Easter lilies. (Photo: Élishia Sharie)

TAKEPART #LONGFORM

Are Your Easter Lilies Poisoning This California Town?

Evidence mounts that the intense pesticide use required to cultivate the delicate bulbs is causing health problems for residents and harming populations of endangered species.

MAR 25, 2016 · 16 MIN READ · 30 COMMENTS

A former editor at *Spin* and *The Los Angeles Times*, Dean Kuipers is the author of *Operation Bite Back*, about the use of domestic terrorism charges against U.S. environmental activists.

Bio

Only a few months after moving to Smith River, California, in 2009, Cindy Cameron suffered a miscarriage. It was unexpected, as she and her husband, Tim, already had two children. Their Christian faith comforted them, but six months later she had a second miscarriage. Even then, they weren't overly concerned. Until they started noticing a funny smell.

The Camerons, who asked not to be identified by their real names for fear of being shunned by neighbors in the tiny town, population 866, live beside small fields where Easter lilies are cultivated under intense pesticide use. Growers on the slip of rain-drenched coast, where the Smith River meets the Pacific Ocean at the Oregon border, raise nearly all the 11 million Easter lily bulbs sold in North America annually, according to the Easter Lily Research Foundation, a trade association, and a majority of those sold worldwide. Road signs declare Smith River the "Easter Lily Capital of the World." It's a relatively small industry, just $7 million a year, but producing Lilium longiflorum, known for its bright white trumpet and heavy fragrance, requires the use of powerful chemicals–more per acre than anywhere else in California, the state with the nation's largest agricultural industry.

When the wind is right, the Camerons can smell what Tim calls a "garlicky" odor blowing across the neighborhood. The first time it happened, they

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jumped in the car and followed the odor to a tractor spraying in a nearby field. After witnessing this several times, they went to a government agricultural office in town and were told a pesticide, fungicide, or nematicide was being applied.

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The Camerons both soon developed severe allergies. When Cindy went to a doctor to get a prescription-strength remedy, Tim says, “the doctor mentioned to her, ‘Do you live out in Smith River, where all those lily fields are?’ ” After a talk with the doctor about pesticide exposure, the couple began to worry. They shared their concern with neighbors, who told the Camerons bluntly that the spraying didn’t bother them.

The Camerons are “not activists,” Tim says, and he doesn’t want to raise any fuss. They don’t necessarily attribute the miscarriages to the pesticides, but now his wife wants to move away from Smith River, and he’ll say only, “At this point, I am concerned,” particularly for their young children. Tim feels authorities are not doing enough. He went and talked to the farmer, who apologized. But the spraying continues.

“I don’t want to shut him down. That’s not my goal or desire,” says Tim. “I’d like to believe that the rules and guidelines are established and are safe. And I’m hoping that the companies that are supposed to be abiding by those rules and

regulations are abiding by those."

> I think it would be great if they did regulate this everywhere. [But] if the regulators are going to do something to protect just one river, then it needs to be the Smith.
>
> **STUART GROSS, ENVIRONMENTAL ATTORNEY**

Concern about pesticide use in Smith River's lily bulb industry has been building since the 1980s, when water testing first found that chemicals the growers used were badly contaminating residential wells and possibly affecting creeks that feed the last mile of Smith River, a part of the National Wild and Scenic Rivers System and recognized by biologists as one of the most pristine rivers in North America. For decades, local authorities have failed to act in the face of evidence scientists, advocates, doctors, and residents have brought to them that the concentrated pesticide use may be the source of health problems and may be affecting federally protected populations of fish, including the coho salmon and the tidewater goby, as well as other species in the river. Now, after several rounds of recent state water testing showed the continuing presence of toxins in the water, state officials are developing a permit to more closely scrutinize the lily growers, acknowledging the need to know whether or not the environmental problems and illnesses experienced by people like the Camerons are more than random.

Part of the National Wild and Scenic Rivers System, the Smith is considered one of the most pristine rivers in North America until its last mile, where it runs through lily fields. (Photo: Carl Page)

Top environmental litigators Sharon Duggan, who in one of the most contentious environmental battles in California history helped save the old-growth Headwaters Forest, and Stuart Gross, known for stopping construction of a highway that would have gone through a famous redwood grove, have prepared a draft of a notice of intent to sue numerous federal and state agencies for failing to pursue violations of the Clean Water Act and other laws. Greg King, executive director of the Siskiyou Land Conservancy, a nonprofit that has been tracking water quality on the Smith for the last 15 years, would like to avoid the expense and hassle of a lawsuit. But he realizes that what happens in Smith River could reverberate throughout California.

“I think it would be great if they did regulate this everywhere,” says Gross, adding that he hopes statewide reticence to rein in pesticide use won’t foul up the Smith. “If the regulators are going to do something to protect just one river, then it needs

to be the Smith. People [across California] have vested interests in maintaining the way that they do business. Do I think that there's lobbying to maintain the status quo, and those lobbyists are focusing on efforts that could disrupt this status quo? Absolutely. Why wouldn't they?"

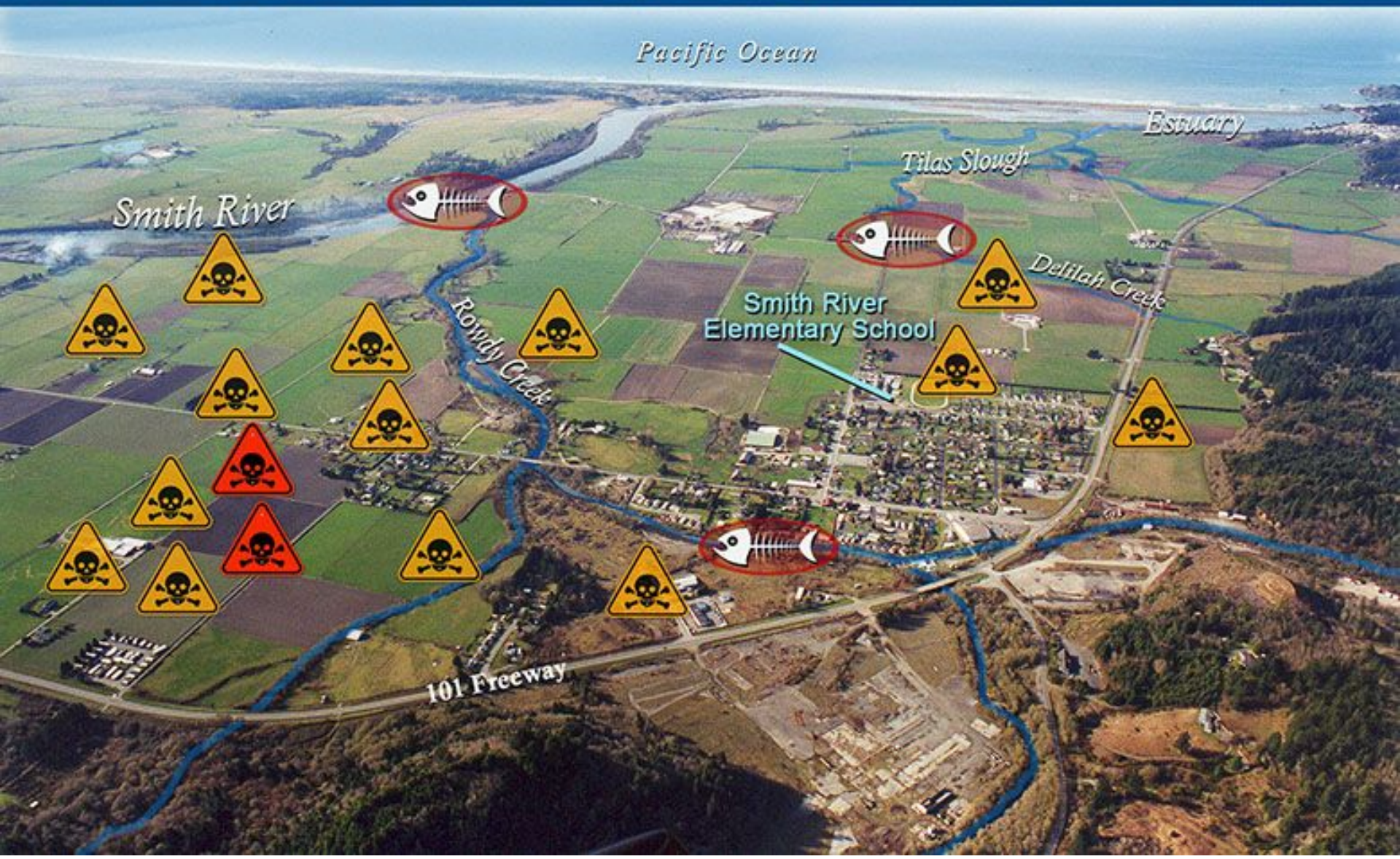
Foreground to background: Lily fields, Tilas Slough, the Smith River estuary, the Pacific Ocean. (Photo: Mary Grace McKernan)

The origins of the lily bulb industry in Smith River can be traced to World War II, when imports from Japan ended. The cool, rainy climate—average temperatures peak at 62 degrees Fahrenheit in August, and the area sees nearly twice as much precipitation as Seattle—is ideal for cultivating the bulbs, which are shipped to hothouses around the country that grow them into gorgeous, fragrant flowers just in time for Easter. But the bulbs spend three years in the ground under severe disease and pest pressure.

According to California Department of Pesticide Regulation records, Smith River's lily bulb growers today apply roughly 300,000 pounds of pesticides per year. That's minuscule in a state that uses more than 194 million pounds of

pesticides annually, but the lily farmers are a special case: Collectively, the farmers in Smith River apply their chemicals on an area of only about 350 acres annually, using each field for one year out of every four, rotating it to grass the other three. According to a 2002 study from the Center for Ethics and Toxics, this small acreage makes the growers' per-acre application the heaviest in the state. The farmers acknowledge this high-intensity use continues today.

Available pesticides are constantly changing, but in recent seasons about two-thirds of the total annual lily farm pesticide use has been made up of the chemicals 1,3-Dichloropropene and metam sodium. A company called TriCal applies the 1,3-D for all of the growers, representatives of two of them said, by knifing it into the soil; the farmers follow, adding the metam sodium. The brew volatilizes into a gas and rises to kill bugs and bacteria. Both 1,3-D and metam sodium are known carcinogens and respiratory and eye irritants, according to DPR, and an area hospital survey found that Smith River has the highest rate of chronic lower respiratory disease in the county. The DPR website notes that 1,3-D was banned in California in 1990 because of health risks to workers but reintroduced in 1995 under "limited use" agreements. Since then, DPR has expanded these agreements "to accommodate high demand," according to a 2012 DPR report. Metam sodium breaks down to a substance, known as MITC, that has been shown to cause respiratory, eye, and skin irritation in humans and carcinogenic and developmental effects in animals, and also to methyl isocyanate, the chemical released in the Union Carbide disaster in Bhopal, India, in 1984 that killed more than 3,000 people and injured half a million. A metam sodium spill in the Sacramento River in 1991 killed an estimated 200,000 fish and struck almost 300 people with dizziness and respiratory and eye ailments.



*Water samples taken from near the locations of the **fish icons** on this map showed "chronic reproductive toxicity" and "acute survival toxicity" for a species of zooplankton that coho salmon rely on to survive. The National Marine Fisheries Service considers coho to be at "high risk of extinction" on the Smith River.*
*The **yellow triangle icons** indicate locations of residential wells that exceeded the Environmental Protection Agency's permissible level of a pesticide that has since been banned.*
*The **red triangle icons** indicate wells with 10 times or more the EPA's permissible level of that pesticide. Children are believed especially susceptible to the effects of exposure to pesticides. (Photo: Carl Page; photo-illustration: Marc Fusco)*

Residents first pushed the local water authority, the North Coast Regional Water Quality Control Board, to test residential wells in the 1980s. It found farm chemicals in the water; one well was stewing in 160 parts per billion of 1,2-Dichloropropane, then used as a soil fumigant on lily bulbs. (A suspected carcinogen known to cause respiratory and organ damage, anemia, coma, and death in humans, it was phased out and replaced by 1,3-D.) This was 32 times the Environmental Protection Agency's "maximum contamination level" for drinking water, which was supposed to trigger "immediate remediation," and 320 times the California Office of Environmental Health Hazard Assessment's "public

health goal" for the chemical. The board also found unsafe levels of aldicarb, another soil fumigant that was later banned.

No regulatory action was taken. Instead, most residents got on public water via the Smith River Community Services District, which draws its water uphill of any lily field effluent. On the southern end of the Smith River Plain, though, some folks are still using residential wells.

In 2001, King was working on land preservation efforts upriver in the Siskiyou Mountains when residents urged him to look into the pesticide issue. On a trip into town one day, he saw a tractor spraying what he later found to be chlorothalonil, a known carcinogen, and copper hydroxide less than 100 feet from the town's elementary school. In a stiff spring wind, the spray was blowing through the schoolyard. He took a photo (below).

"It was one of those seminal moments when deciding to not do something was to stand by and watch an assault," King says, growing quiet. "Those children were being assaulted by those chemicals."

He hired a company to test the wells, and it found about a dozen with concentrations of 1,2-D that exceeded safety limits, as well as aldicarb and other chemicals. The board came back and confirmed these findings with its own testing. Again no regulatory action was taken.

Greg King of the Siskiyou Land Conservancy. (Photo: Mary Grace McKernan)

King's group, then called the Smith River Project, hired a mobile water-testing lab to come to Smith River and took out a big ad in the local paper offering free well testing. To gather popular support for official action, King, along with representatives from the Environmental Protection Information Center, the Northcoast Environmental Center, the Center for Biological Diversity, Friends of Del Norte, and other organizations invited residents to meet at the town's boat ramp one June day in 2002. About 150 people showed up, including lily bulb farmers and Chuck Blackburn, then a county supervisor, to talk things over. Blackburn discouraged residents from testing their water and then made a show of drinking out of the river.

"So, that told us a lot," says King. "This is a picture of the attempt to control not only the resources but the narrative, here."

Smith River is a small town and not a rich one. Its branch of Rays Food Place closed recently, and some of the houses downtown are boarded up. People in this unincorporated corner of Del Norte County want to be left alone, and they don't want to see the local economy get any worse. Many have been reluctant to express wariness about the pesticide use for fear of putting their neighbors out of

business. But illness can change a person. King has been keeping files for years on people who have come to his organization saying they are sick, have medical bills, and need help. (TakePart tried contacting some of them, but none would speak on the record.)

In 2014, King was contacted by a woman who had developed cancer and had lost three pets to cancer since moving to a house beside a lily field in 2004. King had to tell her that the testing done back in the '80s had shown her well was contaminated with 46 parts per billion of 1,2-D—nine times the EPA limit—and other chemicals. The woman, who asked to remain anonymous because of the sensitivities regarding the lily industry in Smith River, wrote in an email to me that a water board contractor inspected the well later in 2014 and deemed it safe, but given her illness and those of her pets she wonders whether the water tests were comprehensive and whether the illnesses might have been caused by contact with the pesticides through the air.

> We know the public has questions. People come in and talk to me. A guy came in here asking questions about the school, and I walked right across the street and asked the principal if there were any health complaints, and there weren't.
>
> **LINDA CROCKETT, UNITED LILY GROWERS**

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In 2010, prompted by federal concerns for the coho salmon, the board tested the water in creeks that run through the lily fields and into the Smith River estuary. Most of the big coho and steelhead blast through the estuary and go upstream to spawn, but juvenile coho—the species is listed under the Endangered Species Act as threatened on the Oregon coast and endangered in Central California, and considered by the National Marine Fisheries Service at "high risk of extinction" in the Smith—linger there for more than a year. Over 130 species rely on Pacific salmon for part of their diet, but in recent years, coho returning to Mill Creek,

Smith River's principal spawning creek, have numbered as low as 18. The 2010 water tests found copper, which damages the coho's ability to find its spawning stream and has other deleterious effects, to be at 28 times the state's legal limit in Delilah Creek. Copper has been used as a fungicide on the lily fields for decades; Smith River growers sprayed 27,953 pounds of copper hydroxide and 2,544 pounds of copper sulfate the year of the testing, and more than 46,000 pounds of the two substances in 2013. Lily growing is singled out in the National Oceanic and Atmospheric Administration's 2014 coho recovery plan for the Southern Oregon–Northern California Coast—despite complaints from the farmers and local officials—as having an impact on coho habitat in the lower river, and copper sprayed in agricultural applications is known to be a respiratory, skin, and eye irritant in humans.

Biologist Carl Page. (Photo: Mary Grace McKernan)

Carl Page, a biologist specializing in the threatened tidewater goby, lives right on the estuary near Tilas Slough, an off-stream channel of the Smith up against the lily fields that is home to the northernmost population of the tiny goby. Page notes that water board tests in 2010 and 2013 found "chronic reproductive toxicity" and "acute survival toxicity" regarding zooplankton in the feeder creeks.

These standard tests expose Ceriodaphnia dubia, a species of zooplankton, to the water. They could not reproduce in three tested samples, and in water taken from the mouth of Rowdy Creek, they simply died. Both juvenile coho and gobies eat primarily zooplankton.

“Impacting their food source might be impairing recovery of the species, which would then be against the Endangered Species Act and a violation of federal law,” Page says.

No one is saying for sure that copper or other poisons are running off the fields, but biologist Dan Free with the National Marine Fisheries Service, who has worked on the Smith for 18 years, says, “It’s obviously a yellow to red flag for us.”

A pesticide or fungicide is sprayed on lily fields adjacent to Smith River Elementary School (seen in the background). (Photo: Greg King/Siskiyou Land Conservancy)

“We are being unnecessarily targeted,” says farmer Zeke Harms. It’s a cool, sunny day in March, and he is in his pickup, out among the neat rows of Easter lily plants stretching across his patchwork of fields, showing off his efforts to contain pesticide runoff. He points out the grass pasture he places between lily fields and waterways and tells how he’s growing barley in the furrows between crops as an experiment to control pesticide movement.

As the manager of Hastings Bulb Growers, Harms is proud of the crop but feels he's under siege. He knows the industry's heavy chemical use is an anomaly in an area known otherwise for organic dairies and California's cleanest and least-dammed river.

"We've actually been exploring some organic crops the last five years or so," says Harms, driving by one of his fields that is in transition to certified organic. He doesn't want to reveal what the crop is because of competition from other organic growers in the valley, but it's not lilies. Lee Riddle, who runs the Easter Lily Research Foundation, has been trying for about 40 years to grow an organic lily bulb and has decided it's impossible. He compares it to putting a piece of wet bread in the ground for three years; bugs and fungus are just going to eat that up.

Harms is a conscientious family man, and he and other lily farmers in Smith River say they are willing to do whatever it takes to make their industry safe. "We're already being regulated by the California Department of Pesticide Regulation," he says. "There are multiple agencies that regulate what we do, when we do it, and how we do it. And if they would focus on interagency communication instead of new agencies creating new protocols for us to follow, it would save us time and paperwork and allow us to spend more time with our hands in the dirt."

> The sampling has been kind of hit-and-miss. There are some gaps, I think, in our knowledge.
>
> **DAN FREE, BIOLOGIST, NATIONAL MARINE FISHERIES SERVICE**

King has empathy for farmers but not a lot of patience with that logic. Even if the pesticide is being used legally, he says, "if, in fact, those pesticides are infiltrating waterways, then that is a violation [of the Clean Water Act]. And there needs to be enforcement. And that's what we're not seeing from any state or federal agency, is any enforcement of the Clean Water Act."

Bulb growers like Harms insist they follow all the regulations for their business, and there's no evidence to the contrary. They feel the responsibility of their stewardship of the land. But it seems their chemicals are still getting into the waterways, as no one has credibly suggested another source. In 2013 and 2015, responding to suspicions that lily growing might be involved, the board tested Tilas Slough and three creeks coming off the bulb fields; it found traces of 11 pesticides, including ones banned decades ago that apparently are persisting in the soil, streambeds, and water.

"We live here," says Rob Miller of Dahlstrom and Watt Bulb Farm. He and Linda Crockett of United Lily Growers met me at the Del Norte Resource Conservation District's local office, where Crockett is the manager, in March. Miller says he doesn't want to raise his kids with bad water or put anyone at risk. Both contend, like Harms, that they follow all the rules.

"We know the public has questions," says Crockett. "People come in and talk to me. The farmers work together to decide what days are safe to spray. A guy came in here asking questions about the school, and I walked right across the street and asked the principal if there were any health complaints, and there weren't. I will follow up on any issue."

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"I have an anemometer [a wind speed meter] in my truck," says Miller. "We all do. You can spray in a wind. It's on the label. The Siskiyou Land Conservancy and the other environmental groups want to scare people."

King's dogged campaign for water quality enforcement has made him persona non grata among the lily bulb farmers: Some of them say they don't talk to him anymore. Dr. Ken Miller, a Bay Area physician on the board of the Siskiyou Land Conservancy, took a list of the health complaints King had amassed and stood up at a Del Norte Board of Supervisors meeting in May 2015 to cite some of them, suggesting the county Department of Health and Human Services survey the population for possible health effects of the chemicals used on the lily fields. A 2013 survey by Sutter Coast Hospital in Crescent City found "the highest rates of mortality due to heart disease, stroke, and chronic lower respiratory disease" in the county in the Smith River zip code. YouTube video of the meeting shows Sup. Roger Gitlin chastising Miller, saying he had "done a disservice" to the people of Smith River by bringing the information to the meeting. Gitlin was roundly booed.

After the county didn't act, Siskiyou Land Conservancy in February sent out a health survey to every address in the Smith River zip code. Designed by experts, it would collect data on health problems linked to pesticide use to see if they were occurring in the region at an unusually high rate. King reports that the response rate so far has been robust.

A UCLA study released in February, *Exposure and Interaction: The Potential Health Impacts of Using Multiple Pesticides*, reported that using 1,3-D and metam sodium in combination may pose a higher risk of cancer than is attributed to each individually. The cocktail is widely used on crops such as strawberries, tomatoes, cotton, and nut trees; 1,3-D and metam sodium are the No. 1 and No. 3 most used pesticides in the state. The authors' theory is that these fumigants deplete the amount of an enzyme cofactor called glutathione in the body, and when absorbed together they can overwhelm its ability to detoxify tissue, leaving it open to mutations that lead to cancer. Virginia Zaunbrecher, who wrote the report for UCLA's Sustainable Technology & Policy Program, a joint venture of the UCLA School of Law and the UCLA Fielding School of Public Health, points out that children are at a much higher risk of this interaction, and mapping for the report showed that the fumigants are widely used in proximity to schools, and not only in Smith River.

"If the fumigants are interacting—and we think they could—then the impact of that would be greater than the sum of the parts," says Zaunbrecher. Some percentage of these materials persists in the soil and may be getting into the water. The water board's 2015 report did not include testing for metam sodium, 1,3-D, or MITC—the most-used products on the lily fields—but board biologist Rich Fadness says that a 2016 report will include testing for those chemicals.

Free questions whether the water samples the board has been testing were taken at the right times. At least some of the samples need to catch runoff from rain events directly after pesticide application to be accurate, he says, and although the board maintains that four of its samples were taken following big storms, it's not clear whether application occurred immediately prior. Why, he also wonders, only six sampling events in three years?

"The sampling has been kind of hit-and-miss in terms of whether they're actually out there getting samples at appropriate times," he says. "There are some gaps, I think, in our knowledge."

Left: A sign warns against entering a field where the fumigant 1,3-Dichloropropene, a known carcinogen, has just been applied. Right: This ditch running through lily fields could carry runoff from the fields to the Smith River estuary, where juvenile coho salmon live. The National Marine Fisheries Service lists the coho as being at "high risk of extinction" in the Smith. (Photos: Greg King/Siskiyou Land Conservancy)

After three decades of wrangling over pesticide use on the Smith River Plain, some change is in the air. The water board's permit process, and a flurry of meetings and official comment that followed the 2014 release of the federal coho

recovery plan, are sources of optimism for residents like the Camerons, who emphasize that they hope authorities will do the right thing, and activists like King and Miller.

"We did [the 2013 and 2015 testing] to inform us as to the water quality up in the Smith River Plain and to inform the requirements of a permit that we're in the process of developing right now," says Regional Water Board Unit Sup. Rebecca Fitzgerald. "That is a permit on the discharges of waste from activities associated with the cultivation of Easter lily bulbs." She says it will probably go into effect in 2018.

Harms thinks some reforms might be coming, though he doesn't know what those will be. He says he's "tired of being a politician." The permit will include best management practices that, he says, he's already following. Beyond that, farmers don't know what the requirements will be. At one time, the lily growers' trade association included more than 900 members; today the technical challenges of this crop have shrunk the industry to just four family-run companies.

Page, the biologist who lives near Tilas Slough, worries that the recent tests and new permit won't be enough to address impacts on the Smith River. Despite his skepticism, he is placing his hope in the permit process just like everyone else, praying it has teeth. It's the only game in town. The California Department of Fish and Wildlife, the National Marine Fisheries Service, and even King's Siskiyou Land Conservancy are endorsing the permit, submitting comments with the hope that it will lead to regulation and enforcement. King has been around the issue long enough, however, to be cynical. "The logic and the science are there, but the political will is missing," he says. If the permits don't stop the pesticides from getting in the water, he will be ready to litigate.

Correction: March 27, 2016

Because of a transcription error, a previously published version of this article stated that the total amount of pesticides applied in California is 1.85 million pounds annually.

Correction: April 13, 2016
A previously published version of this article stated that the woman with cancer contacted King in 2010 and did not include the woman's account of the test on her well.

UPDATED Oct. 28, 2016 1:02 p.m. PDT—On Wednesday the Siskiyou Land Conservancy released its *Smith River Community Health Assessment*, which details the results of a health survey sent in February to all residents of the small coastal town on the California-Oregon border. The 157 surveys that were returned (of 1,130 sent) reported that "incidents of skin rashes, eye problems, chronic coughs, digestive problems, neurological disorders, heart disease, headaches, cancer and other ailments increased after people moved to the town." These ailments were self-reported by respondents, most of whom live in proximity to lily fields and many of whom reported drinking well water drawn from near those fields. Melody Cannon-Cutts, public health program manager at the Del Norte County Department of Health and Human Services, said her office had not received a copy of the report, adding, "Our agency has the best interest of all residents in Del Norte at heart and works towards that goal."

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Rare tortoises, squirrels, and prairie dogs will benefit from the decision to regulate the use of eight poisons used to kill burrowing animals.

Utah prairie dog. (Photo: Kevin Doxstater)

DEC 13, 2016 · 2 MIN READ · COMMENTS

John R. Platt covers the environment, wildlife, and technology and for TakePart, *Scientific American*, *Audubon*, and other publications.

Bio

Dig this: The use of eight particularly nasty pesticides designed to kill burrowing animals on farms will be restricted starting next year, the United States Environmental Protection Agency has announced.

The move last week, originally requested by wildlife organizations, will protect four endangered species—the gopher tortoise, the Hualapai Mexican vole, the Mount Graham red squirrel, and the Utah prairie dog—whose ranges overlap with the use of the pesticides.

The pesticides contain sodium and potassium nitrate, carbon and carbon dioxide, and sulfur and come in the form of gas cartridges that are thrown into animal burrows. Farmers, rangers, and the federal government often use them to control coyotes, red foxes, skunks, and similar unwanted critters. That puts any other animals that might be using or living near those burrows at risk.

"It's often hard to tell what animal resides in a burrow or tunnel, so throwing a gas canister in the ground is often a crapshoot," said Nathan Donley, a senior scientist with the Center for Biological Diversity, one of the organizations that submitted data leading to the EPA decision. "Together with Defenders of Wildlife, we identified species that were most at risk from these gas cartridges, including the four that were protected with this action," Donley said.

It's hard, if not impossible, to say how many pest animals or endangered species are killed or injured by these gas bombs, because the way they are used also tends to destroy the evidence of their effectiveness. "Since the tunnel is covered before the cartridge is thrown in, death or harm will occur underground, and there would be no access to the carcass," Donley said, adding that animals dosed with these compounds can asphyxiate or suffer permanent damage to their internal organs.

One of the biggest users of these now-restricted pesticides is a little-known program of the U.S. Department of Agriculture called Wildlife Services, which kills millions of animals a year to protect farming and ranching interests. Environmentalist groups have often called Wildlife Services a "rogue agency" because of its secretiveness and lack of public oversight.

The new restrictions do not become enforceable until June 2017, well into the incoming Trump administration, which has already made clear its plans to limit the EPA's effectiveness. That may not affect these new rules, Donley said. "It appears that this is a final action. The EPA has made the changes to the pesticide labels, so that can't be rolled back."

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The incoming administration could choose not to enforce those labeling changes, which identify the parts of the country where the pesticides cannot be used, but Donley said he doesn't think that would be likely. For one thing, he notes, "most of these cartridges are used by Wildlife Services, a government agency. I can't imagine they would knowingly violate federal law by not adhering to the pesticide label." If they do, he said, that information would be available through the Freedom of Information Act.

More important, he said, "these restrictions are extremely limited. This action only restricts the use of these products in very small areas of Arizona, Utah, and Florida. Their use is unrestricted everywhere else in the country, and Wildlife Services will still have plenty of other animals to suffocate if that's what they so choose."

He added that this is not a broad antipesticide move by the EPA. “These new restrictions are very commonsense and very targeted,” he said. “This is not about getting rid of pesticides; it’s about not using pesticides where there are endangered species that could be harmed.”

That said, Donley hopes this is just the first of many actions the EPA could take to restrict other dangerous pesticides if they have the potential to hurt endangered species. “We hope to see this become commonplace as the EPA begins to comply with the Endangered Species Act,” he said.

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