

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

RIN 1018-AI61

**Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Sonoma County Distinct Population Segment of the California Tiger Salamander****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

**SUMMARY:** We, the Fish and Wildlife Service (Service), determine endangered status for the Sonoma County distinct population segment (DPS) of the California tiger salamander (*Ambystoma californiense*), under the Endangered Species Act of 1973, as amended (Act). In Sonoma County, the California tiger salamander is imperiled by a variety of factors including habitat destruction, degradation, and fragmentation due to urban development, hybridization with non-native salamanders, inadequate regulatory mechanisms, disease, and pesticide drift. We listed this DPS on an emergency basis on July 22, 2002. The emergency designation expires on March 19, 2003. This rule is effective upon publication in the **Federal Register**, and implements the Federal protection and recovery provisions afforded by the Act for the Sonoma County DPS of the California tiger salamander. This final rule is being issued as a result of a settlement agreement and consent decree.

**DATES:** This rule is effective on March 19, 2003.

**ADDRESSES:** The complete file for this final rule is available for inspection, by appointment, during normal business hours at the Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W-2605, Sacramento, CA 95825.

**FOR FURTHER INFORMATION CONTACT:** David E. Wooten, Susan Moore, or Chris Nagano, Sacramento Fish and Wildlife Office, at the address listed above (telephone 916/414-6600; facsimile 916/414-6713).

**SUPPLEMENTARY INFORMATION:****Background**

The California tiger salamander was first described as *Ambystoma californiense* by Gray in 1853, based on specimens that had been collected in Monterey, California (Grinnell and Camp 1917). Storer (1925) and Bishop (1943) also considered the California

tiger salamander to be a distinct species. Dunn (1940), Gehlbach (1967), and Frost (1985) stated that the California tiger salamander was a subspecies of the more widespread tiger salamander (*Ambystoma tigrinum*). However, based on recent studies of the genetics, geographic distribution, and ecological differences among the members of the *A. tigrinum* complex, the California tiger salamander is now considered to be a distinct species (Shaffer and Stanley 1991; Shaffer *et al.* 1993; Jones 1993; Shaffer and McKnight 1996; Irschick and Shaffer 1997; Petranksa 1998). The range of this animal does not naturally overlap with any other species of tiger salamander (Stebbins 1985; Petranksa 1998).

The California tiger salamander is a large, stocky, terrestrial salamander with small eyes and a broad, rounded snout. Adults may reach a total length of 208 millimeters (mm) (8.2 inches (in)), with males generally averaging about 203 mm (8 in) in total length and females averaging about 173 mm (6.8 in) in total length. For both sexes, the average snout-vent length is approximately 91 mm (3.6 in). The small eyes have black irises and protrude from the head. Coloration consists of white or pale yellow spots or bars on a black background on the back and sides. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. Males can be distinguished from females, especially during the breeding season, by their swollen cloacae (a common chamber into which the intestinal, urinary, and reproductive canals discharge), more developed tail fins, and larger overall size (Stebbins 1962; Loreda and Van Vuren 1996).

California tiger salamanders are restricted to vernal pools and seasonal ponds in grassland and oak savannah plant communities from sea level to about 460 meters (m) (1,500 feet (ft)) (Stebbins 1989; Shaffer *et al.* 1993; Jennings and Hayes 1994; Petranksa 1998; California Natural Diversity Data Base (CNDDB) 2002). Genetic studies of the California tiger salamander suggest that levels of interchange among populations are very low, and that populations or groups of subpopulations (metapopulations) are genetically isolated from one another (Shaffer *et al.* 1993; Shaffer and Trenham 2002). Studies of mitochondrial DNA and allozymes (proteins) indicate that there are six populations of *Ambystoma californiense*, which are found in: (1) The Santa Rosa area of Sonoma County; (2) the Bay Area (central and southern Alameda, Santa Clara, western Stanislaus, western Merced, and the

majority of San Benito counties); (3) the Central Valley (Yolo, Sacramento, Solano, eastern Contra Costa, northeast Alameda, San Joaquin, Stanislaus, Merced, and northwestern Madera counties); (4) southern San Joaquin Valley (portions of Madera, central Fresno, and northern Tulare and Kings counties); (5) the Central Coast Range (southern Santa Cruz, Monterey, northern San Luis Obispo, and portions of western San Benito, Fresno, and Kern counties); and (6) Santa Barbara County (Shaffer and Trenham 2002).

The California tiger salamander in Sonoma County inhabits low-elevation (below 60 m (200 ft)) vernal pools and seasonal ponds, associated grassland, and oak savannah plant communities. The historic range of the species also may have included the Petaluma River watershed, as there is one historic record of a specimen from the vicinity of Petaluma from the mid-1800s (Borland 1856, as cited in Storer 1925).

California tiger salamanders found in the Santa Rosa Plain in Sonoma County are geographically separated from other California tiger salamander populations. The closest California tiger salamander populations to Sonoma County are located in Contra Costa, Yolo, and Solano counties, which are separated from the Sonoma County population by the Coast Range, Napa River, and the Carquinez Straits, a distance of about 72 kilometers (km) (45 miles (mi)).

Subadult and adult California tiger salamanders spend the dry summer and fall months of the year estivating (a state of dormancy or inactivity in response to hot, dry weather) in the burrows of small mammals, such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925; Loreda and Van Vuren 1996; Petranksa 1998; Trenham 1998a). During estivation, California tiger salamanders eat very little (Shaffer *et al.* 1993). Once fall or winter rains begin, they emerge from these retreats on rainy nights to feed and to migrate to the breeding ponds (Stebbins 1985, 1989; Shaffer, *et al.* 1993). The salamanders breeding in, and living around, a seasonal pool or pools, and associated uplands where estivation can occur are said to occupy a breeding site. A breeding site is defined as a location where the animals are able to successfully breed in years of "normal" rainfall and complete their estivation (derived from Trenham 1998b and 2001). Normal rainfall in Santa Rosa is 76 centimeters (cm) (30 in) per year (National Weather Service 2002).

Occurrence of California tiger salamanders in Sonoma County is significantly associated with occurrence