Certified Mail, Return Receipt Requested

June 21, 2021

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Re: Illegal Cannabis Operations on Federal Land in Northern California

Dear Chief Forester Christiansen and Regional Forester Moore,

On behalf of the Environmental Protection Information Center, Californians for Alternatives to Toxics, Klamath-Siskiyou Wildlands Center, Klamath Forest Alliance, Northcoast Environmental Center, and Safe Alternatives for our Forest Environment (collectively "EPIC"), this letter provides notice of our intention to file a citizen suit against your agency for significant and ongoing violations of the Resource Conservation and Recovery Act ("RCRA"). Trespass cannabis farms ("trespass grow(s)") are widespread across Forest Service lands. Trespass grows pose significant environmental and public health risks across the country, but we are specifically concerned about activity in California. The Forest Service's handling of these trespass grow sites, including the solid waste discarded and left at grow sites, present an imminent and substantial endangerment to human health and the environment.

As detailed in this letter, solid waste discarded and left at former trespass grow sites on Forest Service land contaminates sources of drinking water, poisons wildlife, and poses serious a risk to those seeking to make lawful recreational and commercial use of public lands. The Forest Service assumes RCRA liability because it is steward of the property, has shut down the marijuana growing operations at the grow sites, thus rendering the pesticides and other hazardous chemicals at those sites solid waste within the meaning of RCRA. The Forest Service has failed to remediate properly the waste chemicals at the trespass growing operations at the trespass grows the Forest Service has participated in closing. In doing so, the Forest Service has

contributed[1] to the handling,[2] storage,[3] and disposal[4] of hazardous waste and other solid waste at these sites. Among other harms suffered, the Forest Service's failure to remove or render harmless the chemical waste discarded at former grow sites on Forest Service land increases the risk of injury to the health of our organizations and members of our organizations. Additionally, the Forest Service injures the recreational and aesthetic enjoyment that members of our organizations derive from their use of the land and rivers that are polluted by the solid waste discarded and left on Forest Service land. Unless trespass grows are adequately curtailed and remediated, the illegal activity subjects the Forest Service to liability under the imminent and substantial harm provisions of RCRA, 42 U.S.C. § 6972(a)(1)(B).

To be clear, EPIC alleges that the Forest Service has engaged in a pattern and practice of handling, storing and/or disposing of solid waste at former grow sites on Forest Service land that may pose an imminent and substantial endangerment to human health and the environment. Through news media reports, Freedom of Information Act requests to the agency and other federal agencies, and Public Records Act requests to state agencies, EPIC has identified a number of grow sites that present an imminent threat to human health and the environment. To retain the confidential location of these sites, EPIC will only be referring to the "code name" for each grow site, as used by the Forest Service, as well as the National Forest where the grow site is located.

Grow Site Name	National Forest
Jones Ridge	Six Rivers National Forest
Oak Knoll Complex	Six Rivers National Forest
Gainor Complex	Six Rivers National Forest
5 Mile	Six Rivers National Forest
Deer Lick Spring	Shasta-Trinity National Forest
Dubakella	Shasta-Trinity National Forest
Fourth Water	Plumas National Forest
Blackhawk	Plumas National Forest
Bonta	Plumas National Forest
Buckeye	Plumas National Forest
China Gulch	Plumas National Forest
Clear Creek	Plumas National Forest
Rattlesnake	Plumas National Forest
Palmetto	Plumas National Forest

[1] *See United States v. Aceto Agr. Chemicals Corp.*, 872 F.2d 1373, 1384 (8th Cir. 1989) (applying the dictionary definition, "contributing" under RCRA means "to have a share in any act or effect.").

[2] *see United States v. Union Corp.*, 259 F. Supp. 2d 356, 401 (E.D. Pa. 2003) (handling "should therefore be given the ordinary dictionary meaning of 'to manage, operate…to…control, direct.")

[3] "The term 'storage'... means the containment of hazardous waste, either on a temporary basis or for a period of years." 42 U.S.C. § 6903(33).

[4] "The term 'disposal' means the discharge, deposit, injection, *dumping, spilling, leaking, or placing* of any … hazardous waste into or on any land or water so that such… hazardous waste… may enter the environment or...discharged into any waters, including ground waters." 42 U.S.C. § 6903(3) (emphasis added).

Each of these sites contains waste that poses a serious risk to human health and the environment. The wastes present on each these sites includes, among other things, carbofuran, carbaryl, malathon, and other pesticides. The Forest Service is in possession of the location of these grows and the code name should provide sufficient information required by law for the purposes of this notice letter.

This list of former grow sites is incomplete. One estimate suggests that between 2004 and 2018, there were at least 2,039 trespass grow sites within the range of the Pacific fisher.[5] Another estimate found that there were approximately 1,500 grow sites on National Forest land.[6] Of these, only 83 were "cleaned."[7] It is the practice of the Forest Service to leave former grow sites contaminated with hazardous and solid waste that has been discarded at the grow sites, and this practice of leaving former grow sites in this condition may present an imminent and substantial endangerment to human health and the environment.

In accordance with 42 U.S.C. § 6972(b)(2)(A), this letter serves to notify the Forest Service that unless the Forest Service removes or otherwise renders harmless the solid and hazardous waste discarded and left at trespass grow sites, EPIC will file suit in federal district court at any time beginning ninety (90) days after this letter has been received. In accord with 49 U.S.C. § 6972(e), EPIC will also seek reimbursement for its reasonable attorney and expert fees in addition to other costs that may be obtained by prevailing plaintiffs. Therefore, EPIC intends to bring suit to enjoin waste handling, storage and disposal activities that present an imminent and substantial endangerment to health or the environment, to abate such endangerment by requiring the Forest Service to take at least the steps outlined below. To abate the present endangerment, at minimum, the Forest Service must:

1) Immediately plan for the full remediation of trespass grows within California, including the removal and safe disposal of solid and hazardous waste that may present an imminent and substantial endangerment to human health and the environment; and
2) Design and implement a system that will result in the safe removal and disposal of solid and/or hazardous waste from former grow sites in a timely manner.

The Forest Service has been in violation of 42 U.S.C. § 6972(a)(1)(B) from the time it became aware that toxicants associated with marijuana cultivation were present on National Forest property until the present. These RCRA violations will continue each day into the future until the Forest Service removes the toxicants or in some other way renders them harmless.

Toxicant Use at Trespass Cannabis Cultivation Sites is Widespread and Dangerous

[5] Letter from Mourad W. Gabriel & Greta M. Wengert, Integral Ecology Research Center, to U.S. Fish and Wildlife Service (March 4, 2019) (hereinafter "Gabriel and Wengert 2019") (on file with author).

[6] https://youtu.be/LnSRYBKskvE?t=3763 (Note, however, that this number does not include trespass grows on BLM or other federal ownership).

[7] https://youtu.be/LnSRYBKskvE?t=3763

Trespass growers utilize a variety of toxicants to protect their crop. Around 50 different toxicants have been found at trespass grow sites.[8] Based on EPIC's review of publicly available documents, the following toxicants have been found at grow sites or were found in necropsies of wildlife thought to be poisoned by grow sites: carbofuran,[9] cholecalciferol,[10] bromethalin,[11] bromadiolone,[12] brodifacoum,[13] difethialone,[14] difenacoum,[15] warfarin,[16] diphacinone,[17] zinc phosphide,[18] strychnine,[19] methomyl,[20] diazinon,[21] diphacinone,[22] chlorophacinone,[23] carbaryl,[24] beta-cyfluthrin,[25] malathion,[26] gamma-cyhalothrin,[27] aluminum phosphide,[28] permethrin,[29] diphenthrin,[30] metaldehyde,[31] lambda-cyhalothrin,[32] glyphosate,[33] coumachlor, [34]

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[8] Julian Smith and Biographic, Illegal Pot Farms Are Poisoning California's Forests, THE ATLANTIC (Mar. 31, 2017), https://www.theatlantic.com/science/archive/2017/03/backcountry-drug-war/521352/.

[9] Thompson, Craig M., Mourad W. Gabriel, and Kathryn L. Purcell, *An ever-changing ecological battlefield: marijuana cultivation and toxicant use in western forests*, THE WILDLIFE PROFESSIONAL. 11 (3): 42-46 11.3 (2017): 42-46 (hereinafter "Thompson et al. 2017").

[10] Gabriel and Wengert 2019.

[11] *Id*.

[12] Gabriel, M. W., L. V. Diller, J. P. Dumbacher, G. M. Wengert, J. M. Higley, R. H. Poppenga, and S. Mendia. 2018. Exposure to rodenticides in Northern Spotted and Barred Owls on remote forest lands in northwestern California: evidence of food web contamination. *Avian Conservation and Ecology* 13(1):2 (hereafter "Gabriel et al. 2018").

[13] *Id*.

[14] *Id*.

[15] *Id*.

[16] Thompson et al. 2017

[17] *Id*.

[18] Thompson et al. 2017

[19]Ryan Burns, *Weed Killers*, NORTH COAST JOURNAL (Nov. 14, 2013), https://www.northcoastjournal.com/humboldt/weed-killers/Content?oid=2421553.

[20] *Id*.

[21] Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[22] Gabriel et al. 2018.

[23] *Id*.

[24] Integral Ecology Research Center, *Six-Rivers National Forest: Hyampom Grow Site Report* (2013), http://www.iercecology.org/wp-content/uploads/2017/05/2_Six-Rivers_Nov2013.pdf.

[25] *Id*.

[26] *Id*.

[27] *Id*.

[28] Integral Ecology Research Center, *Shasta-Trinity National Forest: Dubakella Complex Report* (2016), http://www.iercecology.org/wp-content/uploads/2017/05/8_IERC_Dubakella-National-Forest.pdf.

[29] Integral Ecology Research Center, Hoopa Tribal Lands: Miller Creek (5 Sites) Report (2013), http://www.iercecology.org/wp-content/uploads/2017/05/1_IERC_Hoopa-Nov-2013.pdf.

[30] *Id*.

[31] *Id*.

[32] *Id*.

[33] Stella McMillin, California Department of Fish and Wildlife, *Environmental Problems from Marijuana Cultivation on Public Lands* (Powerpoint Presentation), http://cemariposa.ucanr.edu/files/226121.pdf.

[34] California District Attorney Association, Environmental Crimes Associated

methamidophos,[35] aldicarb,[36] resmethrin,[37] triforine,[38] acephatel,[39] and methyl parathion.[40] Of these, seven are listed hazardous wastes:[41] carbofuran, warfarin, zinc phosphide, strychnine, methomyl, carbaryl, and aluminum phosphide. Other chemicals may be characteristic hazardous wastes.[42] Even if not hazardous waste as defined by RCRA, because these chemicals have been discarded and have no practical purpose or use, all are "solid wastes" within the meaning of RCRA. Together, EPIC will refer to these hazardous and solid wastes as "toxicants" unless otherwise stated. These toxicants are present in staggering numbers. One estimate from 2017 found that California National Forests contain approximately "200,000 ounces of toxic pesticides."[43] In statistics maintained by the California Department of Fish and Wildlife, the agency found 42 "[c]ommon pesticide[]" containers and 5 "Hazmat" containers in 2013 and 51 common pesticide containers and 11 Hazmat containers in 2012.[44]

Concerns about the threats these toxicants pose to human health and the environment are far from abstract. Rather, the toxicity of these chemicals and examples of the fate and transport of these chemicals demonstrate the potential ongoing and future harm. First to the risk to human health, people have already been injured from exposure to toxicants.[45] Chemicals used are often highly toxic to humans.[46] Take, for example, carbofuran.

Carbofuran is one of the chemicals most frequently discovered by the Forest Service on grow sites.[47] Carbofuran, a neurotoxic insecticide, is so hazardous that it can kill an adult human with "just a drop,"[48]—1/16th of a teaspoon[49]—and is "one of the most toxic carbamate pesticides ever

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with the Cultivation of Cannabis (Apr. 2016), https://www.mendocinocounty.org/home/showdocument?id=924.

[35] *Id*.

[36] *Id*.

[37] *Id*.

[38] *Id*.

[39] *Id*.

[40] *Id*.

[41] 40 C.F.R. § 261.33

[42] 40 C.F.R. §§ 261.20–.24

[43] Sharon Berstein, *Banned pesticides from illegal pot farms seep into California water,* REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[44] California Department of Fish & Wildlife, "2013 CDFW MJ STAT SHEET.xls" (obtained via Public Act Request to CDFW and on file with EPIC).

[45] OIG Report 2018 at 6; *see also* Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[46] U.S. Dep't of Ag. Office of the Inspector General, *Drug Enforcement on National Forest System Lands*, Audit Report 08003-0001-22 (Mar. 2018), https://www.usda.gov/oig/webdocs/08003-0001-22.pdf (hereafter OIG Report 2018).

[47] Julian Smith, *Illegal Pot Farms Are Poisoning California's Forests*, THE ATLANTIC, https://www.theatlantic.com/science/archive/2017/03/backcountry-drug-war/521352/ (last visited Dec 2, 2017).

[48] Thompson et al. 2017.

[49] Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE.

produced."[50] So potent it can kill a lion,[51] Carbofuran is found at approximately 32-34% of trespass grow sites in California,[52] and its use is thought to be increasing at grow sites.[53] Often found in unmarked containers, like chemical sprayers and Gatorade bottles,[54] simply picking up a bottle of carbofuran without gloves exposes a person to the poison. If a child picked up a bottle, often bubblegum pink in color, and "sniff[ed] it or lick[ed] their fingers, the effects would be immediate."[55] If mishandled, carbofuran can aerosolize—turn into a fine spray or suspension—and be inhaled by those.[56] Carbofuran is so dangerous that as of 2009, there are no legally permitted uses for carbofuran.[57]

Gatorade bottle containing unknown toxicant, presumed to be carbofuran at the Clear Creek Grow, Plumas NF.[58]

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[50] McMillin Stella and Munk Brandon, *Bear found dead in trespass marijuana grow*., CDFW Wildlife Investigations Lab. Blog (Jan. 10, 2017), https://calwil.wordpress.com/2017/01/10/bear-found-dead-in-trespass-marijuana-grow/.

[51] Julian Smith, *Illegal Pot Farms Are Poisoning California's Forests*, THE ATLANTIC, https://www.theatlantic.com/science/archive/2017/03/backcountry-drug-war/521352/ (last visited Dec 2, 2017).

[52] Thompson et al. 2017.

[53] *Id*.

[54] Plumas National Forest, "Plumas MJ sites 2018_September_update_Sheet 1_Redacted.pdf" (document obtained via Freedom of Information Act Request, on file with EPIC).

[55] Thompson et al. 2017.

[56] Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE

[57] *Id*.

[58] Integral Ecology Research Center, *Plumas National Forest: 4 Sites Report* (2015), http://www.iercecology.org/wp-content/uploads/2017/05/6_IERC_Plumas-USFS.pdf.

Another chemical commonly found on grow sites is aluminum phosphide. Aluminum phosphide is a fumigant typically used to kill insects and rodents[59]. It is a restricted use pesticide because of its "[i]nhalation hazard to humans."[60] When aluminum phosphide comes in contact with moisture, it produces phosphine gas (PH_3)[61].The presence of aluminum phosphide is an imminent risk to any person who comes in contact with the substance[62]. Even trained professionals are seemingly at risk. Phosphine gas attacks the respiratory system, resulting in nausea, vomiting, abdominal pain, diarrhea, thirst, chest tightness, dyspnea (breathing difficulty), muscle pain, chills, stupor or syncope, pulmonary edema, and ultimately, death.[63] Aluminum phosphide is considered a hazardous waste for the purposes of RCRA, and the federal Environmental Protection Agency ("EPA") has determined aluminum phosphide to be in "Toxicity Category I, the highest (most toxic) of four categories."[64] At trespass grow sites, the easy breakdown of aluminum phosphide to phosphine gas poses a serious health risk. *The Atlantic* magazine provides one dramatic example of this risk: "At one site [a researcher] was inspecting an unfamiliar container full of aluminum phosphide, a poisonous powder used to kill rodents and insects. It had gasified and built up pressure in the heat of the sun. When he touched it, it exploded in his face. Luckily he was wearing a hazmat respirator."

Diazinon is another pesticide commonly found at eradicated marijuana grows. Diazinon was once one of the most common pesticides used in home gardens, but residential uses were outlawed in 2005 because of concerns for human safety.[65] Derived from the same chemical family as sarin gas, diazinon can "kill people or cause neurological problems such as dizziness, headache, weakness, muscle paralysis and nausea."[66] Diazinon is so potent that "a single granule can kill a small bird."[67]

Application of toxicants to facilitate marijuana production is always "off-label"— that is, not for the purposes allowed, as marijuana production is federally prohibited. These toxicants are typically applied in amounts or in concentrations not approved by the EPA. Site-specific data shows that toxicants have remained detectable at grow sites long after they have been shut down. In the Plumas National Forest, sites tested positive for carbofuran 1,080 days—approximately three years—after the site was eradicated, and malathion was detected after 975 days after

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[59] Environmental Protection Agency, R.E.D. Facts: Aluminum and Magnesium Phosphide (Dec. 1998), https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/fs_PC-066501_1-Dec-98.pdf

[60] 40 C.F.R. § 152.175.

[61] Cornell University, Michigan State University, Oregon State University, and University of California at Davis, Extension Toxicology Network, http://pmep.cce.cornell.edu/profiles/extoxnet/24d-captan/aluminum-phosphide-ext.html (accessed Aug. 27, 2019).

[62] *Id*.

[63] *Id*.

[64] Environmental Protection Agency, R.E.D. Facts: Aluminum and Magnesium Phosphide (Dec. 1998), https://www3.epa.gov/pesticides/chem_search/reg_actions/reregistration/fs_PC-066501_1-Dec-98.pdf.

[65] Marla Cone, EPA Takes Pest Killer Diazinon Off the Shelves, LOST ANGELES TIMES (Jan. 1, 2005), https://www.latimes.com/archives/la-xpm-2005-jan-01-na-pest1-story.html.

[66] *Id*.

[67] *Id*.

marijuana growing operations were eradicated at the site.[68] At one site, vegetation tested a winter after a grow site had been shut down tested positive for carbofuran, "meaning the chemical persisted much longer than was generally considered possible. According to official estimates, the chemical should have been undetectable in the soil within a month."[69]

The Forest Service Routinely Fails to Remove Hazardous Waste from Grow Sites

For most eradicated grows, the Forest Service fails to reclaim and remediate the grow sites, allowing chemicals to continue to persist on the landscape.[70] Because of concern for officer safety, where trained professionals are not present, law enforcement officers and staff are instructed to "not handle anything that appears hazardous."[71] As a result, toxicants at sites typically remain in place. As the OIG reports, "FS officials have stated that, due to lack of funding, FS has not been able to reclaim and rehabilitate many of the grow sites in the past few years."[72] One 2017 study estimates that "only about 10 percent of those are cleaned and effectively remediated."[73] In a presentation to the Trinity County Board of Supervisors, Dr. Mourad Gabriel, a researcher who has visited more than 100 eradicated grow sites, notes that "only a fraction" of grow sites are "cleaned."[74]

Even where a grow site is "reclaimed," often hazardous chemicals are left in place with other grow equipment because of the cost associated with removal and disposal.[75] Toxicant exposure is sometimes minimized by placing chemicals into water-tight buckets, sealing, and marking with caution tape until they can be removed in the future.[76] But this only minimizes harm. Animals are still capable of tampering with and compromising buckets, continuing to spread harm to the environment[77]. In this manner, toxicants are still "stored" for the purposes of RCRA.

The Public is Harmed by the Forest Service's Failure to Remediate Grow Sites

Failure to fully reclaim and remediate has direct adverse impacts to human health and the environment.[78] As the USDA Office of the Inspector General has found, "Because of not reclaiming and rehabilitating these grow sites, hazardous materials are still present, thereby putting the public, wildlife, and environment at risk of contamination several years after LEI has eradicated

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[68] Integral Ecology Research Center, Environmental Monitoring and Reclamation of Trespass Marijuana Cultivation Sites on the Plumas National Forest at 2 (obtained via Freedom of Information Act Request and on file with EPIC).
[69] Julian Smith and Biographic, *Illegal Pot Farms Are Poisoning California's Forests*, THE ATLANTIC (Mar. 31, 2017), https://www.theatlantic.com/science/archive/2017/03/backcountry-drug-war/521352/.
[70] *Id*.
[71] U.S. Dep't of Ag. Office of the Inspector General, *Drug Enforcement on National Forest System Lands*, Audit Report 08003-0001-22 (Mar. 2018), https://www.usda.gov/oig/webdocs/08003-0001-22.pdf (hereafter OIG Report 2018) at 6.
[72] *Id*.
[73] Thompson et al. 2017.
[74] Mourad Gabriel to Trinity County Board of Supervisors, Presentation, https://youtu.be/T07GVckzeVM?t=354.
[75] OIG Report 2018 at 4.
[76] *Id*.
[77] *Id*.
[78] *Id*. at 6.

them. As another study concluded, "Even if growing activities were stopped today, the backlog of these ecological land mines is still large. Without remediation, we know that the toxicants associated with these sites will gradually disperse across the landscape via water and wildlife."[79] The impact to humans will primarily fall on disadvantaged communities that live at the wildland urban interface: Native American tribes and poor rural communities.[80]

Collection of samples at and around eradicated grow sites, and analysis of those samples, shows that the fate and transport of these chemicals makes it highly likely that humans and wildlife off-site are exposed to marijuana cultivation-associated chemicals like carbofuran, aluminum phosphide and diazinon. Growers spray pesticides and add them to irrigation systems, so the chemicals seep into the soil and surrounding waterways. Toxicants readily leach into surface water, thus facilitating exposure to hikers, hunters, ranchers and wildlife. Tests of creeks downstream from trespass grow sites have found the presence of toxicants, including carbofuran and diazinon.[81] Dr. Mourad Gabriel, "who has visited more than 100 sites in California and is widely considered the leading authority on toxins at marijuana farms, said about half the streams he studied in eight watersheds in the state's prime pot-growing regions tested positive for contaminants."[82] In a 2019 presentation, Dr. Gabriel reports 40% of water samples (7 of 17) tested positive for one or more toxicants.[83] These toxicants have been found in water sources often used by hikers and other recreationists in the forest, and no existing commercial filter is capable of removing the toxicants.[84] Some waters continued to test positive over a year after upstream marijuana grow sites were eradicated.[85] California's Trinity County has issued warnings to hikers and other backcountry users that they should avoid drinking unfiltered water because of specific concerns with contamination of streams from toxicants left at a grow site.[86] Trinity County's warning advised that a water test showing no detect for toxins taken on one day may not mean the water is safe to drink on another day, as variation of conditions—such as an intervening rainy day—can cause toxicants to leach and that a single test only represents a

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[79] Thompson et al. 2017.

[80] Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE.

[81] Gabriel, M.W. et. al , (2017) Science with Solutions: Documentation, Reclamation and Monitoring of the Ecological Impacts of Marijuana Cultivation on Endangered Species, Final Performance Report, Grant # F14AP00021, USFWS: Endangered Species Act (Section-6) Grant-in-Aid. available at http://www.trinitycounty.org/modules/showdocument.aspx?documentid=5020 ("Preliminary results clearly demonstrate that surface water and potentially ground water immediately below these grow sites are contaminated (Table 5).

[82] Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[83]Mouradd Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE.

[84]Mourad Gabriel to Trinity County Board of Supervisors, Presentation, https://youtu.be/T07GVckzeVM?t=354.

[85] Sharon Berstein, *Banned pesticides from illegal pot farms seep into California water*, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[86] Trinity County Environmental Health and Trinity County Public Health, Public health warning about drinking water, TRINITY JOURNAL (Dec. 8, 2017), http://www.trinityjournal.com/news/local/article_fae8fd48-dc7e-11e7-be39-130103ed2c17.html.

single moment in time.[87] For example, in Trinity County, a water body which tested negative for toxicants tested positive two years later.[88] Additional water bodies tested positive in Kern, Humboldt, and Mendocino Counties.[89]

Part of the harm suffered by EPIC and those of its members who camp, hike and recreate in Northern California's National Forests, therefore, is the uncertainty they face in drinking the water, regardless of whether they utilize a filter. When these users of the National Forest ingest water in these National Forests, they have no way of knowing that the water will not contain toxicants like carbofuran, aluminum phosphide or diazanon that have run-off from eradicated marijuana grow sites.

Hunting and gathering provides another potential vector to human exposure.[90] Numerous game species, including bear,[91] quail,[92] deer,[93] elk[94] and rabbits[95] have tested positive for toxicant exposure. There is even reported instances of people testing positive for toxicants after eating animals that were thought to have been exposed to toxicants present at marijuana growing sites.[96] As shown through studies of wildlife, toxicants can pass from prey to predator and can bioaccumulate in predators[97].

Toxicants from trespass grow sites are known to poison wildlife.[98] Based on EPIC's review of publicly available documents, the following animals have been found dead at or near grow sites

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[87] *Id*.

[88] Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[89] *Id*.

[90] Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE.

[91] *Id*.

[92] Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[93] *Id*.

[94] *Id*.

[95] California Statewide Law Enforcement Association, *Illegal Cannabis Grower Sentenced in Monterey County: A CDFW and Monterey County DA investigation*, CSLEA (Dec. 20, 2018), https://cslea.com/2018/12/illegal-cannabis-grower-sentenced-in-monterey-county/.

[96] Sharon Berstein, Banned pesticides from illegal pot farms seep into California water, REUTERS (Sep. 8, 2017), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[97] Wengert Greta, Gabriel Maud, Mark Higely, and Thompson Craig, *Ecological Impacts across the Landscape: Trespass Marijuana Cultivation on Western Public Lands,* University Press of Kansas (2018), https://www.jstor.org/stable/j.ctt20vxpz6.

[98] *Id*.

and are presumed to have been poisoned by grow sites: black bears,[99] gray fox,[100] dogs,[101] vultures,[102] California condors,[103] northern spotted owls,[104] barred owls,[105] elk,[106] quail,[107] rabbits,[108] invertebrates,[109] mule deer,[110] gray foxes,[111] Steller's jays,[112] ravens,[113] coyotes,[114] ringtails,[115] bighorn sheep,[116] Pacific fishers,[117] and Humboldt martens.[118] This is undoubtedly an incomplete list. U.S. Fish and Wildlife Service notes that "[t]rends in both marijuana cultivation sites as well as wildlife exposure to ARs are on the rise."[119]

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[99]McMillin Stella and Munk Brandon, *Bear found dead in trespass marijuana grow.,* CDFW Wildlife Investigations Lab. Blog (Jan. 10, 2017), https://calwil.wordpress.com/2017/01/10/bear-found-dead-in-trespass-marijuana-grow/.

[100] Integral Ecology Research Center, *Plumas National Forest: 4 Sites Report* (2015), http://www.iercecology.org/wp-content/uploads/2017/05/6_IERC_Plumas-USFS.pdf.

[101] Thompson et al. 2017

[102] Thompson et al. 2017

[103] U.S. Fish and Wildlife Service, Critically endangered California condor death in Fresno County related to trespass marijuana cultivation, (Oct. 27, 2017), https://www.fws.gov/news/ShowNews.cfm?ref=critically-endangered-california-condor-death-in-fresno-county-related-to-&_ID=36177.

[104]Louis Sahagun, Rat poison from marijuana farms is harming federally threatened northern spotted owls, study finds, LA Times (Jan. 11, 2018), https://www.latimes.com/local/california/la-me-owls-marijuana-poison-20180111-story.html.

[105] *Id*.

[106]Bernstein Sharon, *Banned pesticides from illegal pot farms seep into California water,* Reuters (Sept. 8, 2017, 3:07 am), https://www.reuters.com/article/us-usa-marijuana-environment/banned-pesticides-from-illegal-pot-farms-seep-into-california-water-idUSKCN1BJ13W.

[107] *Id*.

[108] California Statewide Law Enforcement Association, *Illegal Cannabis Grower Sentenced in Monterey County: A CDFW and Monterey County DA investigation*, CSLEA (Dec. 20, 2018), https://cslea.com/2018/12/illegal-cannabis-grower-sentenced-in-monterey-county/.

[109] Mourad Gabriel to Trinity County Board of Supervisors, Presentation, https://youtu.be/T07GVckzeVM?t=762.

[110] Thompson et al. 2017.

[111] *Id*.

[112] *Id*.

[113] *Id*.

[114] *Id*.

[115]Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://www.youtube.com/watch?v=LnSRYBKskvE.

[116]Mourad Gabriel to Humboldt State University, Presentation, https://www.youtube.com/watch?v=eOup4LO0xn4&feature=youtu.be&t=3015.

[117] Thompson, C., Sweitzer, R., Gabriel, M., Purcell, K., Barrett, R., & Poppenga, R. (2014). Impacts of rodenticide and insecticide toxicants from marijuana cultivation sites on fisher survival rates in the Sierra National Forest, California. *Conservation Letters*, 7(2), 91-102.

[118] U.S. Fish and Wildlife Service, Species Status Assessment for the Coastal Marten (*Martes caurina*) Version 2.0 (July 2018) at 47, available at https://www.fws.gov/arcata/es/mammals/HumboldtMarten/documents/2018%2012%20Month%20Finding/20181009_Coastal_Marten_SSA_v2.0.pdf.

[119] *Id*. at 48.

California condors and northern spotted owls are listed under both the Endangered Species Act and the California Endangered Species Act.[120] Humboldt martens are listed under both the Endangered Species Act and the California Endangered Species Act,[121] a distinct population segment of Pacific fishers are listed under the California Endangered Species Act,[122]

Of these species, the impact to Pacific fishers is the best studied, and serves as a "canary in a coal mine" for understanding impacts to other species.[123] The Pacific fisher serves as an indicator species, demonstrating the potential harm to ecosystem health and individual species posed from toxicants associated with trespass cannabis grows.[124] Pacific fishers, a mesocarnivore native to California, are known to be impacted by toxicant exposure from trespass grows.[125] Of particular concern is exposure to first- and second-generation anticoagulant rodenticides, such as Warfarin, as well as neurotoxic rodenticides[126]. Exposure can happen through many routes [127]. First, Pacific fishers are known to ingest toxicants directly. Rodenticides are often "flavorized"— that is, mixed with foods or smells, such as peanut butter, appetizing to their target prey.[128] Additionally, trespass growers have added toxicants to food such as hot dogs and cans of tuna.[129] Generalized predators like Pacific fishers are likely attracted to this bait.[130] Second, Pacific fishers can be exposed by eating prey that has been exposed to marijuana associated toxicants, some of which are known to bioaccumulate and biomagnify as they move up the food chain.[131] Third, anticoagulant rodenticides have been documented to affect Pacific Fisher kits in utero, and toxicants are thought to be passed from mother to kit through nursing, increasing the likelihood of miscarriages of fetuses or starvation of kits.[132]

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[120] CA Dep't of Fish and Wildlife Biogeographic Data Branch, *State and Federally Listed Endangered and Threatened Animals of California,* Threatened or Endangered Species List.pdf, (April 2, 2021) available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.

[121] *Id*.

[122] *Id*.

[123] Mourad Gabriel to Charleston, WV Marijuana Symposium, Presentation, https://youtu.be/LnSRYBKskvE?t=1294.

[124] Keith Aubry, Martin Raphael, *Martens, Sables, and Fishers: New Synthesis Informs Management and Conservation*, Science Findings, no. 160, 2014.

[125] Chelsea Harvey, Scientists say illegal pot farming operations are poisoning threatened, The Washington Post (Nov. 4, 2015). https://www.washingtonpost.com/news/energy-environment/wp/2015/11/04/scientists-charge-that-illegal-marijuana-farms-are-poisoning-threatened-weasels/.

[126] *Id*.

[127] *Id*.

[128] Julian Smith and Biographic, Illegal Pot Farms Are Poisoning California's Forests, THE ATLANTIC (Mar. 31, 2017), https://www.theatlantic.com/science/archive/2017/03/backcountry-drug-war/521352/.

[129] *Id*.

[130] Greta M. Wengert, Mourad W. Gabriel, J. Mark Higley, and Craig Thompson, *Ecological Impacts across the Landscape: Trespass Marijuana Cultivation on Western Public Lands*, University Press of Kansas (2018), https://www.jstor.org/stable/j.ctt20vxpz6.

[131] *Id*.

[132] U.S. Fish and Wildlife Service, Species Status Assessment for the Coastal Marten (*Martes caurina*)Version 2.0 (July 2018) at 48, available at https://www.fws.gov/arcata/es/mammals/HumboldtMarten/documents/2018%2012%20Month%20Finding/20181009_Coastal_Marten_SSA_v2.0.pdf.

Left: Former Humboldt County Sheriff with a dead fisher found at a trespass grow site on Six Rivers National Forest. The fisher died from ingesting a highly toxic poison called methomyl. Photo Credit: California Dept of Fish and Wildlife.[133] *Right: Toxicants, including nine pounds of peanut butter flavored rodenticide, recovered from a trespass grow site Brush Mountain, Gainor Peak and Oak Knob in Six Rivers National Forest. Photo Credit: Humboldt County Sheriff's Office.*

Exposure to toxicants from trespass grow sites can result in direct mortality, indirect mortality, as well as sublethal effects. [134] Between 2007 and 2018, of 145 fishers tested, 119 tested positive for toxicants (82%).[135] Based on necropsy of fisher carcasses, toxicant exposure has been determined to be the direct cause of death for 19 fishers in California (18.7% of all deaths).[136] Indirect mortality, such as the increased risk of predation because of reduced fitness from toxicant exposure, is also likely but more difficult to determine from necropsy.[137] Sublethal effects include difficulty thermoregulating and increased susceptibility to hypothermia, impaired locomotion and changes in behavior that may predispose exposed individuals to other mortality sources (such as reduced foraging success), reduced immune system function, and higher prevalence of infections and disease.[138] Toxicants can also affect the prey base for species like

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[133] Fisher found at Orleans pot grow died from highly toxic poison, THE WILLITS NEWS (August 26, 2013) https://www.willitsnews.com/2013/08/26/fisher-found-at-orleans-pot-grow-died-from-highly-toxic-poison/.

[134] Wengert Greta, Gabriel Maud, Mark Higely, and Thompson Craig, *Ecological Impacts across the Landscape: Trespass Marijuana Cultivation on Western Public Lands,* University Press of Kansas (2018), https://www.jstor.org/stable/j.ctt20vxpz6.

[135] Gabriel and Wengert 2019).

[136] *Id.*

[137] Sweitzer, R. A., Popescu, V. D., Thompson, C. M., Purcell, K. L., Barrett, R. H., Wengert, G. M., ... & Woods, L. W. (2016). Mortality risks and limits to population growth of fishers. *The Journal of Wildlife Management*, *80*(3), 438-451.

[138] U.S. Fish and Wildlife Service, Final Species Report: Fisher (*Pekania pennanti*), West Coast (March 2016) at 151–159.

the Pacific fisher.[139] Pacific fishers prey on rodents and a reduction in prey numbers may limit the foraging success of fishers, which in turn may affect survival, reproduction, and recruitment.[140]

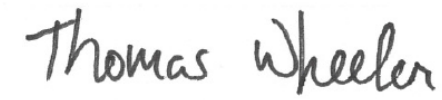
The Public Demands Action on Toxicant Removal

As this letter makes clear, the Forest Service's handling of trespass cannabis grows is contributing or [] has contributed to the past or present handling, storage, transportation, treatment or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment."[141] EPIC is interested in amicably addressing these concerns with the Forest Service. To resolve our concerns, the Forest Service must:

1) Immediately plan for the full remediation of trespass grows within California, including the removal and safe disposal of hazardous waste;
2) Design and implement a system to fully remediate grow sites, including the removal and safe disposal of hazardous waste, when law enforcement takes enforcement action against a trespass grow site in the future.

EPIC is willing to work with the Forest Service to find funding for these activities and to consult on appropriate courses of action.

Sincerely,



Thomas Wheeler
Executive Director
Environmental Protection Information Center

[139] *Id*. at 158.
[140] *Id*.
[141] 42 U.S.C § 6972(a)(1)(B) .