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# Bull Trout

## *Salvelinus confluentus*

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Actinopterygii — Salmoniformes — Salmonidae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Vulnerable (G3)  
Statewide: Vulnerable (S3)  
ESA: Threatened  
USFS: Region 1: No status; Region 4: Sensitive  
BLM: Threatened, Endangered, Proposed, and Candidate (Type 1)  
IDFG: Game fish; Threatened

### BASIS FOR INCLUSION

Threatened under the U.S. Endangered Species Act; declining trends in some areas of their range and regional threats. Current population estimates, number of populations, and range extent indicate this species is likely more secure in the State than the rangewide status indicates.

### TAXONOMY

The original description of bull trout was credited to Suckley in 1859 (Nelson et al. 2004), however this description included both the bull trout and Dolly Varden *S. malma*. Research by Cavender in 1978 led to these 2 fish being described as separate species (Wydoski and Whitney 2003). Both species are considered to be char instead of trout but are members of the Salmonidae family.

### DISTRIBUTION AND ABUNDANCE

Bull trout occur in the northwestern portion of North America from Nevada to Yukon Territory (Behnke 2002). In Idaho, they are currently found in the Boise, Payette, Weiser and all drainages to the north in the Columbia River basin. There is a small isolated population remaining in the Jarbidge drainage to the south of the Snake River and the Little Lost River. Due to concerns about declining population numbers of bull trout in some areas of their range and lack of information in other areas, the USFWS listed the species as threatened in 1998 in the Columbia River basin (USFWS 2002b). IDFG (2004) estimated there was approximately 1.24 million bull trout divided between 269 designated local populations within the 7 recovery units in the state (14,870 km (9294 mi) of streams).

### POPULATION TREND

A status review conducted in 2004 found that populations were declining until the early 1990s, from this period; trends show an increase in abundance in Idaho (IDFG 2004).

### HABITAT AND ECOLOGY

Bull trout exhibit 3 life history types in Idaho: adfluvial, fluvial and resident, all which require temperatures <16 C (<60 F) during portions of their life cycle to persist. Preferred temperatures are normally <12 C (<54 F), Juveniles use runs, riffles and

pocket water but fish >1 year selected deeper pools while resting (Wydoski and Whitney 2003). Resident fish attain lengths of 15–30 cm (6–12 in), while fluvial and adfluvial fish can grow to >13 kg (>30 lbs) and >76 cm (>30 in). Migratory fish generally attain weights of 1–7 kg (2–15 lbs). Spawning takes place in headwater and tributary streams for all life history types. Spawning occurs in the fall from late August to December when water temperature is declining from about 3–4 C (38–41 F). Resident females may mature at 15 cm (6 in) while migratory fish do not mature until >38 cm (>15 in) or larger. Diet of small juvenile fish is primarily aquatic insects and other invertebrates. However, bull trout soon switch to a diet of fish if available.

## **ISSUES**

The USFWS identified threats to bull trout persistence as “the combined effects of habitat degradation, fragmentation and alterations associated with dewatering, road construction and maintenance, mining, grazing; the blockage of migratory corridors by dams or other diversion structures; poor water quality; incidental angler harvest; entrainment into diversion channels; and introduced non–native species” (Federal Register 64: 58910).

## **RECOMMENDED ACTIONS**

Bull trout status and distribution were evaluated as part of a USFWS 5–year status review (Gamblin and Synder 2005; IDFG 2004). Results indicated bull trout in Idaho were widely distributed and not at risk of extinction in the foreseeable future. Development of protocols for monitoring distribution and status of bull trout population trends agreeable to the USFWS is needed. Also, needed are mutually agreed to (USFWS and Idaho) recovery criteria and plan.

State and federal agencies, Indian Tribes, water managers, and hydroelectric operators should continue working collaboratively to assess ways to improve and enhance habitat conditions for bull trout across its range. In addition, conservation efforts in Idaho should work with neighboring states on shared drainages.

