Flannelmouth Sucker - Catostomus latipinnis

Abundance: Rare

Status: NSS1 (Aa) NatureServe: G3G4 S3

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

Limiting Factor: Genetics: species declining in genetic purity due to introgression with nonnative sucker species.

Comment: NSS Ranks are reviewed and revised with each SWAP revision. No changes were made for this species in this revision.

Introduction

Flannelmouth sucker, along with roundtail chub Gila robusta, 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). Although flannelmouth sucker were once widespread throughout the Colorado River basin, they currently occupy approximately 45% of their historic range (Bezzerides and Bestgen 2002). Reasons for declines include dam construction and operation as well as predation, competition and hybridization with non-native fishes. The primary cause of declines in Wyoming is the risk of genetic introgression with widely distributed non-native suckers (Bezzerides and Bestgen 2002; McDonald et al. 2008; Mandeville 2015). Although genetically pure individuals still exist throughout the Green River drainage in Wyoming, upper Bitter Creek has the states' only remaining population of flannelmouth sucker that is isolated from non-native, hybridizing sucker species (Gelwicks et al. 2009). Recent evidence of reduced abundances, truncated age structure, and habitat limitations within this population raise concerns about its future viability (Senecal 2010). Flannelmouth sucker are omnivorous. Juveniles of this species feed on aquatic invertebrates and organic detritus while adults consume terrestrial seeds, plant debris, algae, and phytoplankton in addition (Muth and Snyder 1995; Childs et al. 1998). Spawning occurs in May and June in the Upper Colorado River Basin whereby adhesive, demersal eggs are deposited over sand and gravel bars in shallow water (McAda and Wydoski 1985). Flannelmouth sucker movement into and out of tributary streams has been observed. However, sedentary patterns are also apparent (Cavalli 1999; Beatty 2005; Compton 2007; Sweet 2007).

Habitat

Although preferring large rivers with deep riffles and runs, flannelmouth sucker can also be found in smaller streams and sometimes in lakes (Baxter and Stone 1995). Juveniles select for slower current velocity habitats, such as backwaters, eddies, side channels, and shallow riffles (Bezzerides and Bestgen 2002). Flannelmouth sucker tend to occupy habitats lower in the drainage and exhibit more overlap with white suckers Catostomus commersoni than do bluehead suckers Catostomus discobolus (Sweet 2007).

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 bluehead and flannelmouth sucker populations.
- Hybridization between native bluehead and flannelmouth sucker and non-native white sucker Catostomus commersoni, longnose sucker Catostomus catostomus, and Utah sucker Catostomus ardens is occurring. Some combinations are fertile and will lead to introgression.
- 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 as a signatory to the "Rangewide Conservation Agreement for Roundtail Chub, Bluehead Sucker and Flannelmouth Sucker" (Colorado River Fish and Wildlife Council 2004).
- Develop methods for holding and spawning in captivity.
- Mechanically remove nonnative species where appropriate.
- Chemically treat Big Sandy River, Little Sandy and Muddy Creeks to remove nonnative species and reduce the risk of hybridization.
- Construct a barrier upstream of Big Sandy reservoir to prevent recolonization of treated stream reaches by nonnative fish.
- 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.
- Increase the availability of hard substrates and pool habitat in upper Bitter Creek according to recommendations by Senecal (2010)

Monitoring/Research

Continue regular monitoring of drainages containing the three species to track population trends, hybridization rates, and the abundance and ranges of nonnative species.

Conduct monitoring before and after chemical treatments and transplants to determine the success of removal efforts.

Conduct a project to determine juvenile abundance and habitat use.

Recent Developments

A survey from 2002-2006 of the three species throughout the Green River drainage in Wyoming has been completed and summarized in an Administrative Report (Gelwicks et al. 2009). Surveys indicate that the most imminent threat to the persistence of flannelmouth suckers in the Green River drainage is genetic introgression with white suckers.

Genetics analyses reveal that Wyoming populations of the three species contain unique haplotypes not found in downstream populations (Douglas and Douglas 2008), that hybridization with white suckers enables further backcrossing among native and nonnative sucker species (Douglas and Douglas 2008; McDonald et al. 2008), and that the level of hybridization varies among drainages (Mandeville 2015).

Six studies were completed describing three species populations, habitat, and/or movement in Big Sandy River, and Little Sandy and Muddy Creeks (Bower 2005; Beatty 2005; Compton 2007; Sweet 2007; Banks 2009).

Nonlethal methods for precisely aging native and nonnative sucker species and their hybrids were developed (Quist et al. 2007) and used to age bluehead and flannelmouth suckers in Big Sandy River, and Little Sandy and Muddy Creeks (Sweet et al. 2009).

Methods for salvage, transport, holding, and repatriation of native species were investigated (Compton 2013).

Chemical treatments to remove nonnative species in Sculpin Creek and Long Draw (Big Sandy drainage) and Muddy Creek have begun.

A barrier is being constructed on the Big Sandy River to prevent recolonization of treated stream reaches by nonnative fish. Barrier design was influenced by research on the jumping capabilities of burbot and white suckers (Gardunio 2014). Barrier location was influenced by research on the larval drift of Catostomids in the Big Sandy River (Zelasko et. al. 2011).

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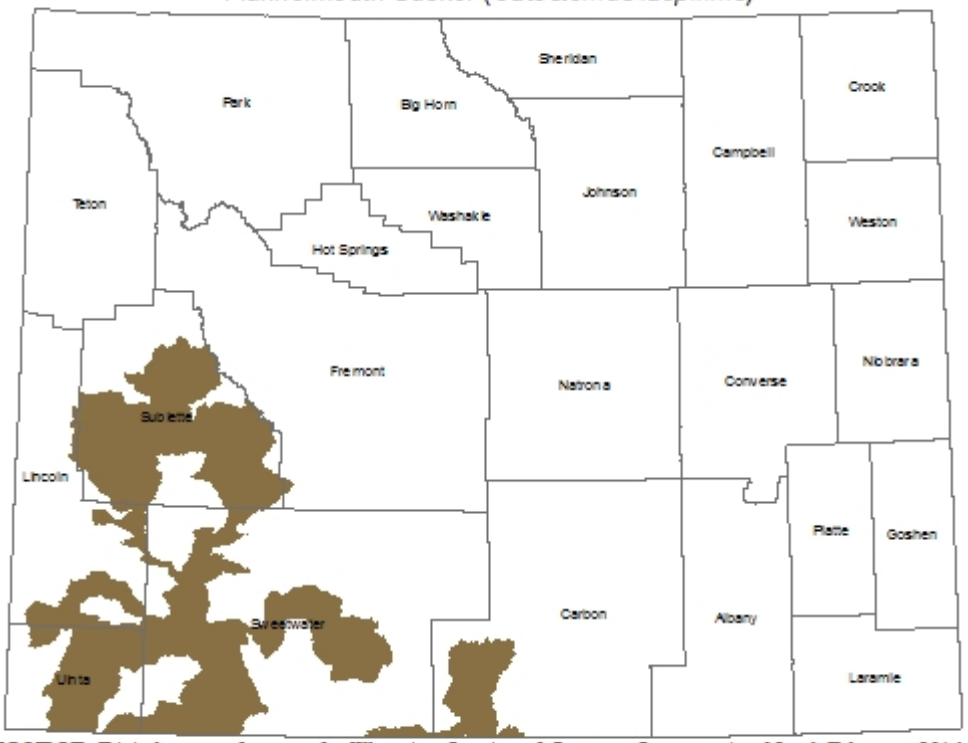
Flannelmouth Sucker (*Catostomus latipinnis*)



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: February 2016. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.