

Southern Leatherside Chub (*Lepidomeda aliciae*)**Species Status Statement.**Distribution

Southern leatherside chub is native to desert streams throughout the southern and eastern portions of the Bonneville Basin in Utah, including the Utah Lake and Sevier River drainages (UDWR 2010).

Table 1. Utah counties currently occupied by this species.

Southern Leatherside Chub	
BEAVER	PIUTE
GARFIELD	SANPETE
IRON	SEVIER
JUAB	UTAH
KANE	WASATCH
MILLARD	WAYNE

Abundance and Trends

Southern leatherside chub was once widespread in many of the rivers and low gradient streams of the Bonneville Basin. The species has declined in both distribution and abundance, due to habitat loss and degradation combined with widespread introductions of nonnative piscivorous species such as brown trout (*Salmo trutta*) (UDWR 2014). For example, in the Sevier River drainage southern leatherside distribution has been reduced to 58% of its original range (Combes and Hardy 2000; Wilson 1996; Wilson and Belk 1996; Wilson and Belk 2001). Statewide, the loss of distribution has primarily occurred over the past 50 to 100 years (Wilson and Belk 2001).

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

Southern leatherside chub requires flowing water; it does not persist in lakes or reservoirs (UDWR 2010). Habitat includes a broad range of widely varying physical conditions including high variability of stream flow, annual precipitation, gradient, elevation, conductivity, and pH (Wilson 1996; Wilson and Belk 2001). Southern leatherside chub occurs at elevations between 1,132 m and 2,608 m. The temperature range utilized by this fish has been reported from 10.0°C to 23.3°C, however, the preferred temperature range is between 15.6-20.0°C (Sigler and Sigler 1987; Sigler and Sigler 1996). Microhabitat variables associated with the presence of this

species include low water velocities (2.5-45.0 cm/sec), intermediate water depths (25-65 cm), and low percent composition of sand-silt or gravel substrates (Wilson 1996; Wilson and Belk 2001). Adults and juveniles utilize the main channel of streams more often than off channel habitats, but in the presence of nonnative predators, this species shifts habitat use to off channel habitats (Walser et al. 1999; Olsen and Belk 2001).

Threats to the Species

Habitat loss and degradation, and competition and predation from nonnative fish, are the immediate threats to southern leatherside chub. Throughout the range of this fish, irrigation diversions, dams, and other stream alterations, as well as unmanaged livestock grazing, have caused substantial habitat loss, fragmentation, and degradation. In addition, during periods of high water usage, irrigation withdrawal completely dewater portions of many drainages (UDWR 2010). Channelization and diking have increased water velocity, removed instream structure, and reduced the amount and quality of habitat (UDWR 2010). Where adequate habitat still remains to support aquatic life, predation and competition by introduced species such as brown trout and brook trout (*Salvelinus fontinalis*) are additional negative forces (UDWR 2010).

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).

Southern Leatherside Chub
High
Agricultural / Municipal / Industrial Water Usage
Channelization / Bank Alteration (direct, intentional)
Invasive Wildlife Species - Non-native
Presence of Dams
Presence of Diversions
Water Allocation Policies
Medium
Agricultural Pollution
Channel Downcutting (indirect, unintentional)
Droughts
Housing and Urban Areas
Improper Grazing (current)
Inappropriate Fire Frequency and Intensity
Increasing Stream Temperatures
Invasive Plant Species – Non-native
Roads – Transportation Network
Soil Erosion / Loss
Temperature Extremes

Rationale for Designation.

Population declines of southern leatherside chub prompted the implementation of a state-wide conservation agreement and strategy (CAS) to expedite conservation measures and reduce or eliminate threats that would warrant their listing under the Endangered Species Act (UDWR 2010). Although managers have made progress in protecting and restoring southern leatherside chub populations throughout their range, the threats outlined above as well as potential unforeseen future threats will continue to require cooperative management or mitigation. The partnerships established under the CAS will remain critical to conserving existing habitat and restoring habitat connectivity within the historic range, which will ensure continued persistence of the species.

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 southern leatherside chub would have wide-ranging impacts to developing and managing water resources throughout its range in Utah, and would likely increase mitigation costs associated with water use and development. It could also impact recreational fisheries management, especially where nonnative fisheries (e.g. brown trout) overlap with its range.

There would be increased costs of regulatory compliance for many land-use decisions and mitigation costs associated with these decisions.

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