Suckermouth Minnow - Phenacobius mirabilis

Abundance: Extremely rare

Status: NSS2 (Ab) NatureServe: G5 S2

Population Status: Imperiled because of greatly restricted distribution. Found only in Horse Creek drainage.

Limiting Factor: Habitat: severe due to very limited habitat in Wyoming.

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

Introduction

Suckermouth minnow are distributed throughout the Mississippi River Basin from Ohio to Wyoming, with isolated populations also present in the Gulf Coast drainage. In Wyoming they are historically present in the North Platte River drainage and two tributaries, Horse Creek and the Lower Laramie River. Recent surveys found populations in Horse Creek (Patton, 1997; Bear and Barrineau 2007; Moan et al. 2010) and one suckermouth minnow each in the Lower Laramie River and North Platte River (White et al. 2002).

Suckermouth minnow remain near the bottom of streams, digging in the substrate with their snout and lips for food. Their diet generally consists of aquatic insects (Pflieger 1997). Suckermouth minnow have been found to spawn from April to August, in temperatures ranging from 57 °F to 77 °F (Bestgen and Compton 2007). Spawning activity occurs over gravel or cobble substrates, where eggs can be deposited in the interstitial spaces for protection. Females may hold 200 – 500 eggs, but deposit few eggs (1 to 5) per spawning event (Bestgen and Compton 2007).

In Wyoming, they are associated with brassy minnow, bigmouth shiner, creek chub, common carp, common shiner, emerald shiner, fathead minnow, northern plains killifish, plains topminnow, red shiner, sand shiner, and white sucker (Moan et al. 2010).

Habitat

Suckermouth minnow are usually found in the riffles of warm streams, with gravel or sand substrates. They are said to avoid intermittent streams and streams that are continuously cooled by springs (Pflieger 1997). In Wyoming, suckermouth minnow were found in areas with fine gravel, limited aquatic vegetation, mean thalweg depths greater than 0.75 ft, and water temperatures ranging from 46 °F to 81 °F in October and June, respectively (Moan et al. 2010).

Problems

- Limited numbers and restricted populations, making them susceptible to extirpation from disease and habitat alterations.

Conservation Actions

- Review literature and other published documents to gain an understanding of the historical suckermouth minnow distribution in the Lower Laramie and the potential of re-establishing a population.
- Investigate suckermouth minnow behavior and habitat utilization within Wyoming. This could include an investigation of the impacts of diversion flows in Horse Creek on suckermouth minnow preferred habitat
- Continue efforts to educate landowners and the public about the importance of native fish and their habitats, including the development of a prairie stream conservation brochure.

Monitoring/Research

Conduct routine monitoring at sites that have been occupied by suckermouth minnow in the past. Monitoring sites should include the Fort Laramie National Park and replicate sites from White (2002) where suckermouth minnow were collected.

Recent Developments

Detailed fish and habitat surveys were conducted in tributaries to the North Platte River between 2005 and 2009 to establish a baseline for future trend analysis in the North Platte River drainage (Bear and Barrineau 2007; Moan 2010). Greater numbers of suckermouth minnows were found in 2009 sampling than in 2005. Additional surveys in 2015 found juvenile and adult suckermouth minnow at multiple locations in lower Horse Creek, but non were found in the lower Laramie River (Nick Hogberg and Bobby Compton, WGFD, unpublished data).

References

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Moan, C. A., M. M. McGree, and G. P. Edwards, Jr. 2011. Prairie stream conservation in southeast Wyoming. Wyoming Game and Fish Department Administrative Report, Cheyenne, WY.

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Patton, T. M. 1997. Distribution and status of fishes in the Missouri River drainage in Wyoming: implications for identifying conservation areas. Doctoral Dissertation. University of Wyoming, Laramie.

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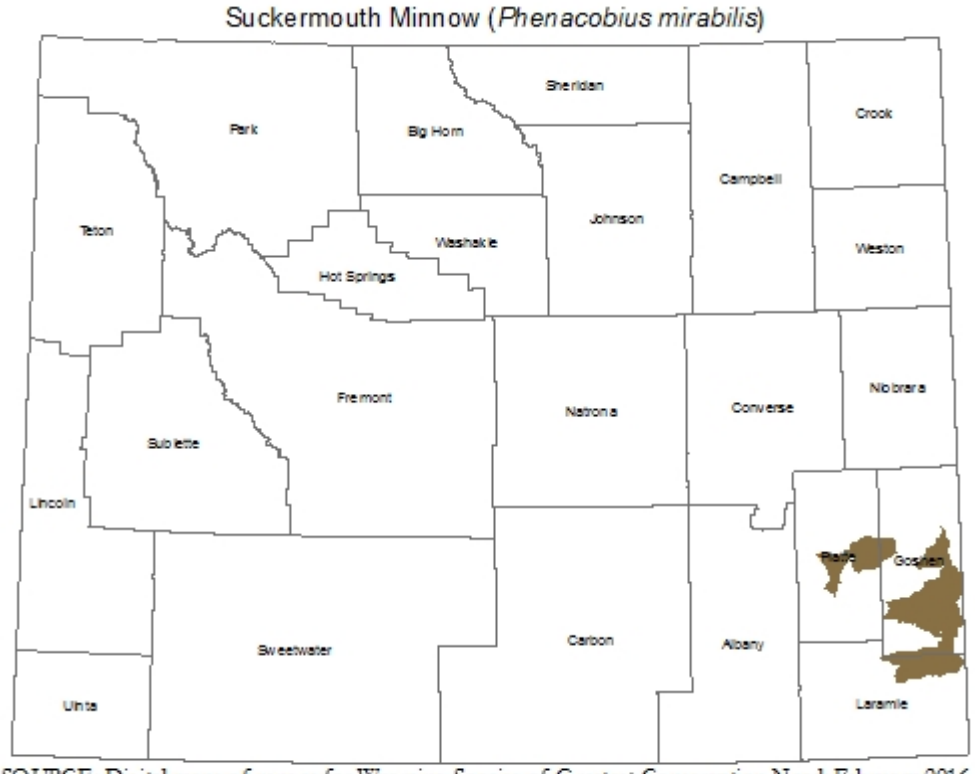

SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: February 2016. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.