

Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*)**Species Status Statement.**Distribution

Colorado River cutthroat trout (CRCT) occurs in mountain streams and interconnected lakes in the Green and Colorado River drainages, in Colorado, Wyoming and Utah. The species also historically occupied some streams in northeastern Arizona and northwestern New Mexico. The most recent status assessment estimates this fish historically occupied 32,328 stream kilometers (Hirsch et al. 2013). As of 2010 there were 361 conservation populations (populations with 90% or better genetic purity) occupying 3,403 km of stream habitat or 11% of historic range in Colorado, Utah and Wyoming. Since the latest assessment, managers have completed a number of projects to restore CRCT, including several in Utah that have added additional conservation populations to the total. There are further plans to implement more recovery projects over the next decade.

Table 1. Utah counties currently occupied by this species.

<b>Colorado River Cutthroat Trout</b>	
CARBON	SEVIER
DAGGETT	SUMMIT
DUCHESNE	UINTAH
EMERY	UTAH
GARFIELD	WASATCH
SANPETE	WAYNE

Abundance and Trends

Since the formation of the Tri-State CRCT conservation team and subsequent development of a conservation strategy for CRCT, abundance and distribution of CRCT have increased. The first status assessment for the species occurred in 2005 and estimated CRCT occupied 8% of historic range (Hirsch et al. 2006). In 2010, a second assessment estimated CRCT occupied 11% of historic range (Hirsch et al. 2013). Presently there are CRCT conservation populations in all eight Geographic Management Units recognized by the Tri-State Team, and in 37 of the 51 4th level HUCs (Hydrologic Unit Code) which contain historic habitat (Hirsch et al. 2013).

**Statement of Habitat Needs and Threats to the Species.**Habitat Needs

Colorado River cutthroat trout requires cold mountain streams or lakes that can provide adequate habitat during various stages of its life history, including spawning, rearing, adult and overwintering. Spawning adults require gravel of a suitable size to build their redds for laying eggs. After hatching, larvae and juveniles need rearing habitat that consists of low-velocity areas with cover. This habitat generally occurs along stream margins or in side channels. Adults require deeper, slower waters for resting, combined with faster water that carries food. Boulders, logs, undercut banks and overhanging vegetation are also essential to provide cover. During the winter CRCT seek deep water with low current velocity and protective cover (Behnke 1992).

### Threats to the Species

Non-native salmonid species have probably had the greatest negative effect on CRCT (Young 1995). Brook trout commonly replace inland native cutthroat trout including CRCT when in sympatry (Peterson et al. 2004). Additionally, rainbow trout and non-native subspecies of cutthroat trout readily hybridize with CRCT (Behnke and Zarn 1976). Although introductions of non-native salmonids into existing populations of native trout by State and Federal fish and wildlife agencies have ceased, their persistence in CRCT historic range prevents further recovery of the species.

A wide variety of land management practices affect populations of CRCT, including poor grazing systems, heavy metal pollution, and water depletion and diversion (CRCT Coordination Team 2006). These practices are normally site-specific impacts, and not overall threats throughout CRCT range.

Disease also threatens CRCT populations. CRCT exposed to whirling disease (*Myxobolus cerebralis*) suffered significantly greater mortality from the infection than most other non-native salmonids (Nehring 1998). Very little is known about other diseases and parasites of CRCT (CRCT Coordination Team 2006).

Fires have significant potential to impact fish populations, as recently demonstrated by the Utah's 2018 Dollar Ridge, Pole Creek and Bald Mountain fires. Post-fire storms can produce catastrophic debris flows that bury habitat and suffocate aquatic life. Such flows occurred in the watersheds impacted by the three fires mentioned above, eliminating aquatic life from large sections of streams; including a stream with a CRCT conservation population. The aftermath of these fires underscore the need to replicate CRCT conservation populations across the landscape.

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).

<b>Colorado River Cutthroat Trout</b>
<b>Very High</b>
Inappropriate Fire Frequency and Intensity
<b>High</b>
Agricultural / Municipal / Industrial Water Usage
Channel Downcutting (indirect, unintentional)
Disease – Alien Organisms
Droughts
Fishing and Harvesting Aquatic Resources
Improper Grazing (current)
Increasing Stream Temperatures
Invasive Wildlife Species - Non-native
Presence of Diversions
Roads – Energy Development
Roads – Transportation Network
Temperature Extremes
Water Allocation Policies
<b>Medium</b>
Oil and Gas Drilling
Small Isolated Populations
Spills and Production Water
Storms and Flooding
Unauthorized Species Introductions

### **Rationale for Designation.**

Non-native salmonid introductions, combined with habitat loss and degradation, have reduced the distribution of CRCT throughout its historic range (Hirsch et al. 2013). The threats that have caused the decline are still present throughout a large portion of CRCT historic range and require ongoing management. Therefore, CRCT should remain designated as a state Sensitive Species.

A multistate Conservation Agreement and Strategy outlines management actions aimed at recovering CRCT and keeping it off the Endangered Species List (CRCT Coordination Team 2006). In 2004, due to the efforts of partners to restore CRCT combined with the existence of a Conservation Strategy, the USFWS found this species to be not warranted for ESA listing (USFWS 2004).

### **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 Colorado River cutthroat trout would have impacts to developing and managing water resources and grazing resources throughout their range in Utah, especially considering diversions and water use for agriculture, industry and municipalities in areas where the species occurs. These activities, combined with drought, impacts from inappropriate fire frequency and intensity, 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. A listing could also impact recreational fisheries management, road development, and management of grazing in the species range.

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