

## Iowa Darter - *Etheostoma exile*

Abundance: Rare

Status: NSS3 (Bb)

NatureServe: G5 S3S4

Population Status: Vulnerable due to decreasing abundance and distribution. Appear to be decreasing in distribution over the last decade. Extirpated from many locations in the southern part of its range.

Limiting Factor: Habitat: severe due to increasing turbidity, pollution, and drainage of wetlands, which limit preferred habitat. Also non-native species introductions.

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

### Introduction

Iowa darter are native to the north central region of the United States and central Canada. Their U.S. distribution stretches from the northern Rocky Mountain states, across the upper Midwest, to New York state. They have been introduced in Utah and New Mexico. Wyoming makes up the western edge of their distribution.

In Wyoming, they have been found in the Niobrara, North Platte, and South Platte River drainages. Iowa darters actively feed along stream bottoms during both day and night, mostly consuming small aquatic insects (Baxter and Stone 1995). Spawning occurs in late April to July, under the cover of submerged objects or undercut banks. Males move into shallow waters and establish a territory where the females will deposit a few eggs per spawning event. The male will defend the territory but will not provide parental care (Weitzel 2002).

### Habitat

Iowa darter prefer cool, slow moving vegetated waters with little to no turbidity and sand or gravel substrates, but will use a variety of available habitats. In Wyoming, they were found at sites with slow moving water, with light to heavy vegetation and cobble to silt substrates. Greatest numbers were collected at sites with few or no predators (Moan et al. 2010).

### Problems

- h Reduced numbers found in association with piscivores (brown trout and creek chub) in the Lower Laramie River.
- h Limited numbers and restricted populations, making them susceptible to extirpation from disease and habitat alterations.

### Conservation Actions

- h Determine limiting factors for Lodgepole Creek fish populations.

### Monitoring/Research

Initiate routine monitoring in the Lodgepole Creek, Laramie River, and North Platte River drainages to determine trends in Iowa darter abundance and detect changes in the overall composition of fish communities.

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

### Recent Developments

Detailed fish and habitat surveys were conducted in tributaries to the North Platte River in 2004-2005 (Bear and Barrineau 2007) and 2008-2009 (Moan et al. 2010) to establish a baseline for future trend analysis in the North Platte drainage. During the 2004-2005 surveys, Iowa darters were found in Antelope Creek (Chugwater Creek drainage) and in the Niobrara and Laramie rivers. The species was found at sites in the Niobrara and Laramie rivers in 2010, but was not found in the Chugwater Creek drainage. Patton (1997) and Barrineau (2006, unpublished data) found that Iowa darters were relatively common in the Lodgepole Creek watershed. However, the species was not found during the 2008-2009 surveys in the watershed (Moan et al. 2010), indicating a potential decline in distribution in the South Platte River basin in Wyoming.

The Casper Fisheries Management Crew conducted native fish surveys in the lower mainstem North Platte River in 2005 and 2007. Iowa darters were found at two locations between Guernsey and Torrington, Wyoming in 2007 (WGFD 2008). Iowa darters were also sampled in Big Muddy Pond near Glenrock, Wyoming in 2005 (WGFD 2006).

The Laramie Fisheries Management Crew conducted surveys at 2 sites on Antelope Creek in Platte County in 2010. Antelope Creek was sampled just downstream from the Bordeaux Road Exit, Interstate 25 and near I-25 Exit 68. Iowa darter were numerous at both sites.

The Laramie Fisheries Management Crew conducted extensive surveys in Lodgepole Creek upstream of WY HWY 213 in 2011 and 2012. Over a mile of Lodgepole Creek was sampled in 2011 upstream from HWY 213 and Iowa darter were found at 14 of the 16 sampling sites. A total of 131 Iowa darter were collected in the >1 mile of Lodgepole Creek surveyed in 2011, this was far less than the numbers of orangethroat darter collected at the same sites in 2011, 1,981. Surveys in 2012 occurred upstream of the 2011 surveys and 7 Iowa darter were collected. Iowa darter appear to be rare in Lodgepole Creek from HWY 213 upstream about 9 miles. Results from 2011 and 2012 can be found in the corresponding Fish Division Annual Reports.

The Laramie Fisheries Management Crew documented Iowa darter in Saratoga Lake for the first time in 2012 and captured them again in 2013. In addition, Iowa darter were captured for the first time in 2013 since 2010 in Alsop Lake. Alsop Lake had a complete winterkill in 2010. Iowa darter were also captured in Mortenson Lake in 2013 during surveys conducted with the Aquatic Assessment Crew. One Iowa Darter was captured during surveys on the Laramie River on the Tunnel Road in 2014.

The Casper Fisheries Management Crew found IDT in low abundance during surveys of North Platte River side channels, backwaters, and streambank margins during 2012-2013. These native fish surveys were conducted at various sites from Casper downstream to the Nebraska state line (WGFD 2014).

Multiple surveys on Lodgepole Creek and the Laramie River were conducted by the Aquatic Assessment and Laramie Fish Management crews in 2014-2015 as part of the Eastern Wyoming Intermittent Streams project. Iowa darter were found in low abundance on both streams. Results are on file and will be detailed in a forthcoming administrative report.

References

Baxter, G.T., and M.D. Stone. 1995. Fishes of Wyoming. Wyoming Game and Fish Department, Cheyenne.

Weitzel, D. L. 2002. Conservation and Assessment for the Iowa Darter (*Etheostoma exile*) and the Johnny Darter (*Etheostoma nigrum*): Wyoming's common darters. .

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.

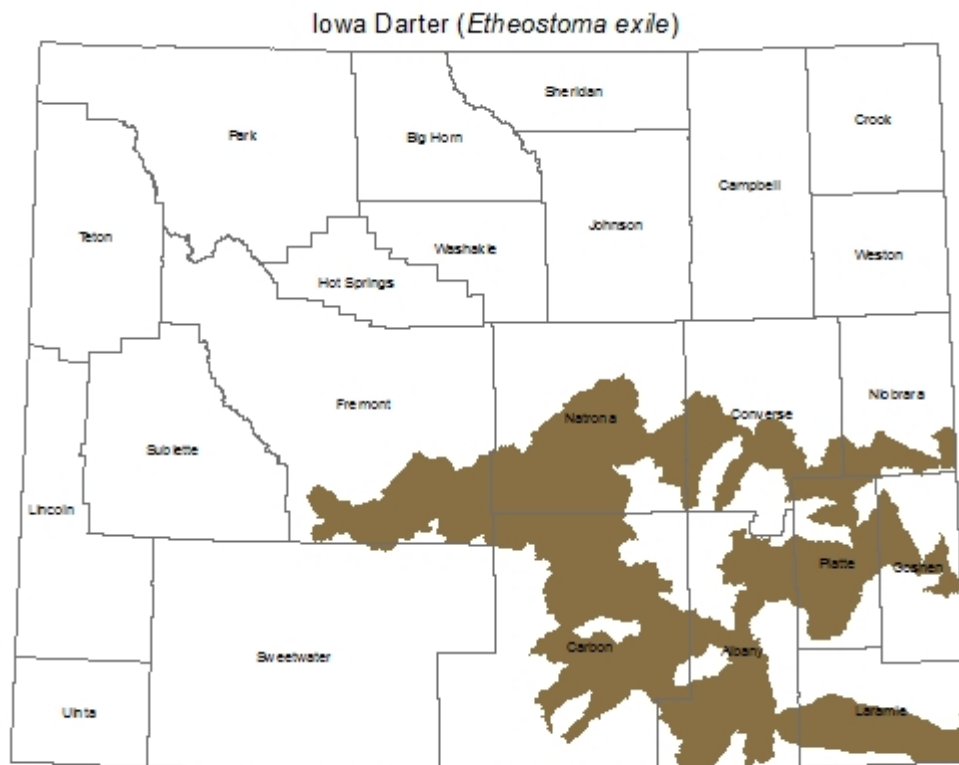
WGFD (Wyoming Game and Fish Department). 2006. Annual fisheries progress report on the 2005 work schedule. Wyoming Game and Fish Department, Cheyenne.

WGFD (Wyoming Game and Fish Department). 2008. Annual fisheries progress report on the 2008 work schedule. Wyoming Game and Fish Department, Cheyenne.

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.

WGFD (Wyoming Game and Fish Department). 2014. Annual fisheries progress report on the 2013 work schedule. Wyoming Game and Fish Department, Cheyenne.



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.