River | 46.973 N. | 123.806 W. | 47.261 N. | 123.713 W. |
| xB1—Chehalis River | 46.962 N. | 123.823 W. | 46.819 N. | 123.252 W. |
| xB2—Wynoochee River | 46.962 N. | 123.606 W. | 47.385 N. | 123.604 W. |
| xC1—Satsop River | 46.979 N. | 123.480 W. | 47.035 N. | 123.524 W. |
| xC2—West Fork Satsop River | 47.035 N. | 123.524 W. | 47.360 N. | 123.565 W. |
| xC3—Canyon River | 47.211 N. | 123.551 W. | 47.338 N. | 123.498 W. |

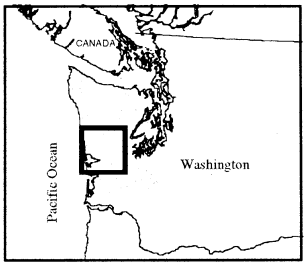
(A) Map of Unit 27—Olympic Peninsula River Basins—Chehalis River/Grays Harbor critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 27 Olympic Peninsula River Basins
Subunit (x) Chehalis River / Grays Harbor




**Proposed Critical Habitat (map key)**

| | |
|---|---|
| xA1-Grays Harbor Marine | xB2-Wynoochee River |
| xA2-Humptulips River | xC1-Satsop River |
| xA3-Wishkah River | xC2-W. Fk Satsop River |
| xB1-Chehalis River | xC3-Canyon River |




Area of detail showing Olympic Peninsula River Basins Unit and location of map area above

*** The indicated marine areas are intended to reflect a general diagrammatic representation of the critical habitat proposal. The specific proposal for marine areas was developed relative to the average depth limit of the photic zone. Please refer to the Proposed Critical Habitat Section in the proposed rule for specific details.**

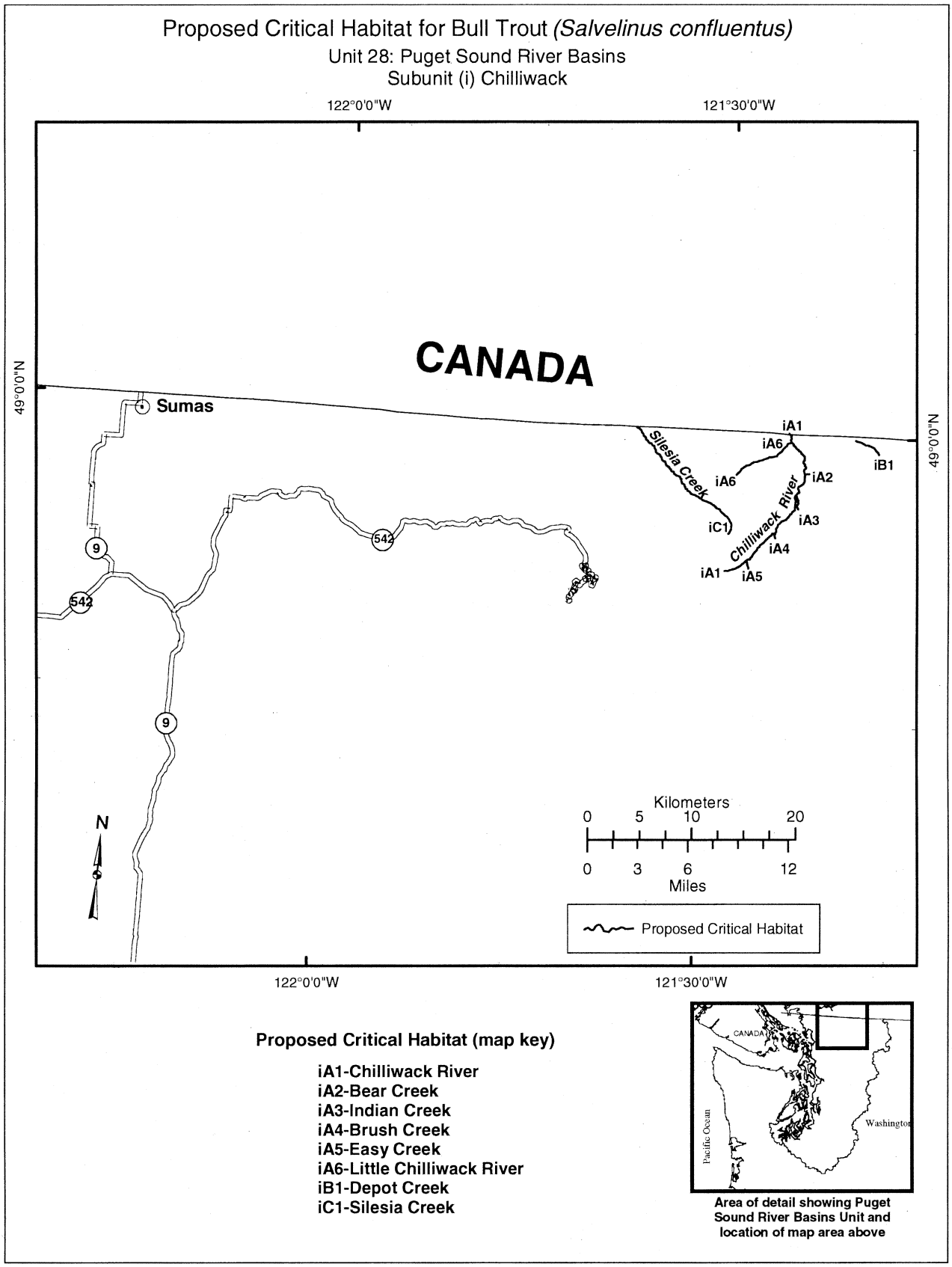
(B) [Reserved]

(33) Unit 28—Puget Sound Basins:

(i) Chilliwack Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iA1—Chilliwack River | 49.000 N. | 121.410 W. | 48.878 N. | 121.486 W. |
| iA2—Bear Creek | 48.965 N. | 121.387 W. | 48.966 N. | 121.382 W. |
| iA3—Indian Creek | 48.947 N. | 121.397 W. | 48.935 N. | 121.394 W. |
| iA4—Brush Creek | 48.913 N. | 121.423 W. | 48.909 N. | 121.422 W. |
| iA5—Easy Creek | 48.889 N. | 121.457 W. | 48.882 N. | 121.455 W. |
| iA6—Little Chilliwack River | 48.993 N. | 121.407 W. | 48.962 N. | 121.477 W. |
| iB1—Depot Creek | 48.997 N. | 121.323 W. | 48.986 N. | 121.292 W. |
| iC1—Silesia Creek | 48.999 N. | 121.612 W. | 48.911 N. | 121.484 W. |

(A) Map of Unit 28—Puget Sound Basins—Chilliwack critical habitat subunit follows:

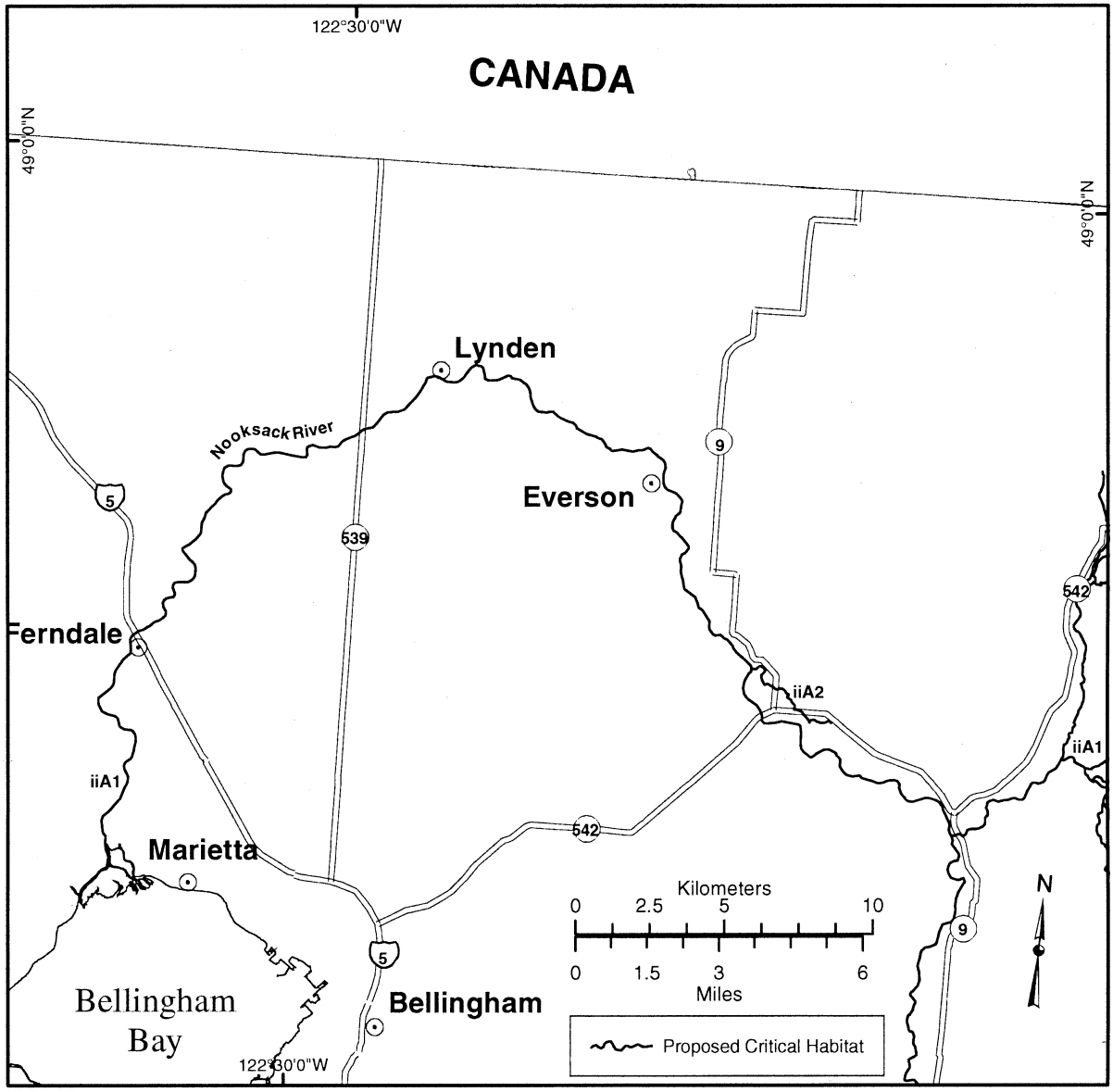



(ii) Nooksack Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiA1—Nooksack River | 48.771 N. | 122.598 W. | 48.834 N. | 122.154 W. |
| iiA2—Smith Creek | 48.856 N. | 122.299 W. | 48.841 N. | 122.261 W. |
| iiB1—North Fork Nooksack River | 48.834 N. | 122.154 W. | 48.907 N. | 121.803 W. |
| iiB2—Racehorse Creek | 48.889 N. | 122.144 W. | 48.884 N. | 122.129 W. |
| iiB3—Kendall Creek | 48.887 N. | 122.148 W. | 48.922 N. | 122.144 W. |
| iiB4—Maple Creek | 48.912 N. | 122.078 W. | 48.927 N. | 122.076 W. |
| iiB5—Boulder Creek | 48.925 N. | 122.036 W. | 48.937 N. | 122.020 W. |
| iiB6—McDonald Creek (stream catalog #0435) | 48.921 N. | 122.015 W. | 48.912 N. | 122.018 W. |
| iiB7—Wildcat Creek | 48.909 N. | 122.000 W. | 48.896 N. | 122.005 W. |
| iiB8—Canyon Creek | 48.906 N. | 121.988 W. | 48.932 N. | 121.950 W. |
| iiB9—Hedrick Creek | 48.899 N. | 121.970 W. | 48.890 N. | 121.980 W. |
| iiB10—Cornell Creek | 48.899 N. | 121.968 W. | 48.887 N. | 121.959 W. |
| iiB11—Gallop Creek | 48.894 N. | 121.942 W. | 48.882 N. | 121.946 W. |
| iiB12—Son of Gallop | 48.889 N. | 121.942 W. | 48.884 N. | 121.939 W. |
| iiC1—Glacier Creek | 48.892 N. | 121.938 W. | 48.812 N. | 121.889 W. |
| iiC2—Little Creek | 48.884 N. | 121.933 W. | 48.876 N. | 121.936 W. |
| iiC3—Davis Creek | 48.882 N. | 121.930 W. | 48.879 N. | 121.929 W. |
| iiC4—Thompson Creek | 48.879 N. | 121.913 W. | 48.892 N. | 121.879 W. |
| iiC5—Deep Creek | 48.869 N. | 121.907 W. | 48.868 N. | 121.910 W. |
| iiC6—Unnamed tributary (stream catalog #0476) | 48.844 N. | 121.901 W. | 48.845 N. | 121.895 W. |
| iiC7—Coal Creek (upper) | 48.839 N. | 121.902 W. | 48.838 N. | 121.905 W. |
| iiC8—Falls Creek | 48.834 N. | 121.901 W. | 48.824 N. | 121.905 W. |
| iiD1—Boyd Creek | 48.903 N. | 121.862 W. | 48.897 N. | 121.864 W. |
| iiD2—Cascade Creek | 48.904 N. | 121.838 W. | 48.904 N. | 121.838 W. |
| iiD3—Deerhorn Creek | 48.903 N. | 121.857 W. | 48.906 N. | 121.856 W. |
| iiD4—Ditch Creek | 48.904 N. | 121.850 W. | 48.902 N. | 121.848 W. |
| iiD5—Chainup Creek | 48.904 N. | 121.839 W. | 48.908 N. | 121.839 W. |
| iiD6—Deadhorse Creek | 48.904 N. | 121.837 W. | 48.900 N. | 121.835 W. |
| iiD7—Powerhouse Creek | 48.908 N. | 121.814 W. | 48.911 N. | 121.817 W. |
| iiD8—Wells Creek | 48.905 N. | 121.808 W. | 48.890 N. | 121.790 W. |
| iiE1—Middle Fork Nooksack River | 48.834 N. | 122.154 W. | 48.725 N. | 121.898 W. |
| iiE2—Canyon Creek (Canyon Lake Creek) | 48.832 N. | 122.143 W. | 48.840 N. | 122.110 W. |
| iiE3—unnamed tributary (stream catalog #0347) | 48.829 N. | 122.140 W. | 48.821 N. | 122.120 W. |
| iiE4—unnamed tributary (stream catalog #0349) | 48.822 N. | 122.133 W. | 48.812 N. | 122.124 W. |
| iiE5—Porter Creek | 48.799 N. | 122.126 W. | 48.795 N. | 122.113 W. |
| iiE6—Peat Bog Creek (stream catalog #0352) | 48.790 N. | 122.121 W. | 48.780 N. | 122.116 W. |
| iiE7—Clearwater Creek | 48.771 N. | 122.046 W. | 48.805 N. | 121.988 W. |
| iiE8—Galbraith Creek | 48.759 N. | 122.018 W. | 48.755 N. | 122.020 W. |
| iiE9—Sister Creek | 48.755 N. | 121.987 W. | 48.746 N. | 121.973 W. |
| iiE10—Warm Creek | 48.756 N. | 121.977 W. | 48.761 N. | 121.970 W. |
| iiE11—Wallace Creek | 48.745 N. | 121.950 W. | 48.748 N. | 121.941 W. |
| iiE12—Green Creek | 48.738 N. | 121.937 W. | 48.732 N. | 121.934 W. |
| iiE13—Rankin Creek | 48.733 N. | 121.919 W. | 48.733 N. | 121.907 W. |
| iiF1—South Fork Nooksack River | 48.809 N. | 122.202 W. | 48.675 N. | 121.940 W. |
| iiF2—Hutchinson Creek | 48.707 N. | 122.178 W. | 48.733 N. | 122.102 W. |
| iiF3—Skookum Creek | 48.671 N. | 122.140 W. | 48.686 N. | 122.105 W. |
| iiF4—Edfro Creek | 48.661 N. | 122.125 W. | 48.664 N. | 122.116 W. |
| iiF5—Cavanaugh Creek | 48.647 N. | 122.119 W. | 48.645 N. | 122.109 W. |
| iiF6—Deer Creek | 48.610 N. | 122.094 W. | 48.603 N. | 122.092 W. |
| iiF7—Howard Creek | 48.609 N. | 121.965 W. | 48.619 N. | 121.965 W. |
| iiF8—Bear Lake Outlet (stream catalog #0317) | 48.607 N. | 121.911 W. | 48.610 N. | 121.911 W. |
| iiF9—Bell Creek | 48.681 N. | 121.899 W. | 48.685 N. | 121.898 W. |
| iiF10—Elbow Creek/Lake Doreen Outlet (stream catalog # 0331) | 48.685 N. | 121.910 W. | 48.707 N. | 121.914 W. |
| iiG1—Wanlick Creek | 48.644 N. | 121.876 W. | 48.670 N. | 121.797 W. |
| iiG2—Monument Creek (stream catalog #0324) | 48.652 N. | 121.833 W. | 48.647 N. | 121.826 W. |
| iiG3—Loomis Creek | 48.661 N. | 121.813 W. | 48.670 N. | 121.826 W. |

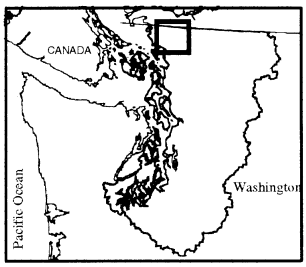
(A) Maps of Unit 28—Puget Sound Basins—Nooksack critical habitat subunit follow:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (ii) Nooksack (Mainstem Portion)



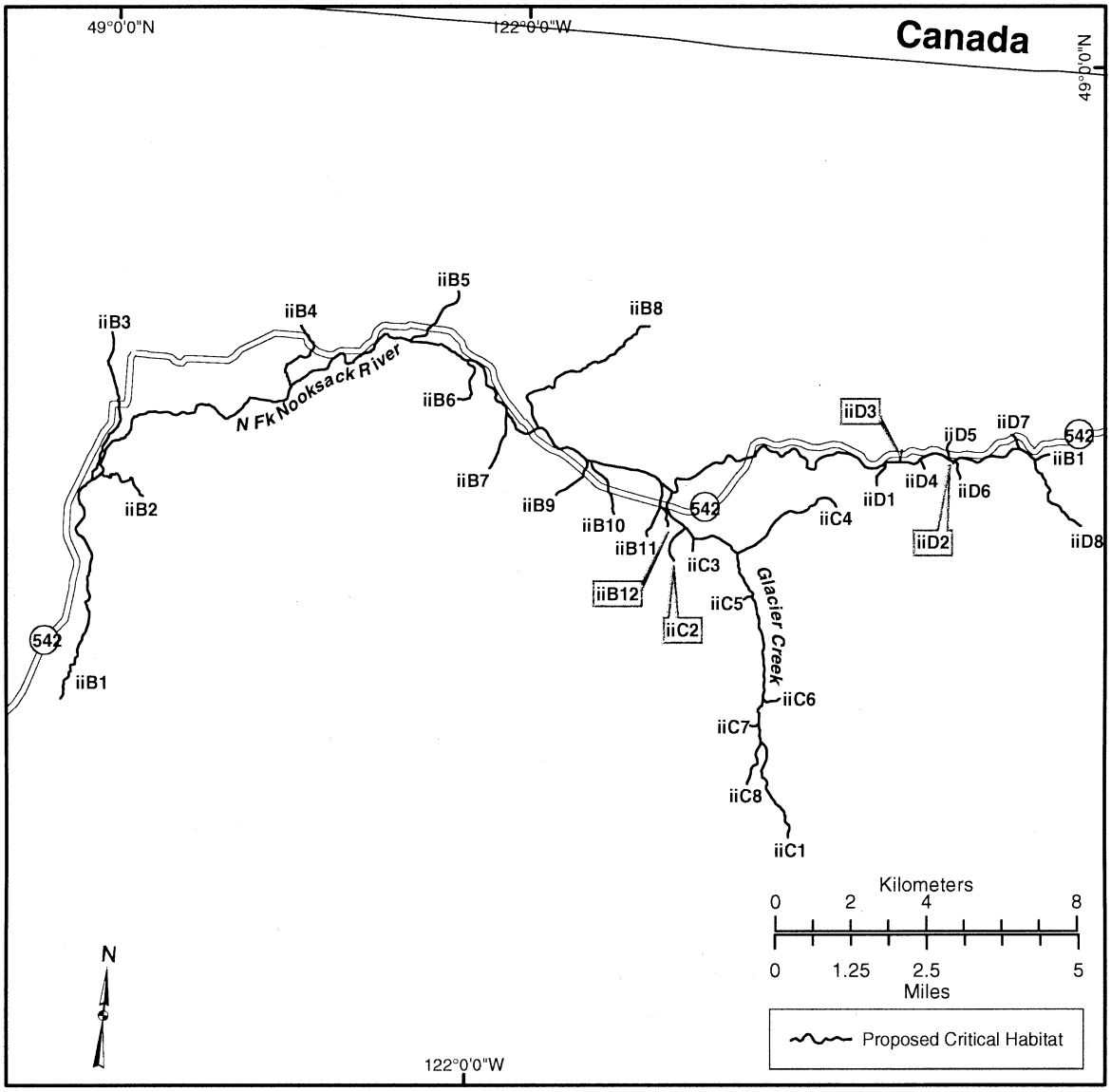

**Proposed Critical Habitat (map key)**

**iiA1-Nooksack River**
**iiA2-Smith Creek**



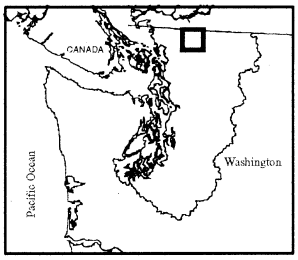

**Area of detail showing Puget Sound River Basins Unit and location of map area above**

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (ii) Nooksack (North Fork Nooksack River Portion)



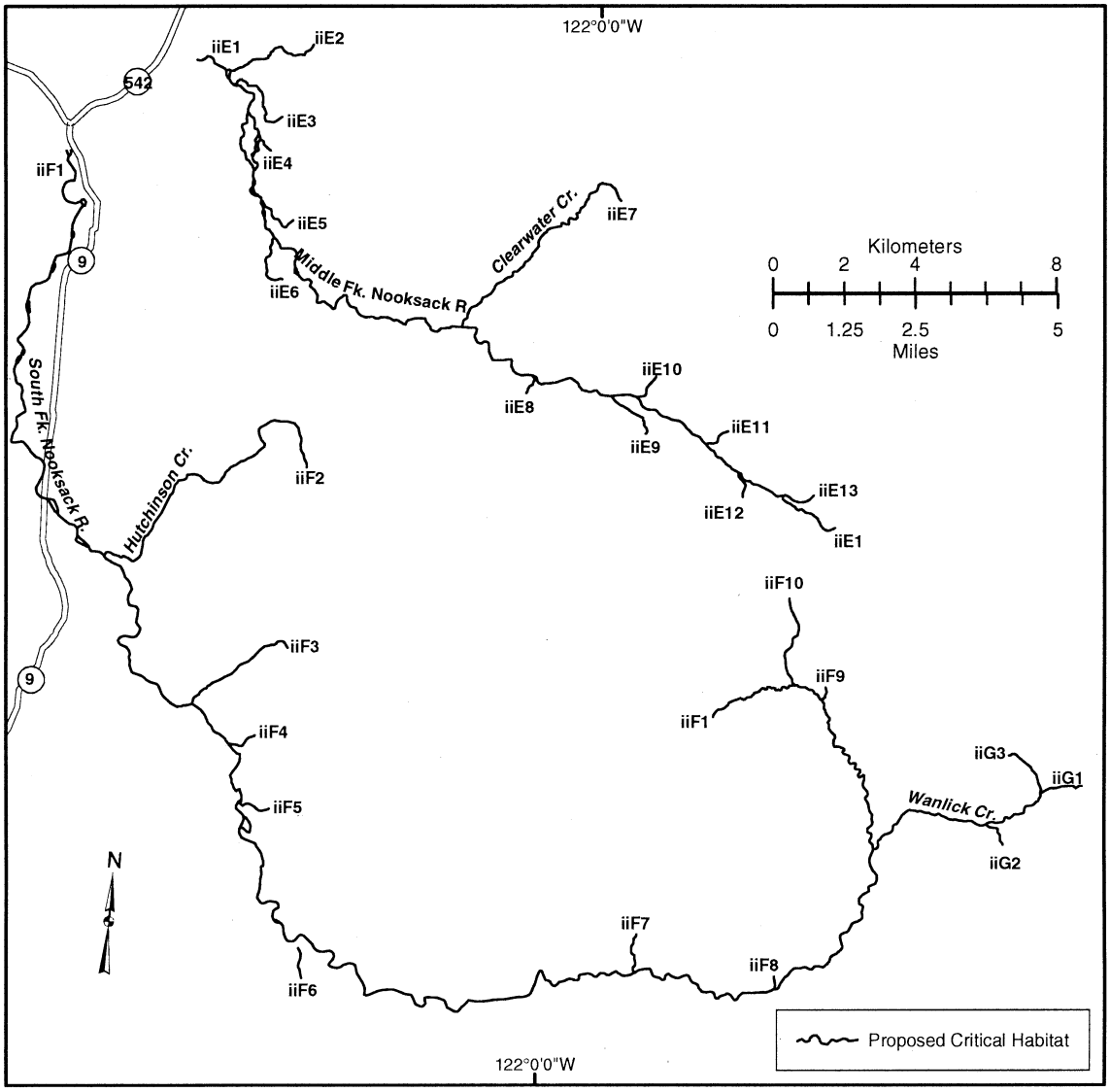

**Proposed Critical Habitat (map key)**

**iiB1-North Fork Nooksack R.**
**iiB2-Racehorse Creek**
**iiB3-Kendall Creek**
**iiB4-Maple Creek**
**iiB5-Boulder Creek**
**iiB6-McDonald Creek(#0435)**
**iiB7-Wildcat Creek**
**iiB8-Canyon Creek**
**iiB9-Hedrick Creek**
**iiB10-Cornell Creek**
**iiB11-Gallop Creek**
**iiB12-Son of Gallop**
**iiC1-Glacier Creek**
**iiC2-Little Creek**
**iiC3-Davis Creek**
**iiC4-Thompson Creek**
**iiC5-Deep Creek**
**iiC6-unnamed trib. (#0476)**
**iiC7-Coal Creek (upper)**
**iiC8-Falls Creek**
**iiD1-Boyd Creek**
**iiD2-Cascade Creek**
**iiD3-Deerhorn Creek**
**iiD4-Ditch Creek**
**iiD5-Chainup Creek**
**iiD6-Deadhorse Creek**
**iiD7-Powerhouse Creek**
**iiD8-Wells Creek**



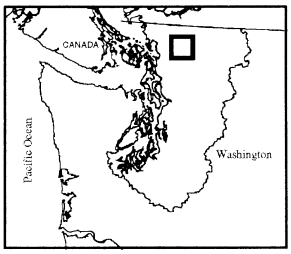

**Area of detail showing Puget Sound River Basins Unit and location of map area above**

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (ii) Nooksack (Middle and South Fork Nooksack River Portion)




**Proposed Critical Habitat (map key)**

**iiE1-Middle Fork Nooksack R.**
**iiE2-Canyon Cr. (Canyon Lake Cr)**
**iiE3-unnamed trib. (#0347)**
**iiE4-unnamed trib. (#0349)**
**iiE5-Porter Creek**
**iiE6-Peat Bog Creek (#0352)**
**iiE7-Clearwater Creek**
**iiE8-Galbraith Creek**
**iiE9-Sister Creek**
**iiE10-Warm Creek**
**iiE11-Wallace Creek**
**iiE12-Green Creek**
**iiF1-South Fork Nooksack R.**
**iiF2-Hutchinson Creek**
**iiF3-Skookum Creek**
**iiF4-Edfro Creek**
**iiF5-Cavanaugh Creek**
**iiF6-Deer Creek**
**iiF7-Howard Creek**
**iiF8-Bear Lake Outlet (#0317)**
**iiF9-Bell Creek**
**iiF10-Elbow Cr./Lk. Doreen Outlet**
**iiG1-Wanlick Creek**
**iiG2-Monument Creek(#0324)**
**iiG3-Loomis Creek**




**Area of detail showing Puget Sound River Basins Unit and location of map area**

(B) [Reserved]

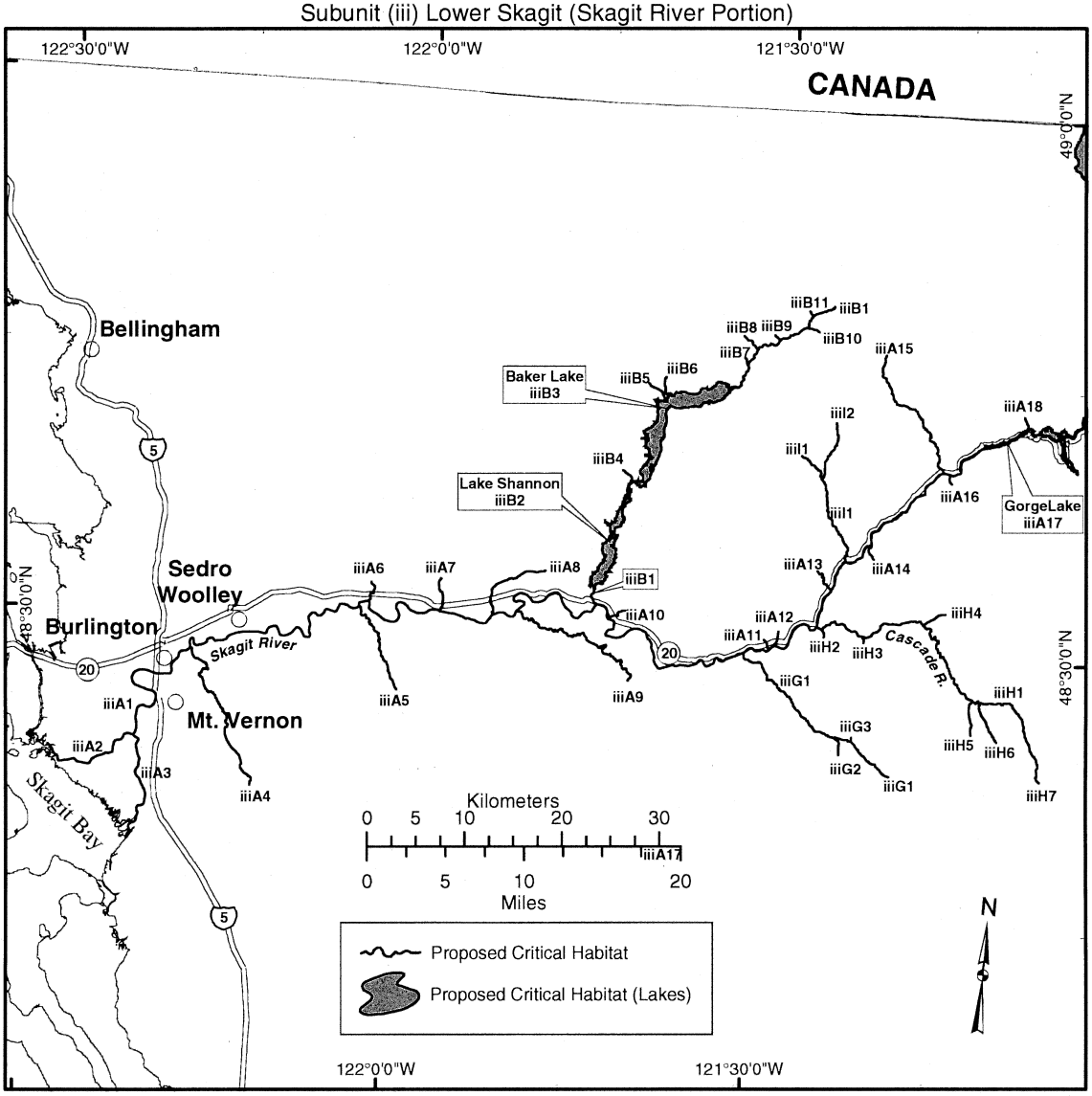
(iii) Lower Skagit Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiiA1—Skagit River | 48.387 N. | 122.366 W. | 49.000 N. | 121.078 W. |
| iiiA2—North Fork Skagit River | 48.364 N. | 122.472 W. | 48.387 N. | 122.366 W. |
| iiiA3—South Fork Skagit River | 48.292 N. | 122.367 W. | 48.387 N. | 122.366 W. |
| iiiA4—Nookachamps Creek | 48.471 N. | 122.296 W. | 48.346 N. | 122.202 W. |
| iiiA5—Day Creek | 48.519 N. | 122.065 W. | 48.445 N. | 122.006 W. |
| iiiA6—Jones Creek | 48.524 N. | 122.052 W. | 48.542 N. | 122.050 W. |
| iiiA7—Alder Creek | 48.519 N. | 121.954 W. | 48.549 N. | 121.954 W. |
| iiiA8—Grandy Creek | 48.518 N. | 121.879 W. | 48.561 N. | 121.823 W. |
| iiiA9—Finney Creek | 48.524 N. | 121.846 W. | 48.465 N. | 121.686 W. |
| iiiA10—Jackman Creek | 48.523 N. | 121.720 W. | 48.529 N. | 121.696 W. |
| iiiA11—Rocky Creek | 48.501 N. | 121.494 W. | 48.510 N. | 121.501 W. |
| iiiA12—Corkindale Creek | 48.505 N. | 121.485 W. | 48.518 N. | 121.482 W. |
| iiiA13—Diobsud Creek | 48.559 N. | 121.411 W. | 48.576 N. | 121.432 W. |
| iiiA14—Alma Creek | 48.600 N. | 121.361 W. | 48.590 N. | 121.355 W. |
| iiiA15—Goodell Creek | 48.672 N. | 121.264 W. | 48.778 N. | 121.351 W. |
| iiiA16—Newhalem Creek | 48.671 N. | 121.254 W. | 48.663 N. | 121.251 W. |
| iiiA17—Gorge Lake | Located at | | 48.703 N. | 121.180 W. |
| iiiA18—Stetattle Creek | 48.717 N. | 121.148 W. | 48.727 N. | 121.154 W. |
| iiiB1—Baker River | 48.534 N. | 121.735 W. | 48.821 N. | 121.427 W. |
| iiiB2—Lake Shannon | Located at | | 48.590 N. | 121.723 W. |
| iiiB3—Baker Lake | Located at | | 48.719 N. | 121.660 W. |
| iiiB4—Sulphur Creek | 48.648 N. | 121.698 W. | 48.659 N. | 121.710 W. |
| iiiB5—Park Creek | 48.724 N. | 121.651 W. | 48.741 N. | 121.681 W. |
| iiiB6—Swift Creek | 48.726 N. | 121.648 W. | 48.747 N. | 121.657 W. |
| iiiB7—Lake Creek | 48.762 N. | 121.545 W. | 48.769 N. | 121.549 W. |
| iiiB8—Sulphide Creek | 48.777 N. | 121.532 W. | 48.789 N. | 121.551 W. |
| iiiB9—Crystal Creek | 48.787 N. | 121.501 W. | 48.791 N. | 121.509 W. |
| iiiB10—Bald Eagle Creek | 48.800 N. | 121.464 W. | 48.797 N. | 121.448 W. |
| iiiB11—Pass Creek | 48.815 N. | 121.462 W. | 48.811 N. | 121.457 W. |
| iiiC1—Sauk River | 48.482 N. | 121.604 W. | 48.135 N. | 121.422 W. |
| iiiC2—Dan Creek | 48.298 N. | 121.550 W. | 48.265 N. | 121.539 W. |
| iiiC3—Falls Creek | 48.148 N. | 121.436 W. | 48.137 N. | 121.431 W. |
| iiiC4—North Fork Sauk River | 48.097 N. | 121.388 W. | 48.096 N. | 121.369 W. |
| iiiD1—Suiattle River | 48.330 N. | 121.548 W. | 48.162 N. | 121.005 W. |
| iiiD2—Big Creek | 48.345 N. | 121.450 W. | 48.344 N. | 121.438 W. |
| iiiD3—Tenas Creek | 48.324 N. | 121.438 W. | 48.335 N. | 121.421 W. |
| iiiD4—Straight Creek | 48.272 N. | 121.397 W. | 48.254 N. | 121.397 W. |
| iiiD5—Black Creek | 48.259 N. | 121.401 W. | 48.247 N. | 121.412 W. |
| iiiD6—Buck Creek | 48.265 N. | 121.338 W. | 48.353 N. | 121.267 W. |
| iiiD7—Horse Creek | 48.313 N. | 121.285 W. | 48.322 N. | 121.256 W. |
| iiiD8—Lime Creek | 48.252 N. | 121.292 W. | 48.218 N. | 121.277 W. |
| iiiD9—Downey Creek | 48.259 N. | 121.224 W. | 48.330 N. | 121.148 W. |
| iiiD10—Goat Creek | 48.328 N. | 121.156 W. | 48.334 N. | 121.160 W. |
| iiiD11—Sulphur Creek | 48.247 N. | 121.192 W. | 48.279 N. | 121.084 W. |
| iiiD12—Milk Creek | 48.221 N. | 121.162 W. | 48.178 N. | 121.151 W. |
| iiiD13—Canyon Creek | 48.211 N. | 121.087 W. | 48.220 N. | 121.080 W. |
| iiiD14—Vista Creek | 48.194 N. | 121.046 W. | 48.180 N. | 121.055 W. |
| iiiD15—Miners Creek | 48.187 N. | 121.030 W. | 48.190 N. | 121.022 W. |
| iiiD16—Dusty Creek | 48.177 N. | 121.018 W. | 48.139 N. | 121.039 W. |
| iiiD17—Small Creek | 48.162 N. | 121.005 W. | 48.158 N. | 120.977 W. |
| iiiE1—White Chuck River | 48.173 N. | 121.471 W. | 48.071 N. | 121.150 W. |
| iiiE2—Black Oak Creek | 48.177 N. | 121.449 W. | 48.185 N. | 121.453 W. |
| iiiE3—unnamed tributary (stream catalog #1119) | 48.181 N. | 121.429 W. | 48.185 N. | 121.431 W. |
| iiiE4—Crystal Creek | 48.181 N. | 121.363 W. | 48.183 N. | 121.360 W. |
| iiiE5—Pugh Creek | 48.172 N. | 121.338 W. | 48.165 N. | 121.332 W. |
| iiiE6—Owl Creek | 48.164 N. | 121.299 W. | 48.161 N. | 121.287 W. |
| iiiE7—Camp Creek | 48.159 N. | 121.291 W. | 48.150 N. | 121.279 W. |
| iiiE8—Fire Creek | 48.153 N. | 121.243 W. | 48.154 N. | 121.231 W. |
| iiiE9—Fourteenmile Creek | 48.140 N. | 121.221 W. | 48.126 N. | 121.227 W. |
| iiiE10—Pumice Creek | 48.148 N. | 121.235 W. | 48.141 N. | 121.148 W. |
| iiiE11—Glacier Creek | 48.130 N. | 121.202 W. | 48.131 N. | 121.167 W. |
| iiiF1—South Fork Sauk River | 48.097 N. | 121.388 W. | 47.987 N. | 121.392 W. |
| iiiF2—Merry Brook W. | 48.089 N. | 121.391 W. | 48.087 N. | 121.387 W. |
| iiiF3—Bedal Creek | 48.080 N. | 121.394 W. | 48.047 N. | 121.350 W. |
| iiiF4—Chocwick Creek | 48.074 N. | 121.399 W. | 48.055 N. | 121.382 W. |
| iiiF5—Elliott Creek | 48.057 N. | 121.415 W. | 48.027 N. | 121.366 W. |
| iiiF6—Weden Creek | 48.003 N. | 121.438 W. | 47.986 N. | 121.443 W. |
| iiiF7—Seventysix Gulch | 47.987 N. | 121.392 W. | 47.974 N. | 121.383 W. |
| iiiF8—Glacier Creek | 47.987 N. | 121.392 W. | 47.987 N. | 121.367 W. |
| iiiG1—Illabot Creek | 48.496 N. | 121.530 W. | 48.389 N. | 121.318 W. |
| iiiG2—Arrow Creek | 48.407 N. | 121.389 W. | 48.423 N. | 121.395 W. |
| iiiG3—Otter Creek | 48.421 N. | 121.373 W. | 48.424 N. | 121.372 W. |

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiiH1—Cascade River | 48.524 N. | 121.429 W. | 48.463 N. | 121.163 W. |
| iiiH2—Jordan Creek | 48.522 N. | 121.421 W. | 48.515 N. | 121.418 W. |
| iiiH3—Boulder Creek | 48.518 N. | 121.365 W. | 48.512 N. | 121.363 W. |
| iiiH4—Marble Creek | 48.531 N. | 121.281 W. | 48.542 N. | 121.251 W. |
| iiiH5—Kindy Creek | 48.464 N. | 121.207 W. | 48.432 N. | 121.206 W. |
| iiiH6—Sonny Boy Creek | 48.462 N. | 121.196 W. | 48.427 N. | 121.171 W. |
| iiiH7—South Fork Cascade River | 48.463 N. | 121.163 W. | 48.391 N. | 121.108 W. |
| iiiI1—Bacon Creek | 48.586 N. | 121.394 W. | 48.681 N. | 121.462 W. |
| iiiI2—East Fork Bacon Creek | 48.661 N. | 121.433 W. | 48.713 N. | 121.416 W. |

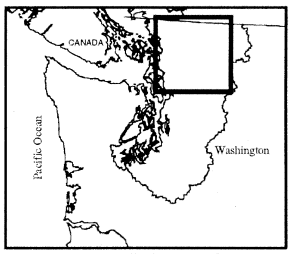
(A) Maps of Unit 28—Puget Sound Basins—Lower Skagit critical habitat subunit follow:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (iii) Lower Skagit (Skagit River Portion)



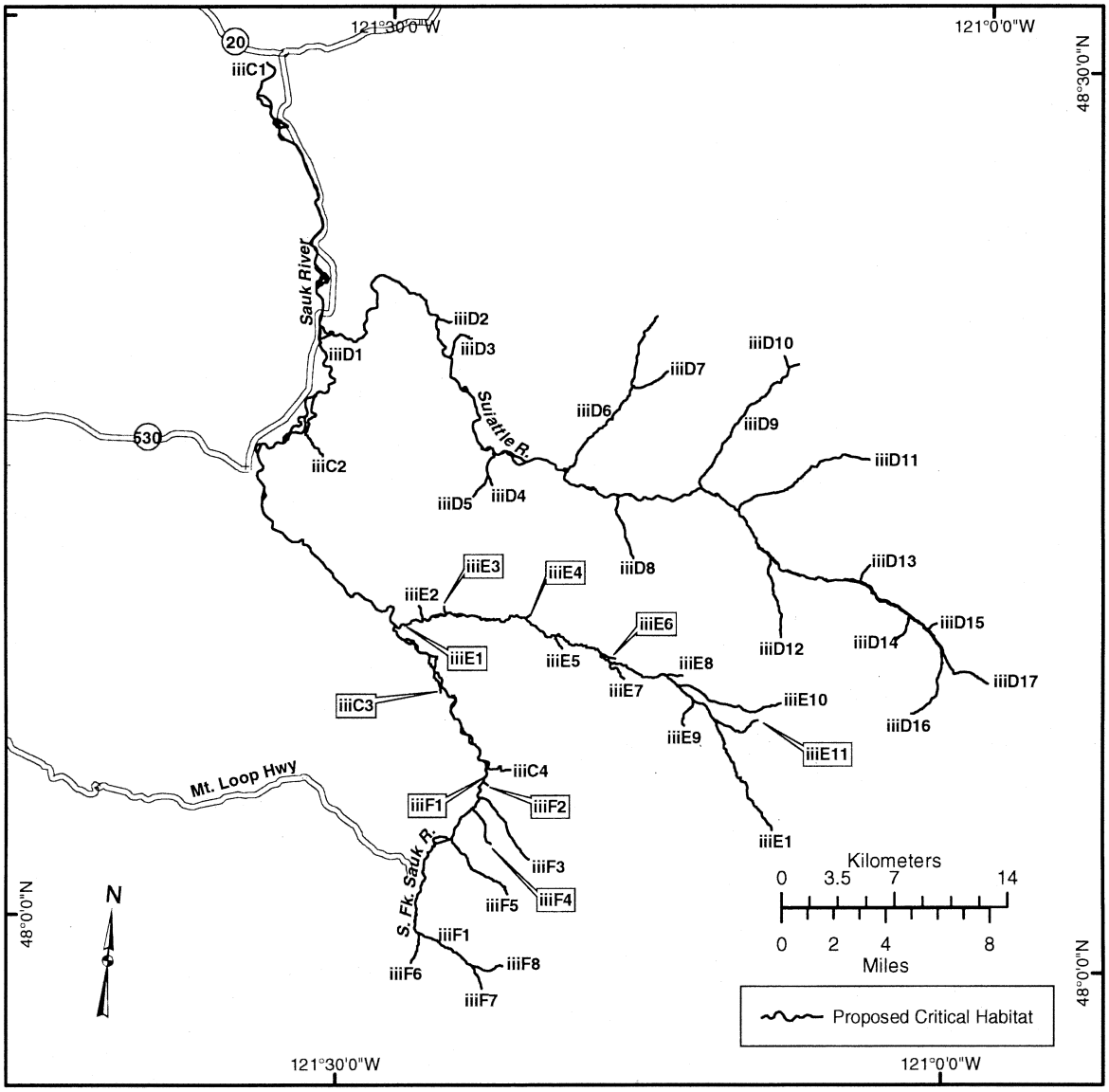

**Proposed Critical Habitat (map key)**

**iiiA1-Skagit River**
**iiiA2-N. Fk. Skagit River**
**iiiA3-S. Fk. Skagit River**
**iiiA4-Nookachamps Creek**
**iiiA5-Day Creek**
**iiiA6-Jones Creek**
**iiiA7-Alder Creek**
**iiiA8-Grandy Creek**
**iiiA9-Finney Creek**
**iiiA10-Jackman Creek**
**iiiA11-Rocky Creek**
**iiiA12-Corkindale Creek**
**iiiA13-Diobsud Creek**
**iiiA14-Alma Creek**
**iiiA15-Goodell Creek**
**iiiA16-Newhalem Creek**
**iiiA17-Gorge Lake**
**iiiA18-Stetattle Creek**
**iiiB1-Baker River**
**iiiB2-Lake Shannon**
**iiiB3-Baker Lake**
**iiiB4-Sulphur Creek**
**iiiB5-Park Creek**
**iiiB6-Swift Creek**
**iiiB7-Lake Creek**
**iiiB8-Sulphide Creek**
**iiiB9-Crystal Creek**
**iiiB10-Bald Eagle Creek**
**iiiB11-Pass Creek**
**iiiG1-Illabot Creek**
**iiiG2-Arrow Creek**
**iiiG3-Otter Creek**
**iiiH1-Cascade River**
**iiiH2-Jordan Creek**
**iiiH3-Boulder Creek**
**iiiH4-Marble Creek**
**iiiH5-Kindy Creek**
**iiiH6-Sonny Boy Creek**
**iiiH7-S. Fk. Cascade River**
**iiiI1-Bacon Creek**
**iiiI2-E. Fk. Bacon Creek**



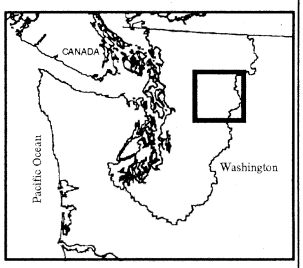

**Area of detail showing Puget Sound River Basins Unit and location of map area above**

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (iii) Lower Skagit (Sauk River Portion)




**Proposed Critical Habitat (map key)**

iiiC1-Sauk River
iiiC2-Dan Creek
iiiC3-Falls Creek
iiiC4-N. Fk. Sauk River
iiiD1-Suiattle River
iiiD2-Big Creek
iiiD3-Tenas Creek
iiiD4-Straight Creek
iiiD5-Black Creek
iiiD6-Buck Creek
iiiD7-Horse Creek
iiiD8-Lime Creek
iiiD9-Downey Creek
iiiD10-Goat Creek
iiiD11-Sulphur Creek
iiiD12-Milk Creek
iiiD13-Canyon Creek
iiiD14-Vista Creek
iiiD15-Miners Creek
iiiD16-Dusty Creek
iiiD17-Small Creek
iiiE1-White Chuck River
iiiE2-Black Oak Creek
iiiE3-unnamed trib. (#1119)
iiiE4-Crystal Creek
iiiE5-Pugh Creek
iiiE6-Owl Creek
iiiE7-Camp Creek
iiiE8-Fire Creek
iiiE9-Fourteenmile Creek
iiiE10-Pumice Creek
iiiE11-Glacier Creek
iiiF1-S. Fk. Sauk River
iiiF2-Merry Brook
iiiF3-Bedal Creek
iiiF4-Chocwick Creek
iiiF5-Elliott Creek
iiiF6-Weden Creek
iiiF7-Seventysix Gulch
iiiF8-Glacier Creek




Area of detail showing Puget Sound River Basins Unit and location of map area above

(B) [Reserved]

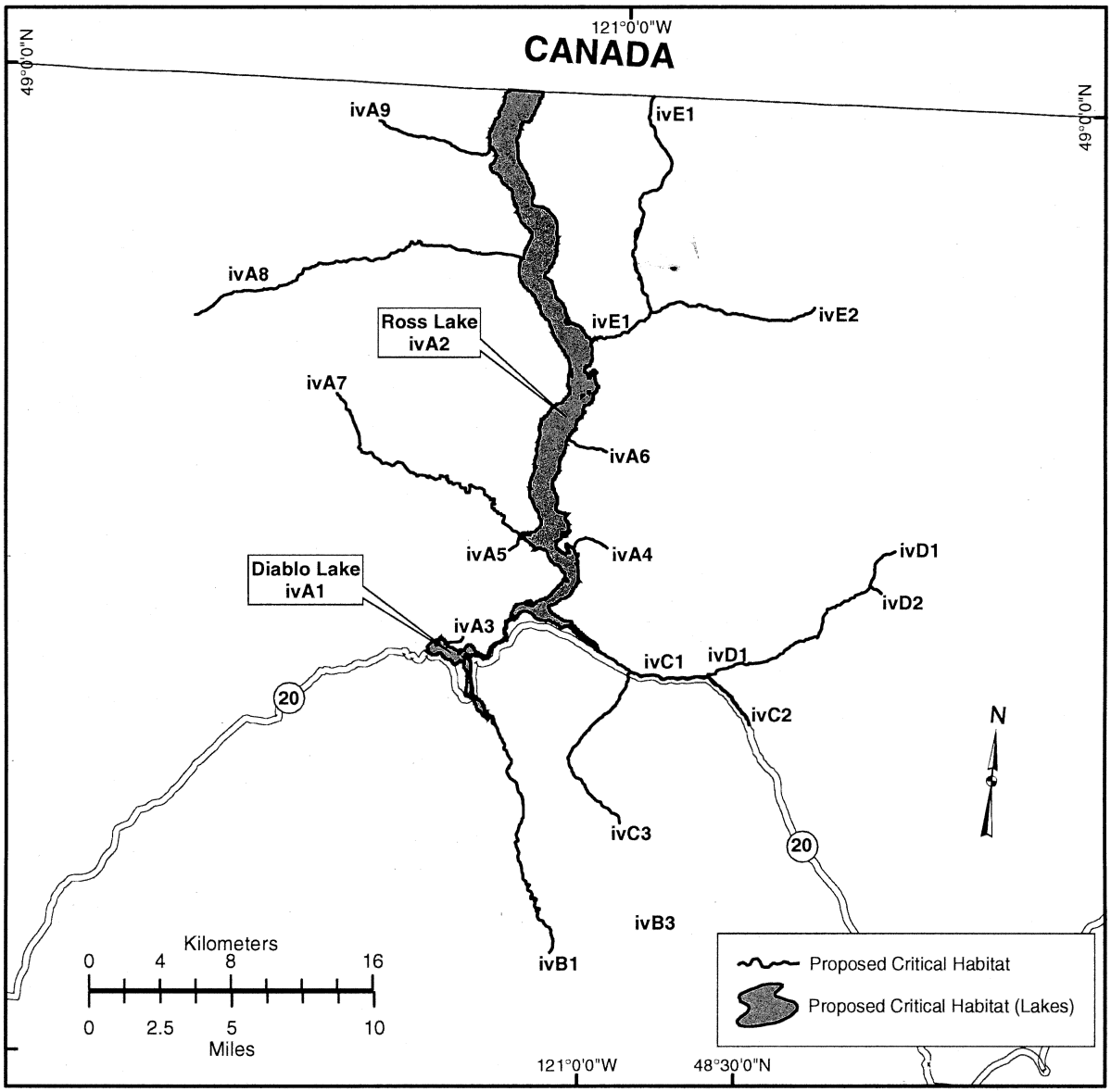
(iv) Upper Skagit Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| ivA1—Diablo Lake | Located at | | 48.712 N. | 121.109 W. |
| ivA2—Ross Lake | Located at | | 48.870 N. | 121.029 W. |
| ivA3—Deer Creek | 48.715 N. | 121.119 W. | 48.721 N. | 121.104 W. |
| ivA4—Roland Creek | 48.762 N. | 121.027 W. | 48.770 N. | 120.997 W. |
| ivA5—Pierce Creek | 48.774 N. | 121.060 W. | 48.766 N. | 121.072 W. |
| ivA6—Devils Creek | 48.825 N. | 121.042 W. | 48.819 N. | 121.001 W. |
| ivA7—Big Beaver Creek | 48.773 N. | 121.045 W. | 48.842 N. | 121.210 W. |
| ivA8—Little Beaver Creek | 48.912 N. | 121.064 W. | 48.878 N. | 121.322 W. |
| ivA9—Silver Creek | 48.972 N. | 121.092 W. | 48.981 N. | 121.188 W. |
| ivB1—Thunder Creek | 48.712 N. | 121.105 W. | 48.563 N. | 121.026 W. |
| ivC1—Ruby Creek | 48.737 N. | 121.046 W. | 48.707 N. | 120.916 W. |
| ivC2—Granite Creek | 48.707 N. | 120.916 W. | 48.684 N. | 120.882 W. |
| ivC3—Panther Creek | 48.708 N. | 120.975 W. | 48.631 N. | 120.977 W. |
| ivD1—Canyon Creek | 48.707 N. | 120.916 W. | 48.775 N. | 120.777 W. |
| ivD2—Slate Creek | 48.757 N. | 120.795 W. | 48.754 N. | 120.786 W. |
| ivE1—Lightning Creek | 48.871 N. | 121.027 W. | 49.000 N. | 120.978 W. |
| ivE2—Three Fools Creek | 48.891 N. | 120.973 W. | 48.897 N. | 120.847 W. |

(A) Map of Unit 28—Puget Sound Basins—Upper Skagit critical habitat subunit follows:

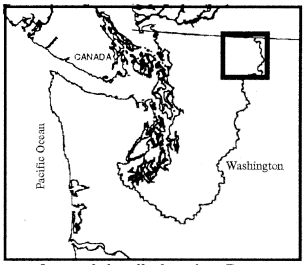
Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*

Unit 28: Puget Sound River Basins
Subunit (iv) Upper Skagit




**Proposed Critical Habitat (map key)**

**ivA1-Diablo Lake**
**ivA2-Ross Lake**
**ivA3-Deer Creek**
**ivA4-Roland Creek**
**ivA5-Pierce Creek**
**ivA6-Devils Creek**
**ivA7-Big Beaver Creek**
**ivA8-Little Beaver Creek**
**ivA9-Silver Creek**
**ivB1-Thunder Creek**
**ivC1-Ruby Creek**
**ivC2-Granite Creek**
**ivC3-Panther Creek**
**ivD1-Canyon Creek**
**ivD2-Slate Creek**
**ivE1-Lightning Creek**
**ivE2-Three Fools Creek**




**Area of detail showing Puget Sound River Basins Unit and location of map area above**

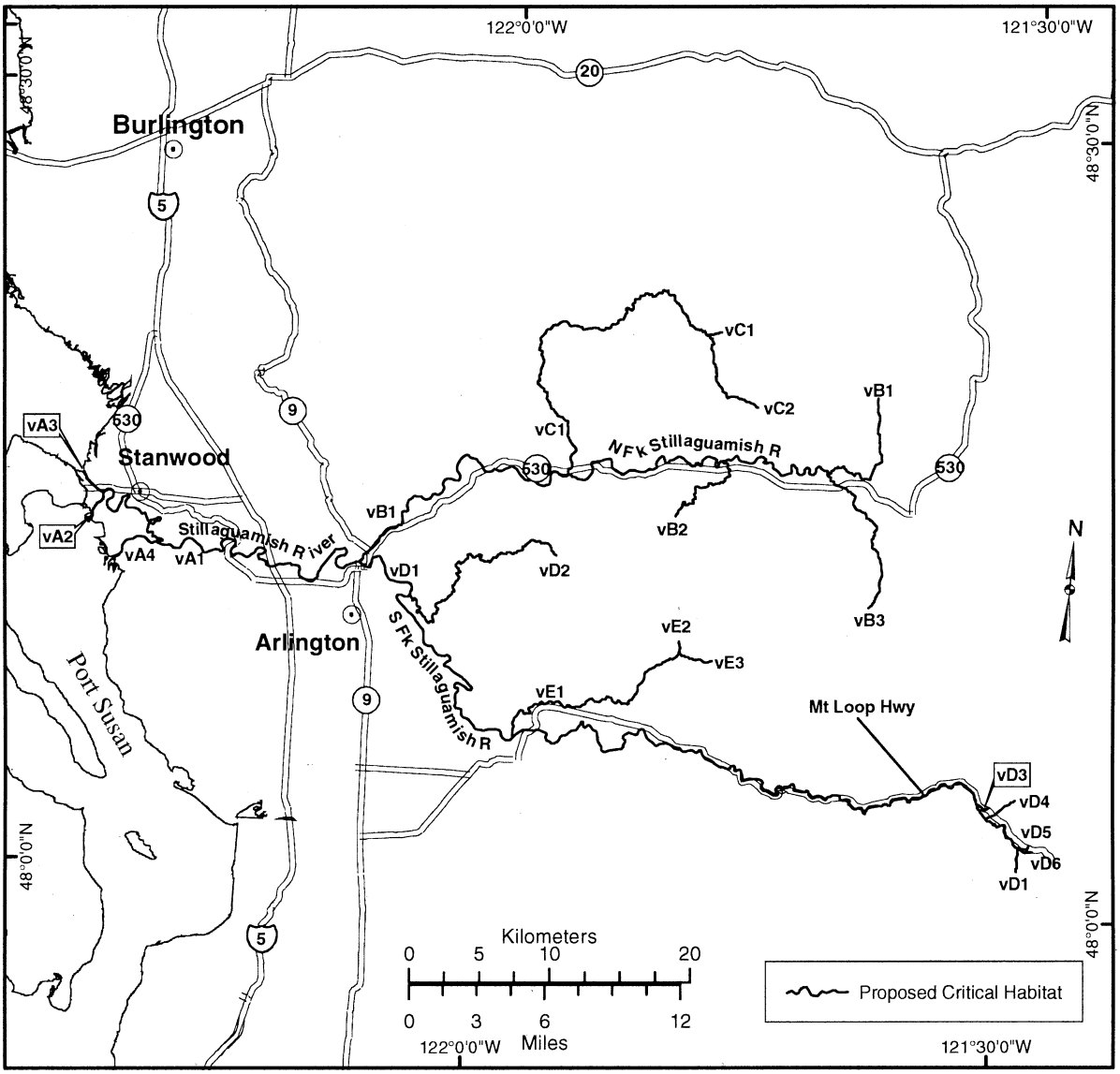
(B) [Reserved]

(v) Stillaguamish Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| vA1—Stillaguamish River | 48.238 N. | 122.377 W. | 48.204 N. | 122.126 W. |
| vA2—South Pass | 48.226 N. | 122.385 W. | 48.238 N. | 122.377 W. |
| vA3—West Pass | 48.250 N. | 122.396 W. | 48.238 N. | 122.377 W. |
| vA4—Hat Slough | 48.197 N. | 122.361 W. | 48.209 N. | 122.322 W. |
| vB1—North Fork Stillaguamish River | 48.204 N. | 122.126 W. | 48.328 N. | 121.639 W. |
| vB2—Boulder River | 48.282 N. | 121.786 W. | 48.245 N. | 121.827 W. |
| vB3—Squire Creek | 48.280 N. | 121.684 W. | 48.194 N. | 121.637 W. |
| vC1—Deer Creek | 48.268 N. | 121.931 W. | 48.365 N. | 121.793 W. |
| vC2—Higgins Creek | 48.362 N. | 121.806 W. | 48.318 N. | 121.754 W. |
| vD1—South Fork Stillaguamish River | 48.204 N. | 122.126 W. | 48.030 N. | 121.482 W. |
| vD2—Jim Creek | 48.185 N. | 122.076 W. | 48.216 N. | 121.939 W. |
| vD3—Big Four Creek | 48.072 N. | 121.523 W. | 48.070 N. | 121.511 W. |
| vD4—Perry Creek | 48.063 N. | 121.514 W. | 48.076 N. | 121.487 W. |
| vD5—Buck Creek | 48.045 N. | 121.480 W. | 48.047 N. | 121.471 W. |
| vD6—Palmer Creek | 48.045 N. | 121.481 W. | 48.043 N. | 121.468 W. |
| vE1—Canyon Creek | 48.098 N. | 121.969 W. | 48.158 N. | 121.816 W. |
| vE2—North Fork Canyon Creek | 48.158 N. | 121.816 W. | 48.165 N. | 121.817 W. |
| vE3—South Fork Canyon Creek | 48.158 N. | 121.816 W. | 48.154 N. | 121.784 W. |

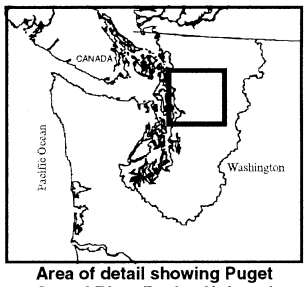
(A) Map of Unit 28—Puget Sound Basins—Stillaguamish critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (v) Stillaguamish




**Proposed Critical Habitat (map key)**

**vA1-Stillaguamish River**
**vA2-South Pass**
**vA3-West Pass**
**vA4-Hat Slough**
**vB1-N. Fk. Stillaguamish R.**
**vB2-Boulder River**
**vB3-Squire Creek**
**vC1-Deer Creek**
**vC2-Higgins Creek**
**vD1-S. Fk. Stillaguamish R.**
**vD2-Jim Creek**
**vD3-Big Four Creek**
**vD4-Perry Creek**
**vD5-Buck Creek**
**vD6-Palmer Creek**
**vE1-Canyon Creek**
**vE4-N. Fk. Canyon Creek**
**vE5-S. Fk. Canyon Creek**




**Area of detail showing Puget Sound River Basins Unit and location of map area above**

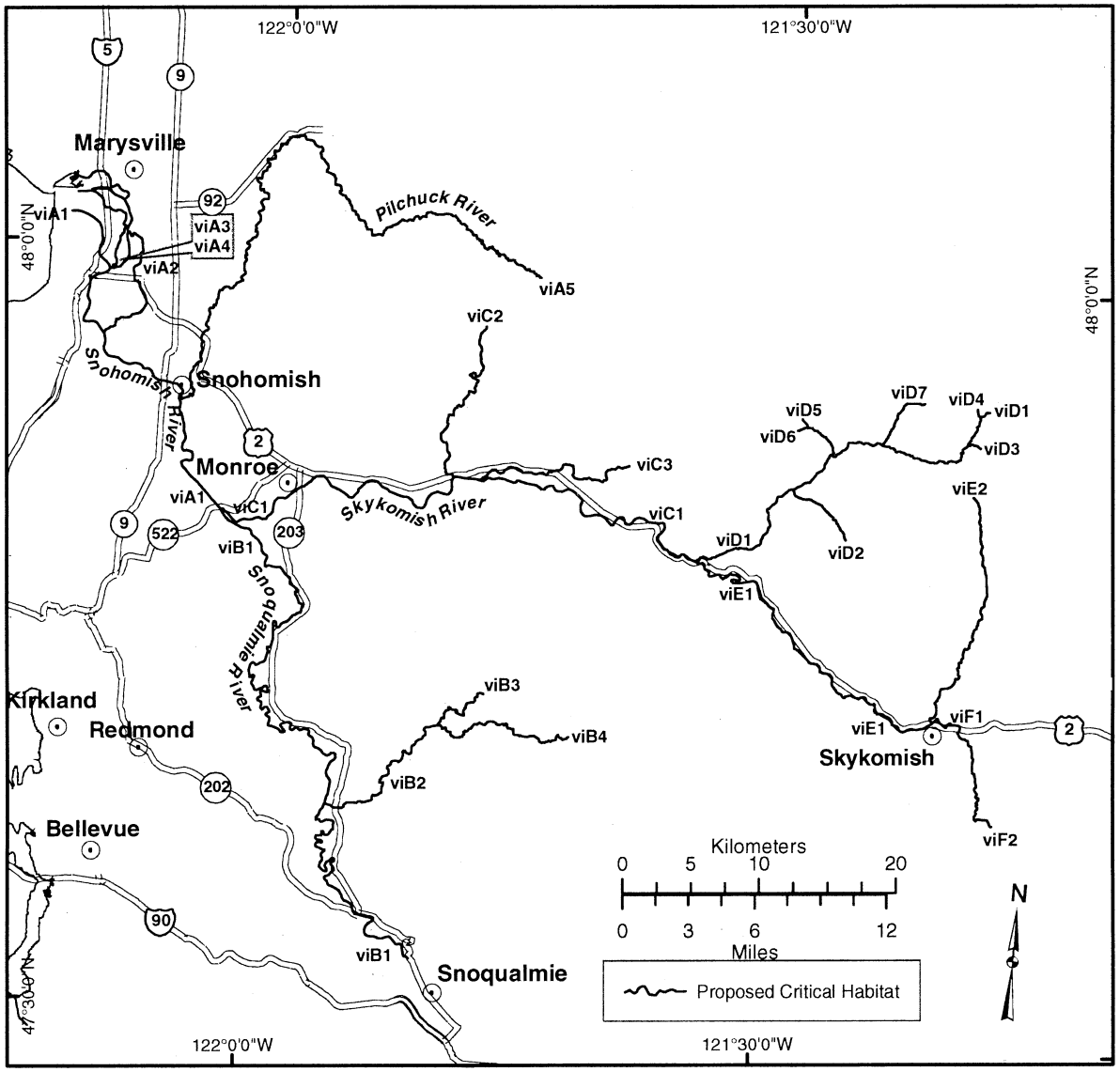
(B) [Reserved]

(vi) Snohomish/Skykomish Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viA1—Snohomish River | 48.020 N. | 122.208 W. | 47.830 N. | 122.045 W. |
| viA2—Ebey Slough | 48.022 N. | 122.147 W. | 47.941 N. | 122.169 W. |
| viA3—Steamboat Slough | 48.033 N. | 122.203 W. | 47.984 N. | 122.168 W. |
| viA4—Union Slough | 48.034 N. | 122.190 W. | 47.984 N. | 122.166 W. |
| viA5—Pilchuck River | 47.904 N. | 122.090 W. | 47.995 N. | 121.745 W. |
| viB1—Snoqualmie River | 47.830 N. | 122.045 W. | 47.541 N. | 121.836 W. |
| viB2—Tolt River | 47.641 N. | 121.926 W. | 47.696 N. | 121.820 W. |
| viB3—North Fork Tolt River | 47.710 N. | 121.794 W. | 47.718 N. | 121.778 W. |
| viB4—South Fork Tolt River | 47.696 N. | 121.820 W. | 47.693 N. | 121.692 W. |
| viC1—Skykomish River | 47.830 N. | 122.045 W. | 47.813 N. | 121.578 W. |
| viC2—Sultan River | 47.860 N. | 121.819 W. | 47.960 N. | 121.795 W. |
| viC3—Wallace River | 47.859 N. | 121.794 W. | 47.874 N. | 121.648 W. |
| viD1—North Fork Skykomish River | 47.813 N. | 121.578 W. | 47.922 N. | 121.298 W. |
| viD2—Trout Creek | 47.864 N. | 121.487 W. | 47.833 N. | 121.433 W. |
| viD3—West Cady Creek | 47.899 N. | 121.318 W. | 47.898 N. | 121.306 W. |
| viD4—Goblin Creek | 47.919 N. | 121.307 W. | 47.924 N. | 121.311 W. |
| viD5—Salmon Creek | 47.889 N. | 121.451 W. | 47.911 N. | 121.481 W. |
| viD6—South Fork Salmon Creek | 47.906 N. | 121.475 W. | 47.904 N. | 121.485 W. |
| viD7—Troublesome Creek | 47.897 N. | 121.403 W. | 47.925 N. | 121.362 W. |
| viE1—South Fork Skykomish River | 47.813 N. | 121.578 W. | 47.705 N. | 121.305 W. |
| viE2—Beckler River | 47.715 N. | 121.339 W. | 47.865 N. | 121.310 W. |
| viF1—Foss River | 47.653 N. | 121.293 W. | 47.705 N. | 121.305 W. |
| viF2—East Fork Foss River | 47.653 N. | 121.293 W. | 47.649 N. | 121.276 W. |

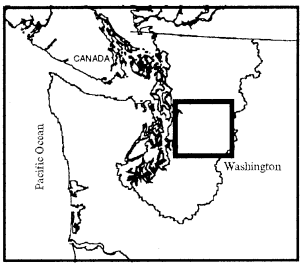
(A) Map of Unit 28—Puget Sound Basins—Snohomish/Skykomish critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (vi) Snohomish-Skykomish




**Proposed Critical Habitat (map key)**

viA1-Snohomish River
viA2-Ebey Slough
viA3-Steamboat Slough
viA4-Union Slough
viA5-Pilchuck River
viB1-Snoqualmie River
viB2-Tolt River
viB3-N. Fk. Tolt River
viB4-S. Fk. Tolt River
viC1-Skykomish River
viC2-Sultan River
viC3-Wallace River
viD1-N. Fk. Skykomish R.
viD2-Trout Creek
viD3-West Cady Creek
viD4-Goblin Creek
viD5-Salmon Creek
viD6-S. Fk. Salmon Creek
viD7-Troublesome Creek
viE1-S. Fk. Skykomish R.
viE2-Beckler River
viF1-Foss River
viF2-E. Fk. Foss River




**Area of detail showing Puget Sound River Basins Unit and location of map area above**

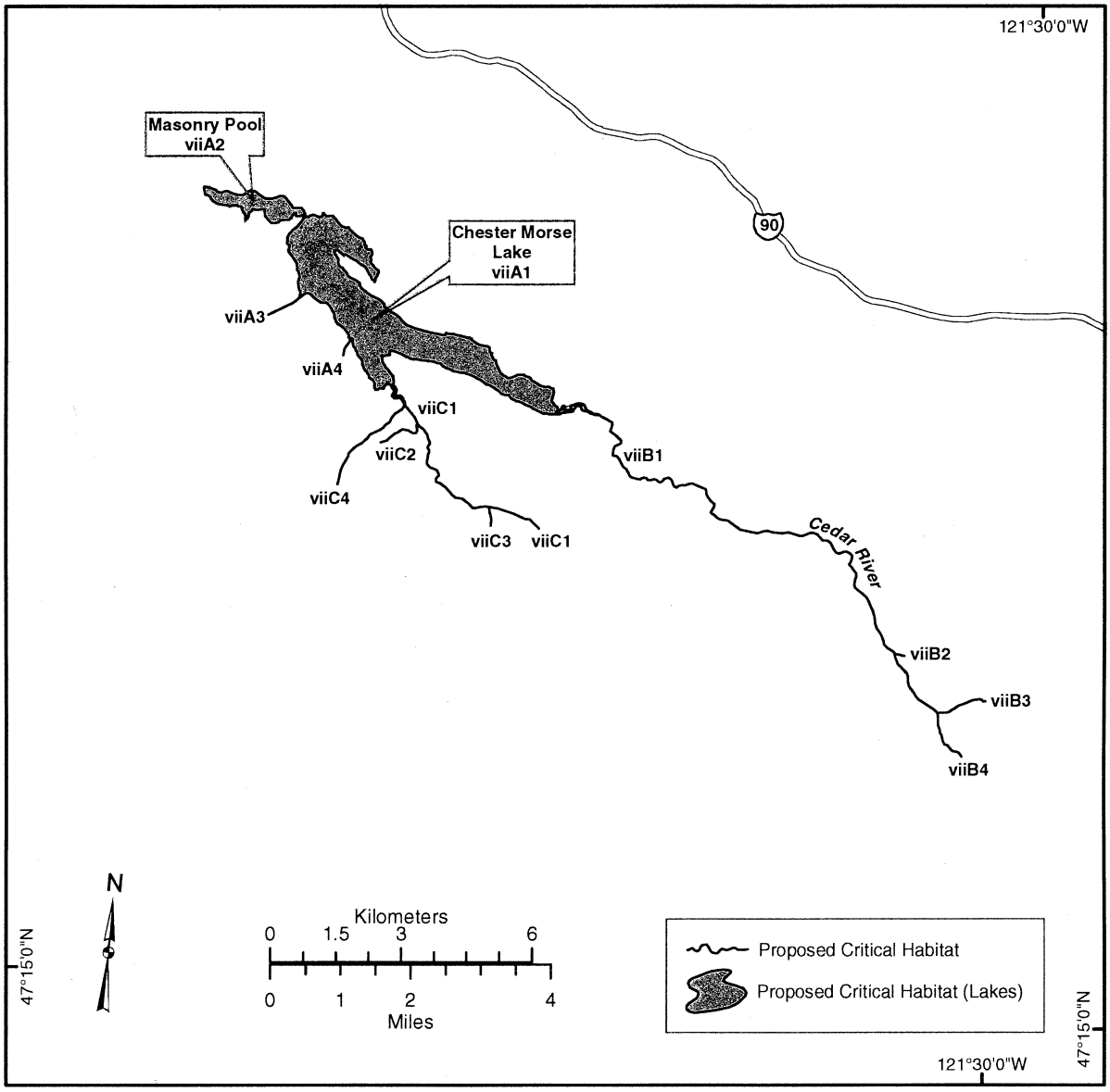
(B) [Reserved]

(vii) Chester Morse Lake Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viiA1—Chester Morse Lake | Located at | | 47.411 N. | 121.736 W. |
| viiA2—Masonry Pool | Located at | | 47.386 N. | 121.697 W. |
| viiA3—Rack Creek | 47.397 N. | 121.716 W. | 47.388 N. | 121.730 W. |
| viiA4—Shotgun Creek | 47.388 N. | 121.701 W. | 47.380 N. | 121.706 W. |
| viiB1—Cedar River | 47.412 N. | 121.751 W. | 47.313 N. | 121.520 W. |
| viiB2—unnamed tributary (stream catalog #0439) | 47.325 N. | 121.534 W. | 47.325 N. | 121.531 W. |
| viiB3—North Fork Cedar River | 47.313 N. | 121.520 W. | 47.317 N. | 121.505 W. |
| viiB4—South Fork Cedar River | 47.313 N. | 121.520 W. | 47.305 N. | 121.512 W. |
| viiC1—Rex River | 47.387 N. | 121.697 W. | 47.347 N. | 121.644 W. |
| viiC2—Cabin Creek | 47.367 N. | 121.683 W. | 47.363 N. | 121.694 W. |
| viiC3—Lindsay Creek | 47.351 N. | 121.659 W. | 47.347 N. | 121.659 W. |
| viiC4—Boulder Creek | 47.371 N. | 121.687 W. | 47.354 N. | 121.706 W. |

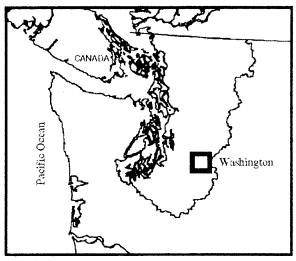
(A) Map of Unit 28—Puget Sound Basins—Chester Morse Lake critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (vii) Chester Morse Lake




**Proposed Critical Habitat (map key)**

**viiA1-Chester Morse Lake**
**viiA2-Masonry Pool**
**viiA3-Rack Creek**
**viiA4-Shotgun Creek**
**viiB1-Cedar River**
**viiB2-unnamed tributary (#0439)**
**viiB3-North Fork Cedar River**
**viiB4-South Fork Cedar River**
**viiC1-Rex River**
**viiC2-Cabin Creek**
**viiC3-Lindsay Creek**
**viiC4-Boulder Creek**




**Area of detail showing Puget Sound River Basins Unit and location of map area above**

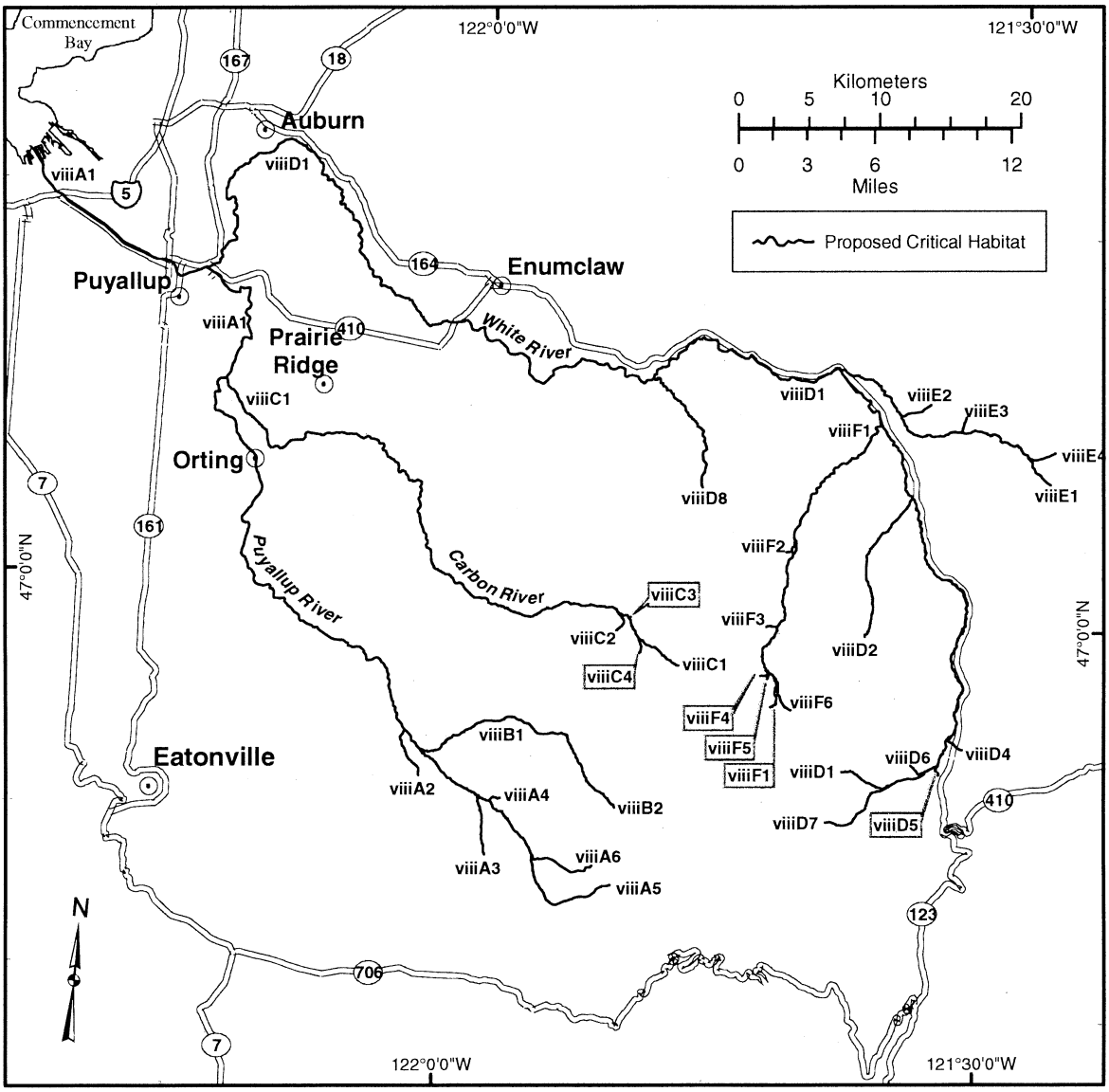
(B) [Reserved]

(viii) Puyallup Critical Habitat Subunit Descriptions:

| Location—Name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| viiiA1—Puyallup River | 47.269 N. | 122.425 W. | 46.864 N. | 121.949 W. |
| viiiA2—Niesson Creek | 46.913 N. | 122.045 W. | 46.884 N. | 122.030 W. |
| viiiA3—Deer Creek | 46.873 N. | 121.973 W. | 46.836 N. | 121.964 W. |
| viiiA4—Swift Creek | 46.870 N. | 121.962 W | 46.873 N. | 121.953 W. |
| viiiA5—South Puyallup River | 46.864 N. | 121.949 W. | 46.821 N. | 121.846 W. |
| viiiA6—St. Andrews Creek | 46.837 N. | 121.920 W. | 46.833 N. | 121.864 W. |
| viiiB1—Mowich River | 46.901 N. | 122.030 W. | 46.915 N. | 121.894 W. |
| viiiB2—South Mowich River | 46.915 N. | 121.894 W. | 46.871 N. | 121.845 W. |
| viiiC1—Carbon River | 47.130 N. | 122.232 W. | 46.964 N. | 121.794 W. |
| viiiC2—Ranger Creek | 46.995 N. | 121.853 W. | 46.984 N. | 121.854 W. |
| viiiC3—Chenuis Creek | 46.992 N. | 121.842 W. | 46.993 N. | 121.841 W. |
| viiiC4—Ipsut Creek | 46.980 N. | 121.832 W. | 46.971 N. | 121.831 W. |
| viiiD1—White River | 47.200 N. | 122.257 W. | 46.902 N. | 121.636 W. |
| viiiD2—Huckleberry Creek | 47.079 N. | 121.585 W. | 46.989 N. | 121.622 W. |
| viiiD3—Silver Springs | 46.996 N. | 121.530 W. | 46.998 N. | 121.531 W. |
| viiiD4—Crystal Creek | 46.929 N. | 121.537 W. | 46.920 N. | 121.525 W. |
| viiiD5—Klickitat Creek | 46.909 N. | 121.548 W. | 46.903 N. | 121.546 W. |
| viiiD6—Unnamed tributary (stream catalog #0364) | 46.905 N. | 121.559 W. | 46.909 N. | 121.573 W. |
| viiiD7—Fryingpan Creek | 46.891 N. | 121.601 W. | 46.869 N. | 121.649 W. |
| viiiD8—Clearwater River | 47.146 N. | 121.833 W. | 47.079 N. | 121.781 W. |
| viiiE1—Greenwater River | 47.159 N. | 121.659 W. | 47.093 N. | 121.457 W. |
| viiiE2—Midnight Creek (stream catalog #0126) | 47.131 N. | 121.599 W. | 47.139 N. | 121.573 W. |
| viiiE3—Slide Creek | 47.123 N. | 121.542 W. | 47.133 N. | 121.539 W. |
| viiiE4—Pyramid Creek | 47.109 N. | 121.479 W. | 47.113 N. | 121.454 W. |
| viiiF1—West Fork White River | 47.125 N. | 121.618 W. | 46.941 N. | 121.707 W. |
| viiiF2—Cripple Creek | 47.048 N. | 121.692 W. | 47.041 N. | 121.695 W. |
| viiiF3—Unnamed tributary (stream catalog #0217) | 46.992 N. | 121.704 W. | 46.992 N. | 121.714 W. |
| viiiF4—Unnamed tributary (stream catalog #0234) | 46.965 N. | 121.712 W. | 46.959 N. | 121.711 W. |
| viiiF5—Unnamed tributary (stream catalog #0226) | 46.962 N. | 121.710 W. | 46.960 N. | 121.717 W. |
| viiiF6—Lodi Creek | 46.960 N. | 121.705 W. | 46.940 N. | 121.687 W. |

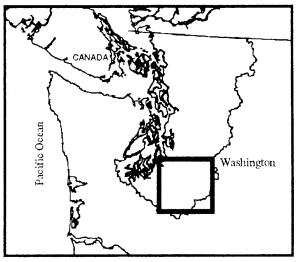
(A) Map of Unit 28—Puget Sound Basins—Puyallup critical habitat subunit follows:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (viii) Puyallup




**Proposed Critical Habitat (map key)**

viiiA1-Puyallup River
viiiA2-Niesson Creek
viiiA4-Deer Creek
viiiA4-Swift Creek
viiiA5-South Puyallup River
viiiA6-St.Andrews Creek
viiiB1-Mowich River
viiiB2-South Mowich River
viiiC1-Carbon River
viiiC2-Ranger Creek
viiiC3-Chenuis Creek
viiiC4-Ipsut Creek
viiiD1-White River
viiiD2-Huckleberry Creek
viiiD3-Silver Springs
viiiD4-Crystal Creek
viiiD5-Klickitat Creek
viiiD6-unnamed tributary (#0364)
viiiD7-Fryingpan Creek
viiiD8-Clearwater River
viiiE1-Greenwater River
viiiE2-Midnight Creek (#0126)
viiiE3-Slide Creek
viiiE4-Pyramid Creek
viiiF1-West Fork White River
viiiF2-Cripple Creek
viiiF3-unnamed tributary (#0217)
viiiF4-unnamed tributary (#0234)
viiiF5-unnamed tributary(#0226)
viiiF6-Lodi Creek



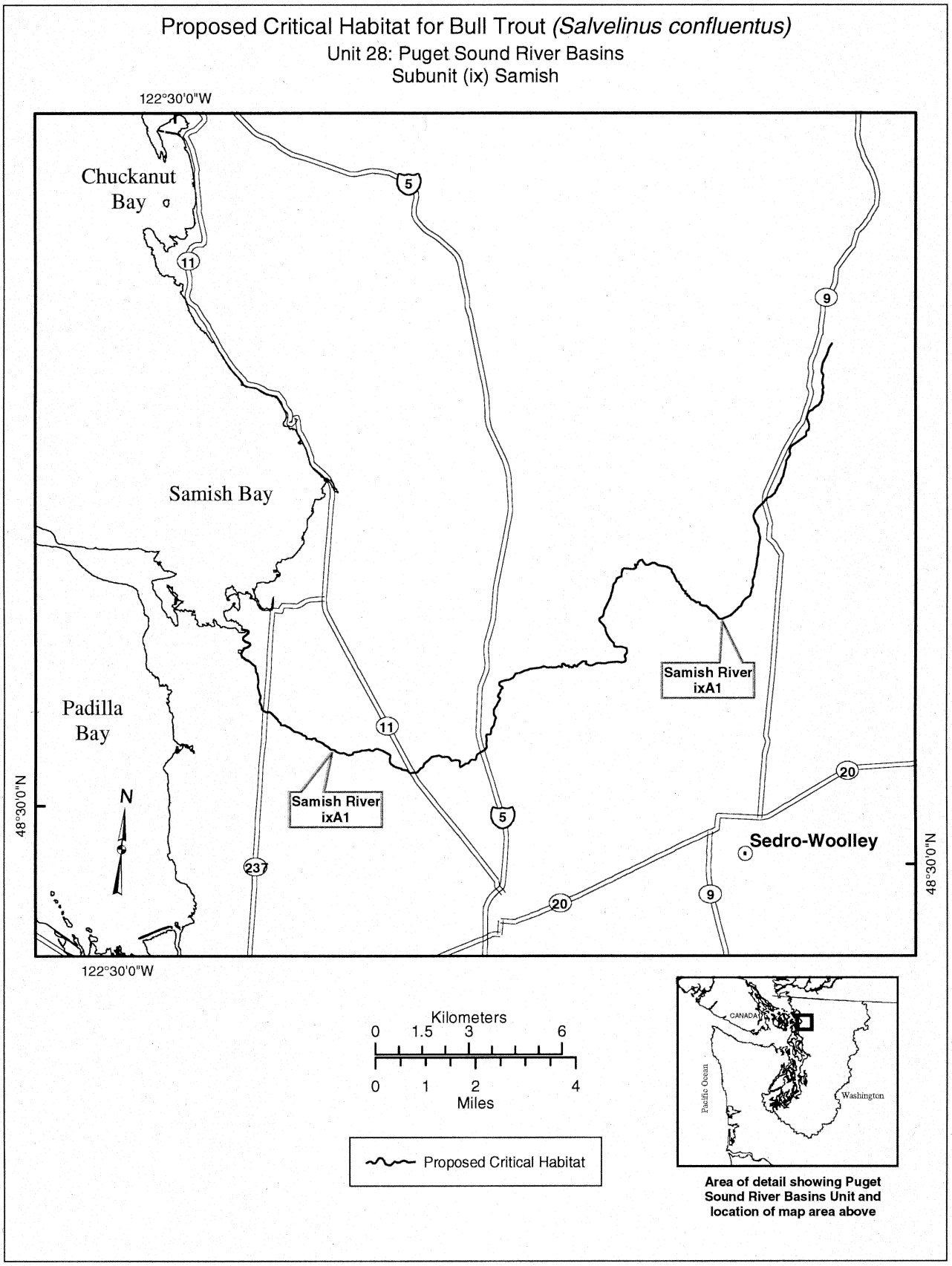

Area of detail showing Puget Sound River Basins Unit and location of map area

(B) [Reserved]

(ix) Samish Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| ixA1—Samish River | 48.555 N. | 122.456 W. | 48.649 N. | 122.207 W. |

(A) Map of Unit 28—Puget Sound Basins—Samish critical habitat subunit follows:

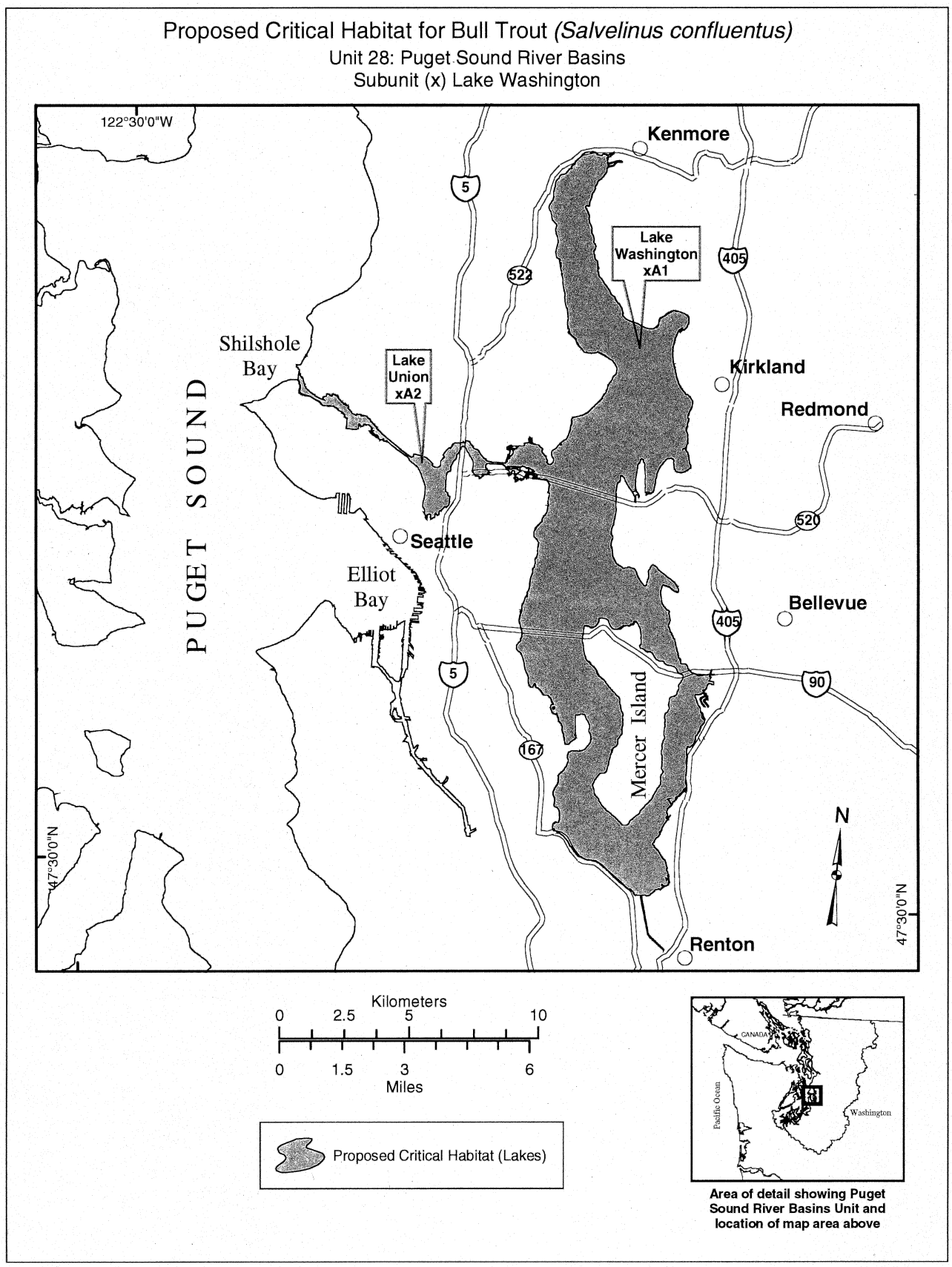



(B) [Reserved]

(x) Lake Washington Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| xA1—Lake Washington | Located at | | 47.604 N. | 122.252 W. |
| xA2—Lake Union | Located at | | 47.639 N. | 122.334 W. |

(A) Map of Unit 28—Puget Sound Basins—Lake Washington critical habitat subunit follows:

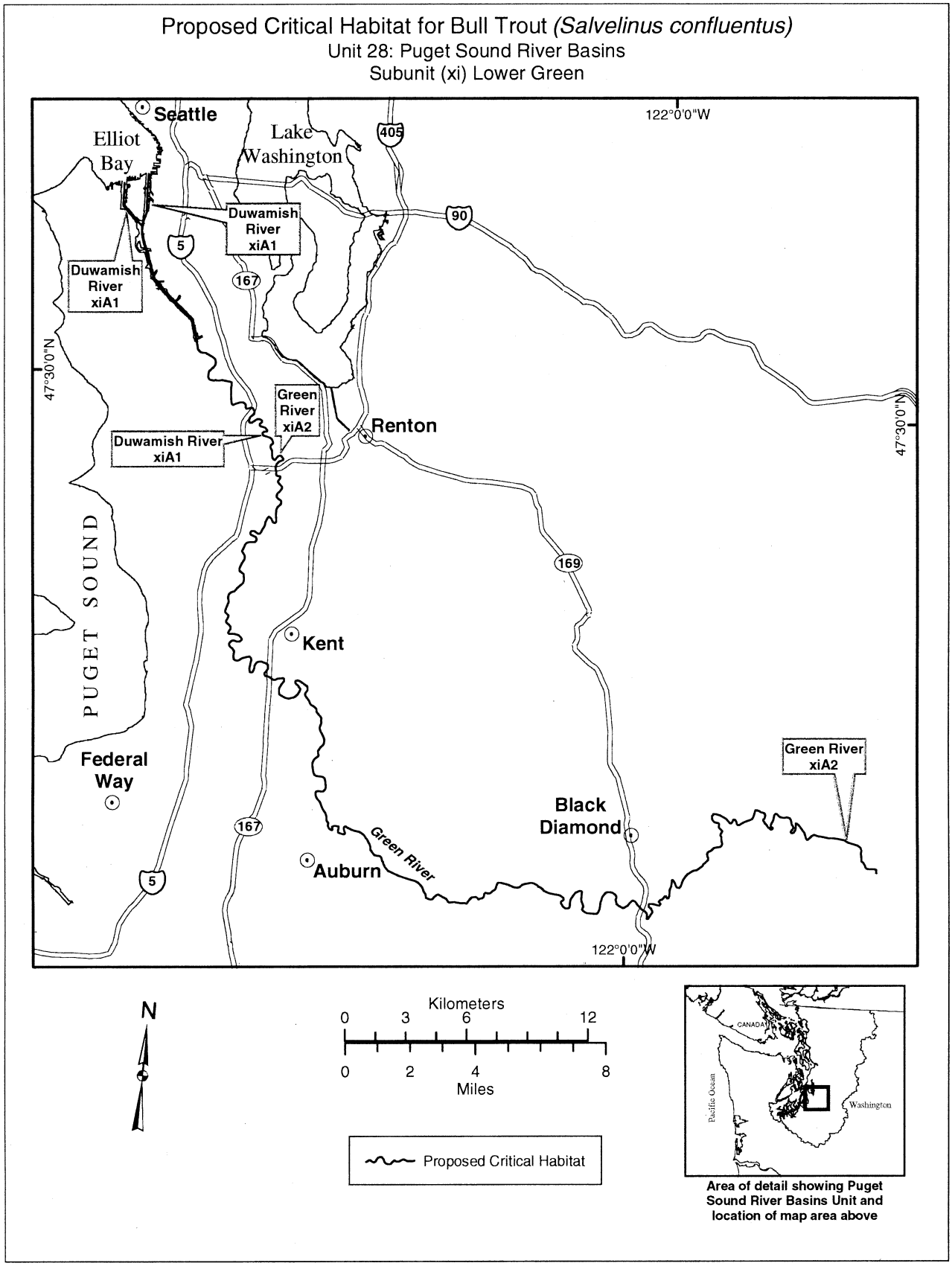



(B) [Reserved]

(xi) Lower Green Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| xiA1—East Duwamish Waterway | 47.590 N. | 122.343 W. | 47.567 N. | 122.346 W. |
| xiA1—Duwamish River | 47.586 N. | 122.359 W. | 47.474 N. | 122.250 W. |
| xiA2—Green River | 47.474 N. | 122.250 W. | 47.299 N. | 121.839 W. |

(A) Map of Unit 28—Puget Sound Basins—Lower Green critical habitat subunit follows:

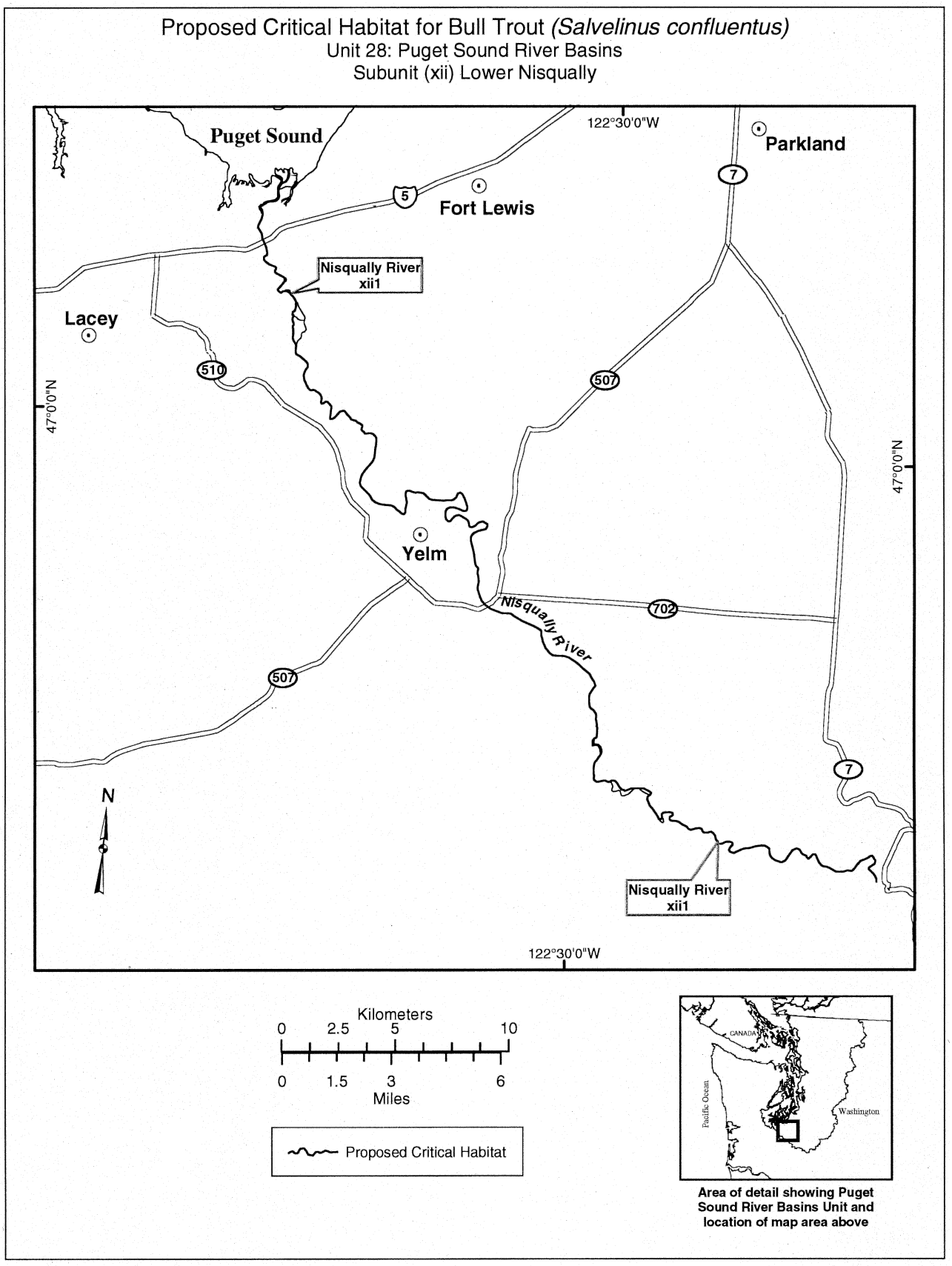



(B) [Reserved]

(xii) Lower Nisqually Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| xiiA1—Nisqually River | 47.101 N. | 122.691 W. | 46.835 N. | 122.323 W. |

(A) Map of Unit 28—Puget Sound Basins—Lower Nisqually critical habitat subunit follows:




(A) Map of Unit 28—Puget Sound Basins—Samish critical habitat subunit

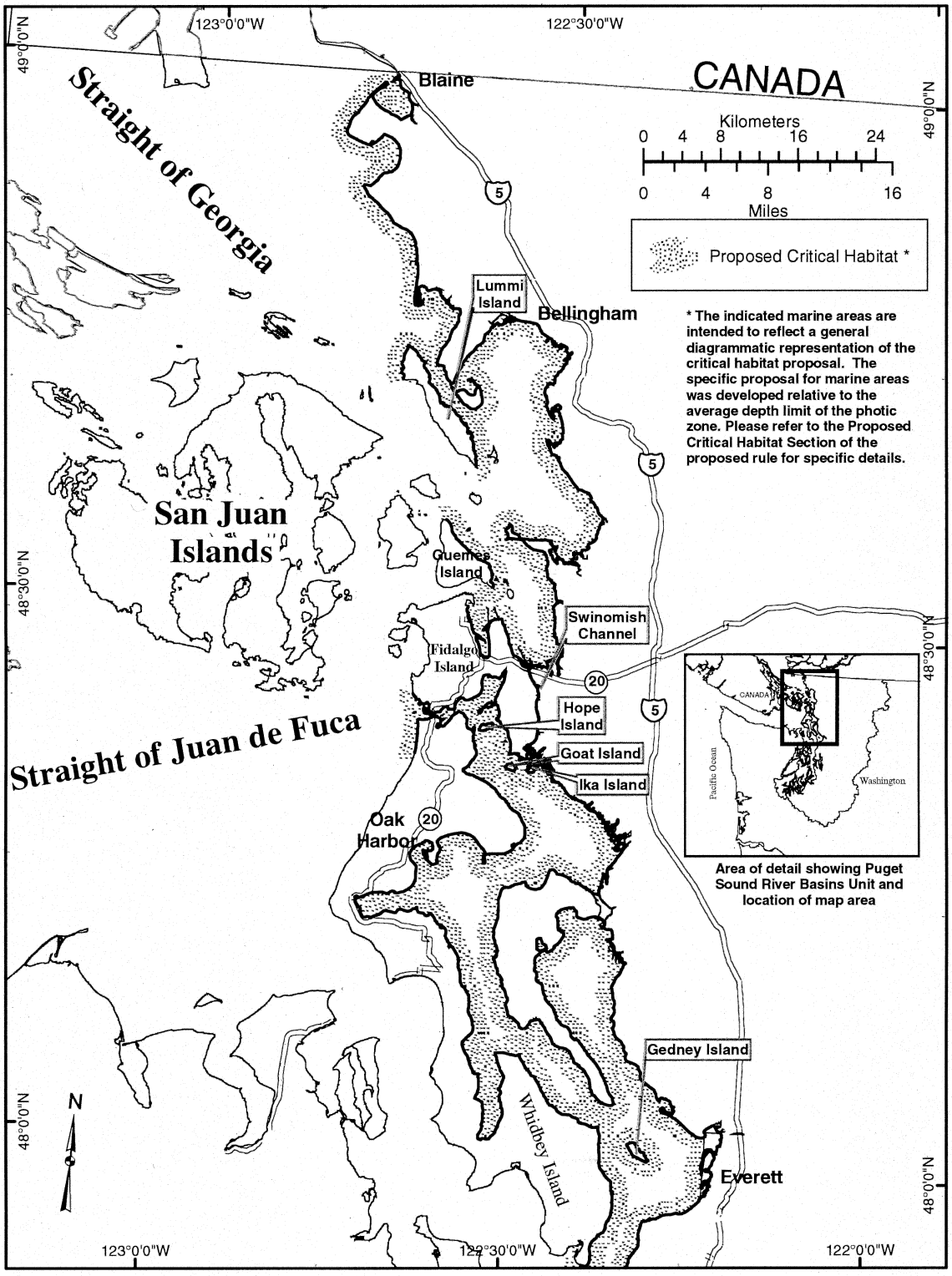
(B) [Reserved]

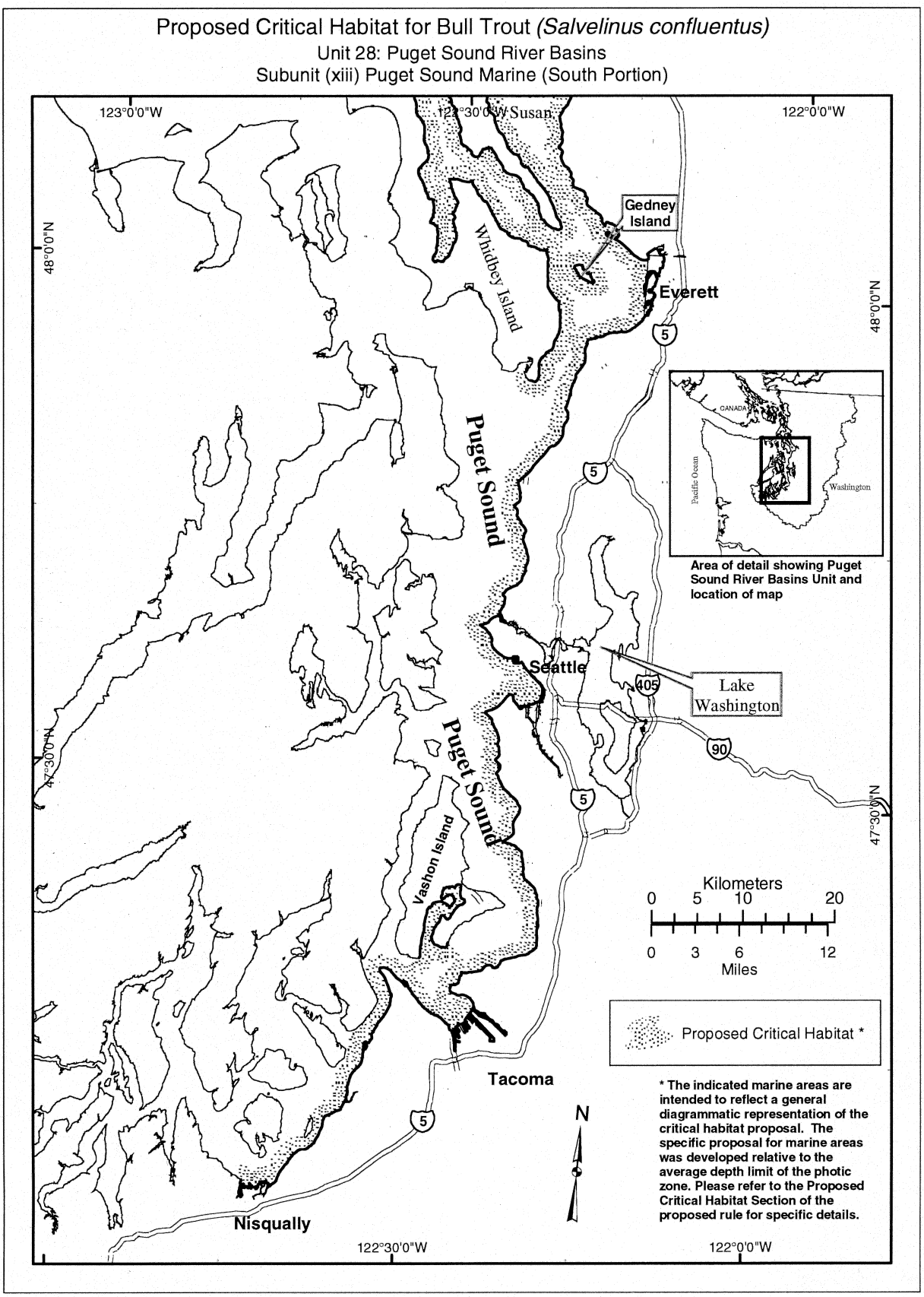
(xiii) Puget Sound Marine Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| xiiiA1—Eastern Shoreline Puget Sound (North) | 48.511 N. | 122.605 W. | 49.000 N. | 122.755 W. |
| xiiiA2—Swinomish Channel | 48.372 N. | 122.508 W. | 48.455 N. | 122.513 W. |
| xiiiA3—Eastern Shoreline Puget Sound (South) | 47.102 N. | 122.727 W. | 48.426 N. | 122.674 W. |
| xiiiB1—Eastern Shoreline Lummi Island | 48.641 N. | 122.608 W. | 48.717 N. | 122.718 W. |
| xiiiB2—Portage Island | Located at | | 48.701 N. | 122.618 W. |
| xiiiB3—Eastern Shoreline Guemes Island | 48.529 N. | 122.572 W. | 48.589 N. | 122.645 W. |
| xiiiB4—Eastern Shoreline Whidbey Island | 47.905 N. | 122.387 W. | 48.370 N. | 122.665 W. |
| xiiiB5—Hope Island | Located at | | 48.399 N. | 122.568 W. |
| xiiiB6—Goat Island | Located at | | 48.363 N. | 122.529 W. |
| xiiiB7—Ika Island | Located at | | 48.363 N. | 122.501 W. |
| xiiiB8—Gedney Island | Located at | | 48.013 N. | 122.319 W. |
| xiiiB9—Southeastern Shoreline Vashon Island | 47.331 N. | 122.492 W. | 47.349 N. | 122.450 W. |

(A) Maps of Unit 28—Puget Sound Basins—Puget Sound Marine critical habitat subunit follow:

Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 28: Puget Sound River Basins
Subunit (xiii) Puget Sound Marine (North Portion)






(34) Unit 29—Saint Mary—Belly:

(i) Saint Mary River Critical Habitat Subunit Descriptions:

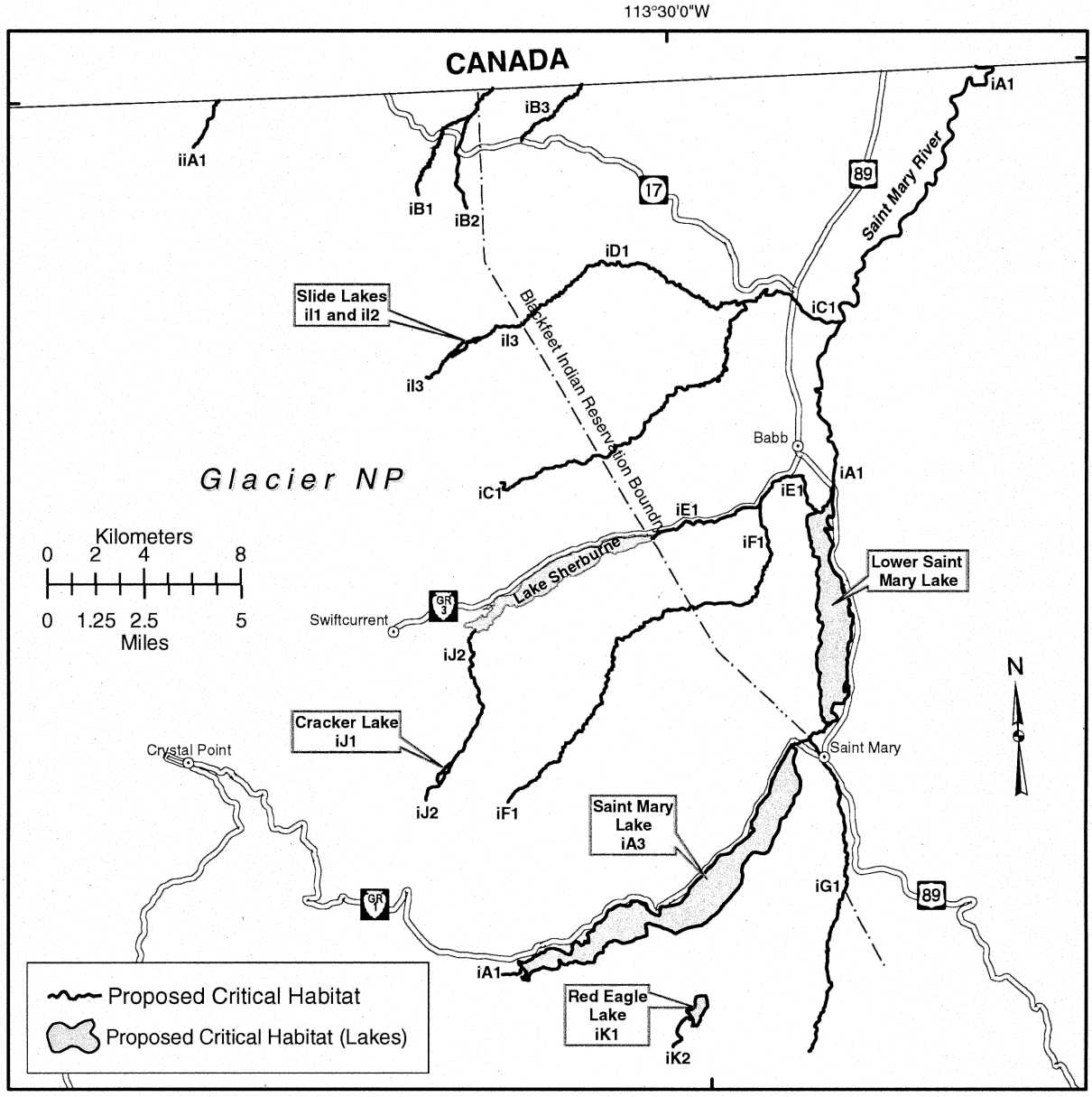
| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iA1—Saint Mary River | 48.998 N. | 113.326 W. | 48.668 N. | 113.615 W. |
| iA2—Lower Saint Mary Lake | Located at | | 48.795 N. | 113.419 W. |
| iA3—Saint Mary Lake | Located at | | 48.718 N. | 113.465 W. |
| iB1—Lee Creek | 48.998 N. | 113.600 W. | 48.960 N. | 113.644 W. |
| iB2—Jule Creek | 48.988 N. | 113.613 W. | 48.954 N. | 113.617 W. |
| iB3—Middle Fork Lee Creek | 48.998 N. | 113.549 W. | 48.978 N. | 113.585 W. |
| iC1—Kennedy Creek | 48.905 N. | 113.409 W. | 48.851 N. | 113.604 W. |
| iD1—Otatso Creek | 48.915 N. | 113.464 W. | 48.892 N. | 113.644 W. |
| iE1—Swiftcurrent Creek | 48.836 N. | 113.428 W. | 48.828 N. | 113.521 W. |
| iF1—Boulder Creek | 48.839 N. | 113.459 W. | 48.732 N. | 113.608 W. |
| iG1—Divide Creek | 48.751 N. | 113.437 W. | 48.634 N. | 113.444 W. |
| iH1—Slide Lakes—upper pool | Located at | | 48.902 N. | 113.623 W. |
| iH2—Slide Lakes—lower pool | Located at | | 48.905 N. | 113.615 W. |
| iI1—Cracker Lake | Located at | | 48.744 N. | 113.643 W. |
| iI2—Canyon Creek | 48.796 N. | 113.622 W. | 48.734 N. | 113.654 W. |
| iJ1—Red Eagle Lake | Located at | | 48.652 N. | 113.505 W. |
| iJ2—Red Eagle Creek | 48.648 N. | 113.509 W. | 48.638 N. | 113.521 W. |

(ii) Belly River Critical Habitat Subunit Descriptions:

| Location—name | From | | To | |
|---|---|---|---|---|
| | Latitude | Longitude | Latitude | Longitude |
| iiA1—North Fork Belly River | 48.998 N. | 113.754 W. | 48.981 N. | 113.770 W. |

(A) Map of Unit 29—Saint Mary—Belly—Saint Mary River and Belly River Critical Habitat Subunits follows:

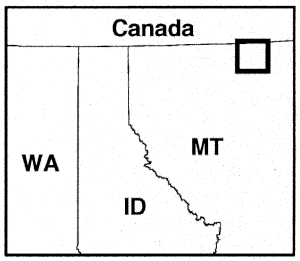
Proposed Critical Habitat for Bull Trout *(Salvelinus confluentus)*
Unit 29 Saint Mary - Belly River
Subunits (i) Saint Mary River and (ii) Belly River




**Proposed Critical Habitat (map key)**

**Saint Mary River CHSU**
- iA1-Saint Mary River
- iA2-Lower Saint Mary Lake
- iA3-Saint Mary Lake
- iB1-Lee Creek
- iB2-Jule Creek
- iB3-Middle Fork Lee Creek
- iC1-Kennedy Creek
- iD1-Otatso Creek
- iE1-Swiftcurrent Creek
- iF1-Boulder Creek
- iG1-Divide Creek
- iH1-Slide Lakes - upper pool
- iH2-Slide Lakes - lower pool
- iI1-Cracker Lake
- iI2-Canyon Creek
- iJ1-Red Eagle Lake
- iJ2-Red Eagle Creek

**Belly River CHSU**
- iiA1-North Fork Belly River




Area of detail showing location of map area above

(B) [Reserved]

Dated: June 15, 2004.

**Craig Manson,**

*Assistant Secretary for Fish and Wildlife and Parks.*

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**BILLING CODE 4310–55–C**