

## Calico Crayfish - *Orconectes immunis*

Abundance: Common

Status: NSS4 (Bc)

NatureServe: G5 SNR

Population Status: This species was sampled in most of Wyoming's major river drainages other than the Bear and Snake rivers during a 2007-2009 survey. However, *O. immunis* was apparently displaced by *O. virilis* in multiple waters since a 1985-1987 survey of crayfishes.

Limiting Factor: We do not have enough information to assess the limiting factors; however, the loss, degradation or alternation of habitat, chemical pollution, introduction of non-native species, and overexploitation are the main causes for decline in North American crayfish (Taylor et al. 2007).

Comment:

### Introduction

The calico crayfish or papershell crayfish (*Orconectes immunis*) is typically dark gray with an olive or purple tint (Pflieger 1996). The pincers tend to be light gray with white tubercles and purple or pink fingers. Males and females are similar in size (adults 4.3 to 8.9 cm (1.7-3.5 inches) in length). The calico crayfish has a large native range, including the Ohio, Mississippi, and Missouri River drainages. The calico crayfish is native from Quebec to Tennessee and New York to Wyoming and Montana; however, the crayfish is exotic in the northeastern United States (Pennsylvania to Maine; NatureServe 2016). In the crayfish's native range, this species is considered vulnerable (North Dakota) to secure (Illinois, Indiana, and Tennessee). The calico crayfish is not ranked in Wyoming but is ranked as secure across its native range. The calico crayfish primarily eats algae, but may also consume detritus and aquatic invertebrates (Pflieger 1996). To avoid freezing or drying conditions, this crayfish will make simple burrows in the substrate. Mating occurs during the active season and eggs may be laid in the fall or spring. In Wyoming, the calico crayfish is native to the Missouri River drainage, where the crayfish was the most commonly collected species east of the continental divide (Hubert 1988). However, the calico crayfish was introduced in the Green River drainage of Wyoming and is present in Flaming Gorge Reservoir where no crayfish are native.

### Habitat

Ditches, floodplains, pools, and intermittent streams are habitats where the calico crayfish may occur (Pflieger 1996). The crayfish inhabits the floodplains of medium to large rivers and intermittent prairie headwater streams. Aquatic habitats with mud bottoms and lacking strong current are places the calico crayfish may live. Aquatic vegetation, flooded terrestrial vegetation, or high turbidity often provides cover for this species.

### Problems

- h The calico crayfish was introduced in the Green River drainage (Hubert 1988). The absence of predatory fish may be associated with higher densities of the calico crayfish (Pflieger 1996).

### Conservation Actions

- h None.

### Monitoring/Research

Incidental observations would help refine range maps and the NSS rank.

### Recent Developments

In 2009, the Wyoming Game and Fish Department personnel completed new statewide collections of crayfish to expand upon and update the survey by Hubert (1988). Hubert (2010) found that the calico crayfish was collected in the Green River, North Platte River, and Big Horn River drainages of Wyoming. *Orconectes virilis* appears to be displacing the calico crayfish in some locations.

### References

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- Hubert, W. A. 2010. Survey of Wyoming crayfishes: 2007-2009. Wyoming Game and Fish Department, Cheyenne.
- NatureServe. 2016. NatureServe Explorer: An online encyclopedia of life [web application] Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: 11 January 2016).
- Taylor, C. A., G. A. Schuster, J. E. Cooper, R. J. DiStefano, A. G. Eversole, P. Hamr, H. H. Hobbs III, H. W. Robison, C. E. Skelton & R. F. Thoma. 2007. A reassessment of the conservation status of crayfishes of the United States and Canada after 10+ years of increased awareness. *Fisheries* 32:372-389.

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SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: April 2010. Wyoming Game and Fish Department. A range map is unavailable for the taxa because distribution and ecology are poorly known in Wyoming.