

by Kate Symonds

Ranchers Restore Amphibian-friendly Ponds

East of the San Francisco Bay area, in the arid hills of California's inland Coast Ranges, ponds have become magnets for wildlife, large and small. Two small but notable inhabitants of these ponds are the California red-legged frog (*Rana draytonii*) and California

tiger salamander (*Ambystoma californiense*). Both species are federally listed as threatened amphibians and are endemic to California, where they have adapted to seasonal and historic changes in their habitat.

The California tiger salamander, marked by a striking black-and-yellow pattern, spends all but a few months

California red-legged frog



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each year in the uplands, deep in rodent burrows. When enough rain falls, they emerge from the uplands and sometimes travel as far as 2 miles (3.2 kilometers) to seek breeding ponds.

California red-legged frogs are the largest native frog in the western United States and are believed to be the inspiration for Mark Twain's short story, "The Celebrated Jumping Frog of Calaveras County." They breed in ponds and creeks with slow-moving water, and remain there year-round. They will, however, travel up to 3.2 miles (5.1 km) in search of a moist shelter.

Livestock ponds

The Alameda County Resource Conservation District (RCD) estimates that nearly all of the 650 ponds in eastern Alameda were created by cattle ranchers prior to the 1960s. As natural streams and freshwater wetlands were lost to intensive agricultural practices and development, tiger salamanders and red-legged frogs have increasingly come to rely on livestock ponds for breeding habitat. Ponds also provide breeding habitat for other amphibians, including the Pacific tree frog (*Hyla regilla*) and western toad (*Bufo boreas*), as well as habitat for mammals, reptiles, and birds.

Not all livestock ponds provide favorable conditions for amphibians. Some are small and dry out before amphibian breeding cycles are complete. Others are large and retain water year round, but support non-native predators such as warm water fishes and bullfrogs. Many ponds, having reached the end of their usefulness for livestock, are filling in with sediment and have become choked with cattails, while others have spillways and berms that are eroding or have washed out altogether.

Livestock pond repair projects can require permits from up to six regulatory agencies. The rising costs to obtain environmental permits and repair livestock ponds to current standards often cause ranchers to abandon the ponds in favor of less expensive options, such as installing

solar power pumps, tanks, and troughs. With natural habitat reduced, allowing livestock ponds to fail could have serious consequences for the future of California tiger salamanders and red-legged frogs, as well as for many other pond-dependent species.

Ranchers and pond restoration

Several Alameda ranchers have become interested in pond restoration because they continue to value the ponds as an important part of the landscape and recognize their value to wildlife. In the past year, the Alameda County RCD and the federal Natural Resources Conservation Service (NRCS) have been working with regulatory agencies to develop a coordinated permit-streamlining program for pond restorations. Ranchers now have "one-stop shopping" to obtain permits and funding for pond projects and other rangeland projects. The Fish and Wildlife Service's permit incorporates a wildlife-friendly pond design and describes management measures such as keeping ponds free of fish and bullfrogs, protecting ground squirrel burrows as aestivation (a period of inactivity during summer months) habitat for salamanders and frogs, and continuing managed grazing, as well as measures to reduce impacts to listed species during pond repair projects.

Safe Harbor Agreement

To help alleviate ranchers' concerns that restoring amphibian-friendly livestock ponds may increase their regulatory burden under the Endangered Species Act (ESA), the Service has worked with the RCD, NRCS, and Environmental Defense to issue one of its first programmatic Safe Harbor Agreements. Ranchers who participate in this program have assurances they will incur no extra regulatory obligations under the ESA if they restore and maintain ponds and surrounding uplands in a way that benefits the red-legged frog and the tiger salamander.

Service assistance

To help offset the ranchers' costs of paying for pond-repair projects, the Service's Sacramento Fish and Wildlife Office is providing technical and cost-share assistance to the RCD through the Endangered Species Recovery Program, the Partners for Fish and Wildlife Program, and the Private Stewardship Grant Program. Funding is also provided by the NRCS, California Coastal Conservancy, and National Fish and Wildlife Foundation. To date, eight livestock ponds have been restored, and several more restorations are planned for 2008 and beyond.

The support for pond restoration underscores the importance of rangeland habitats to the recovery of imperiled amphibians and many species of plants, invertebrates, reptiles, birds, and mammals in California.

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The restored Alameda Sweet Pond.

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