

## White Heelsplitter - *Lasmigona complanata*

Abundance: Unknown

Status: NSSU

NatureServe: G5 SNR

Population Status: Unknown

Limiting Factor: Unknown

Comment: None

### Introduction

North America hosts the world's highest diversity of freshwater mussels (over 300 species), but more than half of the native mussels in the midwestern United States are listed as threatened or endangered (Cummings and Mayer 1992). Shells of the white heelsplitter (*Lasmigona complanata*) are up to 20.3 cm (8 inches) in length, green or green-brown in color, and brown to black rays present on older individuals. These mussels do not display external sexual dimorphism. White heelsplitter lives in the Mississippi River drainage from Texas to Saskatchewan and Alberta to West Virginia (NatureServe 2009). These bivalves are considered critically imperiled (Texas, Louisiana and Pennsylvania) to secure (7 states), but possible extirpated in New York and Georgia, and exotic in Montana (NatureServe 2009). White heelsplitter is widespread and common throughout most of the range (Cummings and Mayer 1992). Wyoming represents the western extent of this species native range, where it is only known from the Belle Fourche River below Keyhole Reservoir (Cvancara 2005). In Wyoming, the white heelsplitter appears to be common and abundant at some locations. Freshwater mussels are filter feeders that remove fine organic matter from the water column (Smith 2001). The life cycle of aquatic mussels requires a host fish or amphibian during the larval stage. White heelsplitter is a habitat and host-generalist, which make it fairly adaptable to ecological disturbances. Larval mussels (glochidium) disperse while attached to their host and develop into adults if released on suitable substrate. Natural hosts that are known for the white heelsplitter and from Wyoming include sauger (*Sander canadensis*; OSUMD 2010). Another potential host is shorthead redhorse (*Moxostoma macrolepidotum*), which is the same genus as the proven host river redhorse (*M. carinatum*). Other hosts for this mussel include common carp (*Cyprinus carpio*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), white crappie (*Pomoxis annularis*), pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*), yellow perch (*Perca flavescens*), gizzard shad (*Dorosoma cepedianum*), and freshwater drum (*Aplodinotus grunniens*). Raccoons, muskrats, otters, fishes, turtles, and birds all feed on mussels (Grabarkiewicz and Davis 2008). Wyoming's native mussel diversity is naturally low (7 species known), owing to the generally high elevation, headwater character of Wyoming's aquatic ecosystems, but is worthy of further study.

### Habitat

White heelsplitter inhabits lakes, reservoirs, and low velocity streams with mud, sand, and fine gravel substrate (Cummings and Mayer 1992; Whaley et al. 2004, NatureServe 2009).

### Problems

- h Pollution, changes in flow regime, extremely low flows, siltation, changes in substrate availability, and interrupting glochidial host fish relationships.

### Conservation Actions

- h Baseline population distribution, abundance, and structure data for this mussel are needed throughout its range in Wyoming to evaluate the need for, and to help guide potential conservation actions. The viability of populations of this mussel in Wyoming is unknown.

### Monitoring/Research

A population monitoring plan needs to be developed following a thorough baseline inventory of abundance and population structure.

### Recent Developments

Wyoming Game and Fish Department personnel first documented a live population of white heelsplitter in the Belle Fourche River near the South Dakota border in October, 2007 and has extended its range to just below Keyhole Reservoir in September 2009. Extensive presence of field personnel in adjacent drainages did not turn up this species during the same time period, which strongly suggests it is confined to a single drainage in Wyoming.

A comprehensive survey of Wyoming's native mussels and their habitats was funded by a State Wildlife Grant for fiscal years 2011 through 2013.

#### References

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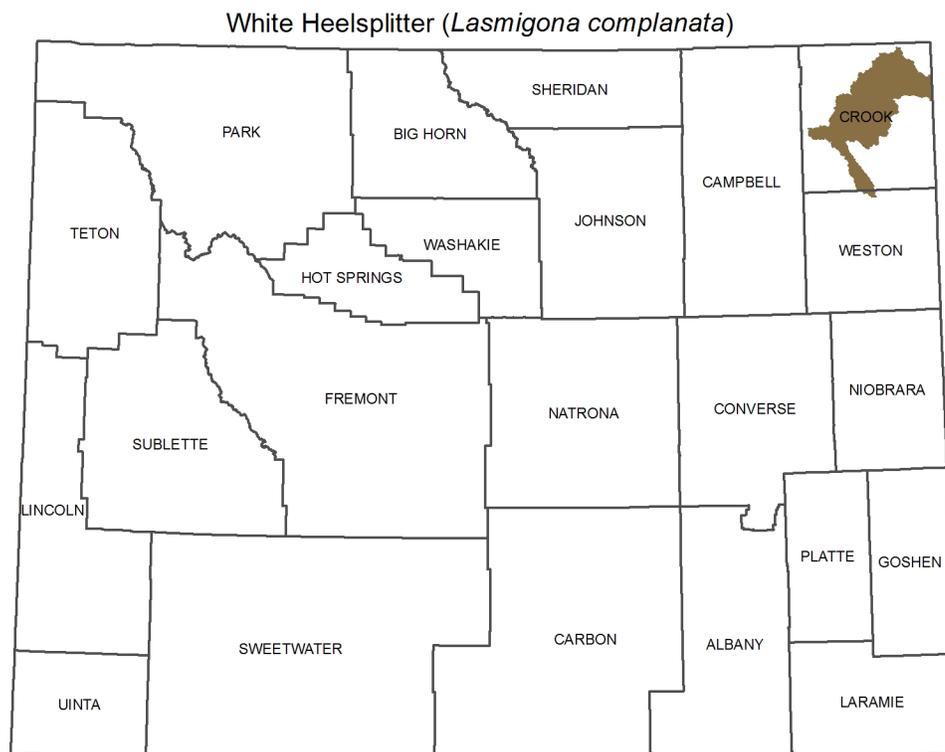
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SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: April 2010. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.