

Biologists find cows make good company with some rare critters

By Juliana Barbassa
THE ASSOCIATED PRESS

GALT, Calif. — Fairy shrimp, the rare tiger salamander, the solitary bee — rare critters that live in seasonal rainwater pools in California's grasslands — may actually benefit from having large, heavy-footed cattle grazing around their habitat.

Several biologists looking closely at what happens in these seasonal pools say the diversity of the ephemeral fauna and flora in the water increases when cows keep weedy non-native grasses under control.

"The plants and the shrimp are very delicate, but it works," said Jaymee Marty, an ecologist at the Cosumnes River Preserve, which was created to prevent further development along the only undammed river that flows from the Sierra Nevada into California's Central Valley.

When cows munch on the invasive Mediterranean grasses that blanket the surrounding hills, seasonal pool natives like the frothy white meadowfoam and the tiny yellow Goldfields are more likely to bloom, Marty said.

She surrounded 72 pools with electrified wire and alternated periods of grazing for three years. In cow-free areas, a thick mat of grass grew five feet tall,

obscuring the ground. "The only thing that can grow in this situation is more grass," Marty said.

The 40,000-acre preserve just south of Sacramento is operated by the Nature Conservancy together with other environmental groups such as Ducks Unlimited, as well as the U.S. Bureau of Land Management and the California Department of Fish and Game. Its mission is to preserve the stream-side habitat and restore wetlands while demonstrating the compatibility of human uses, including ranching, with wildlife.

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— Jaymee Marty
ecologist at the Cosumnes River Preserve

Marty's observations, which she plans to submit to peer-reviewed journals, suggest that a partnership of ranchers and environmentalists — of cows and fairy shrimp — might be just what's needed to protect such seasonal pools.

Similar evidence has been gathered by Joe Silveira, a

wildlife biologist working for the U.S. Fish and Wildlife Service at the Sacramento National Wildlife Refuge Complex in Willows. When cattle there were removed to manage water routes, the diversity of fauna found in a twice-monthly count went down.

And it wasn't just the little guys — the tadpole shrimp and the salamanders — that disappeared. The removal rippled all the way up the food chain. Silveira found fewer ducks, Sandhill cranes and Canada geese, and less waterfowl also meant fewer bald eagles.

The rare creatures found in the short-lived ponds are adapted to a unique regimen. The area floods completely in the winter, sprouting seeds, hatching salamander eggs and opening the cysts that hold the shrimp's eggs.

Marty found that cattle prefer eating imported grass over lower-lying native vegetation, clearing space for the native plants to sprout and preserving the water. Fast-growing grasses can suck up water like straws, drying up pools too quickly for the tiger salamander, an endangered animal that needs at least 90 days in a deep pool to lay its eggs and prepare for the dry season.

Ponds in grazed areas lasted an average of 105 days, Marty found. Those in areas where cattle were removed only lasted about 45 days.

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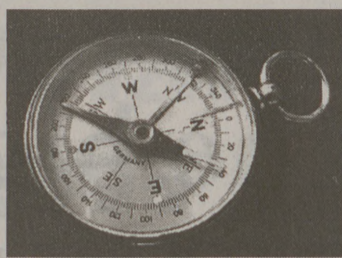
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