

Porcupines an increasingly rare sight in California forests, scientists say

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The porcupine is not among the cuddly critters most forest visitors hope to stumble upon.

The large rodent seems aloof as it waddles through California woods. Long quills twitching like the headdress on a drum major, it forages leisurely for herbs, seeds and tree bark. When threatened, the prickly species mostly just turns its back and hopes you'll get the point.

While nobody was looking, however, it seems the humble porcupine has been quietly fading away.

Biologists and other resource managers who spend their working hours in California forests say it has become increasingly rare to lay eyes on a porcupine. No one knows how many are left, because very few people ever paid attention to the porcupine except to put a bounty on it for eating trees.

A recent informal survey by the Central Sierra Environmental Resource Center provided some troubling clues about the porcupine's fate.

The small nonprofit group, based in Twain Harte, Tuolumne County, put the word out to field personnel with the U.S. Forest Service, National Park Service and California Department of Fish and Game to report any and all porcupine sightings throughout 2011. The area covered was a vast region stretching from Lake Tahoe to the southern tip of the Sierra Nevada.

The results, reported Jan. 30, were startling. Only 14 live porcupines were seen the entire year. Eight additional animals were reported as roadkill.

"It's just become kind of apparent there aren't a lot of porcupines around," said Lindsey Myers, the center's staff biologist, who acknowledges the survey is far from exhaustive. "There's definitely a growing concern about the porcupine population, because nobody's doing research on it right now."

Rick Sweitzer, who may be California's foremost porcupine expert, agrees that the porcupine seems to have become scarce.

Sweitzer, an ecologist and associate adjunct professor at UC Berkeley, did his doctoral dissertation on porcupines at the University of Nevada, Reno. He has also published a number of scientific papers on the species, and runs a research program on the Pacific fisher, one of the porcupine's primary predators.

"The indications seem to be that porcupines, where they were once present, are not present any more," said Sweitzer. "I think we're just now noticing."

Sweitzer's experience is not circumstantial. He and a team of biologists maintain a vast network of remote camera stations in the Sierra National Forest, designed to capture images of fishers and any other animal drawn to bait at the cameras.

In five years of research and over 100,000 "camera days," the team has never captured a photo of a porcupine, nor have any of the biologists seen one personally, either alive or dead.

Another bit of evidence: Porcupine doesn't show up in the diet of California fishers when their scat and gut contents are analyzed. Instead, fishers seem forced to spend a lot more energy eating smaller and faster prey, like squirrels.

"I'm not aware of a similar issue with porcupine declines in other states," Sweitzer said.

The decline is not limited to the Sierra Nevada. In the state's rainy northwest corner, researchers and Indian tribes – which use their quills in clothing and baskets – also say porcupines have become increasingly rare.

Scott Yaeger, a biologist with the U.S. Fish and Wildlife Service, saw a porcupine in a tree from his office window in Yreka about nine months ago. But he called that unusual.

Generally speaking, he said, porcupines can be found east of Interstate 5 in the state's northeast corner, though they are not common. West of the highway, they are a very rare sight all the way to the coast.

"You just don't see them anymore – not like people did back in the 1970s," Yaeger said.

In the American rodent family, porcupines are second in size only to the beaver. And like the beaver, Sweitzer said, they play an important role in shaping their environment: Porcupines feed on a huge variety of plants and help disperse those plants by passing undigested seeds in their feces.

In winter, when their other food sources are dormant or buried in snow, porcupines turn to eating the inner bark of conifer trees.

Porcupines tend not to travel far, so in winter they pick out a handful of trees in a small area to feed on. Like their cousin the beaver, they strip off the outer bark and feed on the cambium, or inner bark.

"They don't kill a tree," Sweitzer said, "but they can cause it to not grow straight and true like you would want for your two-by-fours."

It may be that porcupines' taste for trees has contributed to their demise.

One problem is that many wild forests have been clear-cut and converted to tree plantations with row upon row of Ponderosa pines, which happen to be one of the porcupine's favorites. As a result, the logging industry for decades waged an extermination campaign against the porcupine, using hired hunters as well as rodenticides.

John Heil, a spokesman for the U.S. Forest Service regional headquarters in Vallejo, said the agency stopped targeting porcupines in 1977.

However, it still kills pocket gophers to prevent them from damaging tree seedlings. It does this by placing strychnine-laced bait in burrows. Heil said the Forest Service has treated 83,653 acres in this manner since 1991, or less than 1 percent of its lands in the state.

Logging operations on private land engage in similar practices, though the extent of their rodenticide use is difficult to discern from data collected by the state, said Lea Brooks, spokeswoman for the California Department of Pesticide Regulation.

A bigger contributor to the porcupine's disappearance may be illegal marijuana plantations, an

ongoing problem in remote areas across the state. These plantations typically divert streams into flexible plastic irrigation tubing, sometimes amounting to hundreds of miles of tubing per grow site.

"For whatever reason, rodents like to nibble on that stuff and they poke holes in it," said Patrick Foy, a game warden and biologist with the California Department of Fish and Game. "So these guys will put rodent bait all around the irrigation pipelines."

Compared to most rodents, the porcupine is not a prolific breeder. Each female typically gives birth to only one offspring per year. As a result, Sweitzer said, it may be that we are only now noticing the long-term effect of historic and ongoing poisoning practices.

Sweitzer said a concerted research effort is needed to determine the population status of porcupines. Yaeger is already planning to do so in the state's northwest corner, where he has assembled a regional "porcupine working group" to launch a formal field survey.

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