

California Wildlife Habitat Relationships System
California Department of Fish and Wildlife
California Interagency Wildlife Task Group

COLUMBIA SPOTTED FROG
Family: RANIDAE
A078

Rana luteiventris
Order: ANURA

Class: AMPHIBIA

Written by: CWHR Staff Sept. 2018

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Possibly extirpated from California, historically this species is found in extreme northeastern California on the Modoc Plateau, Pit River drainage, and the Warner Mountains (Jennings and Hayes 1994a). Shallow-water oviposition sites in permanent or temporary water is required for breeding (Reaser and Pilliod 2005). Typically found in water with emergent/floating vegetation with high percent of sun exposure. Habitats range from beaver ponds, oxbows, subalpine ponds and wetlands, small lakes, wet springs, and moist meadows. (Reaser and Pilliod 2005, Nafis 2018). Surrounding habitats can vary from mixed coniferous and subalpine montane forests to arid grass and brushlands. Can be found in dense willow clumps or along talus (Lannoo 2005). Basking sites of exposed banks or vegetation are important. Known from sea level to 3,000 m. (10,000 ft.). Previously recognized as a subspecies of *R. pretiosa*, Green et al. (1997) elevated it to species level.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Feeding occurs at both day and night (Reaser and Pilliod 2005). Diet is varied, from aquatic and terrestrial invertebrates to small amphibians.

Cover: Uses cover, both in and out of water, to blend in with environment as defense against visual detection predators (Reaser and Pilliod 2005).

Reproduction: Oviposition takes place in portions of wetlands with warmer temperatures, generally associated with shallow water and high sun exposure (Reaser and Pilliod 2005). Often eggs are laid atop downed vegetation (Pearl et al. 2007). Egg masses can become colonized by green algae, possibly increasing temperatures.

Water: Species is highly aquatic, often found near a source of water (Nafis 2018). Most breeding ponds are permanent, but can sometimes use longer lasting temporary wetlands (Reaser and Pilliod 2005).

Pattern: Fidelity to breeding sites is relatively high. CSF use a range of habitats across seasons and can move over 1 km between seasonal use areas (Reaser and Pilliod 2005). Movement can be along wetland corridors or overland, and is sometimes linked with rain.

SPECIES LIFE HISTORY

Activity Patterns: CSF usually winter in permanent water bodies (Reaser and Pilliod 2005). Areas where water does not freeze is preferred, but may also overwinter under ice (Nafis 2018).

Seasonal Movements/Migration: Individuals often migrate between breeding, summer foraging and overwintering sites (Reaser and Pilliod 2005).

Home Range: Seasonally used habitats are usually within 1 km of each other (Bull 2005, Reaser and Pilliod 2005). In one high elevation study area, frogs moved up to 2 km among seasonal use areas (Pilliod et al.).

Territory: Not known to defend occupied sites (Reaser and Pilliod 2005).

Reproduction: Timing of breeding varies with onset of spring conditions, so can range between February and July. Breeding is usually completed within 2 weeks after starting (Nafis 2018). Eggs reach hatching in 8-21 days, depending on water temperature.

Niche: While generally found in ponds with no fish, this species can persist with fish in waters with dense emergent vegetation in the littoral zone (Reaser and Pilliod 2005). Lakes with introduced fish (char and trout) tend to have lower numbers of CSF than proximal sites that lack fish.

REFERENCES

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