
Steelhead (Snake River basin)

Oncorhynchus mykiss gairdneri

Actinopterygii — Salmoniformes — Salmonidae

CONSERVATION STATUS / CLASSIFICATION

Rangewide: Imperiled/Vulnerable subspecies (G5T2T3)
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 abundance and habitat degradation.

TAXONOMY

Steelhead are the anadromous life form of rainbow\redband trout Behnke (2002). Steelhead spawning east of the Cascades are considered part of the redband trout of the Columbia Basin, which is a subspecies of rainbow trout. The rainbow trout *Oncorhynchus mykiss* complex includes 5 additional subspecies. Rainbow trout were originally described by Walbaum in 1792 (Nelson et al. 2004).

DISTRIBUTION AND ABUNDANCE

Steelhead, which are the anadromous life form of rainbow\redband trout, were historically found along the west coast of North America from southern California to central Alaska. The interior Columbia River basin steelhead ranged from east of the Cascades upstream in the Columbia River and tributary streams to natural geologic barriers such as Shoshone Falls on the Snake River (Behnke 2002). In Idaho, steelhead had access to most of the Clearwater, Salmon, Weiser, Payette, Boise, Owyhee, Bruneau and Salmon Falls Creek drainages. Populations using the tributaries above Hells Canyon Dam were eliminated with the construction of the Hells Canyon complex in the 1950s and earlier upriver dams. Currently, wild and hatchery steelhead are found in the Snake River below Hells Canyon Dam, Clearwater, and Salmon River drainages. The resident life form, inland redband trout, are also present in the Salmon and Clearwater drainage along with steelhead. However due to difficulties of identifying juveniles of these 2 life forms, redband trout in these drainages will be included under the steelhead distribution. Redband trout are managed separately from steelhead.

POPULATION TREND

Snake River upstream from Lewiston historically produced an estimated 55% of summer steelhead in the Columbia River (IDFG 2001b). Counts at the Lewiston Dam in the 1950–60s averaged 40,000 fish/yr. Counts at Ice Harbor Dam were 108,000 in 1962 and averaged near 70,000 until 1970. During 1990–1994 escapement above Lower Granite Dam was approximately 71,000, with a natural component of 9400 (Federal

Register Vol 62, No 159). During 1998–2002, counts at Lower Granite averaged 148,000 with 16.5% of natural origin (IDFG unpublished data). The Snake River steelhead population was listed as threatened under ESA in 1997 (Federal Register Vol 62, No 159 p 43937).

HABITAT AND ECOLOGY

Steelhead spawn and rear in stream and small river habitat similar to other or slightly larger systems used by resident rainbow/redband trout. Spawning streams need clean gravels for successful egg development and fry emergence. The majority of steelhead returning to Idaho cross Lower Granite Dam during September–November (Columbia River DART), over winter in pools before spawning the next spring. Spawning occurs in April–May with fry emergence in mid summer. Depending on elevation, temperature and stream productivity, steelhead juveniles will rear in streams from 1–7 years (commonly 2–3) and a size of 15–23 cm (6–9 in) before migrating to the ocean (Wydoski and Whitney 2003). Steelhead remain in the ocean for 1–3 years (commonly 2) before returning to natal streams to spawn. Steelhead can return to the ocean and become repeat spawners, however it is extremely rare for this to occur in Idaho at this time. Diets of juvenile steelhead consist primarily of aquatic and terrestrial insects and other invertebrates. They switch to primarily fish shortly after entering the ocean.

ISSUES

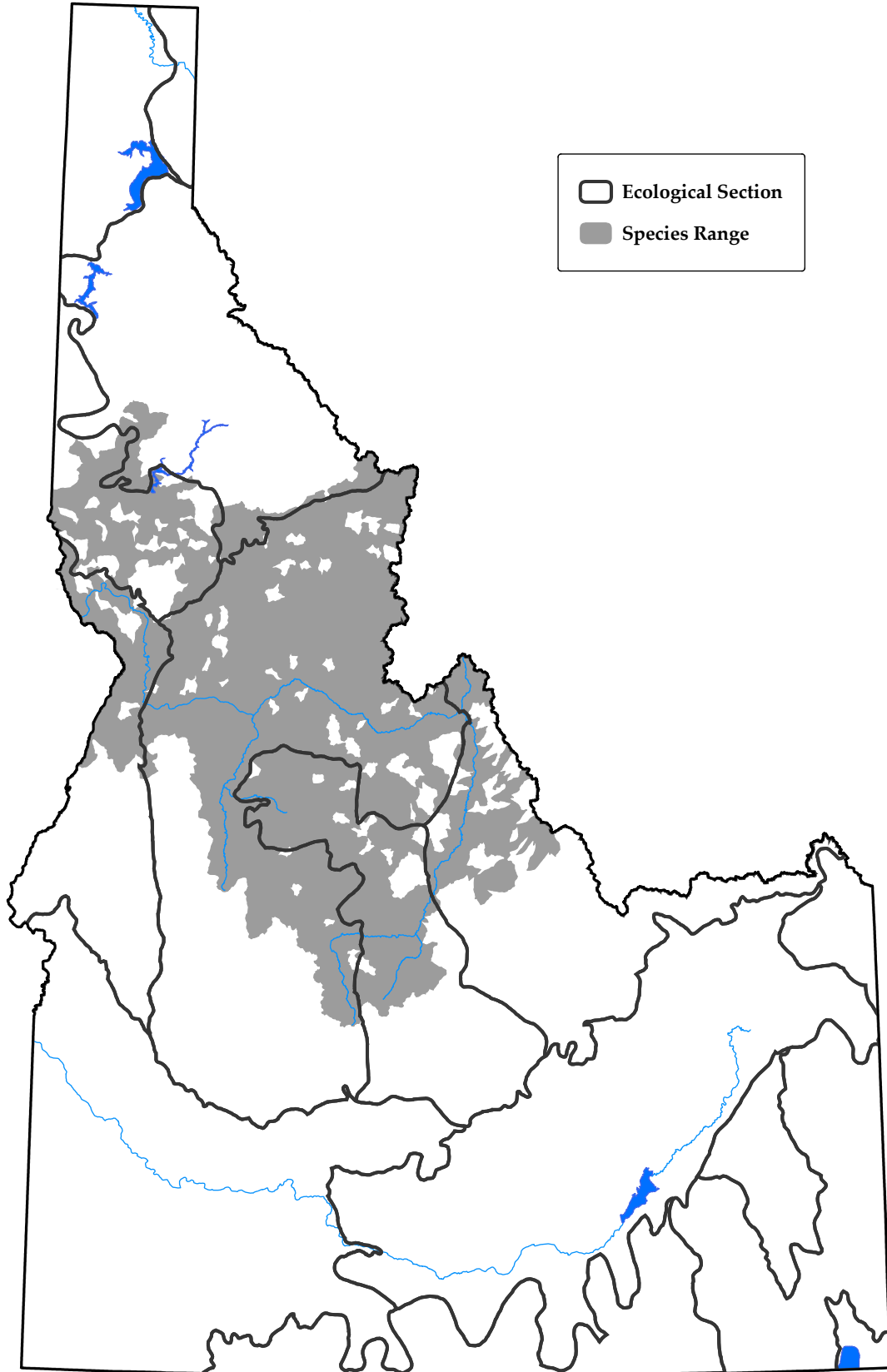
The construction of dams on the main stem Snake and Columbia rivers has reduced survival of juveniles and adults migrating to and from the ocean as they pass through dams and impoundments and blocked access to nearly half the historic range. Additional effects from dams have resulted in altered hydrographs and water temperatures affecting run timing of juveniles and adults. Diversions in spawning and rearing streams have removed water, resulting in direct mortality, loss of habitat and migration barriers. Land management activities have resulted in degraded habitat with the loss of riparian cover, sedimentation and artificial barriers to passage. The addition of hatchery programs to mitigate for lost habitat and survival of fish have introduced genetic concerns about effects to wild stocks. Declining water quality from increasing development in and along river and tributary streams can impact fish populations.

RECOMMENDED ACTIONS

Continue to work with Federal, Tribal, and State agencies and hydropower managers in developing recovery plans and actions to mitigate passage, habitat loss, hatchery and harvest issues, and altered hydrographs. Watershed agreements with private land owners, state and federal agencies need to be developed as needed to address upstream habitat and flow issues.

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10 August 2005

Fish information is from Idaho Fish and Wildlife Information System, Idaho Department of Fish and Game and displayed at the 6th code hydrologic unit.

