



Cutthroat Trout

RESOURCE BRIEF

Importance

The watershed that drains the headwaters of the Snake River is unusual in that it has two genetically pure forms of native cutthroat (*Oncorhynchus clarkii*): the “large-spotted,” or Yellowstone, cutthroat trout (YCT) and the Snake River “fine-spotted” cutthroat trout (SCT), which has a much smaller native range entirely within the Snake River basin (Fig. 1). Fish stocking and natural hybridization have resulted in intermediate forms of cutthroat trout, but the large-spotted and fine-spotted forms appear to have maintained distinct populations through reproductive isolation in parts of the Snake River drainage. In 2006, the USFWS determined that listing of Yellowstone cutthroat trout (both YCT and SCT) as threatened or endangered was not warranted. The SCT has not been formally recognized as a different subspecies from the YCT (*O. c. bouvieri*) and its status remains unresolved.



Snake River finespotted cutthroat trout



Yellowstone cutthroat trout

Status

A 2002–04 survey of 405 km of Snake River headwaters, including 251 km in Grand Teton, found native and non-native trout in 73% of stream length. Cutthroat trout were present in 88% of the occupied length, including 21% occupied by YCT, 21% by SCT, 6% by both, and 39% by cutthroat that could not be identified by morphotype. Non-

native brook trout (*Salvelinus fontinalis*), which were present in approximately 17% of occupied stream length, appear to have displaced cutthroat trout from three small streams within Grand Teton. Netting of Jackson Lake in 2006 for population monitoring captured 48 lake trout (17.0" average length), 15 brown trout (15.4"), and 15 cutthroat trout (14.1").

Discussion

Habitat degradation and problems created by introduced fish species (predation, competition, and interbreeding) have diminished YCT and SCT populations throughout most of their native ranges, and whirling disease has reduced YCT in some stream reaches. Whirling disease has not been detected in the upper Snake River drainage, which harbors four non-native salmonids: brook trout, brown trout, lake trout, and rainbow trout. Little is known about lake trout impacts on cutthroat trout in Jackson Lake, but the Wyoming Game and Fish Department, which manages recreational fisheries in Grand Teton, phased out further stocking of lake trout there in 2007 with the strong support of the NPS.

Also of concern are irrigation diversions present throughout Grand Teton that may serve as conduits for pollutants and divert cutthroat trout into irrigation ditches. While many of these trout end up in creeks located further down the watershed, others become trapped when ditches are shut down in the fall. Grand Teton is seeking funds for a system of fish screens to redirect cutthroats back into the Snake River. An apparent link has been found between total number of redds (spawning sites) and median daily discharge below the dam on a three-year interval, suggesting that higher flows may increase survival of age-1 cutthroat trout, resulting in greater spawner abundance three years later. The park is also collaborating with state, USGS, and university researchers in several studies of the effects of flow regulation on native cutthroat trout in the Snake River, and on irrigation diversions and hybridization of cutthroat and non-native rainbow trout in the Gros Ventre River.

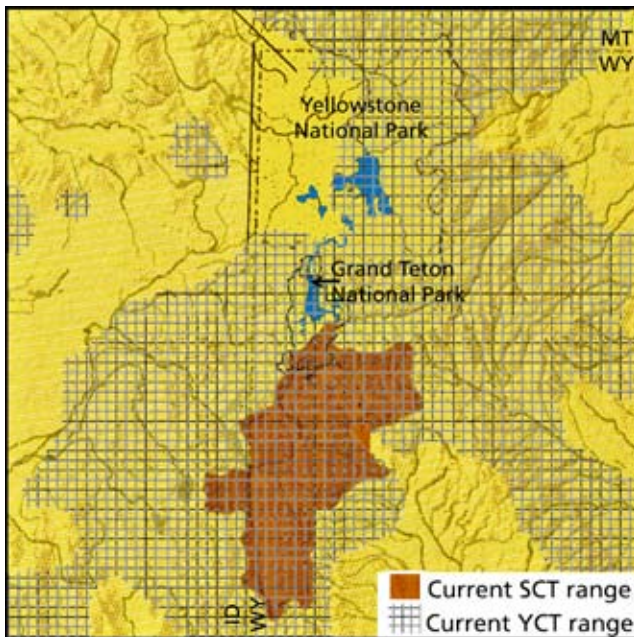


Figure 1. Map showing current range of SCT and YCT.

