

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

GREAT BASIN SPADEFOOT

Spea intermontana

Family: SCAPHIOPODIDAE
A029

Order: ANURA

Class: AMPHIBIA

Written by: L. Palermo
Reviewed by: T. Papenfuss
Edited by: R. Duke

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

The Great Basin spadefoot is uncommon to common in California east of the Sierra-Cascade crest from the Oregon border south to Inyo Co. Spadefoot toads are associated with temporary or permanent water in pine-juniper, montane riparian, sagebrush, bitterbrush, and alkali scrub habitats, and meadows, fresh emergent wetland, riverine and lacustrine habitats. Ranges up to 2700 m (9000 ft) in elevation in the Bodie Hills.

SPECIFIC HABITAT REQUIREMENTS

Feeding: Adults feed on ground-dwelling insects and arthropods. Tadpoles feed on plankton, algae, organic debris, and small plants. Some larvae may become cannibalistic, and they may increase developmental rate in response to evaporation of temporary pools (Bragg 1965).

Cover: Spadefoot toads use the burrows of rodents or excavate their own burrows with horny tubercles on the hindlegs. These burrows reach a depth of 35 to 45 cm (14 to 18 in) in sand (Stebbins 1954, Bragg 1965, Mayhew 1968).

Reproduction: Still to slow-moving temporary or permanent water is required for breeding, eggs, and tadpoles (Stebbins 1954, Bragg 1965).

Water: Water is consumed, or can be absorbed, through the skin in moist sand (Mayhew 1968).

Pattern: Temporary or permanent water sources within the habitats are required.

SPECIES LIFE HISTORY

Activity Patterns: Adult Great Basin spadefoots are active diurnally in early morning, late afternoon, and nocturnally from May to October (Linsdale 1938, Stebbins 1954). Spadefoots may be more active following rains, especially when associated with springs or permanent water (Stebbins 1954). During periods of dormancy, toads remain buried in sand and may secrete a gelatinous coat about themselves (Stebbins 1954).

Seasonal Movements/Migration: Will move to water to breed (Linsdale 1938, Mayhew 1968).

Home Range: No data.

Territory: No data.

Reproduction: There is no definite breeding season. Breeding will take place during the

active period from May to August when temperatures are warm and water is available (Wright and Wright 1949, Stebbins 1954, Mayhew 1968). A female may lay 300 to 500 eggs, deposited in clusters of 10 to 42 and attached to vegetation (Stebbins 1954). Eggs hatch within 36 to 48 hours after deposition and tadpoles metamorphose in 30 to 40 days. Sometimes tadpoles form aggregations, possibly to increase heat absorption and developmental rate (Mayhew 1968), or to decrease desiccation rate (Bragg 1965).

REFERENCES

- Bragg, A. N. 1965. Gnomes of the night. Univ. Pennsylvania Press, Philadelphia. 127pp.
- Linsdale, J. M. 1938. Environmental responses of vertebrates in the Great Basin. Amer. Midl. Nat. 19:1-206.
- Mayhew, W. W. 1968. The biology of desert amphibians and reptiles. Pages 195-356 in G. W. Brown, Jr., ed. Desert Biology, Vol. 1. Academic Press, New York. 638pp.
- Stebbins, R. C. 1954. Amphibians and reptiles of western North America. McGraw-Hill, New York. 536pp.
- Stebbins, R. C. 1972. California amphibians and reptiles. Univ. California Press, Berkeley. 152 pp.
- Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. 2nd ed., revised. Houghton Mifflin, Boston. 336pp.
- Wright, A. H., and A. A. Wright. 1949. Handbook of frogs and toads of the United States and Canada. Cornell Univ. Press, New York. 640pp.

A029

Life history accounts for species in the California Wildlife Habitat Relationships (CWHHR) System were originally published in: Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.