

Can California Ranchers Save The Tiger Salamander?

Scientists hope a very unusual conservation decision could preserve salamander habitat, but they worry that it might harm the most vulnerable populations

For some 5 million years, the California tiger salamander (*Ambystoma californiense*) has lived in grasslands surrounding pools that fill with water in the spring. Once a year, the salamanders emerge from burrows to lay eggs in these vernal oases. Over the past 150 years, however, three-quarters of the salamander's habitat has been lost, converted to housing tracts, vineyards, and row crops. Now, if the U.S. Fish and Wildlife Service (FWS) is correct, the 20-centimeter-long amphibians will have a new ally: ranchers.

On 4 August, FWS announced that it was protecting a vast swath of salamander habitat in the state. At the same time, the agency decided not to restrict what ranchers can do on that habitat—an unusual accommodation. That's because ranchers own the majority of salamander habitat—often prime real estate—and they maintain cattle ponds that the salamanders have adopted for breeding.

But although most scientists agree with FWS officials that a rancher-friendly approach could be crucial to preserving the habitat, they worry that some activities require closer scrutiny, especially where populations are most in jeopardy. The blanket exemption for ranching is “not scientifically based and may be harmful,” says attorney Kassie Siegel of the Center for Biological Diversity, an environmental group that intends to take FWS to court over its August announcement in the *Federal Register*. At the same time, an industry group is challenging another aspect of that decision.

The California tiger salamander has been at the center of a political battle for more than a decade. In 1992, Bradley Shaffer, an evolutionary biologist at the University of California, Davis, and others began urging FWS to put the animals on the endangered species list. But the agency didn't move forward until environmentalists sued. Despite opposition from developers, in 2000, FWS declared a salamander population in Santa

Barbara County to be in grave peril from loss of habitat and listed the animals as endangered. Shaffer's genetic studies showing that this group is a “distinct population segment” bolstered the rare, emergency listing. Three years later, facing another court-ordered deadline, FWS did the same for an



Tiger salamander populations



Geography lesson. Ranching could benefit central California tiger salamanders, but it might harm smaller populations along the coast.

even smaller salamander population in Sonoma County.

The listing status matters. Under the law, “endangered” means

that any activity that might harm the salamanders or their habitat requires a permit and a conservation plan. The requirement can be a paperwork headache. However, if a species is listed only as “threatened,” FWS can exempt certain activities from permits. So it was a relief to ranchers when FWS exempted “routine ranching activities” in listing as threatened the state's largest population of the salamanders, spanning 20 counties.

The decision was based on the idea that ranching can be more compatible with salamander conservation than can other land uses, such as vineyards or housing. Like salamanders, cows need open grasslands and ponds. There's even evidence that grazing helps natural vernal pools persist, where grasslands are dominated by in-

vasive grasses, ecologist Jaymee Marty of the Nature Conservancy has found.

But there are risks, too. Some routine ranching activities, such as creating firebreaks, may be deadly. The central population is a good place to examine those variables and determine proper guidance for ranchers, Shaffer says, because salamanders and their habitat are less critically endangered there. “We have more room to maneuver and more time to try creative solutions,” he asserts.

That's not the case in Santa Barbara and Sonoma counties, Shaffer cautions. These populations are particularly vulnerable, he and others say, because they are small and face intense development pressure. And as genetically unique lineages, they're extremely valuable for conservation. “It seems obvious that they deserve more protection,” says Carlos Davidson, a conservation biologist at California State University, Sacramento.

To exempt ranching statewide, FWS had to downgrade the populations in Santa Barbara and Sonoma counties from endangered to threatened. Normally, such an action only happens when populations are recovering and threats diminishing. Scientists say that's not the case with the two salamander populations.

“There's no biological basis for downlisting,” says Lawrence Hunt, a consulting herpetologist in Santa Barbara.

Some scientists also worry that the exemption could make it easier for ranchers who want to rid their land of salamanders—and the development restrictions that come with them—to do so through excessive use of routine practices. “It's basically a license to kill,” says herpetologist Samuel Sweet of the University of California, Santa Barbara. Although scientists admit that there may be no way to eliminate cheating, they say the government should require permits to keep a closer eye on habitat in Santa Barbara and Sonoma counties.

Shortly after FWS issued its decision, environmentalists told the agency they plan to sue in federal court this fall to reverse the downlisting and remove the ranching exemption from Santa Barbara and Sonoma counties. And with industry challenging the listing of the central California population, the controversy over the tiger salamander seems certain to continue burning bright.

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