

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

FOOTHILL YELLOW-LEGGED FROG

Rana boylei

Family: RANIDAE
A043

Order: ANURA

Class: AMPHIBIA

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The foothill yellow-legged frog occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles Co., in most of northern California west of the Cascade crest, and along the western flank of the Sierra south to Kern Co. Livezey (1963) reported an isolated population in San Joaquin Co. on the floor of the Central Valley. Isolated populations are also known from the mountains of Los Angeles County. Its elevation range extends from near sea level to 1940 m (6370 ft) in the Sierra (Jennings and Hayes 1994). The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow types.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Adults eat both aquatic and terrestrial invertebrates. Adult insects appear to be favored, but snails, and pieces of molted skin have also been found in stomach samples (Fitch 1936). Tadpoles probably graze on algae and diatoms along rocky stream bottoms.

Cover: Adults often bask on exposed rock surfaces near streams. When disturbed, they dive into the water and take refuge under submerged rocks or sediments. During periods of inactivity, especially during cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water.

Reproduction: Egg clusters are attached to gravel or rocks in moving water near stream margins.

Water: Unlike most other ranid frogs in California, this species is rarely encountered (even on rainy nights) far from permanent water. Tadpoles require water for at least three or four months while completing their aquatic development.

Pattern: Foothill yellow-legged frogs are found in or near rocky streams in a variety of habitats.

SPECIES LIFE HISTORY

Activity Patterns: Terrestrial individuals are primarily diurnal. Frogs may be active all year in the warmest localities, but may become inactive or hibernate in colder areas.

Seasonal Movements/Migration: Significant seasonal movements or migrations from breeding areas have not been reported. Nussbaum et al. (1983) found frogs underground and beneath surface objects more than 50 m (155 ft) from water in April. These frogs

probably spend most of their time in or near streams at all seasons.

Home Range: Normal home ranges are probably less than 10 m (33 ft) in the longest dimension. Occasional long distance movements (up to 50 m) (165 ft) may occur during periods with high water conditions.

Territory: Like most ranid frogs, males of this species probably defend areas around themselves during the breeding season (Martof 1953, Emlen 1968).

Reproduction: In California, breeding and egg laying usually await the end of spring flooding and may commence any time from mid-March to May, depending on local water conditions. The breeding season at any locality is usually about two weeks for most populations. Females deposit eggs in clusters of 200 to 300 (range 100 to 1000). They hatch in about five days. Tadpoles reach maximum sizes of 50 to 55 mm (2.2 in) and transform in three to four months.

Niche: Garter snakes (Fitch 1941) feed heavily on tadpoles and adults. The foothill yellow-legged frog coexists with the Cascades frog and the red-legged frog at some localities, but different microhabitat preferences probably diminish competition. Moyle (1973) implicated the bullfrog in the observed reduction of foothill yellow-legged frog populations in the Sierra. Centrarchid fishes readily eat *Rana* eggs (Werschkul and Christensen 1977), and, where introduced into foothill streams, may also contribute to the elimination of *R. boylei*.

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