Get to Know the California Tiger Salamander

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CALIFORNIA TIGER SALAMANDER

California Tiger Salamander (CTS) is a federal and state threatened and endangered amphibian species with unique habitat requirements. CTS are restricted to grasslands and low foothills with pools or ponds that are necessary for breeding, but they spend most of their life on land using burrows made by squirrels and other mammals. Young salamanders (larvae) live their birth pond until they transform (metamorphose) into the adult phase. CTS are an important part of the ecosystem as both predator and prey. They control pests by eating insects like mosquitos and in turn they become food for larger animals. Like other amphibians, they are sensitive to a variety of threats and, thus, can serve as early indicators of ecosystem change when monitored over long-time scales.

Threats

Habitat loss and fragmentation are causing the CTS population to decline. Conversion of open or grazing land to agriculture or urban uses results in habitat loss and degradation; migration barriers, such as roads and houses, and adverse impacts from non-native species.

CTS breed and lay their eggs primarily in vernal pools and other ephemeral ponds that fill in winter and often dry out by summer. CTS sometimes use permanent human-made ponds (e.g., stock ponds), reservoirs, and small lakes that do not support predatory fish or bullfrogs. Perennial ponds can facilitate the establishment of non-native predators and competitors. Introduced fishes and bullfrogs in breeding ponds reduce the survival of eggs and larvae. Even temporary fish introductions, such as periodic planting of mosquitofish for vector control, are detrimental, because they can eliminate CTS populations in just a few years. CTS are also threatened by hybridization with non-native tiger salamanders that were introduced in the mid-20th century as fish bait. While this practice has been banned for decades, the impacts remain.

Habitat fragmentation can also stifle gene flow among remaining inter-breeding populations. Genetic diversity is essential for maintaining healthy biological systems. Habitat loss and fragmentation (habitat modification) are two major factors contributing to a recent decline in global amphibian populations. Worldwide, about 32 percent of some 6,000 amphibian species are threatened, compared to 12 percent of bird and 23 percent of mammal species.

Under existing state and federal laws (e.g., California Environmental Quality Act, California Endangered Species Act, and federal Endangered Species Act), any individual, firm, or public agency that undertakes activities that destroy, degrade, or adversely alter the environment may be required to compensate for unavoidable impacts to listed species. The California Endangered Species Act prohibits the taking of an endangered, threatened, or candidate species, except under a few specified circumstances. Under the Act, CDFW may authorize the take of listed species that is incidental to an otherwise lawful activity if the impacts are minimized and fully mitigated. “Take” is defined as hunt, pursue, catch, capture, kill, or attempt to do any of these things. CDFW and USFWS should be consulted prior to conducting ground-disturbing activities in CTS habitat. Mitigation includes actions or project design features that reduce environmental impacts by avoiding, minimizing, or compensating for the adverse effects of a project.