Orangethroat Darter - Etheostoma spectabile

Abundance: Unknown

Status: NSS3 (Bb) NatureServe: G5 S1

Population Status: Greatly restricted distribution. Found in lower Lodegpole Creek in South Platte River drainage and North Platte River (Goshen County). The species also occurs in the lower North Platte River and in the Laramie River below Grayrocks Reservoir. Species can be difficult to tell from Iowa darter.

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

Comment: NSS status changed from NSSU to NSS3 (Bb) in 2017 based on recent survey work. NSS Ranks are reviewed and revised with each SWAP revision.

Introduction

Orangethroat darter distribution extends from central Texas to southern Wisconsin and Michigan. Wyoming is at the western extreme of their distribution. Historically, orangethroat darters in Wyoming were only found in Lodgepole Creek, in the South Platte River drainage. Recent surveys have discovered new populations in the lower sections of the North Platte River and in the Lower Laramie River (Moan et al. 2010).

Orangethroat darters primarily reside on stream bottoms, actively feeding on aquatic macroinvertebrates. They generally spawn over fine gravel in early spring depending on water temperature. Females bury themselves in the gravel during spawning, depositing eggs into the gravel. No parental care is given (Pflieger 1997). Maturity is generally reached during their second spring after hatching and few live for more than four years.

During the 2008-2009 WGFD surveys, orangethroat darter were found in association with 14 other species, but were most commonly found with longnose sucker, central stoneroller, Johnny darter, and exotic smallmouth bass and common carp. Exotic green sunfish were also found at one site in the Laramie River drainage that was occupied by orangethroat darter (Moan et al. 2010).

Habitat

Orangethroat darters prefer clear to moderately turbid water with gravel substrates. They are said to subsist in slow riffles or pools with enough flow to keep substrates free of silt. In the Lower Laramie River, they were collected at sites dominated by gravel substrates, with riffle habitat present, and some aquatic vegetation. The 2008 surveys were the first time orangethroat darter had been documented in the Laramie River (Moan et al. 2011). Based on WGFD surveys conducted in 2012 and 2013, orangethroat darter were present, when suitable habitat was present, in the Laramie River below Grayrocks Reservoir. Only one orangethroat darter was collected during 2009 Lodgepole Creek surveys and it was thought that their preferred habitat was limited (Moan et al. 2011). In contrast, data collected in 2011, 2012, and 2015 by WGFD showed that orangethroat darter are actually thriving in approximately nine miles of Lodgepole Creek, where preferred habitat is still available.

Problems

- Altered flow regimes, habitat fragmentation, and impacts to aquatic and riparian habitat associated with agricultural practices.
- Competition with introduced non-native fish may adversely effect populations in some areas within native range.
- Lack of connectivity resulting from low flows or other physical barriers (natural and man made) may significantly limit access to upstream habitats.
- Restricted population, making them susceptible to extirpation from disease and habitat alterations.

Conservation Actions

- Continue efforts to maintain flows and connectivity.
- Continue to educate landowners and the public about the importance of maintaining habitat for native fish
- Surveys of extant populations are needed to provide baseline data, develop monitoring protocols, and establish monitoring locations to assess distribution and population trends.

Monitoring/Research

Design a plan to monitor known populations in the North Platte and Lower Laramie river systems. In addition, develop a plan to monitoring sites on Lodgepole Creek. Work with private landowners to maintain and or enhance orangethroat darter habitat or distribution by decreasing habitat fragmentation and incorporating best land management practices.

Continue to identify and record observations while conducting fisheries management sampling.

Recent Developments

The 2008 WGFD surveys were the first time orangethroat darter had been documented in the Laramie River below Grayrocks Reservoir (Moan et al. 2011) and 2012 and 2013 surveys further confirmed their presence. Orangethroat darter are said to prefer sluggish riffles or pools with gravel or rocky substrates (Pflieger 1997), habitat that was present in the sample sites in 2012 and 2013 and throughout the Lower Laramie River drainage (Moan et al. 2011). Additional sampling by WGFD in 2008 in the North Platte River found orangethroat darter occupying backwaters of the mainstem North Platte River near Torrington, WY.

Surveys conducted in 2011 and 2012 by WGFD addressed the 2010 SWAP and verified results from Lodgepole Creek surveys conducted in 2009 where only one orangethroat darter was collected (Moan et al. 2011). Many assertions about the status of orangethroat darter in Lodgepole Creek were made in the 2010 SWAP after surveys conducted by Moan et al. (2011) in 2009 reported there had been a drastic decline in orangethroat darter from 1993 to 2009 due to scarcity of habitat. Site selection and sampling methodology may have played a role in 2009 survey results. Data collected in 2011, 2012, and 2015 have refined our understanding of the abundance and distribution of orangethroat darter in Lodgepole Creek. Future sampling for orangethroat darter should take into account site selection and sampling methodology for monitoring purposes. Data collected in 2011, 2012, and 2015 have confirmed that orangethroat darter are actually thriving in approximately nine miles of Lodgepole Creek, where preferred habitat is still available.

WGFD 2015 surveys of lower Horse Creek turned up one ODT. This would represent the first observance of ODT in the Horse Creek Drainage.

References

Bear, B., and C. Barrineau. 2007. Status of habitat and native fish in southeast Wyoming prairie streams. Wyoming Game and Fish Department Administrative Report, Cheyenne.

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.

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.

Pflieger, W. L. 1997. The Fishes of Missouri, revised edition. Missouri Department of Conservation, Jefferson City.

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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.