

Boreal Toad (*Anaxyrus boreas boreas*)**Species Status Statement.**Distribution

Boreal toad is distributed widely across much of western North America, from southeast Alaska to northern New Mexico. In the southeastern portion of the range, including Utah, the distribution becomes less continuous and is mainly restricted to higher elevations. In Utah, the historical distribution included high elevation areas in 21 of the 29 counties. Boreal toad populations currently occur in only a fraction of their former Utah distribution (Thompson and Chase 2001, Thompson et. al 2003, unpublished survey data).

Table 1. Utah counties currently occupied by this species.

Boreal Toad	
BOX ELDER	RICH
CACHE	SALT LAKE
EMERY	SEVIER
GARFIELD	SUMMIT
KANE	WASATCH
PIUTE	WAYNE

Abundance and Trends

Across the Southern Rocky Mountains portion of its distribution (northern New Mexico, Colorado, Utah, and Wyoming), managers and researchers have observed the loss of populations from many historically occupied habitats, and reductions in the size of many remaining populations.

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

In the Southern Rocky Mountains portion of its distribution, this toad lives between 2000 and 3700 meters elevation. Here, it occupies montane steppe, aspen, pinyon-juniper, lodgepole pine, alpine meadow, and other montane habitats. Adults need shallow water habitat for breeding, (e.g., springs, ephemeral pools, marshes, wet meadows, roadside ditches etc.), and refugia for overwintering (USFWS 2012). Tadpoles rear where they were spawned; still, shallow, clean, perennial waters with high sun exposure are ideal.

Threats to the Species

The isolation and reduction of remaining populations are reflections or outcomes of other threats, but they also have become additional threats in their own right. Molecular data suggest that gene flow among most Utah populations is extremely limited. Low levels of genetic variability may limit the ability of populations to adapt to changing environmental conditions or new threats (Hogrefe 2001). There are also several important and manageable threats to habitat quality and quantity. Finally, the fungal pathogen known as chytrid (Bd) is one of the most significant threats to boreal toad. Many populations of boreal toad show variable responses to the presence of Bd, with some populations being extirpated due to the disease, while others populations are stable in the presence of Bd (Pilliod et al 2010, USFWS 2012).

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).

Boreal Toad
Very High
Droughts
High
Disease – Alien Organisms
Improper Grazing (current)
Small Isolated Populations
Medium
Improper Forest Management
Prescribed Fire

Rationale for Designation.

In 2017 *Anaxyrus b. boreas* was found not warranted for ESA listing (Endangered Species Act 2017). However, the Utah Division of Wildlife Resources is a member of the multi-agency Boreal Toad Conservation Team. During the team's annual meeting in December 2018, there was a unanimous vote to develop a Conservation Agreement and Strategy that all partners would sign. Retaining boreal toad as a sensitive species continues our focus as we continue to work toward recovery of this species. Since it is likely that several historical populations along the Wasatch Front near Salt Lake City and Provo were extirpated due to a combination of threats, current boreal toad populations should be protected either directly or through habitat protection.

Economic Impacts of Sensitive Species Designation.

Sensitive species designation is intended to facilitate management of this species, which is required to prevent ESA listing and lessen related economic impacts. The listing of Boreal toad would have wide-ranging impacts to developing and managing water resources and grazing in several of Utah's mountain ranges. It would also affect forestry and fuels management in the same areas. In addition, it is conceivable that due to threats from amphibian-specific diseases, managers would need to consider the closure or other regulation of certain recreational activities that may facilitate the spread of such diseases. Finally, there would be increased costs of regulatory compliance for many land-use decisions and mitigation costs.

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