Audubon

Conservation

With Legal Pot, California Faces a Barrage of New (and Old) Environmental Problems

Cleaning up poisons killing Northern Spotted Owls is just one challenge the state faces. A conservation fund built from cannabis taxes could help.

By Jane Braxton Little

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Blue dream cannabis plants at a grow site in Mendocino County, California. As legal farms take root around forests, night lighting becomes a concern for migrating birds and nocturnal wildlife. Photo: Zuma Press Inc./Alamy

On April 5, 2017, a female Northern Spotted Owl turned up dead near Willow Creek in California's Humboldt County. She weighed less than a pound, had been reproductively active, and bore a numbered band from the U.S. Geological Survey. A necropsy found brodifacoum, a highly lethal rodenticide, in her blood and liver.

Banding records showed that the owl had been occupying the surrounding forests for a year—but so had illegal pot growers. The bird's body was found within 500 feet of at least seven active cannabis farms, where she'd likely been hunting dusky-footed woodrats. The rodents themselves were feeding on marijuana plants laced with brodifacoum.

In January, seven months after scientists dissected the poisoned raptor, California legalized recreational cannabis. The state is projected to collect $1 billion from permits and sales over the next two years, much of which will be used to address public health issues like drug addiction in youth. But the new lawalso earmarks 20 percent of revenue for the Environmental Restoration and Stewardship Account, in theory, protecting Northern Spotted Owls and other rare wildlife from industry ills.

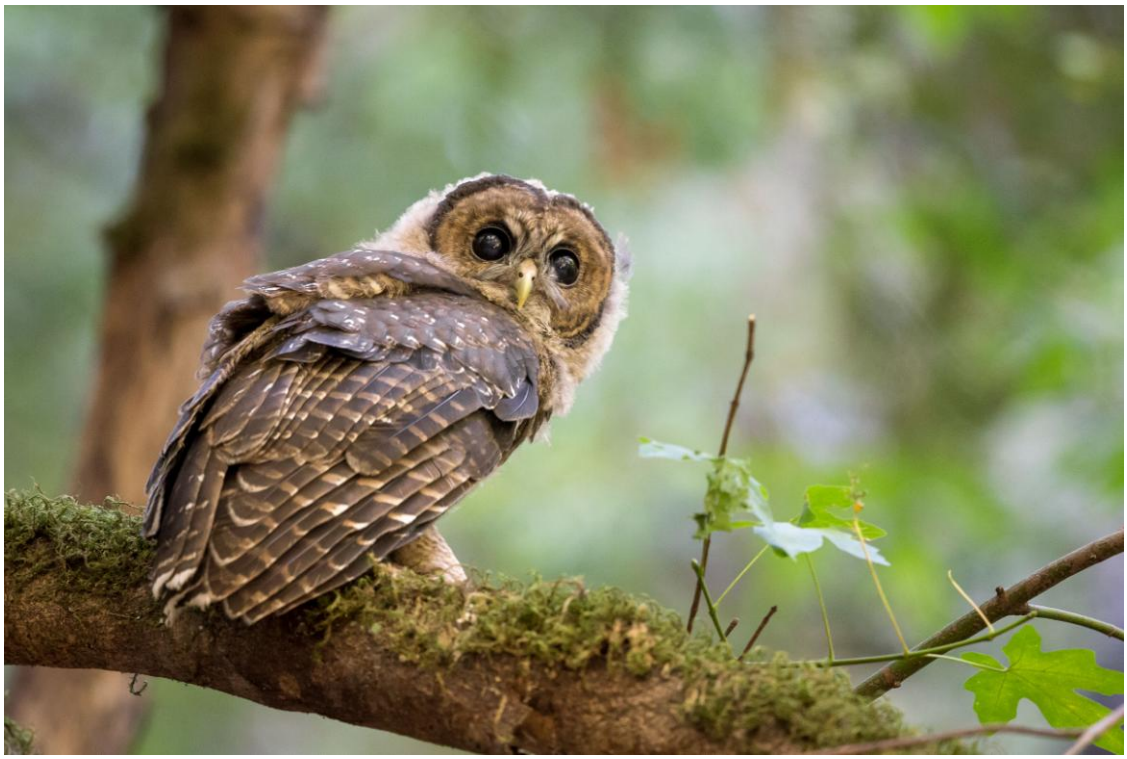
Creating this sustainable fund "is a very significant step for the state," says Mike Lynes, Audubon California's director of public policy. It allows officials to restore habitats damaged by illegal cultivation and ramp up monitoring in parks and protected wildlife areas. Amid the enthusiasm, however, there is caution: Bringing a decades-old industry out of the shadows will introduce new issues, including light pollution and monoculture. And with taxes running up to 45 percent, illicit farming is bound to continue.

"We're in this really challenging point right now between trying to deal with flat-out illegal sites and trying to make sure the new permitted ones are not impacting resources," says Scott Bauer, a senior environmental scientist with the California Department of Fish and Wildlife who is working closely with the current regulations. Covert growers often use rodenticides banned in the United States and pesticides well above the legal level, he says. So, a big part of the problem is cleaning up residual toxins on old farms to turn them back into livable landscapes.

In fact, the emaciated owl found in Humboldt County last year was hardly the state's first casualty of prohibited pot poisons. From 2006 to 2011, a string of dead Pacific fishers was documented in northwestern California and the Sierra Nevada. The furry, cat-sized carnivores, which have been trapped to near obscurity in the region, were tested by Mourad Gabriel, a University of California, Davis wildlife-disease scientist and executive director of Integral Ecology Research Center. He found that 46 of the 58 fishers (79 percent) had been exposed to brodifacoum and other potent rodenticides.

The more Gabriel searched the California backwoods, the more tainted carcasses he discovered: songbirds, grey foxes, coyotes, even bears. He determined that wherever pot production was prolific, poisons and pesticides were flooding the food web.

But for Gabriel, the most eye-opening deaths were the threatened Northern Spotted Owls. Seven of the corpses he fielded contained lethal levels of rodenticides. He also found toxins in 40 percent of the 84 Barred Owls he studied. What's worse, the "witch's brew of chemicals" doesn't just end with birds, Gabriel says; it will persist in the environment, long after illegal farms are stamped out.



The Northern Spotted Owl is a threatened species in both California and the U.S. But wildlife law hasn't protected it from the severe rodenticides used on illegal marijuana farms around Humboldt County. Photo: Sylvia Hunt/Audubon Photography Awards

In 2015, an estimated 13.2 million cannabis plants were harvested illegally in California. Humboldt County, part of the so-called Emerald Triangle, had 15,000 farms alone. With thousands of acres in bloom, the mega-productive triangle is the pot capital of California, the country, and maybe even the planet.

By April of 2018, four months after Proposition 64 went into effect, the state had issued just 3,207 temporary cultivation permits for 809 acres. At that rate, it will take multiple years for the legal market to catch up with unlawful sales (an annual average of $5.8 billion).

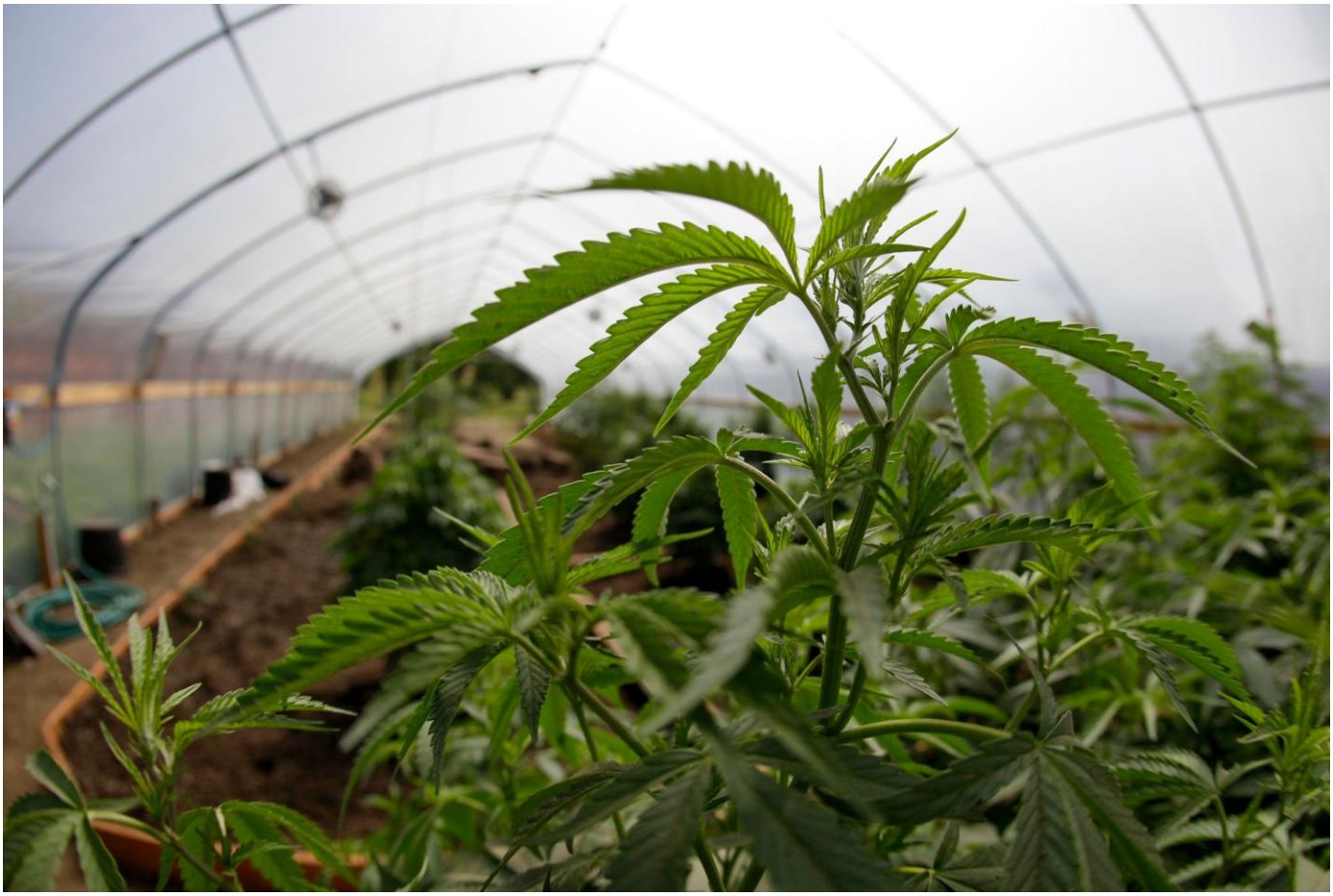
Transitioning from decades of illegal pot production is a long-term proposition by all accounts. California, which produces 70 percent of the nation's cannabis, has never had enough resources to fight off-the-books farms. Nor has it had a real funding stream to protect sensitive wildlife and habitats from the industry, Lynes from Audubon California says.That, however, is poised to change, thanks to the 20 percent of revenue going to the Environmental Restoration and Stewardship Account. The face value will depend on legal supply and demand, of course. But with overall capital expected to near $1 billion this year, there could be up to $150 million—after deductions for administration and compliance enforcement—in the account by the end of 2018, says Mark Fenstermaker, legislation director for Conservation Strategy Group, a natural resources consulting firm.

The Department of Fish and Wildlife and California parks are already banking on that money. They're gearing up by adding enforcement and permitting teams across the state, Bauer says. Along with continuing to investigate illegal grows, they now have the responsibility of tracking pesticide limits and water diversions on legal crops. And if that isn't stretching resources far enough, agencies and conservationists now have to grapple with a fresh complication—one that's easy to see but impossible to measure.

Driving down coastal Highway 101 on a recent night, Bauer was stunned by beams of light radiating from the tree-lined hills. They were coming from translucent greenhouses, each the size of a two-car garage, holding major stocks of legal marijuana. “One greenhouse is like a giant light bulb,” Bauer says. “You put 15 of those in a single area, and it looks like a stadium glowing in the forest.”

While bright lights are necessary for round-the-clock cultivation, they can lure passerines and other migrating birds off course. They may also affect the foraging behaviors of owls and bats, and expose nocturnal animals to predators. Whatever the impact, Bauer is sure that it "can't be good.” But he also thinks that studying the relationship between night lights and nightlife is a critical next step. “We don't want to find out five years from now that cannabis just ruined major flyways,” Bauer says.

Regulating the lights, noises, odors, and siting demands that come with legal farming is left to counties and cities. Many are still scrambling to decide if they even want to let the new industry in. A majority of California cities have banned all outdoor cannabis grows, at least for now. That, in turn, negates some of the positive effects of legalization.



A medically licensed greenhouse in Mendocino County, part of the Emerald Triangle. After decades of growing record amounts of illegal pot, Mendocino, Humboldt, and Trinity will be an interesting testing ground for Proposition 64. Photo: Eric Risberg/AP

In rural Plumas County, for example, a moratorium on commercial cultivation has forced clients to grow their own supplies. Individuals aren’t subject to the same mandates as businesses, which have to follow certain pesticide standards and keep buffers between streams and sites. As a result, local home-based growers are contributing to “a quiet, silent epidemic affecting water quality and increasing our carbon footprint,” says Chelsea Bunch, a cannabis lobbyist in Plumas. County supervisor Kevin Goss, who voted for the moratorium, says environmental codes will be enforced on every operation, but admits the ban may encourage illegal grows.

Elsewhere, including in Humboldt County, legalization is already evolving from small-scale cultivation to sweeping 100-plus-acre fields. The Central Valley, one of the most productive agricultural areas in the world, could soon see pot farms as big as 640 acres, says Graham Chisholm, a former Audubon California executive director who is now a senior policy advisor with Conservation Strategy Group. As the landscape pivots to marijuana monoculture, plant diversity might dip, along with insects and other food sources for endangered Tricolored Blackbirds, Yellow Warblers, and a range of species. “We don't know how birds will respond to that,” Chisholm says.

Fish are of concern, too. Under the new legislation, cannabis growers can apply for permits to build roads across streams or put in culverts. The Environmental Restoration and Stewardship Account should at least prevent the wholesale diversion of spawning streams, which has in the past plagued coho salmon. “We're just not going to let that happen,” Bauer says.

And while the environmental funds are designed to prevent future damage to any important wildlife area, state lands will be prioritized. That creates another concerning loophole for conservationists: Almost 80 percent of the illegal pot seized in California is grown in national forests.

Bauer says the account won’t begin funding conservation projects until next year. But a pilot program has already awarded $1.3 million in cleanup and restoration grants, with $1 million for Gabriel’s organization, Integral Ecology, to purge and refurbish inactive cannabis farms. The funding is valuable, but it's no silver bullet, Gabriel says. As long as it's a federal crime to sell and use pot, banks will refuse to give loans to farmers and distributors, forcing businesses into an all-cash economy and providing little incentive to come out of the shadows. Even with Proposition 64, the industry remains a pariah.

Still, for Northern Spotted Owls and Pacific fishers, the prospect of fewer illegal grow sites and more law enforcement signals a potentially poison-free future. Conservation officials say on-the-ground changes might require up to a decade to take effect, but Bauer, who spends his days monitoring cannabis operations in the field, is more optimistic. Within five years, he says, site restoration will be a regular practice, pesticide use will be reduced, and stream water will be properly regulated. “From a permitting perspective, it's already a night-and-day difference,” Bauer says. “Things are changing by the minute, and it's all bound to get better for the environment.”