## Red-leggeds remain rare

By RACHEL COURTLAND

WATSONVILLE — Gary Kittleson remembers when spring driving meant dead frogs under his tires.

"I used to see 40 to 50 frogs squished on the roads during the first rains," Kittleson said. "Now there aren't as many. At least they're not getting smushed."

Once beloved for their meaty legs, California red-legged frogs have been in decline for more than 100 years. The speckled, half-foot-long croakers, classified as threatened under the Endangered Species Act, now inhabit 30 percent of their original range, which extended from south of Los Angeles to north of San Francisco.

No one knows exactly how many of the frogs once lived in the sloughs around Watsonville, but Kittleson expects the number was once much higher.

A wildlife biologist, Kittleson was hired by the city to protect and monitor the health of the wetlands during construction of



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Red-legged frogs were once abundant in California, coveted for their meaty legs. Now they call a much smaller portion of California home.

two bridges over area sloughs. One bridge, built on Harkins Slough Road over the Watsonville Slough, opened to traffic Feb. 16. The other over Struve Slough is being constructed.

The new bridges are intended

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## Frogs

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to improve traffic in the growing city, opening up roads that dip into the sloughs and sometimes flood for half a year at a time, said David Koch, director of Watsonville's Public Works and Utilities.

But Koch also expects the bridges will be a boon to the wetlands.

"We recognize that the construction actually provides a longterm benefit to the environment by reconnecting the habitat," he said.

Roads interfere with a frog's natural movement, but they are only one challenge to the population.

Red-legged frogs have adapted to live in ponds and streams that periodically dry out.

But in Watsonville, the water level in the wetlands is rising and development has changed waterflow, said Kittleson, who will speak about the frogs Wednesday.

"Because of the nature of urban runoff, the water level in the sloughs can rise 1 to 2 feet with a big rain, and then it's just like a big bathtub," he said. "It stays there until it evaporates."

The city has programs in place to prevent flooding and improve the quality of runoff, but it does not control the overall amount of water that falls into the slough, according to senior utilities engineer Steve Palmisano.

Water-logged areas are an ideal environment for the red-legged frog's main predator: its bigger, hardier and more ravenous cousin, the American bullfrog.

At their culinary peak, 80,000 red-legged frogs were collected each year to feed California's growing lust for frog legs, according to the U.S. Fish and Wildlife Service. When the population began to decline in the late 1800s, American bullfrogs were introduced from the East Coast to supplement the source.





An estimated 80,000 red-legged frogs were collected in the wild each year in the 1800s to feed a culinary lust for frog's legs.

The story of the red-legged frog's decline is different in each area. At the main breeding pond in the Elkhorn Slough Reserve, sediment from upstream has polluted the

water and suffocated eggs, cutting the frog population from an estimated 300 or so roughly 10 years ago to about 20 today, researchers

## If You Go

WHAT: Gary Kittleson speaking on 'Red-Legged Frogs and Landscape Changes in the Pajaro Valley,' sponsored by the Watsonville Wetlands Watch and the National Fish and Wildlife Foundation.

WHEN: 6:30-8:30 p.m. Wednesday.

WHERE: Fitz Wetlands Educational Resource Center at Pajaro Valley High School, 500 Harkins Slough Road, Watsonville.

COST: Free.

Watsonville wetlands are home to endangered redlegged frogs, left, which compete for habitat with the American bullfrog.

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"(The water) looks like chocolate milk, essentially," said UC Santa Cruz graduate student Antonia D'Amore. "We've seen turbidity levels skyrocket."

According to the research of D'Amore and others at the reserve, the frogs are only able to breed successfully in less than half of the habitats in which they are found. The invasive American bullfrogs and California's other native frog species, the Pacific tree frog, have a 95 percent success rate.

D'Amore found the roads pose a significant obstacle.

While the water levels in Watsonville challenge the red-legged frogs, certain bird and fish species are thriving. "Whether this is a positive or

"Whether this is a positive or negative thing, the jury's still out," Kittleson said. "The management of the water level is a community decision-making process. It's both technical and social."

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