

TARAHUMARA FROG
(Rana tarahumarae)

STATUS: No Federal Status.

SPECIES DESCRIPTION: The Tarahumara frog, is a medium-sized (adults range from 64 to 114 mm [2.5 to 4.5 in] in snout-vent length), drab green-brown frog with small brown to black spots on the body and dark crossbars on the legs. The hind feet are extensively webbed. The dorsolateral fold, characteristic of related leopard frogs and other ranid species, is absent or faint in adult Tarahumara frogs. Larvae are greenish-yellow with small dark spots over the dorsum and larger spots on the tail. Larvae grow as large as 97 mm (3.8 in) prior to metamorphosis. Adult and juvenile Tarahumara frogs of both sexes have a call consisting of a low grunt of about one-half second in duration, uttered once or twice (sometimes more).

HABITAT: Throughout its range the Tarahumara frog is typically associated with canyons and deep "plunge pools" formed amidst boulders or in bedrock. Plunge pools in canyons with low mean flows (<0.2 cubic feet per second) and relatively steep gradients (> 60 m per km of stream) provide the best breeding sites. Permanent water is probably necessary for metamorphosis. Tarahumara frog habitats are located within oak, pine-oak woodland, or the Pacific coast tropical area (Sinaloan thornscrub and tropical deciduous forest).

RANGE: Historic: In the United States, the species was known historically from six locales, including three from Santa Rita Mountains and three from Atascosa-Pajarito-Tumacacori Mountains complex, which are located north and west, respectively, of Nogales in Santa Cruz County, Arizona. Tarahumara frogs have been extirpated from all localities in Arizona. The last observation of Tarahumara frogs in Arizona, and thus in the United States, was in May 1983 in Big Casa Blanca Canyon in the Santa Rita Mountains.

Current: The range of this species is centered in the northern Sierra Madre Occidental of Mexico. The eastern and southern distributional limits are not clear. Most localities are in the mountains of eastern Sonora. Only captive populations occur in Arizona

REASONS FOR DECLINE/VULNERABILITY: Causes of population decline and extirpation are not clear, but the following factors have been implicated: winter cold, flooding or severe drought, competition with and predation by nonnative fish and bullfrogs, disease, habitat loss, and heavy metal poisoning. Airborne pollutants from copper smelters and/or mildly acidic rain that mobilizes naturally-occurring metals near streams, may have resulted in toxic levels of cadmium in the frog's habitats. A fungal disease, chytridiomycosis, implicated in global declines of frogs and toads, has recently been found in populations of the Tarahumara frog and may have contributed to observed declines and extirpations.

LAND MANAGEMENT/OWNERSHIP: Historic habitats in Arizona are primarily on lands owned and managed by the Coronado National Forest.

NOTES: A State of Arizona Species of Special Concern. A conservation program developed by the Tarahumara Frog Conservation Team, a consortium of researchers, interested members of the public, and representatives from State and Federal wildlife management and land management agencies, calls for the reintroduction of the frog back into at least two of its historic localities in Arizona. The Team has identified Big Casa Blanca Canyon in the Santa Rita Mountains and Sycamore Canyon in the Pajarito Mountains as the two best prospective reintroduction sites.