Roundtail Chub - Gila robusta

Abundance: Extremely rare

Status: NSS1 (Aa) NatureServe: G3 S3

Population Status: Greatly restricted in numbers and distribution and extirpation is possible.

Limiting Factor: Habitat: severe ongoing and increasing loss of habitat.

Comment:

Introduction

Roundtail chub, along with flannelmouth sucker Catostomus latipinnis, and bluehead sucker C. discobolus are all relatively large-bodied species of imperiled Colorado River fish. The three are collectively called "the three species" and their conservation is a cooperative effort which spans state lines (Colorado River Fish and Wildlife Council 2004). Once common throughout the drainage, roundtail chub currently occupy 45% of their historic range in the Colorado River Basin (Baxter and Stone 1995; Bezzerides and Bestgen 2002). They still occur in relatively low numbers throughout the Green River drainage of Wyoming and the only known lentic populations of roundtail chub occur in the Finger Lakes in the New Fork Drainage (Baxter and Stone 1995; Gelwicks et al. 2009). Roundtail chubs are omnivorous. Larvae feed on diatoms and filamentous algae (Neve 1967). Juveniles feed on aquatic insects, crustaceans, and algae. (Bestgen 1985). Adults consume these food items as well as terrestrial gastropods, insects, and reptiles (Rinne 1992). Spawning takes place in the spring and early summer during the falling limb of the snowmelt runoff hydrograph (Brouder 2001). During this time, the adhesive, demersal eggs are deposited over gravel in deep pools and runs (Neve 1967). Movements have been observed to coincide with the spawning season (Bestgen et al. 1987; Beatty 2005; Compton 2007).

Habitat

Roundtail chub are most commonly found in pool-riffle habitats of Colorado River Basin rivers and streams (Bezzerides and Bestgen 2002). Adults are associated with low current velocities, deep pools, undercut banks, woody debris, and boulders (Bestgen 1985; Bestgen and Propst 1989).

Problems

- Competition with and predation by nonnative species (i.e., Catostomus sp., creek chub Semotilus atromaculatus, redside shiner Richardsonius balteatus, burbot Lota lota, brown trout Salmo trutta, and lake trout Salvelinus namaycush) further limit three species populations.
- The effects of water development and reservoir construction exacerbated by drought have cut off this species' migratory corridors, degraded its habitat, and encouraged the spread of nonnatives.

Conservation Actions

- Continue to partner with other agencies and conservation organizations (e.g., BLM, Little Snake River Conservation District, and Trout Unlimited) to address conservation needs for this species.
- Develop methods for salvage, transport, holding, and repatriation of native species during chemical treatments.
- Continue mechanical removal of nonnative species from the Finger Lakes and Muddy Creek (tributary to Little Snake River).
- Use transplants as a means of establishing new lentic populations that are free from predatory threats found in the Finger Lakes.
- Chemically treat Muddy Creek to remove nonnative species.

Monitoring/Research

• Continue regular monitoring of drainages containing the three species to track population trends and the abundance and ranges of nonnative species.
• Conduct monitoring before and after chemical treatments and transplants to determine the success of removal/transplant efforts.

Recent Developments

Wyoming became a signatory to the "Rangewide Conservation Agreement for Roundtail Chub, Bluehead Sucker and Flannelmouth Sucker" (Colorado River Fish and Wildlife Council 2004).

A survey from 2002-2006 of the three species throughout the Green River drainage in Wyoming has been completed and summarized in a report (Gelwicks et al. 2009). Surveys indicate that the most imminent threat to the persistence of roundtail chubs is habitat degradation, mainly due to water development.

Recent genetics analyses reveal that Wyoming populations contain unique haplotypes not found in downstream populations (Douglas and Douglas 2008).

Three graduate studies were completed describing roundtail chub populations, habitat, and/or movement in Muddy Creek (Bower 2005; Beatty 2005; Compton 2007).

Drafts of long-term (Cavalli 2006) and short-term (Senecal et al. 2010) management plans for Wyoming's three species have been completed.

The first transplants to establish roundtail chub populations in lakes where lake trout and brown trout are absent was conducted (WGFD 2010).

Nonnative sucker species and their hybrids were mechanically removed from Muddy Creek (Garner et al., In preparation) and Halfmoon and Burnt lakes (WGFD 2010).

Depletion population estimates for the three species were conducted on Muddy Creek (Garner et al., In preparation).

A University of Wyoming graduate, Sara Laske, completed a MS thesis describing habitat use and diets of roundtail chub, brown trout, and lake trout in Halfmoon and Little Halfmoon lakes (Laske 2010).

A Colorado State University graduate study is underway to determine the jumping and swimming abilities of burbot and white sucker in order to design effective barriers to prevent their spread in the Green River drainage of Wyoming.

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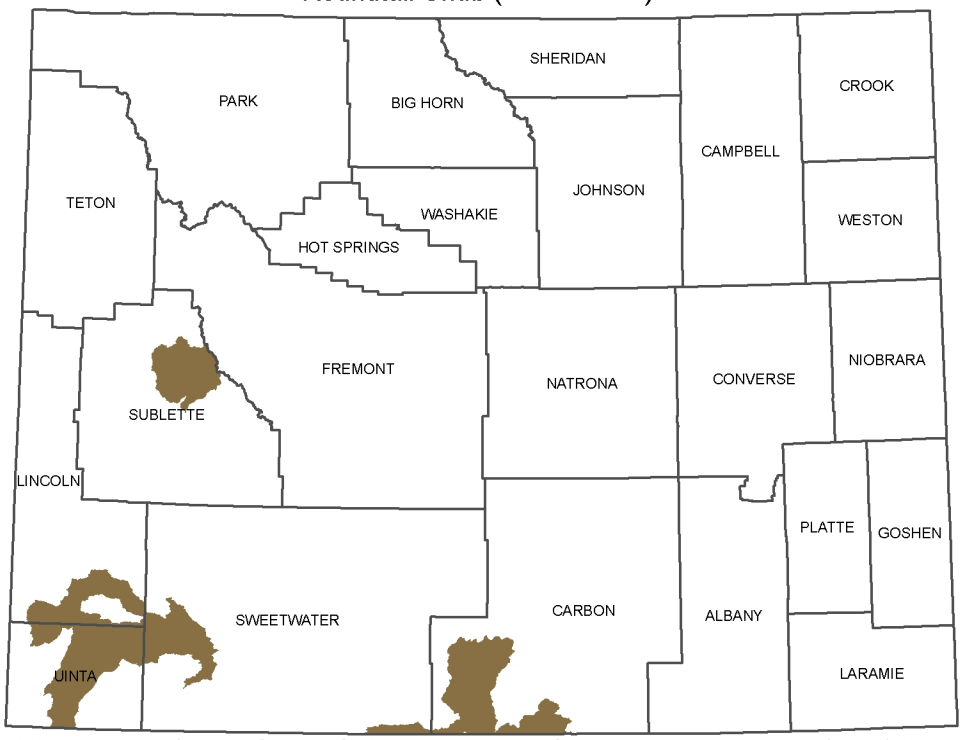
Roundtail Chub (*Gila robusta*)



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: April 2010. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.