



Michael Seville/Register-Pajaronian

Diane Kodama, a wildlife biologist for the United States Fish and Wildlife Service, collects seeds from a sticky monkey bush at the Ellicott Slough National Wildlife Refuge. The USFWS is currently collecting seeds from native plants in the area and growing them in a greenhouse in Fremont. When the seedlings are more mature, biologists will replant them in the refuge to combat the non-native species that are problematic for the Santa Cruz long-toed salamander.

A home for endangered salamanders

Refuge gives amphibians place to live and a lab for scientists to study them

By MICHAEL SEVILLE
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Driving down San Andreas Road, one may not notice the unpretentious sign tucked down an embankment hailing a national wildlife refuge.

Though local state parks and beaches are plentiful and are regular tourist attractions throughout Santa Cruz County, this discrete place is not meant for public visitations or high volumes of traffic of any sort.

This 200-acre, jointly managed refuge, called Ellicott Slough National Wildlife Refuge, is a home to the Santa Cruz long-toed salamander, a federally listed endangered amphibian that is native to the coastline in Santa Cruz and Monterey counties.

"We conduct research within the ref-



The long-toed salamander is native to Santa Cruz and Monterey counties.

uge, mainly studying movements of the salamanders, their breeding habits and life cycles," said Ivette Loreda, Ellicott Slough National Wildlife Refuge manager. "We also do a lot of restoration work by controlling non-native plant life that isn't beneficial to the area's wildlife."

Some of the non-native plants that make life more difficult for the sala-

mander, which only reaches lengths of 4 to 6 inches when mature, are eucalyptus trees, pampas grass and newcomers such as Italian thistle and poison hemlock.

Salamanders prefer low-lying bushy plants that provide cover from the sun, as their amphibious physiology requires that they remain moist and cool.

Salamanders and other amphibians native to the landscape of the United States have come under tremendous strains in recent decades as development of residential, commercial and agricultural land has erased much of the water flows, enclaves and habitat that used to make the animals plentiful.

Other known threats to the animals include pollution and loss of habitat and food resources due to predation by non-native animals such as bullfrogs, tiger salamanders, parasites and non-native fish.

There is a lot to be learned about the Santa Cruz long-toed sub-species.

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The salamanders only move in the cover of night, when it is raining or during a heavy fog. They are particularly difficult to document in terms of habits, motion and other characteristics.

They generally spend most of the year buried under twigs and other fallen vegetation or in the burrows of mammals that provide shelter from the summer heat. They only move when it is time to breed or to move back into the nearby highlands.

Local wildlife biologist Mark Allaback, who studies Santa Cruz long-toed salamanders at another known population site in the Seascape area, said that he and an associate trap the salamanders and study them to get an idea of just how many there are and when they move.

"They are a species that have a very restricted range of travel," All-

aback said. "Their breeding sites are limited to 11 or 12 local ponds, making those ponds' preservation crucial."

The two men use pitfall traps to safely catch the salamanders on rainy nights to document their growth. They also catch them when they are moving because that is a good indicator of when they are breeding in the ponds.

The United States Fish and Wildlife Service and the California Department of Fish and Game jointly own the property on which Ellicott Refuge is located, but the USFWS manages the refuge.

The USFWS is spending the summer collecting seeds from native plants to grow in nearby greenhouses in order to battle the spreading non-native plants.

Diane Kodama, wildlife biologist for the USFWS, said the agency has spent the last several years removing the non-native plant species and replanting native plants that are more appropriate for the Central Coast environment.

"We are doing the replanting

project because the native plants don't grow as quickly as the non-natives, which is why the non-natives are becoming more numerous," she said, as she gathered some seeds from a sticky monkey flower.

As good as the Ellicott refuge is for the preservation of the Santa Cruz long-toed salamander, it has its limitations.

The salamanders move in all directions from the breeding ponds, which puts them in direct line with several roads, developed areas and agricultural fields that present dangerous situations for the endangered species, according to Allaback.

However, the push to restore what little land is preserved continues with planting, monitoring and studying the long-toed amphibians that call this particular county home.

To obtain more information on the Santa Cruz long-toed salamander or the Ellicott Slough National Wildlife Refuge call (510) 792-0222.