Yellowstone Cutthroat Trout *(Oncorhynchus clarkii bouvieri)*

Species Status Statement.

Distribution

There are seven Yellowstone cutthroat trout populations in Utah, all of which are considered conservation populations (populations with 90% or better genetic purity). These seven populations occupy approximately 35 stream miles (Thompson 2002), representing roughly 0.5% of the total occupied habitat in the native range of Yellowstone cutthroat trout, which includes portions of Idaho, Montana, Wyoming, and Nevada (Endicott et al. 2016).

Table 1. Utah counties currently occupied by this species.

Yellowstone Cutthroat Trout
BOX ELDER

Abundance and Trends

The distribution and abundance of the Yellowstone cutthroat trout have declined from historical levels (Thurow et al. 1988; Varley and Gresswell 1988; Kruse et al. 2000). In Utah, the estimated historical distribution is approximately 81 stream miles (May et al. 2007). Therefore, approximately 43% of the historical distribution within Utah remains occupied. During 2017, abundance estimates within the current populations were greater than all previous estimates for several of the populations, lower than ever before for a couple of populations, and between the high and low estimates in a few of the populations (McKell 2018). Abundance estimates during 2017 ranged from a low of 16 individuals per mile in one population, to a high of 1,021 individuals per mile in another (McKell 2018).

Statement of habitat needs and threats to the species.

Habitat Needs

These fish inhabit clear, cold streams and small rivers and lakes. In flowing waters; they prefer pool-riffle ratios of about 1:1, and gravel and cobble substrates with abundant in-stream and overhanging cover. They are rarely found in waters exceeding 22ºC (72ºF; Sigler and Sigler 1996). Fry survival depends largely on the availability of suitable nursery habitat, which is found in areas with low velocity flows and protective cover that normally occur along stream margins and in side channels (Behnke 1992).

Threats to the Species

Introduced populations of rainbow trout (*Oncorhynchus mykiss*) pose a high risk to Yellowstone cutthroat trout, as they readily hybridize with this species and they occur in roughly one-third of streams occupied by native Yellowstone cutthroat trout in Utah (Endicott et al. 2016). Decreased riparian cover, reduction or loss of instream flows, and alteration or loss of aquatic habitats resulting from the effects of poor grazing management, water use, drought, or fire are also important threats to the persistence of Yellowstone cutthroat trout in Utah (Sigler and Sigler 1996, UDWR 2015).

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

Yellowstone Cutthroat Trout
Very High
Inappropriate Fire Frequency and Intensity
High
Agricultural / Municipal / Industrial Water Usage
Droughts
Improper Grazing (current)
Increasing Stream Temperatures
Invasive Wildlife Species - Non-native
Presence of Diversions
Roads – Transportation Network
Small Isolated Populations
Temperature Extremes
Medium
Channelization / Bank Alteration (direct, intentional)
Unauthorized Species Introductions

Rationale for Designation.

The species was petitioned for listing as threatened under the ESA in 1998, and found Not Warranted in 2006. The extremely limited geographical occurrence in Utah, and the ongoing threats to the remaining seven populations, prompt the continued designation of Yellowstone cutthroat trout as a state Sensitive Species. This designation has and will continue to greatly facilitate continuation of management efforts on behalf of this species and its habitats. Measures to conserve Yellowstone cutthroat trout would also benefit some populations of northern leatherside chub and bluehead (or green) sucker.

Economic Impacts of Sensitive Species Designation.

Sensitive species designation is intended to facilitate management of this species, which is required to prevent Endangered Species Act listing and lessen related economic impacts. The listing of Yellowstone cutthroat trout would have impacts to developing and managing water resources and grazing resources in Box Elder County, Utah, especially considering diversions and water use for agriculture, industry and municipalities in areas where the species occurs. These activities combined with drought and changing stream temperatures can reduce habitat availability for the species. If listed, special consideration would have to be made when developing these resources and there would likely be increased costs of mitigation and regulatory compliance for many land-use decisions.

Literature Cited.

Behnke, R.J. 1992. Native trout of western North America. American Fisheries Society Monograph 6.

Endicott, C., L. Nelson, S. Opitz, A. Peterson, J. Burckhardt, S. Yekel, D. Garren, T. M. Koel, and B. Shepard. 2016. Range-wide status assessment for Yellowstone Cutthroat Trout: 2012. Yellowstone Cutthroat Trout Interagency Coordination Group. Available: http://www.westernnativetrout.org/media/rangewide-yct-status-assessment-2012-final.pdf. Accessed January 14, 2019.

Kruse, C.G., W.A. Hubert, and F.J. Rahel. 2000. Status of Yellowstone cutthroat trout in Wyoming waters. North American Journal of Fisheries Management 20:693–705.

May, B.E., S.A. Albeke, and T. Horton. 2007. Range-wide status assessment for Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*): 2006. Yellowstone Cutthroat Trout Inter-agency Coordination Group, Bozeman, Montana, USA.

McKell, M. 2018. Native cutthroat trout (*Oncorhynchus clarkii* ssp.) conservation activities in the Northern Region, 2017. Publication Number 18-01. Utah Department of Natural Resources, Division of Wildlife Resources, Salt Lake City, Utah, USA.

Salafsky, N., D. Salzer, A.J. Stattersfield, C. Hilton-Taylor, R. Neugarten, S.H.M. Butchart, B. Collen, N. Cox, L.L. Master, S. O'Connor, and D. Wilkie. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. Conservation Biology 22: 897–911.

Sigler, W.F. and J.W. Sigler. 1996. Fishes of Utah: A Natural History. University of Utah Press, Salt Lake City, Utah, USA.

Thurow, R.F., C.E. Corsi, and V.K. Moore. 1988. Status, ecology, and management of Yellowstone cutthroat trout in the upper Snake River drainage, Idaho. Pages 25–36 in R. E. Gresswell, editor. Status and management of interior stocks of cutthroat trout. American Fisheries Society, Symposium 4, Bethesda, Maryland, USA.

Utah Division of Wildlife Resources [UDWR]. 2015. Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listings under the Endangered Species Act 2015-2025. Publication Number 15-14, 385 pp.

Varley, J.D., and R.E. Gresswell. 1988. Ecology, status, and management of the Yellowstone cutthroat trout. Pages 13–24 in R.E. Gresswell, editor. Status and management of interior stocks of cutthroat trout. American Fisheries Society, Symposium 4, Bethesda, Maryland, USA.