

Lindahl's Pyrg (*Pyrgulopsis lindahlae*)

### **Species Status Statement.**

#### Distribution

The currently understood distribution of Lindahl's pyrg is the Grapevine Spring complex, adjacent to the Left Fork of North Creek within Zion National Park in Washington County, Utah (Hershler et al. 2017). This spring complex is within the walls of the canyon of the Left Fork, and flows into the Left Fork of North Creek.

Table 1. Utah counties currently occupied by this species.

<b>Lindahl's Pyrg</b>
WASHINGTON

#### Abundance and Trends

Peter Hovingh and personnel from the Utah Division of Wildlife Resources (UDWR) collected 11 specimens from the site in 2014. Robert Hershler subsequently described Lindahl's pyrg as a "new" species in 2017 (Hershler et al. 2017). At the time of writing, no surveys had been completed to evaluate abundance or trends.

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

#### Habitat Needs

Springsnails are dependent on persistent springs with high water quality, and they often occur within a limited distance from the springhead (Hershler 1998).

#### Threats to the Species

The limited distribution of this snail makes the species susceptible to any catastrophic natural events, or human actions, that could destroy or degrade the spring habitat where it lives. Small, isolated seeps, springs, or spring complexes are very susceptible to small-scale habitat destruction or modifications that alter the springhead or flow. Potential threats include factors that decrease flow regionally such as prolonged drought or groundwater pumping. There are also potential local threats to individual springs such as wildfire, nonnative plants and animals, and flash floods. Managers have not yet conducted a species-specific threat assessment for Lindahl's pyrg, but the spring complex occurs in designated wilderness within Zion National Park, so intentional anthropogenic impacts are likely minimal. There may currently be some

impacts from recreation, as the Left Fork of North Creek is a very popular canyoneering destination (containing, e.g., The Subway). A permit system limits the number of daily users.

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>Lindahl's Pyrg</b>
<b>No Identified Threats - Data Gaps Only</b>

### **Rationale for Designation.**

Lyndahl's pyrg appears to be restricted to a small, isolated spring system. Direct human pressures, and climate change, presently threaten many springs and spring systems in Utah, and managers and scientists expect these issues to intensify. In order to develop a better 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 Lindahl's pyrg would have unknown economic impacts to Zion National Park and Washington County. Designated Sensitive Species with no identified threats, only data gaps, will be researched until concerns are allayed, or specific threats are identified for management. In the absence of specific threats to manage, generic measures to protect springs are recommended.

### **Literature Cited.**

Hershler, R. 1998. A systematic review of the hydrobiid snails (Gastropoda: Rissooidea) of the Great Basin, western United States. Part I. Genus *Pyrgulopsis*. *Veliger* 41: 1-132.

Hershler, R., H.-P. Liu, C. Forsythe, P. Hovingh, and K. Wheeler. 2017. Partial revision of the *Pyrgulopsis kolobensis* complex (Caenogastropoda: Hydrobiidae), with resurrection of *P. pinetorum* and description of three new species from the Virgin River drainage, Utah. *Journal of Molluscan Studies* 83: 161-171.

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