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The Great Outdoors

Endangered species

Long-Toed Salamander Thriving In Aptos

At least one of the six known populations of the endangered Santa Cruz long-toed salamander is thriving, according to a recent study by a consulting biologist of the California Department of Fish and Game.

Rhonda Reed has been studying the tiny amphibians at Valencia Lagoon in Aptos for the past year in order to determine their current status and make recommendations for their long-term survival.

In a presentation of her findings to the Central Coast Wildlife Conservation Council, she said the salamanders are reproducing in good numbers and their average age may be younger than was found in previous studies. This indicates that improvements made to the breeding habitat at Valencia have been beneficial.

The lagoon was damaged and threatened with destruction by freeway construction during the 1960's. A cooperative effort by state agencies has restored what remained of the ancestral breeding habitat and has placed the area under the control of the DFG.

Reed said now that the breeding habitat has been protected, the major threat to the salamander is extensive residential development on the hillside near the breeding pond. The salamanders spend their summers on this hillside underground in animal burrows and near tree roots. They must have the underground moisture to survive

the hot summer weather. They migrate up to a mile to the breeding pond on rainy winter nights.

If their habitat is destroyed by the removal of native vegetation or their migration routes blocked by structures, the salamander population could suffer despite the protection of the breeding pond. Local building codes already call for certain measures to mitigate this problem. Reed's continuing study of the migration routes and summer habitat could suggest additional measures which may be needed.

The Santa Cruz long-toed salamander was first discovered at Valencia Lagoon by James D. Anderson in 1952 and has since been found in only five other locations — all in a small area between Aptos and Castroville.

This animal is believed to have been isolated from other salamanders during the last ice age and has since evolved into its distinctive form. It is about five inches long; its front legs have four toes; its back legs have five toes. It is shiny black with irregular spots of yellow or orange color on its back. Although shaped like a lizard, it is an amphibian with moist skin like a frog and without claws or scales.

Moisture is vital to the survival of the Santa Cruz long-toed salamander. The eggs, laid in the masses surrounded by gelatinous envelopes on aquatic plants are left under-

ground. The female lays about 300 eggs, which usually hatch in about a month. After emergence, the dark brown larvae continue to develop in their pond habitat for a period of 90 to 140 days, when they transform into juvenile salamanders.

By early summer, the pond is usually drying up, but before it dries completely, the juvenile salamanders migrate to the adjacent upland woods, where they continue their life under leaf litter and vegetation, or underground, feeding on a variety of small organisms such as snowbugs and slugs. There they stay through the hot summer, dispersing farther from the pond when the next winter rains come.

The salamanders will not return to the pond for two to four years, or until they are sexually mature. Mature adults migrate in late fall and winter during rainy nights to a shallow pond, breed, lay eggs, and return to their upland habitat again. In some years, rainfall may be insufficient to fill the spawning ponds and the salamanders may not be able to reproduce. Because of its long life span (estimated to be 13 to 25 years, based on data from the study of other salamanders) however, the species is able to withstand short periods of drought, such as the area experienced in 1976 and 1977.