

Columbia Spotted Frog - *Rana luteiventris*

Abundance: Rare

Status: NSS3 (Bb)

NatureServe: G4 S3

Population Status: Vulnerable due to restricted distribution. Populations appear stable, but declines have been documented in the Pacific NW, Nevada, and Utah.

Limiting Factor: Disease: chytrid fungus has been shown to affect populations of this species.

Comment: None.

Introduction

Columbia Spotted Frogs may be observed in Wyoming's NW mountain ranges and in the Bighorn Mountains. The Bighorn Mountain population is disjunct from other Spotted Frog populations and is concentrated around the Tongue River Watershed. Chytrid fungus was recently documented in the Bighorn Mountains. This is of concern for Columbia Spotted Frogs, as the Bighorn Mountain population represents a disjunct population and population declines could be detrimental to the species' persistence in this area. Spotted Frogs may become active in early May (Baxter and Stone 1985). However, time of emergence can be delayed by increased elevation and latitude. Following emergence, adults will travel to breeding locales. Breeding habitat consists primarily of permanent lentic habitats, but could include ephemeral pools (Reaser and Pilliod 2005). After ice recedes from breeding sites, females lay on average 600 eggs in shallow water. Tadpoles often mature in mid to late summer. Juveniles require two to five years to reach sexual maturity. Columbia Spotted Frogs remain close to water during the breeding season, but may wander after breeding is concluded (Patla and Keinath 2005). The preferred diet of this species includes earthworms, mollusks, and crustaceans. Columbia Spotted Frogs overwinter in springs, seeps, beaver dams, and soft pond substrates.

Habitat

Columbia Spotted Frogs can be found in foothill and montane zones within pooled to flowing wetlands, small streams, lake margins, moist forests, and moist meadows. Columbia Spotted Frogs remain close to water during the breeding season, but may wander after breeding is concluded (Patla and Keinath 2005).

Problems

- h Habitat changes and other factors may be adversely affecting this species, but lack of data precludes identification of specific problems and development of management recommendations.
- h Population status, distribution, habitat data, and disease status are lacking for this species.
- h Alteration of aquatic habitats needed for breeding may adversely affect populations.

Conservation Actions

- h A systematic study of this species should be conducted with respect to distribution, abundance, habitat associations, and disease status within Wyoming.
- h Continue efforts to educate landowners and the public about the importance of amphibians.
- h Develop management recommendations based on survey data.

Monitoring/Research

Conduct baseline surveys to gain better understanding of species distribution within the state. Conduct annual monitoring on Bighorn Mountain populations to ensure persistence and to test for chytrid fungus.

Recent Developments

Baseline surveys were conducted in the Shoshone National Forest in 2013 and 2014. Historical records of Columbia Spotted Frogs have been verified in the Bighorn National Forest (Estes-Zump et al. 2012). Chytrid fungus was recently documented in the Bighorn Mountains for the first time. This is of concern for Columbia Spotted Frogs, as the Bighorn Mountain population represents a disjunct population and population declines could be detrimental to the species' persistence in this area. Amphibians have received increased attention within Wyoming. Incidental observations are encouraged to be reported to the herpetology program.

References

Reaser J. K. and D. S. Pilliod. 2005. *Rana luteiventris* Thompson, 1913 Columbia Spotted Frog . Pages 559-563 in M.J. Lannoo (ed), *Amphibian Declines: The Conservation Status of United States Species*. University of California Press, Berkeley, CA.

Patla, D. and D.A. Keinath. 2005. Columbia spotted frog (*Rana luteiventris*): a technical conservation assessment. Unpublished report prepared for USDA Forest Service, Rocky Mountain region, Species Conservation Project.

Baxter, G.T. and M.D. Stone. 1985. *Amphibians and Reptiles of Wyoming*. Second Edition. Wyoming Game and Fish Department, Cheyenne. 137pp.

Estes-Zumpf, W.A., Z.J. Walker, and D.J. Keinath. 2012. Status and distribution of amphibians in the Bighorn Mountains of Wyoming. Wyoming Game and Fish Department Administrative Report. Cheyenne, Wyoming.



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: February 2016. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.