

## Kendall Warm Springs Dace - *Rhinichthys osculus*

Abundance: Common within an extremely limited range

Status: NSS1 (Aa)

NatureServe: G5T1 S1

Population Status: Greatly restricted in distribution and extirpation is possible. A decline in relative abundance has been documented during routine sampling.

Limiting Factor: Habitat: KWS are found in one small thermal spring fed stream. Habitat is extremely limited and any loss of habitat or change in habitat conditions may result in extinction of the species. Changes in habitat condition (i.e., width/depth ratio, stream vegetation), changes in thermal regime, water table, water chemistry, and potential non-native species introductions are all threats to this species.

Comment:

### Introduction

This is a diminutive subspecies of the speckled dace, typically achieving a length of less than 2 inches. It resides solely in a warm spring tributary to the Green River within the Bridger-Teton National Forest. Kendall Warm Springs dace are found well distributed throughout all but the upper portion of the 984-foot long thermal spring creek. This stream is located about 30 miles north of Pinedale, WY. The habitat ends at a waterfall near the mouth of the Green River. A typical section of this creek is considered swift fluvial habitat enclosed by boggy areas containing clumps of aquatic plants. The small, still pocket pools in the bog areas are important nurseries for Kendall Warm Springs dace fry. Adult dace typically stay in quiet pockets in the main water flow. (Binns 1978) This dace has been seen to spawn year-round, but the majority of young have been observed from late June through September. At time of spawning it sports spawning tubercles while the body and fins turn a bright purple. The Kendall Warm Springs Dace recovery plan was revised in September 2015 by the USFWS in collaboration with multiple partners (U.S. Fish and Wildlife Service. 2015. Recovery Plan for the Kendall Warm Springs Dace (*Rhinichthys osculus thermalis*). Revision: Original Approved July 12, 1982. U.S. Fish and Wildlife Service, Cheyenne, Wyoming).

### Habitat

Kendall Warm Springs dace are found well distributed throughout all but the upper portion of the spring creek (Binns 1978). The temperature of Kendall Warm Springs has a near constant temperature of 85 degrees F. Habitat consists of moderate to fast riffles, several man-made pools less than 3 feet deep and shallower boggy areas. Substrate for the dace ranges from gravel to small rock. Adults are seen in the main current and pools while juveniles are seen in vegetated lateral habitats (Binns 1978).

### Problems

- h The species' habitat is extremely limited and vulnerable to any natural or anthropogenic perturbations
- h Lack of ungulate hoof action to keep the stream wide and shallow has resulted in narrowing and deepening of the channel.

### Conservation Actions

- h A better understanding of the habitat and flow requirements of this species is needed to assess the impacts of water and land use activities.
- h Implement 2015 Recovery Plan
- h Implement a grazing regime that would be beneficial to the species.
- h A better understanding of juvenile habitat requirements is needed.

### Monitoring/Research

US Forest Service personnel conduct population monitoring for the USFWS. Include detailed habitat monitoring, water chemistry, and water temperature to the monitoring activities for this species

### Recent Developments

In 2007, the USFWS completed a five-year review of the Kendall Warm Springs dace (USFWS 2007) and determined that no change in ESA status was warranted.

In 2015, the USFWS completed a revision of the 1982 Recovery Plan.

USFS continues to monitor KWS populations.

#### References

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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.