

Columbia Spotted Frog (*Rana luteiventris*)**Species Status Statement.**Distribution

The range of Columbia spotted frog extends from Southeastern Alaska, southward through Western Alberta, Washington, Montana, Oregon, Idaho, Wyoming, and into portions of Nevada and Utah. The southern end of the species' distribution is naturally patchy. The exact historical distribution of this frog within Utah is not precisely known (Bailey et al. 2006). Based on anecdotal information, museum collections, and surveys conducted in the mid 1900's, a wide distribution along the Wasatch Front seems likely (Tanner 1931, Toone 1991). Approximately 30 years ago, surveys of historical and potentially suitable Columbia spotted frog habitat along the Wasatch Front concluded that the species' distribution had declined (Ross et al. 1993). Contemporaneous surveys in the Ibapah, Tule, and Snake Valleys, which are located in Utah's West Desert, suggested a distribution that has remained stable in that region (Ross et al. 1994).

Table 1. Utah counties currently occupied by this species.

Columbia Spotted Frog	
DAVIS	SUMMIT
JUAB	TOOELE
MILLARD	UTAH
SALT LAKE	WASATCH
SANPETE	WEBER

Abundance and Trends

Along the east and west sides of the Wasatch Front, and in the Sanpete Valley, the amount of available habitat and the abundance of Columbia spotted frogs in occupied habitat have both declined. Conversely, in Utah's West Desert the distribution and size of populations have remained stable.

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

Columbia spotted frog habitat needs vary by life stage and time of year. Unshaded shallow areas containing submerged vegetation are preferred areas for egg deposition in the spring (Pearl et al. 2007). These habitats also serve as nursery areas for developing eggs and larvae. Stable hydrology is important at this time of the year to prevent desiccation of eggs and larvae. Adult Columbia spotted frogs prefer aquatic habitats that do not shrink in size seasonally, have

constant seasonal water temperatures, and contain emergent vegetation (Welch and MacMahon 2005). During winter, these frogs select pond areas with the highest water temperatures and the highest dissolved oxygen concentrations (Bull and Hayes 2002).

Threats to the Species

The primary threats to Columbia spotted frog include fungal infection (chytridiomycosis), predation from and competition with nonnative species, the most detrimental of which is the American bullfrog (*Rana catesbeiana*), and habitat loss and fragmentation via human induced dewatering. All three of these threats are present along the Wasatch Front and Sanpete Valley where populations have declined markedly. In contrast, these threats are minimal or are absent in the West Desert, which has likely been a contributing factor to the stability of Columbia spotted frog populations in that area.

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).

Columbia Spotted Frog
Very High
Droughts
Medium
Groundwater Pumping
Housing and Urban Areas
Invasive Wildlife Species - Non-native

Rationale for Designation.

Several factors warrant maintaining Columbia spotted frog as a state sensitive species: 1) nonnative threats to the species are prevalent along the Wasatch Front and Sanpete Valley (e.g. chytridiomycosis and American bullfrog), 2) some Wasatch and Sanpete populations are declining in abundance and extent, while many others have already been extirpated, and 3) efforts to establish refuge populations for this species have thus far been unsuccessful with the exception of translocations within specific populations.

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. An ESA listing of Columbia Spotted Frog would have wide-ranging impacts to developing and managing water

resources as well as potentially impacting housing and urban development. There would also be increased costs of regulatory compliance for many land-use decisions and mitigation costs.

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