

Bear Lake Whitefish (*Prosopium abyssicola*)

Species Status Statement.

Distribution

Bear Lake whitefish is one of four fish species naturally found only in Bear Lake, which straddles the Utah-Idaho border. This species has also never been transplanted elsewhere, and occurs nowhere else in the world (Sigler and Sigler 1987).

Table 1. Utah counties currently occupied by this species.

Bear Lake Whitefish
RICH

Abundance and Trends

Prior to 1999, there was simply no reliable method for fishery biologists to differentiate Bear Lake whitefish from Bonneville whitefish at lengths less than approximately 10 inches outside of their respective spawning seasons (Tolentino and Thompson 2004). Therefore, the Utah Division of Wildlife Resources (UDWR) monitored both species combined as the “whitefish complex”. In 1999, Ward (2001) along with UDWR biologists (Tolentino and Thompson 2004) finally described a reliable method to distinguish the two whitefish species in Bear Lake. From 1999-2018 the UDWR has monitored gill net catch rates and composition of Bonneville and Bear Lake whitefish separately (Tolentino 2007). The population of Bear Lake whitefish has appeared to remain stable from 1999-2017, comprising an average of 26% of the whitefish species caught in survey nets each year.

Statement of Habitat Needs and Threats to the Species.

Habitat Needs

Bear Lake whitefish spend a majority of their life near the bottom of the lake’s deep waters. For most of each year, they live at depths ranging from 130 to 200 feet (Thompson 2003, Tolentino 2007). However, during the months of February and March the adult fish move into rocky, somewhat shallower areas (20-100 feet) to spawn (Tolentino and Albrecht 2007). Thus, this species requires the deep, cold and clear waters of Bear Lake to complete its life cycle.

Threats to the Species

Bear Lake whitefish lives only in Bear Lake. It faces threats that include lowered water levels due to drought, nutrient loading, invasion of non-native species, and overstocking of predatory

fishes (Thompson 2003, Albrecht 2004, Kennedy 2005). Increasing development and recreational use of the Bear Lake basin increases the chances of negative impacts to lake water quality (Sigler and Sigler 1987) which could directly affect Bear Lake whitefish, or it could reduce their prey species. Predation by predatory fish (cutthroat trout, adult Bear Lake whitefish and non-native lake trout) could possibly have a negative effect on the population of Bear Lake whitefish. Since their first stocking into the lake in 1911, managers have believed that lake trout are unable to maintain their population in Bear Lake through natural reproduction. This is likely due to several factors including predation by native fish, lake trout eggs suffocating from the unique water chemistry in Bear Lake, and limited spawning habitat (Martinez et. al. 2009). To ensure control of lake trout numbers, beginning in 2001 the UDWR and Idaho Department of Fish and Game began stocking only sterile (triploid) lake trout.

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).

Bear Lake Whitefish
Very High
Dam / Reservoir Operation
Hydro Power Facilities
Power Generation
Water Allocation Policies
High
Groundwater Pumping
Unauthorized Species Introductions
Medium
Invasive Wildlife Species - Non-native

Rationale for Designation.

Bear Lake whitefish is one of four species of fish found only in Bear Lake, which straddles the border of Utah and Idaho. This fish community is a unique wildlife resource that could be vulnerable to loss or degradation of their habitat. Sensitive species designation will help state management of this resource and prevent the need for federal Endangered Species Act listing. Measures to conserve Bear Lake whitefish would also benefit Bonneville cisco, Bonneville whitefish, and Bear Lake sculpin.

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 Bear Lake whitefish as endangered would have impacts on water resource management at Bear Lake, including reservoir operation, power generation, and groundwater pumping in the surrounding areas. There would also be costs associated with preventing and mitigating unauthorized species introductions and increased costs of regulatory compliance for many land-use decisions and mitigation costs.

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