

Wet-rock Physa (*Physella zionis*)**Species Status Statement.**Distribution

The currently understood distribution of this aquatic snail is two canyons in Washington County, Utah. Specifically, these are Zion and Orderville canyons, both within Zion National Park (Oliver and Bosworth 1999).

Table 1. Utah counties currently occupied by this species.

<b>Wet-rock Physa</b>
WASHINGTON

Abundance and Trends

In 1983, a graduate student monitored the presence of wet-rock physa at three canyon-wall seeps in Orderville Canyon. The maximum density of snails (per 0.1 m<sup>2</sup>) at one seep was 40 in October, with a minimum of 1-2 individuals in January and February. At another seep the maximum density was 24 snails in October with a minimum of 11-12 in May and June (Whipple 1987). In 1990, a consultant estimated the population size, per colony location, in Zion canyon ranged from 200-250,000 snails (Clarke 1991). The same consultant estimated 5-10 million wet-rock physa lived along a 0.8 mile stretch in Orderville Canyon. Subsequently, Oliver and Bosworth (1999) noted this might have been an overestimate.

**Statement of Habitat Needs and Threats to the Species.**Habitat Needs

Wet-rock physa lives on wet sandstone cliffs above the Virgin River, in Zion and Orderville canyons in Zion National Park (Whipple 1987; Clarke 1991). Individuals occur in the water that seeps from cliff walls in these canyons. The wet canyon walls support vegetative communities that typically include algae, maidenhair fern, columbine, and cardinal flowers (Whipple 1987). Clarke (1991) reported finding occasional, incidental specimens of this species in outflow streams below the cliffs, and rarely, in the Virgin River.

Threats to the Species

The restricted and localized distribution of this species makes its populations susceptible to catastrophic events such as floods and rock slides (Whipple 1987). Clarke (1991) mentioned

that dewatering of the area east of the Virgin River and south of Orderville Canyon could negatively affect the canyon wall seeps that this species depends on for survival.

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

<b>Wet-rock Physa</b>
<b>High</b>
Small Isolated Populations

### **Rationale for Designation.**

Wet-rock physa lives in only two canyons in Washington County, Utah, which makes its population susceptible to catastrophic natural events, and potentially to local groundwater depletion. In order to maintain understanding of the distribution and status of this species in Utah, managers need to conduct occasional surveys, and monitor potential threats. These activities will help prevent the possibility of Endangered Species Act listing of this species.

### **Economic Impacts of Sensitive Species Designation.**

Sensitive species designation is intended to facilitate management of this species, which is required to prevent Endangered Species Act listing and lessen related economic impacts. An ESA listing of wet-rock physa would impact management and development of water resources in Washington County. There would also be increased costs of regulatory compliance for many land-use decisions and mitigation costs. Recreation within the Zion and Orderville canyons in Zion National Park could also be impacted.

### **Literature Cited.**

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