

U.S. FISH AND WILDLIFE SERVICE



Additional Information

Final Critical Habitat Designation for Bull Trout In Idaho, Oregon, Washington, Montana and Nevada

Description of the species

Bull trout (*Salvelinus confluentus*) were listed under the Endangered Species Act (Act) in 1999 as threatened throughout their range in 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; 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 historical 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 historical 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 revising the 2005 critical habitat designation for bull trout. Approximately 18,975 miles of streams and 488,252 acres of lakes and reservoirs in Idaho, Oregon, Washington, Montana and Nevada are being designated as critical habitat for the wide-ranging fish. In Washington, 754 miles of marine shoreline are also being designated.

Why is the Service revising 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 Nevada. 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 to be delivered to the *Federal Register* by September 30, 2010.

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

This designation 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 excluding habitats associated with most federal lands. In the 2005 final designation, habitats associated with nearly all federal lands were excluded if they were covered by management plans such as the Northwest Forest Plan.

Other areas excluded in the 2005 final designation included habitats associated with military lands, certain tribal lands, lands covered by Habitat Conservation Plans under section 10 of the Act, waters impounded behind dams and all waters in the Federal Columbia River Power System. In the revision, we exempt habitat associated with military lands that have approved conservation plans in place. Also, we exclude areas associated with existing Habitat Conservation Plans, tribal resource management plans and other conservation agreements. We also excluded 15 miles of marine shoreline in Washington for national security reasons because it is a U.S. Navy training area.

The revision increases the amount of stream miles designated in 2005 by 15,147 miles, or roughly 5 times. Lake and reservoir critical habitat designation increased by 345,034, or about 3.4 times. The amount of shoreline designated is 231 miles less than, or roughly 0.8 times the 2005 designation.

Approximately 823 miles of streams (4.3 percent of the designation) and 16,701 acres of lakes (3.4 percent of the designation) are not currently occupied by bull trout but are considered essential for the conservation of the species. No unoccupied habitat was included in the 2005 designation. The Service revised this designation to make it more consistent with existing policy for protecting critical habitat.

When compared to the proposed rule issued in January 2010, the designation includes a net reduction of approximately 2,719 miles or 12.5 percent of the streams, 45,174 acres or 8.5 percent of lakes and 231 miles or 23.5 percent of marine shoreline habitat. These changes reflect new biological information received during the comment period resulting in adding some habitats and removing others, and exclusion of specific areas under section 4(b)(2) of the Act based on ongoing conservation measures and other factors.

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 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. It alerts landowners that these areas are important to the recovery of the species.

Regardless of whether their property has been designated as critical habitat, non-federal landowners must avoid actions that could “take” a listed species or modify occupied habitat in a manner that could harm the species, unless those actions have been authorized under a federal permit. Take is defined under the Endangered Species Act to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Federal agencies (and non-federal lands with federal funds, permits or activities) must analyze proposed actions on critical habitat lands or waters for their potential impacts on a species’ recovery, not just its survival.

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 designated as critical habitat for bull trout?

The Service’s final rule designates approximately 18,975 miles of streams and 488,252 acres of lakes and reservoirs in Idaho, Oregon, Washington, Montana and Nevada as critical habitat for the wide-ranging fish. In Washington, 754 miles of marine shoreline are included in the final designation.

The designation 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 designation covers approximately:

- **Idaho:** 8,772 stream miles and 170,218 acres of lakes or reservoirs
- **Oregon:** 2,836 stream miles and 30,256 acres of lakes or reservoirs
- **Washington:** 3,793 stream miles, 66,308 acres of lakes or reservoirs and 754 miles of marine shoreline
- **Montana:** 3,056 stream miles and 221,471 acres of lakes or reservoirs
- **Nevada:** 72 stream miles.

In some areas, the critical habitat designation shares Columbia or Snake river borders, including:

- **Oregon/Idaho (Snake River):** 108 stream miles
- **Washington/Idaho (Snake River):** 37 stream miles
- **Washington/Oregon (Columbia River):** 301 stream miles

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

Stream/shoreline distance (mi/km) designated as bull trout critical habitat by critical habitat unit:	Kilometers	Miles
1. Olympic Peninsula.....	7,48.7	465.2
1. Olympic Peninsula (Marine).....	529.2	328.8
2. Puget Sound.....	1,840.2	1,143.5
2. Puget Sound (Marine).....	684.0	425.0
3. Lower Columbia River Basins.....	119.3	74.2
4. Upper Willamette River.....	312.4	194.1
5. Hood River.....	128.1	79.6
6. Lower Deschutes River.....	232.8	144.7
7. Odell Lake.....	27.4	17.0
8. Mainstem Lower Columbia River.....	340.4	211.5
9. Klamath River Basin.....	445.2	276.6
10. Upper Columbia River Basins.....	931.8	579.0
11. Yakima River.....	896.9	557.3
12. John Day River.....	1,089.6	677.0
13. Umatilla River.....	163.0	101.3
14. Walla Walla River Basin.....	383.7	238.4
15. Lower Snake River Basins.....	270.8	168.3
16. Grande Ronde River.....	1,057.9	657.4
17. Imnaha River.....	285.7	177.5
18. Sheep and Granite Creeks.....	47.9	29.7
19. Hells Canyon Complex.....	377.5	234.6
20. Powder River Basin.....	296.5	184.2
21. Clearwater River.....	2,702.1	1,679.0
22. Mainstem Upper Columbia River.....	520.1	323.2
23. Mainstem Snake River.....	451.7	280.6
24. Malheur River Basin.....	272.3	169.2
25. Jarbidge River.....	245.2	152.4
26. Southwest Idaho River Basins.....	2,150.0	1,335.9
27. Salmon River Basin.....	7,376.5	4,583.5
28. Little Lost River.....	89.2	55.4
29. Coeur d'Alene River Basin.....	821.5	510.5
30. Kootenai River Basin.....	522.5	324.7
31. Clark Fork River Basin.....	5,356.0	3,328.1
32. Saint Mary River Basin.....	34.7	21.6
Total.....	31,750.8	19,729.0

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

Critical habitat unit	Hectares	Acres
1. Olympic Peninsula	3,064.2	7,571.8
2. Puget Sound	16,260.9	40,181.5
3. Lower Columbia River Basins.....	0.0	0.0
4. Upper Willamette River.....	3,601.5	8,899.5
5. Hood River.....	36.9	91.1
6. Lower Deschutes River.....	1,224.9	3,026.8
7. Odell Lake.....	1,387.1	3,427.6
9. Klamath River Basin.....	3,775.5	9,329.4
10. Upper Columbia River Basins	1,033.2	2,553.1
11. Yakima River	6,285.2	15,530.9
16. Grande Ronde River	605.2	1,495.5
20. Power River Basin	897.0	2,216.5
21. Clearwater River	6,721.9	16,610.1
24. Malheur River Basin	715.9	1,768.9
26. Southwest Idaho River Basins	4,310.5	10,651.5
27. Salmon River Basin	1,683.8	4,160.6
29. Coeur d'Alene River Basin	12,606.9	31,152.1
30. Kootenai River Basin.....	12,089.2	29,873.0
31. Clark Fork River Basin	119,620.1	295,586.6
32. Saint Mary River Basin.....	1,669.3	4,125.0
Total	197,589.2	488,251.7

How much critical habitat is being designated in each state?

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

State	Kilometers	Miles
Idaho	14,116.5	8,771.6
Montana	4,918.9	3,056.5
Nevada	115.6	71.8
Oregon.....	4,563.9	2,835.9
Oregon/Idaho	173.3	107.7
Washington	6,104.8	3,793.3
Washington Marine.....	1,213.2	753.8
Washington/Idaho	59.9	37.2
Washington/Oregon	484.8	301.3
Total	31,750.8	19,729.0

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

State	Hectares	Acres
Idaho	68,884.9	170,217.5
Montana	89,626.4	221,470.7
Oregon.....	12,244.0	30,255.5
Washington	26,834.0	66,308.1
Total	197,589.2	488,251.7

What counties will have critical habitat designations?

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

State	Counties
(i) Idaho	Adams, Benewah, Blaine, Boise, Bonner, Boundary, Butte, Camas, Custer, Elmore, Gem, Idaho, Kootenai, Lemhi, Lewis, Nez Perce, Owyhee, Shoshone, Valley, Washington
(ii) Montana	Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders
(iii) Nevada	Elko
(iv) Oregon	Baker, Clatsop, Columbia, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Lane, Linn, Malheur, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, Wheeler
(v) Washington	Asotin, Benton, Chelan, Clallam, Clark, Columbia, Cowlitz, 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

What water bodies are included in the critical habitat designation?

For details on designated water bodies please see the Final Rule in the *Federal Register*.

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

The critical habitat designation 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 designated as critical habitat?

The land ownership includes:

Ownership	Kilometers	Miles
Federal.....	20217.3	12,562.4
Federal/Private	176.0	109.4
Federal/State.....	4.4	2.8
State.....	556.5	345.8
State/Private	0.4	0.2
Tribal.....	226.0	140.4
Tribal/Private	28.1	17.4
Private	10542.1	6,550.5
Total	31750.8	19729.0

How did the Service determine what should be designated 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 designated 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 areas where bull trout don't currently occur designated?

About 4.3 percent of designated streams and 3.4 percent of lakes are 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. Also, many of the designated unoccupied areas provide connectivity between occupied areas, particularly in the Klamath Basin.

Why is the area being designated less than what the Service proposed in 2009 (22,679 miles of streams and shorelines and 533,426 acres of lakes and reservoirs)?

For a couple of reasons:

- 1) We refined our understanding of which areas contain the physical or biological features essential to the conservation of the species based on comments from peer reviewers, states, tribes, federal agencies and the public. This improved information is reflected in this final designation and is characterized as many small additions to and removals of water body segments based on site-specific information received during the public comment period.
- 2) We excluded some areas and decided others did not qualify for inclusion in the designation.

How did the Service determine which suitable critical habitat areas should be excluded?

Of the area the service determined to qualify as critical habitat, the Service is excluding 1,907 miles of streams, 19,396 acres of lakes and reservoirs and 216 miles of marine shoreline. These are areas where key partners of the Service, including tribes, military and some state agencies and landowners with Habitat Conservation Plans, have formally committed to protect bull trout habitat. Fifteen miles of marine shoreline are being excluded for national security reasons because they are within a U.S. Navy training area.

What public input processes occurred?

A series of public informational meetings and a formal public hearing were held. The Service received 1,111 comments from 350 people or organizations across the five states where bull trout occur.

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

A final economic analysis estimates the potential incremental cost of the proposed revised critical habitat at approximately \$5 million to \$7.6 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 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 designating 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 will 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.

What effect will 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.

Will a critical habitat designation affect water rights or usage? It will not affect water rights. In cases where irrigation is provided through a federal agency, such as the Bureau of Reclamation, that agency will 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.

How long will 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.

Where can I get more information?

The critical habitat designation, maps and supporting documents are posted at <http://www.fws.gov/pacific/bulltrout/FinalCH2010.html#FinalCH>

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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(208) 378-5243