



Frequently Asked Questions about Proposed Critical Habitat for the Southern California Population of Mountain Yellow-legged Frog

Q. What is the mountain yellow-legged frog?

The mountain yellow-legged frog (*Rana muscosa*), a member of the family of 'true frogs' *Ranidae*, is relatively small, measuring about 1.5 to three inches in length from the snout to the base of the backbone. Mountain yellow-legged frogs have highly variable skin patterns and coloration ranging from large, discrete dark spots to numerous, smaller spots; coloration may be a mix of brown or yellow, but can often include hues of gray, red, or greenish-brown. Females of this species are slightly larger than males. Mountain yellow-legged frogs are diurnal (meaning active during the day), and feed on terrestrial and aquatic insects including beetles, bees, dragonflies, and ants.

Q. What factors contributed to the decline of mountain yellow-legged frogs in southern California?

Mountain yellow-legged frogs in southern California were once found in about 166 localities ranging from Palomar Mountain in northern San Diego County to the San Gabriel Mountains in Los Angeles County. In 2002, when the Service listed the southern California population as endangered, there were 9 known localities of this species in southern California.

The exact causes of the decline of mountain yellow-legged frogs in southern California are not fully understood, but may include predation from introduced species, disease, contaminants, and alteration or degradation of habitat.

Q. What is a true frog?

The 'true frog' family *Randiae* includes one genus, *Rana*, found in North America. This genus is comprised of 21 species including the mountain yellow-legged frog. True frogs are semi-aquatic and carnivorous, feeding primarily on insects, spiders, and crustaceans. Species in this genus typically live along the edge of water courses and rely heavily on an aquatic environment for foraging, shelter, breeding, and protection from predators.

Q. What is a Distinct Vertebrate Population Segment?

Under the Endangered Species Act (ESA), three elements are used to determine if a vertebrate population may be considered a distinct population segment (DPS): 1) discreteness of the population segment in relation to the remainder of the species to which it belongs; 2) significance of the population segment to the species to which it belongs; and 3) the population segment's conservation status in relation to ESA standards for listing.

Mountain yellow-legged frogs in southern California and those in the Sierra Nevada Mountains are geographically separate and genetically different. The U.S. Fish and Wildlife Service (Service) has determined that the southern California population of mountain yellow-legged frog meets the criteria of a distinct population segment (DPS). Mountain yellow-legged frogs in southern California represent the southernmost occurrence of the species and extinction of this DPS would substantially reduce the overall range of the species and could have potential impacts to its long-term survival. The Service listed the southern California DPS as endangered in 2002.

Research indicates there are two major 'clades' (a group of organisms sharing a common ancestor) of mountain yellow-legged frog, divided into four subgroups - northern Sierra Nevada, central Sierra Nevada, southern Sierra Nevada, and southern California. The northern 'clade' includes mountain yellow-legged frogs in the Northern and Central Sierra Nevada Mountains; the southern 'clade' includes frogs from the southern Sierra Nevada and southern California mountains. Genetic analyses indicate that mountain yellow-legged frogs in southern California are significantly different from those inhabiting the Sierra Nevada, including those from the southern Sierra Nevada. Mountain yellow-legged frogs in southern California currently inhabit portions of the San Gabriel, San Bernardino, and San Jacinto Mountains in Los Angeles, Riverside, and San Bernardino counties.

Q. Why is the Service proposing critical habitat for the southern California DPS of mountain yellow-legged frog?

At the time the Service listed this DPS of the species under the ESA, we determined that designation of critical habitat was prudent, but deferred the proposal of critical habitat so that we could complete other higher-priority, court ordered listing actions.

In 2004, a lawsuit was filed against the Service by the Center for Biological Diversity, challenging our failure to move forward with the designation of critical habitat for the southern California DPS of mountain yellow-legged frog. On December 20, 2004, the United States District Court for the Central District of California granted the Center for Biological Diversity's motion for summary judgment and ordered the Service to complete a proposed critical habitat rule for the southern California DPS of mountain yellow-legged frog by September 1, 2005, and a final critical habitat rule by September 1, 2006.

Q. What are the habitat requirements for the southern California DPS of mountain yellow-legged frog?

When designating critical habitat the Service must determine, based on the best available scientific and commercial information, what physical and biological features (primary constituent elements) are essential to the conservation of a species and may require special management considerations or protection.

Primary constituent elements are those specific habitat components that enable a species to fulfill its life cycle needs. The southern California DPS of mountain yellow-legged frog requires the following habitat elements: (1) Streams or stream reaches between 1,214 feet (ft) and 7,546 ft in elevation, containing perennial flowing water with pools connected by riffles and runs that have year-round water (in at least some portion of the occupied stream or stream reaches); (2) Riparian and upland vegetation extending from about 866 ft from each side of the stream with an open canopy that allows sunlight to reach the stream.

Q. What areas are being proposed as critical habitat?

A total of 8,283 acres of stream segments and riparian habitat in portions of Los Angeles, Riverside and San Bernardino counties are being proposed as critical habitat for the southern California DPS of mountain yellow-legged frog. Almost all of the areas proposed as critical habitat are managed by the U.S. Forest Service's Angeles National Forest (ANF) and San Bernardino National Forest (SBNF). A small amount of privately owned land (approximately 119 acres) are also included as proposed critical habitat.

We have identified the areas proposed for critical habitat designation into three separate units, as follows:

Unit 1 - San Gabriel Mountains: includes 1) Bear Gulch-East Fork San Gabriel River; 2) Vincent Gulch-East Fork San Gabriel River; 3) South Fork-Big Rock Creek; 4) Little Rock Creek; 5) Devil's Canyon; Day Canyon Creek, and Bear Creek.

Unit 2 - includes portions of East and West Forks of City Creek; Barton Creek-East Fork; and upper reaches of the North Fork of Whitewater River. These areas are within the boundaries of the San Bernardino National Forest. In 2003, the Old Fire burned the watershed of City Creek. In early 2004, heavy rains coupled with the lack of vegetation cover resulted in catastrophic flooding and sedimentation in City Creek. Surveys conducted since the flooding failed to locate any mountain yellow-legged frogs. Prior to the flood event, 11 juvenile frogs were removed from City Creek and are currently under the care of Dr. Russ Smith at the Los Angeles Zoo.

Hydrologists expect that the sediments will be scoured and transported downstream and over time, pool habitats suitable for the species will be restored in City Creek. Prior to the flooding, City Creek supported approximately 50 adult frogs and was considered one of the three largest populations of the southern California DPS of mountain yellow-legged frog and the only known population in the San Bernardino Mountains. This area contains features essential to the conservation of the species and will likely be a focus for recovery efforts, including the potential future release of the captive-held frogs.

Unit 3 - San Jacinto Mountains: includes North Fork-San Jacinto River and the tributaries of Black Mountain Creek, Fuller Mill Creek and Dark Canyon; Indian Creek at Hall Canyon; Tahquitz Creek; and upper reaches of Andreas Creek.

Unit 3 - San Jacinto Mountains Unit: includes 1) Fuller Mill Creek; 2) Dark Canyon; 3) North Fork San Jacinto River; and 4) Hall Canyon. With the exception of the lower reach of Fuller Mill Creek which is on private lands, all of the other stream reaches are within the SBNF. These populations represent the southern distribution of this DPS of mountain yellow-legged frog. While not currently known to be occupied, North Fork San Jacinto River and Hall Canyon are two of the four known occurrences of the southern California DPS of mountain yellow-legged frog observed in the San Jacinto Mountains since 1995. These streams represent a significant portion of the habitat occupied by the species at the time of listing and are essential to its conservation.

Q. Why is the Service including some unoccupied areas as proposed critical habitat?

The Service has determined that some areas which are not currently occupied by the species are essential to its conservation. The southern California DPS of mountain yellow-legged frog continues to survive in extremely small numbers and at the time it was listed under the ESA only about 100 adults remained in this population. Some of the areas known to be occupied by the species at the time of listing have been re-surveyed and no frogs were found. However, the habitat conditions of some of these areas are still suitable to the species and will likely be the focus of future recovery efforts. In the case of City Creek, this stream reach supported one of the largest remaining populations of frogs at the time the southern California DPS was listed, but due to combination of wildfire and flooding the habitat in this stream reach has been heavily impacted. The Service expects that once natural regeneration of

City Creek occurs, it will be suitable for the release of the captive-held frogs.

Q. How does a critical habitat designation affect the U.S. Forest Service and private landowners within the boundaries of the ANF and SBNF?

All Federal agencies are required to consult with the Service regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated critical habitat.

If critical habitat is designated on the ANF or SBNF, the U.S. Forest Service would be required to consult with the Service if it determines that a proposed action may affect the mountain yellow-legged frog or its critical habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the species or adversely modify or destroy its designated critical habitat.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands. Activities undertaken by private landowners that do not require Federal funding, permits, or authorization are not affected by the designation of critical habitat.

Q. What actions are being undertaken to conserve the southern California DPS of mountain yellow-legged frog?

The U.S. Forest Service (USFS), California Department of Fish and Game (CDFG), the Service, and the U.S. Geological Survey (USGS) are working cooperatively to implement measures to conserve this population of mountain yellow-legged frog. Actions currently underway include: (1) enhancement of a natural barrier to the upstream movement of non-native trout in Little Rock Creek; (2) the CDFG and the USFS are cooperating on the potential construction of a barrier to upstream movement of non-native trout in Big Rock Creek; (3) CDFG is funding a preliminary study conducted by USGS on the effects of non-native trout on mountain yellow-legged frogs in Little Rock Creek; and (4) preparation of a Mountain Yellow-Legged Frog Conservation Assessment and Strategy, Angeles and San Bernardino National Forests in 2002 by the USFS, to guide conservation of this population in southern California. Some of the measures taken to help conserve the population included the closure of camp sites adjacent to Dark Canyon/North Fork San Jacinto River in May 2001 and the acquisition of approximately 60 acres of habitat in the headwaters of Fuller Mill Creek.

However, special management considerations or protection are still required in the areas proposed for critical habitat designation to reduce potential impacts to the southern California DPS of mountain yellow-legged frog from recreational activities, to prevent the spread of pathogens that may cause 'red-leg' disease and chytrid fungus, and to reduce potential impacts from the spread of pesticides.

Q. What is 'red-leg' disease and what is chytrid fungus?

'Red-leg' disease is caused by a bacterium (*Aeromonas hydrophila*). Frogs infected with this disease may become lethargic and lose their ability to remain upright. Additionally, frogs may develop red spots and swollen skin. Although it is not clear what role red-leg disease or other viruses may play in the decline of amphibians, there are studies reporting the deaths of boreal toads in the Rocky Mountains from 'red-leg' disease and the loss of a population of mountain yellow-legged frog in the Sierra Nevada mountains is thought to be attributable to this disease.

Chytrid fungus (*Batrachochytrium dendrobatidis*) is a naturally-occurring, freshwater fungus that was

identified in the mid-1990s. This fungus has been linked to the deaths of many amphibian species in the United States, Australia and Central America. Chytrid fungus attacks the mouth parts of tadpoles and impairs their ability to feed. This fungus was detected in mountain yellow-legged frog larvae in the Sierra Nevada Mountains, but has not yet been found in the southern California population of mountain yellow-legged frog.

Q. Why are amphibians considered indicators of aquatic ecosystem health?

Many species of amphibians spend most of their lives in water and breathe at least partially through their skin making them highly sensitive to changes in their aquatic environments. Worldwide many species of amphibians including frogs, toads, and salamanders are declining. Scientists are working hard to find answers to explain why many amphibian species are declining, even those that live in areas relatively untouched by humans. In California, several species are already listed under the Act, including the threatened California red-legged frog (*Rana aurora draytonii*) and the endangered arroyo toad (*Bufo californicus*).

Q. How can the public comment on the proposed critical habitat designation for the southern California DPS of mountain yellow-legged frog?

Comments on the proposed critical habitat designation can be submitted to the Service by one of several methods. Written comments and information can be sent to the Field Supervisor, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, California 92011. Comments and information may also be sent by facsimile to 760-431-9624.

You may also submit information and comments by electronic mail to FW1CFWO_MYLFPC@fws.gov. If you are submitting comments electronically, please avoid the use of special characters and encryption. Please include your name and address in the body of your message and include "Attn: mountain yellow-legged frog" in the subject line of your electronic message.

The Service will accept comments and information related to the proposed rule until November 14, 2005.

Requests for a public hearing on the proposed critical habitat designation must be submitted in writing on or before October 28, 2005.

Q. Where can I learn more about mountain yellow-legged frogs?

For more information about the listing of the southern California DPS of mountain yellow-legged frog, please visit the Service's website at <http://www.fws.gov/endangered/wildlife.html> and type in 'mountain yellow-legged frog'.

You may also want to visit the following websites to learn more about the mountain yellow-legged frog and research efforts to help conserve this species and other native amphibians:

<http://armi.usgs.gov/>

<http://sacramento.fws.gov>

Prepared by: U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife
Prepared on: September 13, 2005