

Additional Information on Bull Trout And the Proposed Critical Habitat Revision January 2010

Description of the species:

Bull trout (*Salvelinus confluentus*) were listed in 1999 as threatened throughout their range in the coterminous United States, which includes Washington, Oregon, Idaho, Montana and Nevada. Bull trout are a cold-water fish of relatively pristine streams and lakes in northwestern North America. They are grouped with the char, within the salmonid family of fishes.

They have more specific habitat requirements than most salmonids, including the "Four C's": Cold, Clean, Complex, and Connected habitat. Bull trout require the coldest water temperatures; they require among the cleanest stream substrates for spawning and rearing; they require complex habitats, including streams with riffles and deep pools, undercut banks and lots of large logs; and they need connection from river, lake and ocean habitats to headwater streams for annual spawning and feeding migrations.

Bull trout can be found throughout the Columbia and Snake river basins, extending east to headwater streams in Montana and Idaho, into Canada and in the Klamath River Basin of south-central Oregon. However, the distribution of populations is scattered and patchy, primarily due to habitat degradation and fragmentation.

They are excellent indicators of water quality and protecting and enhancing their habitat can improve the water quality of rivers and lakes throughout their range.

Life history:

Most bull trout populations are migratory, spending portions of their life cycle in larger rivers or lakes before returning to smaller streams to spawn, while some populations complete their entire life cycle in the same stream. Some bull trout in the Coastal-Puget Sound population migrate between fresh water and the marine environment.

Bull trout can grow to more than 20 pounds in lake environments and live up to 12 years. Under exceptional circumstances, they can live more than 20 years.

Range:

In the Columbia River Basin, bull trout historically were found in about 60 percent of the basin. They now occur in less than half of their historic range. Populations remain in portions of Oregon, Washington, Idaho, Montana and Nevada. In the Klamath River Basin, bull trout occur in 21 percent of their historic range.

Threats to bull trout:

Bull trout have declined due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management, and the introduction of non-native species such as brown, lake and brook trout. While bull trout occur over a large area, their distribution and abundance has declined and several local extinctions

have been documented. Many of the remaining populations are small and isolated from each other, making them more susceptible to local extinctions.

Expected climate change threatens bull trout throughout their range in the coterminous United States. With a warming climate, cool-enough spawning and rearing areas are expected to shrink during warm seasons, in some cases very dramatically, causing them to become even more isolated from one another. Climate change will likely interact with other stressors, such as habitat loss and fragmentation, invasions of non-native fish, disease and other threats, to render some current spawning, rearing and migratory habitats marginal or wholly unsuitable.

What action is the Fish and Wildlife Service taking?

The Service is proposing to revise the 2005 critical habitat designation for the bull trout, a threatened species protected under the federal Endangered Species Act throughout its range in the lower 48 states.

Why is the Service proposing to revise the critical habitat designation?

In 2005, the Service designated approximately 3,828 miles of streams and 143,218 acres of lakes in Idaho, Montana, Oregon and Washington as critical habitat for the bull trout. Approximately 985 miles of shoreline paralleling marine habitat in Washington also was designated. No critical habitat was designated in the Jarbidge River basin. This was significantly less than the amount of critical habitat the Service had proposed in 2002 and 2004.

On January 5, 2006, a lawsuit was filed by the Alliance for the Wild Rockies and Friends of the Wild Swan, alleging, among other things, that the Service failed to designate adequate critical habitat and unlawfully excluded areas from the final designation.

On March 23, 2009, the Service notified the U.S. District Court of Oregon that the agency would seek a remand of the 2005 final critical habitat rule based on the findings of an Investigative Report by the Department of the Interior Inspector General. The report found that a former Department of the Interior political appointee had extensively interfered with the final 2005 designation by directing large areas to be excluded from what had been proposed and by not allowing the inclusion of any areas unless there was absolute certainty that bull trout were present.

On July 1, 2009, the court granted the Service's request for a voluntary remand of the 2005 rule and directed the agency to complete a proposed revision by December 31, 2009, with a final designation due by September 30, 2010.

How is this proposed critical habitat revision similar or different from earlier proposals and the 2005 final designation?

This proposal is similar to previous proposals to designate critical habitat in the types of habitat proposed but different from the 2005 final designation in the fact that we are not proposing to exclude any areas that have determined to be essential to the conservation of the species. In the 2005 final designation, nearly all federal lands were excluded if they

were covered by management plans such as the Northwest Forest Plan. The proposed revision does not propose excluding federal lands, although we request information on specific actions being taken by federal agencies to benefit bull trout, which could be the basis for exclusions in the final designation.

Other areas excluded in the 2005 final designation included military lands, certain tribal lands, waters impounded behind dams and all waters in the Federal Columbia River Power System. In the proposed revision, we do propose exempting military lands that have approved conservation plans in place. Also, we will review many existing Habitat Conservation Plans, tribal resource management plans and other conservation agreements to determine whether they should be excluded from the final designation.

The proposed revision, if finalized, would increase the amount of stream miles designated as bull trout critical habitat by 79 percent and the amount of acres of lakes and reservoirs in the designation by 74 percent. It would also designate 929 miles (about 4 percent of the total designation) of unoccupied habitat that has been determined to be essential for the conservation of the species. No unoccupied habitat was included in the 2005 designation.

The proposed critical habitat revision includes about 3 percent more stream miles and about 10 percent fewer acres of lakes and reservoirs than our proposals in 2002 and 2004. These changes are based on better data about bull trout occupancy and refined information on the importance of certain habitats. For example, Sycan Marsh in the Klamath River Basin only contains enough water to support bull trout in years of favorable precipitation, so we propose the stream channels through the marsh as critical habitat, allowing connectivity among populations, instead of the entire marsh.

Why does the Service designate critical habitat?

The Service designates critical habitat because critical habitat is essential for the conservation of the species. A critical habitat designation provides extra regulatory protection and prioritizes these habitats for recovery actions. It requires that federal agencies analyze proposed actions on federal lands or waters for their potential impacts on a species recovery, not just its survival.

What is critical habitat?

Under the Endangered Species Act, critical habitat identifies geographic areas that contain features essential for the conservation of a listed species and other areas which the Service believes are essential for the conservation of the species. Critical habitat designations provide extra regulatory protection to areas that may require special management considerations, and the habitats are then prioritized for recovery actions.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve or other conservation area. It does not allow government or public access to private lands. A critical habitat designation does not impose restrictions on non-federal lands unless federal funds, permits or activities are involved. However, it alerts landowners that these areas are important to the recovery of the species.

Critical habitat has no regulatory impact on private landowners taking actions on their land, unless they are doing something that requires federal funding, authorization or permits. However, landowners must consult with the Service before taking actions on their property that could harm or kill bull trout or destroy their occupied habitat, regardless of whether critical habitat has been designated.

Critical habitat is determined after taking into consideration the economic impact it could cause, as well as any impacts to national security and other relevant impacts. The Secretary of the Interior may exclude any area from critical habitat if the benefits of exclusion outweigh the benefits of inclusion, as long as the exclusion would not result in the extinction of the species.

What is being proposed as critical habitat for bull trout?

We are proposing approximately 22,679 miles of streams and 533,426 acres of lakes and reservoirs in Idaho, Oregon, Washington, Montana, and Nevada as critical habitat for the bull trout. In Washington, 985 miles of marine shoreline are included in the proposal.

The proposal identifies 32 critical habitat units and 99 sub-units on 3,500 water body segments across the five states. These areas are clustered into six recovery units where recovery efforts will be focused. By state, the proposed designation covers approximately:

- **Idaho:** 9,671 stream miles and 197,915 acres of lakes or reservoirs
- **Oregon:** 3,100 stream miles and 29,139 acres of lakes or reservoirs
- **Washington:** 5,233 stream miles, 82,715 acres of lakes or reservoirs, and 985 miles of marine shoreline
- **Montana:** 3,094 stream miles and 223,762 acres of lakes or reservoirs
- **Nevada:** 85 stream miles

Columbia and Snake River Shared Border Designations

- **Oregon/Idaho (Snake River):** 170 stream miles
- **Washington/Idaho (Snake River):** 37 stream miles
- **Washington/Oregon (Columbia):** 304 stream miles

How many stream miles and acres of lakes or reservoirs are being proposed in each of 32 Critical Habitat Units?

Stream/shoreline distance (mi/km) proposed as bull trout critical habitat by critical habitat unit:

CH Unit	Stream/Shoreline Kilometers	Stream/Shoreline Miles
Olympic Peninsula	1,292.8	803.4
Olympic Peninsula (Marine)	673.8	418.7
Puget Sound	2,737.2	1,700.8
Puget Sound (Marine)	911.9	566.6

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Lower Columbia River Basin	360.9	224.3
Upper Willamette River	304.8	189.5
Hood River	113.1	70.3
Lower Deschutes River	463.1	287.8
Odell Lake	27.4	17.0
Mainstem Lower Columbia River	342.2	212.6
Klamath River Basin	440.0	273.4
Upper Columbia River Basins	1,125.9	699.6
Yakima River Basin	1,191.4	740.3
John Day River Basin	1,176.3	731
Umatilla River	211.7	131.6
Walla Walla River Basin	452.7	281.3
Lower Snake Basin	284.2	176.6
Grande Ronde River	1,057.6	657.2
Imnaha River	285.7	177.5
Sheep / Granite Creeks	47.9	29.7
Hells Canyon Complex	399.3	248.1
Powder River	404.3	251.2
Clearwater River Basin	2,702.1	1,679
Mainstem Upper Columbia River	522.2	324.8
Mainstem Snake River	552.2	343.1
Malheur River	250.7	155.8
Jarbidge River Basin	266.9	165.9
Southwest Idaho River Basins	2,716.7	1,688.1
Salmon River Basin	8,119.4	5,045.1
Little Lost River Basin	206.6	128.4
Coeur d'Alene Lake Basin	819.6	509.3
Kootenai River Basin	587.0	364.7

Clark Fork River Basin	5,332.1	3,313.2
Saint Mary River Basin	116.8	72.6
Total	36,497.7	22,678.5

Acres of reservoirs or lakes proposed as bull trout critical habitat by critical habitat unit.

CH Unit	Hectares	Acres
Olympic Peninsula	3,366.2	8,318.1
Puget Sound	17,890.5	44,208.3
Lower Columbia River Basins	4,856.1	11,999.7
Upper Willamette River	3,601.5	8,899.6
Hood River	36.9	91.9
Lower Deschutes River	1,670.2	4,127.3
Odell Lake	1,387.1	3,427.6
Klamath River Basin	3,775.5	9,329.5
Upper Columbia River Basins	1,033.2	2,553.1
Yakima River	6,285.2	15,531.0
Grande Ronde River	605.2	1,495.5
Clearwater River	6,721.9	16,610.2
Malheur River Basin	715.9	1,768.9
Southwest Idaho River Basins	15,540.2	38,400.6
Salmon River Basin	1,659.5	4,100.6
Coeur d'Alene River Basin	12,606.9	31,152.2
Kootenai River Basin	12,089.2	29,873.1
Clark Fork River Basin	119,473.5	295,225.5
Saint Mary River Basin	2,555.4	6,314.5
Total	215,870.1	533,426.40

How much critical habitat is being proposed in each state?

Stream/Shoreline Distance Proposed for Designation as Bull Trout Critical Habitat by State

State	Kilometers	Miles
Idaho	15,563.4	9,670.6
Montana	4,978.8	3,093.6
Nevada	137.3	85.3
Oregon	4,988.3	3,099.6
Oregon/Idaho	273.8	170.1
Washington	8,421.1	5,232.6
Washington Marine	1,585.7	985.3
Washington/Idaho	59.9	37.2
Washington/Oregon	489.0	303.9
Total	36,497.30	22,678.3

Acres of Reservoirs or Lakes Proposed for Designation as Bull Trout Critical Habitat by State

State	Hectares	Acres
Idaho	80,093.2	197,914.7
Montana	90,553.3	223,762.2
Oregon	11,792.3	29,139.5
Washington	33,431.2	82,610.3
Total	215,870.1	533,426.40

What counties are the proposed critical habitat designations in?

The following counties have some areas proposed as critical habitat for bull trout:

Idaho: Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Clearwater, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Lewis, Nez Perce, Owyhee, Shoshone, Valley, Washington

Montana: Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders

Oregon: Baker, Clatsop, Columbia, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler

Washington: Asotin, Benton, Chelan, Clallam, Clark, Columbia, Cowlitz, Garfield, Grant, Grays Harbor, Island, Jefferson, King, Kittitas, Klickitat, Mason, Okanogan, Pend Oreille, Pierce, Skagit, Skamania, Snohomish, Stevens, Thurston, Wahkiakum, Walla Walla, Whatcom, Whitman, Yakima

Nevada: Elko

What water bodies are included in the critical habitat proposal?

For details on proposed water bodies please see the Final Rule, beginning on page 36.

Is the land adjacent to the waterways included in the critical habitat proposal?

The critical habitat proposal applies only to the stream channel as defined by its ordinary high-water line as defined by the U.S. Army Corps of Engineers in 33 CFR 329.11. In areas for which high-water has not been defined, the width of the stream channel is defined by its bank-full elevation. The critical habitat proposal does not extend to the floodplain or the adjacent land.

Bank-full elevation is the level at which water begins to leave the stream channel and move into the floodplain. This is reached at a discharge which generally recurs at 1- to 2-year intervals. The critical habitat designation extends from the bank-full elevation on one side of the stream to the bank-full elevation on the opposite side. Even though the floodplain or the adjacent land may not be designated as critical habitat, effects to these areas are likely to be evaluated during the consultation process, if there is a federal nexus, due to the indirect effect that upland actions may have on identified as the physical and biological features essential to bull trout conservation, called Primary Constituent Elements (PCEs).

Critical habitat for marine nearshore areas extends from the mean higher high-water (MHHW) line, which is the average of all the higher high water heights of the two daily tidal levels, offshore to the depth of 33 feet (10 meters) relative to mean lower low water (MLLW). The MLLW line is the average of all the lower low-water heights of the two daily tidal levels (a zero tide level). This area equates to the average depth of the photic zone, which is the band of aquatic habitat along the shoreline in which organisms are exposed to light.

The lateral extent of critical habitat in lakes is defined by the perimeter of the water body as mapped on standard 1:24,000 scale topographic maps.

What is the ownership of the land adjacent to the areas being proposed as critical habitat?

The land ownership includes:

Federal: 12, 975 miles (about 58 percent of total proposed area)

Private: 7,678 miles (about 36 percent)

State: 565 miles (about 2 percent)

Tribal: 438 miles (about 2 percent)

How did the Service determine what should be proposed as critical habitat for bull trout?

The Service identified specific areas that contain the physical and biological features essential to bull trout conservation, considering distribution, abundance, trend and

connectivity needs. The objective was to ensure the areas proposed for designation as critical habitat would effectively serve the goals we believe are important for recovery:

- Conserve opportunity for diverse life-history expression
- Conserve opportunity for genetic diversity
- Ensure bull trout are distributed across representative habitats
- Ensure sufficient connectivity among populations
- Ensure sufficient habitat to support population viability (e.g. abundance, trends)
- Consider threats to the species
- Ensure sufficient redundancy in conserving population units

Primary constituent elements are physical and biological features that are essential to the conservation of the species. These 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, reproduction, or rearing of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. All the areas proposed as critical habitat for bull trout are within the historic geographic range of the species and contain enough of these physical or biological features (primary constituent elements) essential to the conservation of the species for the species to be able to carry out normal biological function.

Are you proposing any areas where bull trout don't currently occur?

About 4 percent of the proposed area is unoccupied. In some parts of the bull trout's range, habitat and population loss over time has been great enough that bull trout may need to be restored to currently unoccupied habitat to achieve recovery.

What is the estimated economic impact of the proposed critical habitat revision?

A draft economic analysis estimates the potential incremental cost of the proposed revised critical habitat at approximately \$5 to \$7 million a year over the next 20 years. About half of the potential costs are associated with additional consultation requirements for federal agencies. However, most agencies already are managing their lands and waters to a significant conservation standard due to existing critical habitat designations for salmon and other species and the presence of bull trout in 96 percent of the proposed critical habitat revision. This proposed designation is not expected to add significant additional conservation requirements.

Other potential incremental costs stem from possible fish passage improvements at dams, which are estimated at \$2.1 million to \$2.5 million a year spread among more than 70 federal and non-federal dams. Again, many of these improvements already are occurring for salmon. No reduction in energy capacity is projected.

Most of the forecast incremental costs are associated with proposed areas that are unoccupied by bull trout. The Upper Willamette River Basin, with 23 percent unoccupied habitat, has the greatest forecast incremental costs (about \$1.6 million a year) due to conservation actions that could be required at flood control dams in the area.

Additional potential expenses, approximately \$400,000 to \$1.65 million a year, are associated with changes to forest management, such removal of culverts and efforts to reduce sediment.

Impacts to small business entities such as agriculture, development and mining are forecast to be less than 1 percent of total revenues across all sectors.

Does the draft economic analysis consider potential benefits from a critical habitat designation?

Conservation efforts for bull trout have the potential to result in increased bull trout populations, which in turn could result in increases in recreational fishing opportunities. In addition, increased bull trout populations could result in enhanced non-use value by the public (i.e. existence value). Improved water quality, flood protection and aesthetic improvements to the landscape also could occur. However, these benefits are not quantified in the analysis due to a lack of detailed information on likely future bull trout populations and the effect of critical habitat on these populations.

How did the Service address climate change in proposing areas for critical habitat?

We considered probable effects of climate change on bull trout by first qualitatively screening core areas to assess those that might be most vulnerable to climate change effects. In many locations, we prioritized cold-water spring habitats for conservation because they may be among the most resistant habitats to climate change effects. In other areas, we de-emphasized protection of some already low-elevation, warmer, marginal bull trout habitats, anticipating they would become even less valuable for the future conservation of bull trout. Over a period of decades, climate change may directly threaten the integrity of some of the essential physical and biological features that bull trout need, such as cold water, sufficient food base and sites for breeding, reproducing and rearing. Protecting bull trout strongholds and cold water refugia from disturbance and ensuring connectivity among populations were important considerations in addressing the potential climate change impact.

How would bull trout ultimately benefit from having critical habitat designated?

A critical habitat designation signals that an area is important to the conservation and recovery of a species and may inform federal, state, tribal and local land-use planning decisions. Critical habitat receives protection under Section 7 of the Endangered Species 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 or occurring on federal land. Consultation under Section 7 of the Act does not apply to activities on private or other non-federal lands that do not involve a federal nexus such as funding or permits.

Who would be affected by a critical habitat designation?

Federal agencies are required to consult with the Service on actions they carry out, fund or authorize that might affect critical habitat. It is important to note that in most cases this

is already occurring under the Section 7 interagency consultation requirements of the Endangered Species Act. Non-federal entities, including private landowners, that may also be affected could include, for example, those seeking a U.S. Army Corps of Engineers 404 permit under the Clean Water Act to build an in-water structure; those seeking federal approval to discharge effluent into the aquatic environment; or those seeking federal funding to implement land-management practices where such actions affect the aquatic environment that has been designated as critical habitat. But again, in most cases where this link exists between activities on non-federal lands and federal funding, permitting, or authorization, consultation under Section 7 of the Endangered Species Act is already occurring in areas where bull trout are found.

Who would not be affected?

A critical habitat designation would not affect non-federal entities when there is not a federal nexus. For example, swimming, boating, fishing, farming, ranching or any of a range of activities normally conducted by a landowner or operator of a business on non-federal land and not involving federal funding, permitting or authorization in order to occur would not be affected.

Why designate critical habitat on non-federal lands without a federal nexus if there is no regulatory effect?

Designating critical habitat informs landowners and the public of specific areas that are important to the recovery of the species.

What effect would a critical habitat designation have on fire suppression activities?

None. Fire suppression activities are generally treated as emergencies. The Endangered Species Act Section 7 regulations provide for expedited consultation procedures during emergencies. Through this expedited process, emergency response is not delayed or obstructed because of ESA considerations. During the actual suppression of a wildland fire, consultation is conducted informally, in a manner that allows the federal agency to respond to the emergency while incorporating measures for minimizing impacts on protected species and critical habitat into its response, as time and the situation permit. Once the emergency is under control, the federal agency would initiate formal consultation, using normal consultation procedures.

Would a critical habitat designation affect water rights or usage?

It would not affect water rights. In cases where irrigation is provided through a federal agency, such as the Bureau of Reclamation, that agency would have to consult with the Fish and Wildlife Service to determine whether water withdrawals would adversely impact bull trout critical habitat. However, it is important to note that because the bull trout is a listed species, most of these types of projects already are being reviewed under the Section 7 interagency consultation requirements of the Endangered Species Act and in most cases where an adverse modification determination occurs, a jeopardy determination would also be made. Therefore, most Reasonable and Prudent Alternatives that might affect water usage would be the result of the species listing and not the critical habitat designation.

Would a critical habitat designation impact the use of land adjacent to the designated waterways?

Possibly. If the adjacent land is federal or the land is non-federal but has a federal nexus such as funding or permits the proposed land-use activity would be assessed for its potential impacts on bull trout critical habitat in the aquatic environment through consultation with the federal agency. Most of these types of projects already are being reviewed under the Section 7 interagency consultation requirements of the Endangered Species Act.

How long would a critical habitat designation remain in effect?

A critical habitat designation remains in effect until the species is considered to be recovered and is delisted from the list of threatened or endangered species. The 2005 critical habitat designation for bull trout will remain in effect until a new designation is finalized.

When will the proposed critical habitat designation be finalized?

The Service is required by court order to complete a final designation by September 30, 2010.

Where can I get more information?

The critical habitat proposal, maps and supporting documents are posted at <http://www.fws.gov/pacific/bulltrout>.

A Justification Document, also on the website, has been prepared to explain the Service's rationale for why each critical habitat unit is essential for the conservation of the bull trout.

You can also call or write:

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U.S. Fish and Wildlife Service
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(208) 378-5243