

Illegal marijuana grows threaten fishers in the southern Sierra Nevada

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Fisher in Oak cavity. Credit: Zane Miller.

Rat poison used on illegal marijuana grows is killing fishers in the southern Sierra Nevada, according to a recent study conducted by a team of scientists from the U.S. Forest Service's Pacific Southwest Research Station (PSW), University of California, Davis, University of California, Berkeley, and the Integral Ecology Research Center.

A previous study published last summer by the research team documented that rodenticides were being found in the tissues of the cat-sized, weasel-like critters which live in rugged portions of the southern

Sierra Nevada. The authors speculated that the most likely source of the poisons was the illegal marijuana grows found throughout the Sierra Nevada. This new study solidifies that link, documenting that female fishers who live in areas with a higher number of marijuana sites had more exposure to rodenticides, and subsequently had lower [survival rates](#). The findings concern scientists because the fisher is a candidate for listing under federal, Oregon, and California endangered species acts, and is considered a sensitive species in the western United States by the U.S. Forest Service.

The researchers deduced that illegal marijuana grows are a likely source of the poison, because the fishers in this study were radio-tracked and many were not observed venturing into rural, urban or [agricultural areas](#) where rodenticides are often used legally. Illegal marijuana cultivation on public lands is widespread, and some growers apply large quantities of numerous pesticides to deter a wide range of animals and insects from encroaching on their crops. While the exposure of wildlife to rodenticides and insecticides near [agricultural fields](#) is not uncommon, the amount and variety of poisons found at the illegal marijuana plots is a new threat.

According to co-author PSW wildlife biologist Dr. Kathryn Purcell, "exposure of wildlife to pesticides has been widely documented, but this is a fundamentally different scenario.

"In marijuana cultivation sites, regulations regarding proper use of pesticides are completely ignored and multiple compounds are used to target any and all threats to the crop, including compounds illegal in the U.S.," she says.

While some fishers have died from either directly consuming flavored rodenticides or by consuming prey that had recently ingested the poisons, exposure may also predispose animals to dying from other

causes. Exposure to lower doses—or to combinations—of the poisons, results in slower reflexes, reduced ability to heal from injuries, and neurological impairment. Consequently, this leads to death from other sources, such as predation or road kill.

Fishers in the southern Sierra Nevada are highly susceptible to pesticide exposure because, unlike their larger bodied relatives in other parts of the country that eat larger prey, their diet consists of small mammals, birds, carrion, insects, fungi, and other plant material. In the vicinity of illegal marijuana sites, numerous dead or dying insects and small mammals are often found. In this study, scientists reported on the amount of poisons found at over 300 illegal plots and compared the locations of these sites with the home ranges and survival of 46 adult female fishers.

The conservation implications of this study are far-reaching.

"By increasing the number of animals that die from supposedly natural causes, these pesticides may be tipping the balance of recovery for fishers" says Dr. Craig Thompson, a PSW wildlife ecologist and the study's lead author.

This new threat may also impact other species already facing declining populations, including the wolverine, marten, great gray owl, California spotted owl, and Sierra Nevada red fox, which may also be exposed to the poisons, say the scientists.

Provided by USDA Forest Service

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